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Preface

In 2007 and 2011 Uppsala University carried out two major research assessment exercises, aiming to identify strong research activities and research initiatives with potential to develop into future strong areas of research, thereby aiding the university management in its continuous strategic decision-making process.

When considering a third research evaluation, Vice Chancellor Eva Åkesson initiated a follow-up revisiting the two previous evaluations. Were they seen to have been useful at different levels within the University, should Uppsala continue to do comprehensive evaluations and in that case, how? The follow-up was carried out by Professor Hans Ellegren in collaboration with Dr Camilla Maandi. The resulting report, based on interviews with key persons and extensive consultations with various bodies within the University, gave a clear message: yes, Uppsala University should perform comprehensive research evaluations at regular intervals (although not too often), but the format should preferably be somewhat varied rather than repeating that of previous evaluations. There was also a proposal that the coming evaluation could be more forward-oriented and focus on preconditions for and processes underpinning high quality research, rather than assessing research quality as such.

This advice was taken onboard, and in January 2016, Vice Chancellor Åkesson decided that a third evaluation should be carried out, and be designed as an analysis of the functioning of the various research environments within Uppsala University, with particular focus on the processes that underpin research quality and renewal. Therefore, the title of the previous evaluations – Quality and Renewal – was found very suitable also for this project, thus entitled Quality and Renewal 2017, in short Q&R17 (in Swedish Kvalitet och förnyelse 2017, KoF17).

The project has been a major undertaking, engaging a large number of people. As project managers, we want to express our appreciation and sincere thanks to everyone that has contributed, including:

- Heads of department, deans and other faculty members and staff across the University, for good advice on the design of the various parts of the project, and dedicated work in preparing the self-evaluations and panel visits etc.

We also want to thank the panel guides who provided well-informed and never-failing support to the panels during the site visits.
• The panel chairs and panel members, for being so committed and generous in giving critical feedback and constructive suggestions on how Uppsala University and its various parts can develop further over the coming years. You have, in the best sense of the word, acted as critical friends of Uppsala University.

• Our collaborators in the project, notably the project management team and the so-called task force whose skills and good spirits have made this work a pleasure. We have met almost 40 times over 20 months, and even though a project like this necessarily include phases of hardship, we cannot recall a single meeting where there has not been at least one good laughter! Thanks to all of you: Per Andersson, Sara Andersson, Maria Björnermark, Leif Eriksson, Inti Lammi, Oskar Pettersson, Martin Wahlén, Anders Waxell, and Katarina Westerlund. Special thanks to Åsa Kettis and Camilla Maandi for their dedicated and skillful work as special advisor and project secretary, respectively.

• Irwin Feller, Department of Economics at PennState College of the Liberal Arts, and Lars Geschwind, KTH Royal Institute of Technology, have in the final phase given constructive feedback on the project recommendations. Ulf Heyman contributed to the bibliometric analyses. Johan Lyhagen, Department of Statistics, examined the chapter on the research environment survey. Last but not least, we are grateful to Timothy Chamberlain at the Communications Division, for language editing, and to Martin Högvall at Graphic Services for giving the report its graphic form, in both cases under extreme time pressure.

The writing of this final report has been a collective effort, even though the editorial responsibility has rested with the project manager Anders Malmberg and the project secretariat, Åsa Kettis and Camilla Maandi, who have also written the chapter on the Q&R17 project and its context, the overall summary of the panel observations and the project management’s recommendations. The chapter on the internet-based survey was written by Anders Waxell, Maria Björnermark and Camilla Maandi, and the chapter on the bibliometric analyses by Leif Eriksson. The sections with conclusions and recommendations for each of the three domains were written by Anna Singer and Katarina Westerlund (Humanities and Social Sciences), Marika Edoff and Per Andersson (Science and Technology) and Mats Larhed and Martin Wahlén (Medicine and Pharmacy). The reflections on the Q&R17 process by a ‘researcher on research’ was written by Lars Geschwind (KTH). The panel reports were obviously authored by the individual panels.
Q&R17 has not resulted in any sort of grading of the research carried out within Uppsala University, either in its totality or in its parts. Nevertheless, the panel reports include numerous testimonies of the perceived strength and good international standing of Uppsala University as a research university. More importantly, given the purpose of Q&R17, both the panel reports and project management team identify a number of areas where action should be considered if Uppsala University should take further steps towards reaching its full potential. The challenges and opportunities identified imply, therefore, that this final report should not be seen as an end but rather as a starting point.

Uppsala in October 2017

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Executive summary

As one of Sweden’s most internationally prominent institutions of academic education, research and scholarship, Uppsala University’s foremost aim is to safeguard and pursue the open and unbounded quest for knowledge. Research must take on the major challenges facing society and contribute to global development, as well as addressing purely scientific questions that expand the boundaries of human knowledge. The University, in all its breadth, provides unique opportunities for multidisciplinary collaboration and new combinations. A decentralised mode of governance, with major resource, staff, and programmatic decisions devolved to faculties and departments, has served as the institutional foundation upon which the achievements of the University have been built.

This report presents the findings of the enhancement-led research evaluation Quality and Renewal 2017 (Q&R17), carried out at Uppsala University between February 2016 and October 2017. The report – the product of intensive self-assessments, external reviews, and quantitative analyses – identifies many of the sources of Uppsala’s current research strengths and prospects for future growth and development. It also identifies areas both internal and external to the University that require attention if Uppsala is to maintain its current level of performance and indeed to improve upon it.

Q&R17 has been a major undertaking, aiming to strengthen research at Uppsala University through a broad analysis of the functioning of its various research environments, with particular focus on the preconditions and processes that underpin research quality and renewal. To this end, an internet-based survey was carried out, in which around 3,700 active researchers at Uppsala University shared their perceptions of and opinions on their local research environments within the University. Together with some bibliometric analyses, the survey results served as background material for departmental self-evaluations, which in turn were subjected to external peer review. In this process, more than 130 ‘critical friends’, most of them from outside Sweden, evaluated 54 evaluation units to assess strengths and weaknesses and make recommendations.

Q&R17 is the third major research evaluation at Uppsala University. The two previous evaluations, Q&R07 and Q&R11, primarily aimed to identify strong research activities and research initiatives with potential to develop into strong
future areas of research, thereby aiding the university management in its continuous strategic decision-making process. In contrast to those two evaluations, Q&R17 has not resulted in any grading of the research carried out at Uppsala University, either in its totality or in its parts. Nevertheless, the panel reports include numerous testimonies of the perceived strength and excellence of research at Uppsala University.

More importantly, given the purpose of Q&R17, a number of areas have been identified where action is needed if Uppsala University is to take steps towards reaching its full potential. These relate to: quality culture and control, leadership and strategic renewal, talent attraction and retention, international milieu, external collaboration and outreach, research-teaching linkages, and organisation and infrastructure. Two actions emerge as especially critical and urgent, and should therefore be highlighted as university-wide priorities: the strengthening of the academic leadership’s capacity for strategic renewal, and the further development of career paths and career support. In addition to these, the report presents an overall list of recommendations that need to be thoroughly assessed for relevance and importance in each research environment, department, faculty and domain, as well as at the University level (including the administration). This will form the basis for a number of prioritised actions throughout the University aiming to further strengthen the international standing of Uppsala University.
Sammanfattning: Forskningsutvärderingen Kvalitet och förnyelse 2017 (KoF17)


Syftet med KoF17 är att stärka universitetet genom en bred analys av hur väl dess forskningsmiljöer fungerar, med särskild tonvikt på de förutsättningar och processer som bidrar till forskningskvalitet och förnyelse. Utvärderingen är således tydligt utvecklingsinriktad. En internetbaserad enkätundersökning har genomförts, där cirka 3 700 aktiva forskare beskrivit och bedömt sin lokala forskningsmiljö vid Uppsala universitet. Tillsammans med bibliometriska sammanställningar har enkätresultatet bildat bakgrundsmaterial till självvärderingar som utarbetats inom utvärderingsenheterna (i de flesta fall institutioner). Det samlade materialet har sedan utvärderats av externa granskare. Organiserade i 19 granskningspaneler har sammanlagt drygt 130 “kritiska vänner”, den stora merparten från lärosäten utanför Sverige, utvärderat 54 utvärderingsenhetar med syftet att identifiera styrkor och svagheter samt att ge rekommendationer.
KoF17 är Uppsala universitets tredje stora forskningsutvärdering. De två tidigare, KoF07 och KoF11, syftade primärt till att identifiera starka forskningsområden och forskningsinitiativ med potential att utvecklas till starka områden, och fungerade på så sätt som underlag för forskningsstrategiska prioriteringar på olika nivåer inom universitetet. I motsats till de tidigare utvärderingarna har KoF17 inte resulterat i någon form av betygsättning, varken av forskningskvaliteten inom universitetet i stort eller dessa olika delar. Icke desto mindre finns i panelrapporterna många utsagor som vittnar om att panelerna bedömer att forskning av högsta kvalitet bedrivs inom Uppsala universitet.

Det viktigaste utvärderingsresultatet, givet syftet med KoF17, är att ett antal områden tydligt identifieras där Uppsala universitet bör överväga att genomföra utvecklingsinsatser och vidta åtgärder för att nå sin fulla potential. Det handlar särskilt om:

- kvalitetskultur och kvalitetskontroll,
- akademiskt ledarskap och strategisk förnyelse,
- rekrytering, karriärvägar och karriärstöd,
- internationell miljö,
- samverkan och nyttiggörande,
- koppling mellan forskning och utbildning, samt
- organisation och infrastruktur.

Två områden framstår som särskilt viktiga att prioritera att arbeta gemensamt med, över hela det breda universitetet: *att stärka det akademiska ledarskapets förutsättningar för att driva strategisk förnyelse samt att intensifiera arbetet för att utveckla karriärvägar och karriärstöd.*

De 19 panelrapporterna ingår i sin helhet i föreliggande slutrapport (del 5). De föregås av en beskrivning av projektets bakgrund, uppläggning och genomförande (del 1), övergripande analyser av enkätmaterial och bibliometri (del 2), tematisk sammanfattning av de viktigaste generella observationerna och slutsatserna i panelrapporterna (del 3) samt KoF17-projektledningens rekommendationer om vilka frågor som bör bli föremål för uppföljning och åtgärder inom universitetet mot bakgrund av det samlade underlaget (del 4).
Introduction

This is the final report of the project Quality and Renewal 2017 (Q&R17), carried out at Uppsala University between February 2016 and October 2017. The project has been a major undertaking, aiming to strengthen research at Uppsala University through a broad analysis of the functioning of its various research environments, with particular focus on the processes that underpin research quality and renewal.

The point of departure of the project can be summarised in five bold points:

• Uppsala University aspires to retain and strengthen its position as an internationally leading research university.

• Quality assurance is a core academic activity for which universities must assume responsibility. Other stakeholders (research funding bodies, the government as the principal ‘owner’ of universities in Sweden, other organised interests) may and do have legitimate reason to organise various forms of monitoring and evaluation of the performance of universities, but the universities cannot and must not ‘out-source’ the question of research (and teaching) quality to others.

• Academic freedom – the freedom of researchers to choose their research problems and methods – rests upon the collective responsibility of scientists and scholars to safeguard scholarly quality and relevance. Various forms of peer review are the main means to do this.

• An academic quality system, often referred to as a quality culture, is embedded in day-to-day procedures such as critical discussion of research at seminars, vivas, workshops and conferences; peer review related to hiring, funding and publication decisions; and more or less regular follow-up and feedback on the research performance of individuals, groups, departments or other aggregates.

• A quality culture is largely self-organised and its concrete manifestations vary in detail across disciplines and institutions. It has proved to work remarkably well in most fields over extended periods. It cannot be taken for

PART 1
THE PROJECT

UPPSALA UNIVERSITY – QUALITY AND RENEWAL 2017 (KOF17)
PART 1: THE PROJECT

granted, however, but must be actively maintained, developed, and passed on to new generations of researchers. *Safeguarding the functioning of a quality culture is perhaps the most important task for academic leadership on all levels.*

Q&R17 should be understood in relation to these starting points. It aims to strengthen the quality and renewal of research at Uppsala University through analysis, reflection and critical evaluation of preconditions and processes underpinning research quality and strategic renewal in the University’s research environments. The assumption is that such analysis, reflection and evaluation will make us more aware of strengths and weaknesses and form the basis for development initiatives at different levels.

This final report is organised in six major parts. *Part 1* sets Q&R17 in its institutional and political context and describes the organisation and design of the project. *Part 2* presents some overall analysis of an internet-based survey and some bibliometric data that were compiled as background material for the project. *Part 3* summarises and discusses the main observations made by the external evaluation panels, and *Part 4* contains the main recommendations of the Q&R17 project management team on measures the University should take when following up the evaluation. *Part 5*, which comprises the bulk of the report, contains the reports of each of the 19 evaluation panels. *Part 6* contains various appendices.

The context of Q&R17

The Swedish system in brief

Sweden as a country invests considerably in research and development (R&D), in both the private and the public sectors. Universities and other higher education institutions (HEIs) are generally publicly organised. The Swedish university system overall performs well by international standards. Three or four Swedish universities (notably Karolinska Institutet, Uppsala, Lund and Stockholm) regularly appear among the top 100 universities in the world according to the major global ranking lists and another 3–4 universities are found among the top 200 universities. Overall there are around 40 HEIs in Sweden. They differ markedly in character and can broadly be divided into four different groups:

- broad research universities like Uppsala, Lund, Gothenburg, Stockholm, Umeå, and Linköping;
- specialised research universities like Karolinska Institutet (KI), Royal Institute of Technology (KTH), Stockholm School of Economics, Chalmers
Institute of Technology, Swedish University of Agricultural Sciences (SLU) and Luleå Technical University (LTU);

- new universities like Karlstad, Linnaeus, Mid-Sweden and Örebro;
- smaller regional university colleges, mainly dedicated to education.

With few exceptions, HEIs in Sweden are regulated as public authorities (*myndigheter*). This means that they have low formal institutional autonomy. They are not separate legal entities, but formally part of the Swedish state. Decision-making (including summative student assessments) within the university is seen as an exercise of public authority, and universities have to follow the Swedish principle of public access. In practice, however, HEIs have quite strong autonomy in academic affairs, and freedom of research is protected by the Swedish constitution.

Direct government funding for HEIs is divided into two different strands. One is for education at Bachelor’s and Master’s levels, and the other is for research and doctoral education. Universities are not allowed to redirect money between these two strands. There is a high degree of public funding of higher education (no tuition fees for Swedish/European students and access to student grants and advantageous student loans for living expenses).

Worldwide, Sweden is among the nations that invest most in research and development relative to gross domestic product (GDP). In 2015, 3.28% of Sweden’s GDP went to research and development (R&D). The corporate sector accounts for around 70% of research spending, largely concentrated to a limited number of multinational firms such as Ericsson, Volvo, Scania, Astra Zeneca, ABB, and Sandvik. Research institutes account for only a small share of public research spending, which makes Sweden unusual by international comparison.

The government finances R&D through block grants paid directly to universities and through support via research councils and sectoral research agencies. In addition, several research foundations have been started with public funds, providing research funding in excess of SEK 1 billion annually. By far the greatest share of publicly funded research in Sweden is conducted at universities. Government research funding is set out in greater detail below.

<table>
<thead>
<tr>
<th>R&amp;D funding from the Swedish government (2016)</th>
<th>SEK billion (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directly to universities and other HEIs</td>
<td>17</td>
</tr>
<tr>
<td>Via research councils and sectoral research agencies</td>
<td>10</td>
</tr>
<tr>
<td>Ministries other than higher education</td>
<td>6</td>
</tr>
<tr>
<td>Via defence agencies</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>34</strong></td>
</tr>
</tbody>
</table>
The research councils mainly support basic research. Sectoral research agencies fund R&D aimed both at meeting the knowledge needs of individual sectors and at promoting the development of society. In total, Sweden has some 20 sectoral research agencies with resources for R&D. Regions and municipalities also fund research, mainly in health care and social services.

In addition to public sources of funding, there are private funding sources, foundations and fundraising organisations. Several of these are major stakeholders in the research sphere and provide substantial grants for research in their respective fields.

Government research policy in Sweden has developed in several steps over the last few decades:

- an expansion of strategic research funding to improve university–industry collaboration and to promote new organisational forms for academic research, mainly large-scale centres with an international profile;
- a reorganisation of public research funding through the creation of a joint basic research council (the Swedish Research Council) and a government agency for innovation support (Vinnova);
- stagnation of block funding to universities, coupled with growing demands that universities should develop more coherent strategic plans and priorities.

These developments reflect, some would argue, a general distrust in the ability of universities to use increased resources in a strategic, proactive manner, and to make tough priorities. Instead, additional support for academic research has been channelled through research councils, and the resultant increased share of external funding has been viewed by the government as an important means of assuring the quality of research. This also reflects a dependence on funding agencies as the engines of renewal in the research system.

In recent decades, external funding has gradually increased in importance. In the 1980s, external funding accounted for 20–25% of total research budgets at the large Swedish universities. Currently, more than 50% of research funding is typically external (public or private), and in some departments/fields the figure exceeds 75%.

The universities argue that the fact that a large share of their resources comes from ‘competitive money’ weakens the basis for strategic priorities within the university, as well as the basis for strategic recruitment, since individuals and research groups receive money directly from external grant providers and not from different levels of university management.
Uppsala University in brief

Uppsala University, founded in 1477, was the first university in Sweden and Scandinavia. This puts Uppsala in a special position compared with most other universities in Sweden. For instance, Uppsala has a great cultural heritage (museums, Linnaean gardens, art collections) and – by Swedish standards – quite large endowments. The University is also distinguished by its academic traditions and rich cultural life, with choirs, orchestras and a vibrant student scene dominated by the ‘student nations’. In 2013 Uppsala University merged with Gotland University. Since then Uppsala University has two locations, Uppsala and Visby at Gotland (named Campus Gotland).

Uppsala is a full-scale, comprehensive research university, characterised by a decentralised organisation with strongly departmentalised disciplines, and its leadership is based on collegial principles. In Sweden as a whole, and especially in Uppsala, active student participation and influence has a long tradition. The students have elected representatives on all governing bodies and are present in the preparation of all formal decisions.

The Mission and Core Values document for Uppsala University (‘Goals and strategies’), states that Uppsala University will:

• gain and disseminate knowledge for the benefit of humankind and for a better world;
• be a local, national and international meeting place for knowledge, culture and critical dialogue;
• develop new areas of knowledge through cross-disciplinary cooperation;
• be an integrated educational and research environment;
• be open to the outside world;
• contribute to achieving sustainable solutions to the challenges facing society;
• have a working environment and leadership characterised by openness, responsibility and trust.

Uppsala is one of the larger universities in Sweden, with an annual income of SEK 6,500 million (approximately EUR 666 million) and around 7,000 employees. In total, more than 40,000 students study at the University, corresponding to some 24,000 full-time equivalents. Nevertheless, Uppsala University has a strong research focus with research and doctoral studies accounting for 72% of the total financial turnover (SEK 4.600 million, approximately EUR 472 million). External resources provide 54% of research funding. There are 2,437 doctoral students (48% women) and Uppsala University confers 305 PhD degrees annually. The total number of teachers, researchers and doctoral students is approximately 5,500.
The University has almost 60 departments/equivalent units, organised in nine faculties (Theology, Law, Medicine, Pharmacy, Arts, Languages, Social Sciences, Education, Science and Technology), which in turn are grouped into three broad disciplinary domains (Humanities and Social Sciences; Medicine and Pharmacy; Science and Technology), each headed by a vice-rector and a collegial board.

Some structural differences between the three broad domains should be noted.

The domain of Science and Technology is made up of a single faculty. Thus, the dean of the faculty is also vice-rector of the domain, and the faculty board is also the board of the domain. The faculty is divided into six sections, each of which has a dean. Following a series of mergers, there are ten departments, the largest of which have close to 400 employees. The biology section consists of four departments, three dedicated to biology research and one to teaching. Only the research departments were included in Q&R17. The Department of Mathematics and the Department of Information Technology form one section. Chemistry is divided into two departments, Chemistry Ångström and Chemistry BMC. Physics and Astronomy, Engineering Sciences and Earth Sciences are single-department sections. In the Swedish context, a unique feature of Uppsala is that technology research and engineering education are integrated with the natural sciences in one faculty.

The domain of Medicine and Pharmacy consists of one large faculty (Medicine) and one small (Pharmacy), each with a dean and relatively strong identity but organisationally integrated into a unified structure, with a joint faculty board, chaired by the vice-rector. Both faculties are research-intensive but also heavily engaged in professional education (medical doctors, nurses, pharmacists, etc.). In the case of the Faculty of Medicine, there are strong and complex links with the University Hospital, which is run by the Uppsala Region, but where the University also has a presence in clinical research and education. In this domain too, there has been organisational consolidation, as a result of which there are now 11 departments, most of them fairly large.

The domain of Humanities and Social Sciences consists of six relatively independent faculties, each with its own faculty board chaired by a dean, and the domain has a relatively federal structure. However, there has been substantial development in fostering inter-faculty research initiatives. The faculties vary considerably in size. The Faculty of Social Sciences makes up around half the volume of the domain, and some faculties (Theology, Law, Educational Sciences) are essentially made up of one department each. These faculties are more teaching-intensive, and some two thirds of the University’s students are found in this domain. Overall, research and teaching represent equal shares of activities in this domain, with some notable differences between the individual faculties. Departments vary widely in size. There are 30 departments in this domain, the largest of which has several hundred staff members, the smallest around 30.
The Q&R17 project

Introduction
In January 2016, the Vice-Chancellor decided to launch a new university-wide research evaluation at Uppsala University – Quality and Renewal 2017 (Q&R17).1 Two previous research evaluations have been carried out at the University, one in 2007 (Q&R07) and one in 2011 (Q&R11), with the primary objective of evaluating the quality of research. In preparation for a new research evaluation, a follow-up study2 on Q&R07 and Q&R11 was conducted in 2014, which contained proposals on a possible new research evaluation. The study revealed widespread opinion among academic staff that the University should conduct research evaluations, but that a new evaluation should have a different focus than the previous two. The new research evaluation ought to focus on quality processes in research environments, and be more enhancement-led.

The overall purpose of Q&R17 is to analyse preconditions and processes for good quality and strategic renewal of research in order to generate increased awareness of aspects of research environments that should be actively maintained, further developed or changed. The research evaluation Q&R17 is more enhancement-led than control-oriented. There is special emphasis on strengthening quality-generating processes in the University’s research environments and developing quality culture. Q&R17 thus has a different focus than its predecessors, since both Q&R07 and Q&R11 primarily focused on research results.

The term processes refers to how the evaluation units manage their continuous quality work, that is, what we do to achieve high-quality research and how we do it. In this context, the strategic renewal of research refers to the successive emergence of promising new fields of research and subject areas that may, for example, give rise to new research questions or subject combinations. Do the University’s research environments function so as to provide good preconditions for high-quality research? Are the research environments characterised by processes that drive quality and renewal?

The long-term purpose of Q&R17 is essentially the same as in previous research evaluations, i.e. to enhance the quality of the University’s scholarly activities by creating a basis for targeted support and strategic decisions. The evaluation is intended to serve as decision-making support to the Vice-Chancellor, vice-rectors, deans, heads of department and collegial bodies at various levels by informing strategic development work.

Unlike Q&R07 and Q&R11, Q&R17 has not resulted in any form of grading, nor does it directly affect resource allocation. Instead, Q&R17 culminates in an analysis that has identified strengths, weaknesses and areas for development. The goal is to inform the further development of the individual research environments, and of the preconditions provided by the faculties/domains and the University overall. The feedback from external peers is also intended to contribute to the further development of quality enhancement and quality assurance procedures at all levels of the University. Comparison between different environments is not a direct purpose – particularly since research environments vary in terms of their traditions, cultures and preconditions.

During Q&R17 132 experts from 18 countries, serving in 19 different panels, evaluated the research environments in 54 departments/equivalent units. Each panel consisted of 6–8 experts, including a chair, a Swedish panelist from another university (to bring knowledge of the Swedish context), and a ‘researcher on research’ panelist (to contribute scientifically based knowledge about research environments). More details on the appointment of panelists are given in the section “Selecting experts” below.
Project organisation
Q&R17 was launched by the Vice-Chancellor. The Deputy Vice-Chancellor has acted as project manager, with the deputy Vice-Rectors of the three disciplinary domains serving as assistant project managers. The steering committee has also included two student representatives, a project secretary and special advisers. At the start, the project involved a steering committee and a task force. In practice, the steering committee and the task force quickly merged and came to work very closely together as a single project team, holding joint project meetings throughout the project (in total 34 meetings).

Steering Committee/Project Management
Anders Malmberg, Deputy Vice-Chancellor (Chairman and Project Manager)

Assistant project managers
Anna Singer, Deputy Vice-Rector, Disciplinary Domain of Humanities and Social Sciences
Marika Edoff, Deputy Vice-Rector, Disciplinary Domain of Science and Technology
Mats Larhed, Deputy Vice-Rector, Disciplinary Domain of Medicine and Pharmacy

Student representatives
Sara Andersson, PhD student, Department of Pharmacy
Inti Lammi, PhD student, Department of Business Studies

Special advisers (also members of the task force)
Åsa Kettis, Head of Division, Division for Quality Enhancement (principal rapporteur)
Camilla Maandi, Head of Unit, Division for Quality Enhancement (project secretary)

Task force
From faculty offices:
Katarina Westerlund, Senior Faculty Administrator, Humanities and Social Sciences
Per Andersson, Senior Faculty Administrator, Science and Technology
Martin Wahlén, Faculty Officer and Deputy Administrative Director, Medicine and Pharmacy
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Additional members:
Maria Björnermark, Project Manager, Division for Quality Enhancement
Anders Waxell, Project Manager, Division for Quality Enhancement
Leif Eriksson, Analyst, Planning Division
Oskar Pettersson, Head of Unit, Planning Division

The University’s Quality Advisory Board served as a consultative group for Q&R17. For the administration of the panel visits, the project team was supported by Academic Conferences (Akademikonferens), a joint organisation for Uppsala University, the Swedish University of Agricultural Sciences and Karolinska Institutet. In addition, the offices of the disciplinary domains provided staff who accompanied the different panels during their visits to the departments (‘panel guides’).

Staff at the departments/equivalent units were heavily involved. Heads of department have been involved in the process of clustering departments to be visited by the same panel. They have also been involved in the nomination of panel members, feedback on drafts of the questionnaire, revision of the survey population, discussion of the bibliometric analyses, commenting on the self-evaluation template, writing the self-evaluation and giving feedback on the panel reports. The Q&R17 project management team also issued a general recommendation to involve as many as possible of the staff in the research environment in producing the self-evaluation. As a result, a large share of the staff at the departments/equivalent units have been involved in discussions, in writing documents and in other parts of the evaluation process. The departments also arranged for the panel visits in May 2017. The faculties and the disciplinary domains have also been involved in discussions, feedback and formulating faculty-specific questions in the survey and the self-evaluation.

Defining the unit of evaluation
An important question in the Q&R17 project concerns the definition of a research environment. A research environment (milieu) is not the same thing throughout the University. For many researchers, the department as such constitutes their research environment. However, at larger departments or at departments with several research fields, it may rather be some sub-unit or research grouping within the department that constitutes the research environment. For the purposes of the project, a research environment was defined as:

the environment at, or linked to, Uppsala University where you conduct your research on a daily basis, i.e. the environment in which you interact with colleagues day by day regarding your own and their research, both informally (at coffee breaks etc.) and formally (in seminars, for example).
In the practical organisation of Q&R17, we operated with two different concepts: evaluation units and sub-units. As in Q&R07 and Q&R11, the departments (in some cases research centres) made up the evaluation units in Q&R17. The department is the basic legal unit in the University organisation and is therefore appropriate for handling the various phases of the evaluation process, such as the preparation of self-evaluations and organisation of the site visits of the evaluation panels. Departments (and equivalent units) were also encouraged to describe their organisational sub-units or related units in their self-evaluation in cases where the research environment(s) include such entities. Larger departments were free to decide that the evaluation should mainly focus on the sub-units within the department, if this reflects the structure of the research environments in a better way (see Figure 2).

Interdisciplinary centres and equivalent entities were treated as separate evaluation units if they could be considered to constitute complete research environments, i.e. environments in which continuous scholarly activities and scholarly discourse are conducted.

Research staff at Campus Gotland were included in Q&R17 as part of the departments with which they were affiliated. In addition to this, Campus Gotland also constituted an evaluation unit of its own.

Figure 2. Evaluation units and sub-units.
In total, 54 evaluation units, including Campus Gotland, were identified. These evaluation units were grouped into 19 clusters. Each disciplinary domain proposed appropriate combinations of evaluation units (departments/equivalent units) into groups that the panels were to visit. (See Appendix 9 for the allocation of departments/equivalent units to the 19 groups.)

In the domain of Humanities and Social Sciences, the ambition was, as far as possible, to combine units containing disciplines and research fields in close proximity to one another. However, this was not possible to implement fully. The number of researchers in each unit was also a consideration, as were similarities in the research environments and the amount of teaching versus research. In the H&S domain, there were seven evaluation panels, each of which evaluated between four and seven evaluation units.

In the domain of Science and Technology, the ten departments made up the evaluation units, and they were grouped in six clusters, based on the division of the domain/faculty into sections. Thus, three of the panels evaluated one large department each (Physics and Astronomy, Engineering Sciences, Earth Sciences), while two panels evaluated two departments each (the two Chemistry departments, and Mathematics and Information Technology, respectively) and one panel (Biology) evaluated three departments. In most cases the departments were in turn divided into sub-units, ‘divisions’ or ‘programmes’. This subdivision is found in some panel reports, but not in all.

In the domain of Medicine and Pharmacy, each of the eleven departments made up an evaluation unit, as did the four centres for clinical research that belong to the Faculty of Medicine. There were six panels. As far as possible, the domain strived to combine evaluation units containing similar disciplines and research fields. The number of researchers in the evaluation units was also considered.

Method of evaluation
The Q&R17 evaluation process involved self-evaluations, a university-wide internet-based survey, bibliometric analyses, a basic data sheet and evaluation by external expert panels. The university-wide written survey focusing on the research environment was a new feature in Q&R17, compared with previous evaluations. Another new feature that permeated Q&R17 was the incorporation of a ‘research on research’ perspective. The survey items were informed by research-based knowledge about what characterises research environments that are conducive to high-quality research, as were the themes in the self-evaluation template. The panel composition also reflected this ambition, by having one ‘researcher on research’ in each panel, in addition to peers in the disciplines evaluated.

The different components and steps in the evaluation process are described in the following sections.
Background material – self-evaluation, survey, bibliometric analysis, and basic data sheet

The survey, the bibliometric analysis and the basic data sheet provided a basis for the departments’ self-evaluation (for more information about the survey and the bibliometric analysis see Part 2, for more information about the basic data sheet see Appendix 4). The results of the survey and the bibliometric analysis were also presented for sub-units when possible (i.e. if the sub-unit was large enough to allow breakdown of results at this level). The self-evaluation was designed to encourage constructive and critical self-reflection.

Apart from the self-evaluation, the panels also received the results of the survey, the bibliometric analyses and the basic data sheet ahead of their site visit. The evaluation units and the panels were also encouraged to include other relevant information sources in their analyses if needed. In some cases, the Q&R17 evaluation generated a lot of documents and information. The most important document in the assessment, however, was the self-evaluation.

The survey included both set response options and open-ended questions. Responses to the open-ended questions have been reported in full to heads of departments. To protect privacy these responses have been revised by staff at the Quality and Evaluation unit, for example by removing names (alterations are marked by brackets). However, for privacy reasons, the results of the open-ended questions were not part of the background material for the external panels.

The project used the University’s internal website (Medarbetarportalen) to collect and distribute information to the panels.

The self-evaluation

The self-evaluation was divided into two parts. The first part was a reflective analysis focusing on twelve predefined themes. These twelve themes were generic, i.e. they were the same throughout the University. It was also possible to add themes at faculty and/or department level, if important aspects of the preconditions and processes for high-quality research were not covered by the twelve predefined themes.

In the self-evaluation, the evaluation units were asked to give a reflective analysis on the following twelve themes:

- Recruitment
- Leadership
- Academic culture
- Infrastructure (including administrative support)
- Funding
- Cross-cutting collaboration, including multidisciplinary collaboration
Apart from this, the evaluation units were asked to provide a brief background including organisation, research profiles, strategies and plans, and where the department aspires to be in 5–10 years’ time with regard to its research. There was a section for ‘other matters’ and a section for a brief description of how the work of completing the self-evaluation was organised.

The self-evaluation template and background material were sent to the departments in November 2016. The self-evaluations were due no later than 17 March 2017. It was considered important to give the departments ample time to work on the self-evaluation. The departments were recommended to involve many, if not all, members of staff in the research environment. Each evaluation unit was to complete one self-evaluation, including material/considerations regarding sub-units where applicable.

Each self-evaluation included a question on how the research environments are working to ensure quality and renewal of research involving Campus Gotland, what they are doing to bring the research environments in Uppsala and Gotland together, and reflections on strengths and weaknesses of this approach. Campus Gotland was also treated as a research environment in itself. Its self-evaluation was somewhat differently designed to suit Campus Gotland’s character as a smaller multi-disciplinary campus, physically separated from Uppsala.

All evaluation units were encouraged to be self-critical and reflective in their analysis and writing. The task was to reflect upon the research environment and the research in a nuanced way so as to obtain a truly useful basis for further development and quality enhancement. The panels were instructed to also evaluate the evaluation unit’s capacity for critical self-reflection, including the ability to bring deficiencies to the surface.

Selecting experts
In Q&R17, the task of the panels was not to grade the research per se but to give feedback on the research environments’ strengths, weaknesses and areas in need of further development. Consequently, the specialist competence of panel members in specific disciplines was somewhat less important than in previous Q&R evaluations. A majority of the panellists, however, were to have an understanding and knowledge of the conditions in which the evaluated research environments operate.

- Publications
- Career structure and mobility
- Feedback and evaluation
- Research-teaching linkages
- Internationalisation
- Research at Campus Gotland
All evaluation units had to nominate panellists and candidates for the position of chair according to a specified search profile (see Appendix 6). The project management screened nominees before inviting them to participate. An even gender balance was sought among the panellists. In the end, around 40 per cent of the panellists were women. All the panellists were screened for compliance with rules regarding conflicts of interest and if a conflict of interests was suspected, the panellist was removed from the list.

Each of the 19 panels comprised 6–8 panellists (including the chair). The strategy for recruiting panellists was to have a chair for each panel with experience of international evaluations, who was a recognised scholar of great integrity and not active in Sweden. Most of the other panellists were also preferably to be active outside of Sweden and to have scholarly legitimacy. All of the panellists needed to understand the conditions under which research is produced in the relevant field of research and/or have a good knowledge and/or experience of how well-functioning research environments are created, preserved, developed and renewed.

Each panel was to include at least one person with research-based knowledge about research environments and preconditions for good research, and one person working in a relevant field of research at another Swedish university, with a good understanding of the general conditions under which research takes place at universities in Sweden.

Terms of reference and panel report template
Prior to the site visit in May, the panels received a document with terms of reference and the panel report template (see Appendix 5). The terms of reference gave some background information about Uppsala University, the objectives of the evaluation, the method of evaluation and evaluation criteria. The terms of reference also contained information on the role of the panel, qualities of a good panellist and working arrangements for expert panels, as well as information about the final Q&R17 report, confidentiality and trust. Instructions and guidelines for the panel report were also provided, as well as the report template itself.

Site visits
Site visits were a vital ingredient for assessing the research environments at the University.

Before the site visits in May, the chair and the ‘researcher on research’ panellist of each panel visited Uppsala University for one of two preparatory meetings, organised on 14 February and 2 March. The preparatory meeting gave the project management an opportunity to ‘prepare the mindset’ of the panel chairs and the ‘researcher on research’ panellists, since the focus of Q&R17 differs from earlier Q&R evaluations and from traditional research evaluations. Preparing the mind-
set of the panellists and the academic staff at Uppsala University was seen as an important and challenging task in Q&R17, and a vital task for the outcome of the evaluation. Many of the panel guides also attended the preparatory meeting and introduced themselves to the chairs and the ‘researcher on research’ panellists.

Each of the 19 panels paid a one-week visit (five working days) to Uppsala University. The visits were organised in two different weeks, 8–12 May and 15–19 May 2017 (see Appendix 9 for the distribution of panels by weeks).

During the site visit in May, each panel had a local panel guide. The task of the panel guides was to support the work of the panel in matters that the department or the Swedish panellist could not attend to, for example, dealing with practical arrangements, answering questions and arranging for additional background material. The panel guides were staff members from the disciplinary domain offices, such as senior faculty administrators or research secretaries, i.e. persons with knowledge of the Swedish university and research context, the University, the disciplinary domains and the faculties.

For the panel members, the site visit in May started on Monday morning with an introduction to Uppsala University, the Swedish university and research context, and information on the Q&R17 evaluation (see Appendix 8 for a general schedule). After lunch, the vice-rectors gave presentations to introduce the panellists to their disciplinary domain and faculties. The rest of the afternoon was devoted to internal panel meetings to enable the panels to plan their work for the rest of the week. The panel guides were normally present at these meetings.

Tuesday, Wednesday and Thursday were devoted to visits to the departments/equivalent units and internal panel meetings. The recommendation to the panels was to have a draft panel report by the end of the week. The detailed timetable for the department visits was worked out by the departments in consultation with the project management and the panel chairs.

On Friday, the whole panel gave feedback to the department/equivalent unit, the panel chair and ‘researcher on research’ panellist gave feedback to disciplinary domain and faculty management teams, and after lunch the chairs gave feedback to the university management and the project management. The panels were expected to summarise their findings, main conclusions and recommendations. After the feedback sessions, the panels gathered to sum up and plan their further work. The deadline for the panels to submit their reports was 15 June 2017.

**Evaluation of the Q&R17 process**
The Q&R17 process was followed up by a questionnaire to the experts panelists. Also, one of the ‘researcher on research’ has written a personal reflection of the process presented below.
Results from the questionnaire to Q&R17 panellists

When almost all of the panel reports were completed, a questionnaire was sent to the panellists asking about their experiences of Q&R17. To date, 88 of 132 panellists have answered the questionnaire (giving a response rate of 67%). The response group consists of 13 panel chairs, 16 researchers on research and 59 general panellists.

The questionnaire consists of some closed-ended questions on “information and practical arrangements”, “panel report template, self-evaluation and background material”, “presentations on day one” and “site visits”, and some general questions about the aim of the evaluation, composition of the panel and the value of the experience to themselves. Overall, the answers are mainly positive, and most of the responders seem to be satisfied with their Q&R17 experience.

At the end of the questionnaire, there are some open-ended questions on what the panellists appreciated most and least about Q&R17, and proposals or remarks for improvement of future Q&R research exercises.

Among the aspects that are appreciated the most by panellists are their own learning experience and being of help in the research environments’ further development. They also appreciated the collaboration within the panel, and discussions with leaders and researchers at departments. They were affirmative towards the Q&R17 approach per se and praised the organisation of Q&R17.

Q&R17 gave the panellists themselves new knowledge, insights and ideas. Several of the panellists appreciated learning about the Swedish university system and another academic culture. They also appreciated the opportunity to learn more about Uppsala University and to get a more detailed impression of activities in another research environment but in their own field of research.

Interaction with many interesting scientists – and the inspiration from the event, which I can use in my future activities. I got new insights to the Swedish academic world.

I found participation extremely rewarding and took several of the actions and ideas both presented to me from Uppsala and actions we had suggested in our reports back to my home institution.

They also valued the teamwork, cooperation and discussion with colleagues in the same panel. In addition, the discussions with the departments are mentioned. The panellists felt welcome and seem to have experienced great openness and open-heartedness.

Interaction with the Department and its members and (doctoral) students; the collegiality of the panel and the excellent role played by the chair.

The team-work: the panel staying together to discuss, compare even late at night, until we produced our report.
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I liked the openness of many researchers (at the departments) to discuss with the panel even some difficult points concerning their present environment and work. There were many enthusiastic researchers who wanted to learn through this process.

The approach of Q&R17 was appreciated because of its somewhat novel focus on enhancement and processes for quality and renewal. Some also mention that it was very valuable to have a ‘researcher on research’ in the panel (for a personal reflection on the Q&R17 experience by a ‘researcher on research’, see Evaluation of the Q&R17 process in Part 1). The organisation of Q&R17 was also appreciated, with good support for the panels, hospitality and a friendly atmosphere.

The focus on quality improvement rather than assessing quality level was very welcome, although at first appearing odd. Very valuable to have a ‘researcher on research’ in the panel.

The approach with focus on the processes for quality and research renewal rather than ‘past’ research performance was novel and challenging.

Perfect organisation and helpful people from the beginning.

Among the least appreciated aspects, panellists write about the information before the site visit, some aspects of the Q&R17 approach, and some aspects of the site visit. A few panellists point to parts of the information that could have been better, or less extensive. Some mention problems downloading the documents that the panellists were supposed to have read before their arrival in Uppsala. Some also mention that the quality of the self-evaluations varied.

I found the website with the background information a little cumbersome to use.

Reading and organising all the material that was sent to us.

The quality of the self-evaluations was quite variable; some parts were good, other parts were not very good at all.

While several panellists expressed their appreciation of the Q&R17 approach, there were also some concerns. One panellist found it difficult to evaluate the organisation without assessing the outcomes in depth, some felt that researchers in the evaluation unit did not understand that the focus was on processes rather than outcomes. Some panellists also mention the background material, for example the survey and the bibliometrics; the bibliometrics could have been better adapted to the individual department and the survey results would have been more interesting if analyses had been made for different categories of respondents.

Some panellists are also dissatisfied with certain aspects of the site visit, such as the schedule, lack of time, too long stay in Uppsala and problems with the
departments. Some panellists state that the presentations on day one could have been better or shorter (if information had been sent out beforehand). Several panellists state that the schedule was too tight and gave too little time for discussions, and too short a time for writing the report. Other panellists, on the contrary, say that the stay in Uppsala was too long and that the exercise could have been done in fewer days.

Vague and imprecise introduction to the organisation.

The introductory presentations on day 1. Downloading the pre-reading documents.

The days were extremely intense and there was not so much time for reflections.

The timetable was very dense and the time for writing the draft report was quite short.

We could have done this in less time.

The end of the final day was a little sudden; I would have appreciated a plenary closing session.

As stated earlier, the questionnaire also contained questions on proposals for improvement for future research evaluations. These proposals mainly concern two themes:

• **The approach**
  – Operationalise concepts such as research environment and research leadership.
  – Departments need more reassurance so they can trust that the focus is not on grading research outputs. There was some anxiety about the outcome of Q&R17.
  – A future review should focus on organisation, management and administration processes.
  – Prepare a follow-up to ensure implementation.
  – Keep it as a constructive evaluation, not a grading process.
  – Consider something similar at faculty level, and university level.
  – Difficult and unnecessary to keep quality assessment and comparisons out of the exercise.
  – Integrate gender dimensions in a more systematic way.

• **Site visit**
  – Give more information about the University beforehand so that the first day can also be spent on departments.
  – More time to talk to junior and middle-ranking researchers.
  – More time to arrange ad hoc meetings at the request of the panellists. Can clarify misunderstandings.
  – Local guides and panel assistants were excellent.
Reflections on Q&R17 by a researcher on research

Introduction
In the last decade, Swedish higher education institutions have increasingly initiated comprehensive research assessment exercises. Uppsala University was in fact the first Swedish university to carry out such an evaluation, as early as 2007. Lund followed suit the year after and since then many other institutions, both research-intensive and more teaching-oriented, have launched similar exercises, both in research and in education. The aims have varied and so have the methodology and the possible uses of evaluation results. As for aims, there have been frequent references to the need for an overview and a ‘mapping’ of research environments, hence a kind of information use. There has also been a perceived need to identify and support both strong and weak environments.

The methodology in these exercises has varied across institutions but also between evaluations undertaken at the same university in cases where more than one exercise has been completed, as in Uppsala. However, they all have in common the combined use of review panels and bibliometrics. Some universities, such as SLU and KTH Royal Institute of Technology, have introduced methods to assess societal impact as well. The case in point here, Quality and Renewal 2017 (Q&R17), has been described as “an enhancement-led evaluation with focus on preconditions and processes for high-quality research”. The task was not to grade or deliver an assessment of research performance. I was one of the participants in a review panel in Q&R17, as a ‘researcher on research’ (RoR), and have been invited in that capacity to reflect on my experiences from this endeavour. The text is structured ‘chronologically’ in relation to the various phases and in addition reflects upon some of the roles involved, including the role of RoR, and the evaluation design.

Preparation: The self-evaluation and background documents
Preparing and implementing a Q&R project is a huge task. A large number of people get involved, as valuees, evaluators, administrators/facilitators and management. It is a significant investment for the University, which in turn puts demands on both the process and the results and effects of the exercise. All the

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3 Written by Lars Geschwind, KTH Royal Institute of Technology.
effort creates legitimate expectations of getting something in return, in the form of information, constructive feedback and advice on future directions.

The format of the three Uppsala Q&Rs has varied slightly. This time it was enhancement-led, focusing rather on the preconditions for research, i.e. the research environments and their organisation and leadership. This is a common strategy, to slightly adjust the methodology from last time, often motivated by avoiding ‘game playing’ in the organisation but also because it might simply be too much to evaluate all aspects of research at the same time. There is always a risk of focusing too much on evaluation criteria and indicators in organisations, which may then have “constitutive effects”, as Peter Dahler Larsen\(^8\) has put it. This means that evaluations not only steer and direct researchers’ behaviour; they might even change the way we perceive the core business of academia. Hence, it makes a lot of sense to discuss the evaluation approach in relation to earlier experiences and the present needs of the organisation, rather than mechanically repeating the previous approach.

Q&R17 was based on self-evaluations by the units being assessed. This is often a valuable part of evaluations, provided that self-evaluations are perceived and accepted as tools for development by those evaluated. My experience from reading self-evaluations more generally is that they differ widely in terms of effort and quality and this was also the case in Q&R17. It is interesting to ask why this is the case. Self-evaluations might be poorly anchored and/or processed by very few people, which in turn may have different reasons, such as a fragmented or loosely coupled unit, or perhaps a top-steered department with a dominating academic oligarchy, or too little time spent on the process, to mention a few reasons. The reasons for producing less-than-excellent self-evaluations can also be traced to the tools used. More specifically, the self-evaluation template might have issues that need to be further discussed. Probably well-anchored and thoroughly iterated in many working groups, it was, in my opinion, fairly detailed (over-ambitious?) and with some potentially overlapping sections. I think a key in the self-evaluation work is motivation. Reflecting on the research environment should mean discussing critical current and future issues for the evaluation unit. There is always a balance to be struck between a focus on detail, facilitating comparison, and a freer format that allows those evaluated to address the issues most pertinent at present. For future consideration, and for the sake of motivation in the organisation, a less extensive evaluation manual with more flexibility related to the current situation could be considered.

There were also other parts of the background material sent out before the site visit. A survey had been sent out to academic staff at the University in autumn.

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2016, comprising 49 questions. This was useful data as preparation for the interviews during the site visit. To some extent, it was also interesting (at least for a RoR) to compare the different evaluation units. It would be even more interesting to compare the figures over time for each of the units. If not already done, these questions might be meaningful to follow up in order to identify trends over time.

The bibliometric data is, by definition, related to past performances rather than current preconditions and processes, and therefore one may raise some concerns about its role here. However, the data provided was useful in the sense that publication patterns and strategies (or lack thereof) could be identified and discussed rather than the publication output per unit. The strategic choice and/or tradition to publish in a specific way led to some interesting discussion among the subject specialists in the group. Perhaps the use of the bibliometric data could have been further clarified at the outset, i.e. how panellists were supposed to link previous research output to the assessment of preconditions and processes in research environments.

In all, there was certainly no lack of data on which to base the evaluation. The challenge was rather to get an overview, to prioritise issues that were crucial or at least meaningful to discuss and address. It also relied on the panellists doing some homework beforehand. The amount of data produced and compiled by the research environments themselves may also have created expectations of feedback from either the assessment panel or management at different levels.

Organising a preparatory meeting in January was a good idea, even necessary, in order to communicate the overall aim of the exercise. In my opinion, there was a slight information overload during the day and more time could have been spent on discussion rather than listening to presentations.

The site visit
The site visit, which took place in May 2017, during two alternative weeks, was generally speaking well organised and well thought-through, which might be expected since this was the third evaluation of this kind. A particularly welcome feature was a personal ‘guide’ for each panel, who was available for guidance not only geographically but to a high degree also when it came to questions regarding local traditions and specific details regarding the organisation.

The site visit was highly intensive. The schedule included both meetings and interviews at the evaluation units and other meetings, including the panel’s internal work meetings. The interviews with evaluation units underlined the importance of having separate groups for different categories of staff, in order to promote an open atmosphere not least among more junior researchers. Furthermore, the time spent with the evaluation units should be focused on discussion based on questions and reflections from the panel and the background material, rather than presentations by the units. Our panel changed the schedule during
the visit in order to get more time for discussion, which caused some initial, understandable, concerns in the evaluation units but in the end turned out to be a wise decision.

Reporting, feedback and dissemination
Already during the week in Uppsala, the panel provided feedback on the main findings, reflections and conclusions so far. The feedback sessions worked well and emphasised the formative and enhancement-led aspects of the exercise. A few misunderstandings could also be corrected. The draft report was also written on site and further elaborated afterwards by the panel. The template for reporting by and large set the framework but the panel felt free to deviate from the format. It is always a good idea to iterate the draft text with the evaluated environment for factual mistakes and errors. This worked well also in this case.

The role of researcher on research
The composition of review panels is complex issue\(^9\). In this evaluation the role of researcher on research (RoR) was introduced as a novelty as compared with previous Q&Rs. I have to admit I was a bit curious how this would work out. The role of RoR surely must have been quite different depending on the scholarly proximity to the evaluation unit. In my case, the distance could hardly have been larger, so it was an easy task to concentrate on the role of RoR rather than acting as a subject specialist from the same or a neighbouring scholarly area. In my opinion, the work on the panel worked well and I think the role of RoR complemented the subject experts’ role. This might be related to the evaluation design, focusing on preconditions and processes rather than results. Some of the issues frequently discussed had a general character across scholarly fields and were more related to research policy, organisation and governance, for instance career structure, funding, leadership, teaching-research links and organisation of doctoral education.

A few more general notes
Finally, I will address a few more general aspects of Q&R. Assessments of this kind are cyclical and as mentioned, the completed Q&R17 is the third research assessment exercise by Uppsala University (previous ones 2007 and 2011). This creates opportunities to identify and discuss development over time both at the University and at the unit level. As also mentioned, the methodology and the focus have changed slightly in the three consecutive evaluations. This might be good in some respects but it should be clearly communicated to environments.

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that changing the design of the Q&R dramatically decreases the possibilities of comparison over time.

Another issue, self-evident yet often neglected, is communicating the process after the delivery of the panel reports. During the meetings in Uppsala, there were some questions asked by panellists about “what happens next”. This is a very important question, also for peer reviewers who generally are interested in how their efforts will be taken forward. Hence, in the short term, it would be useful to know about the next steps, for instance how the results will be used and addressed by the University at different levels. As mentioned, there was no grading of the environments but it was clear that some environments worked better than others and were more ready to meet future challenges, as expected. The process for follow-ups and further discussion could have been further developed beforehand and communicated to all people involved.

The design and the decision not to focus on results have both strengths and weaknesses. It might be an advantage to focus on one thing at a time, but I also thought it was challenging to separate the evaluation of the research environment (preconditions and processes) from how well the unit actually performed as shown in results. Many researchers are competitive and are used to comparing themselves with peers. Hence, in my opinion the relations between preconditions, processes and results are equally important to discuss. Potentially, there might be environments with great preconditions (organisation and working conditions) and processes but poor performance and vice versa, at least theoretically.

Including questions regarding teaching-research links was another interesting decision made by the Q&R17 project management. One of the prevalent issues in research assessment exercises has been the ‘black boxing’ of education. It was certainly discussed both in the self-evaluations and during interviews but it was not entirely clear how teaching-research links should be addressed in the evaluation. The ambition to include links to education was laudable but could be further developed in my opinion.

Final words
This text comprises my personal reflections on the Q&R17 exercise from the perspective of researcher on research (RoR). I have reflected on the evaluation process and mentioned both strong aspects of the experience and a few critical points which may be further developed. Overall, Q&R17 is a massive effort and hopefully the new knowledge produced by the University itself as well as the external review panels will be a basis for further development in the coming years.

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Results from the Q&R17 research environment survey

A new feature of Q&R17 is a survey aiming to capture how research staff at Uppsala University perceive the preconditions and processes for doing research in their local research environments. The survey was carried out to provide background data for the departmental self-evaluations and for the visiting external panels. The results from the survey have thus been used as a starting point for reflection and analysis, and should not be seen as evaluation results per se.

This chapter gives a general picture of how the respondents perceive their research environments and the conditions for conducting quality research at Uppsala University. For the most part, the results are aggregated at university level, but there are also analyses comparing groups of respondents, while testing for significant differences using the chi-square test. Here, comparisons are made between the distribution of answers given by women and men, doctoral students and senior staff, respondents with a Swedish or an international undergraduate degree, and respondents within the three disciplinary domains. The test compares the distribution of answers to a specific question within a group (e.g. women) in relation to another group (e.g. men). It should be noted that the differences that emerge may well be due to covariation with other variables. For example, a difference between the way women and men report they are involved in strategic planning at the department may be a ‘true’ difference according to gender, but it may also be entirely – or partially – explained by the fact that the proportion of women is higher among doctoral students than among senior staff. Thus, what appears to be a difference in perception between men and women may rather be a difference between the perspectives of, say, junior and senior researchers.

1 Significant after Bonferroni correction at p < 0.05 (see also Appendix 3).
2 ‘Senior staff’ here means respondents in both junior and senior faculty positions (i.e. respondents choosing the alternatives post-doc, associate senior lecturer, senior lecturer, researcher, post-doctoral research fellow, professor, emeritus/senior employee and other).
3 The undergraduate degree is here used as a proxy to distinguish between Swedish and international graduates, where the undergraduate degree is the lowest formal degree that allows admission to the doctoral studies programme. These are hereafter referred to as respondents with a Swedish degree or an international degree respectively.
It would have required more detailed analysis to sort this out than has been possible here. Consequently, the differences identified in the following should be regarded as hypotheses to be further explored by controlling for covariance.

The survey targeted research staff at all levels employed by or affiliated with Uppsala University (including doctoral students⁴) and was sent to 6,500 persons⁵. In total, 3,681 respondents answered the survey, giving a response rate of 57%.⁶ Of these, 2% are based at Campus Gotland. Gender-wise, a slightly larger proportion of the respondents are men (56%), while 43% are women.⁷ The respondents are evenly distributed across the disciplinary domains, with one third in each disciplinary domain, i.e. Humanities and Social Sciences (H&S), Medicine and Pharmacy (M&P) and Science and Technology (S&T). Faculty-wise, the largest number of respondents belong to the faculties of Science and Technology (1,222 respondents), Medicine (1,001), and Social Sciences (514).

Table 1. Gender distribution among respondents by disciplinary domain at Uppsala University.

<table>
<thead>
<tr>
<th></th>
<th>Women</th>
<th>Men</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Row Valid N %</td>
<td>(count)</td>
<td>Row Valid N %</td>
<td>(count)</td>
</tr>
<tr>
<td>H&amp;S</td>
<td>48%</td>
<td>(580)</td>
<td>51%</td>
<td>(619)</td>
</tr>
<tr>
<td>M&amp;P</td>
<td>50%</td>
<td>(589)</td>
<td>50%</td>
<td>(582)</td>
</tr>
<tr>
<td>S&amp;T</td>
<td>32%</td>
<td>(390)</td>
<td>67%</td>
<td>(820)</td>
</tr>
</tbody>
</table>

The chi-square tests show a significant difference in the gender distribution of respondents at disciplinary domain level (see Table 1), where the domain of Science and Technology has the largest share of men (67%) and the lowest share of women (32%). This pattern is repeated at faculty level except for the faculties of Medicine and Educational Sciences, which have a larger share of women in their responding population.

Of the disciplinary domains, Science and Technology has the largest share of respondents with an international undergraduate degree (53% of the total

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⁴ At Uppsala University, doctoral students are regarded as a vital part of research environments, although they are, as yet, researchers in the making.

⁵ The survey targeted all research-active staff at Uppsala University during 2015/2016, including doctoral students. The questionnaire was also sent to clinical practitioners engaged in research at, or associated with, Uppsala University. Overall, the survey was distributed to more than 6,500 unique email addresses.

⁶ At the faculty level, the response rate varied between 42% and 71%. See Appendix 3 for a more in-depth description and Table 1 and Table 2 for detailed figures on faculty and evaluation unit levels.

⁷ 19 respondents (1%), ticked the alternative ‘other’ on the gender question and 26 respondents did not answer the question.
number of respondents), while the domains of Humanities and Social Sciences and Medicine and Pharmacy have 23% and 24%, respectively. At faculty level, the chi-square tests show that the faculty of Science and Technology has the largest share of respondents with an international degree, while the faculties of Arts, Theology, Law, Social Sciences, Medicine and Educational Sciences have a significantly larger share of respondents with a Swedish degree. The chi-square test shows no significant gender differences between respondents with a Swedish or international degree.

According to employment category, the largest respondent group answering the survey is doctoral students (32%), followed by researchers (17%), senior lecturers (16%) and professors (15%). At disciplinary domain level, the chi-square test shows a significant difference in the distribution of respondent by employment category. A larger proportion of respondents in the domain of Humanities and Social Sciences are senior lecturers, while a smaller proportion are researchers and post-docs, relative to the other two disciplinary domains. However, there are no significant differences in this breakdown between the disciplinary domains as regards the share of responding doctoral students and professors (see Figure 3 and Table 4 in Appendix 3 for the distribution of shares in each disciplinary domain).

Examining the gender balance of respondents by employment category (see Table 2 below), the doctoral students are evenly distributed, whereas the categories of senior lecturers, researchers and professors have a majority of men (52%, 56% and 70% respectively).
Table 2. Respondents’ academic role at Uppsala University (employment category) by gender (gender ‘other’ excluded).

<table>
<thead>
<tr>
<th></th>
<th>Women</th>
<th></th>
<th>Men</th>
<th></th>
<th>Total</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Row Valid</td>
<td>(count)</td>
<td>Row Valid</td>
<td>(count)</td>
<td>Row Valid</td>
<td>(count)</td>
</tr>
<tr>
<td>Doctoral student</td>
<td>50%</td>
<td>(571)</td>
<td>50%</td>
<td>(577)</td>
<td>100%</td>
<td>(1148)</td>
</tr>
<tr>
<td>Post-doc</td>
<td>47%</td>
<td>(151)</td>
<td>53%</td>
<td>(169)</td>
<td>100%</td>
<td>(320)</td>
</tr>
<tr>
<td>Associate senior lecturer</td>
<td>37%</td>
<td>(19)</td>
<td>63%</td>
<td>(33)</td>
<td>100%</td>
<td>(52)</td>
</tr>
<tr>
<td>Senior lecturer</td>
<td>48%</td>
<td>(284)</td>
<td>52%</td>
<td>(303)</td>
<td>100%</td>
<td>(587)</td>
</tr>
<tr>
<td>Researcher</td>
<td>44%</td>
<td>(269)</td>
<td>56%</td>
<td>(349)</td>
<td>100%</td>
<td>(618)</td>
</tr>
<tr>
<td>Post-doctoral fellow</td>
<td>43%</td>
<td>(20)</td>
<td>57%</td>
<td>(26)</td>
<td>100%</td>
<td>(46)</td>
</tr>
<tr>
<td>Professor</td>
<td>30%</td>
<td>(169)</td>
<td>70%</td>
<td>(386)</td>
<td>100%</td>
<td>(555)</td>
</tr>
<tr>
<td>Emeritus/senior employee</td>
<td>22%</td>
<td>(29)</td>
<td>78%</td>
<td>(103)</td>
<td>100%</td>
<td>(132)</td>
</tr>
<tr>
<td>Other</td>
<td>40%</td>
<td>(47)</td>
<td>60%</td>
<td>(70)</td>
<td>100%</td>
<td>(117)</td>
</tr>
<tr>
<td>Total</td>
<td>44%</td>
<td>(1559)</td>
<td>56%</td>
<td>(2016)</td>
<td>100%</td>
<td>(3575)</td>
</tr>
</tbody>
</table>

While there is only a minor gender imbalance among responding doctoral students, there is a significant gender difference in the distribution of respondents by employment category within the two gender categories. That is, the chi-square test shows that a significantly larger proportion of all women than of all men in the survey are doctoral students (37% versus 29%, see Table 4 in Appendix 3). Likewise, a larger proportion of the men than of the women answering the survey are professors and emeriti/senior employees (19% versus 11% and 5% versus 2%). This pattern is repeated when doctoral students are compared with all senior staff, with a larger proportion of the senior staff in the survey being men.

Figure 4 shows that a majority of the respondents have either an undergraduate, Master’s or doctoral degree from a Swedish higher education institution, including Uppsala University. Most of these have a degree from Uppsala University, with a doctoral degree being the most common. Among respondents with an international degree (i.e. from an HEI elsewhere in or outside Europe), the most common degree is an undergraduate degree. In terms of post-docs, many respondents have completed their post-doc period at Uppsala University. Nearly half of the respondents have completed a post-doc outside Sweden (see Figure 4).

The chi-square test shows that a larger share of senior staff than of doctoral students in the survey have an undergraduate degree from Uppsala University (41% versus 35%). Moreover, a smaller share of the senior staff than of the doctoral students have an undergraduate degree from outside Europe (12% versus 19%). However, when looking at the Master’s degree, 51% of the doctoral stu-
dents have a Master’s degree from Uppsala University, as against 40% of the senior staff. From a gender perspective, a larger share of men than of women in the survey have completed a post-doc elsewhere in Europe or outside Europe.

The quality of research and research conditions in the main research environment

In the survey, the respondents were asked to indicate what they perceived as their main research environment (see Appendix 3 for definition). The three most common alternatives are department (43%), research group (as organisational unit, 23%) and division/research programme or one of the department’s research topics (21%). There are some differences across the faculties. In Law, Social Sciences, Arts, Languages and Theology, most respondents see the department as a whole as their local research environment. In Science and Technology, most respondents select the division/research programme as their point of reference, while in Medicine and Educational Sciences, most frequently the research group is referred to. In the Faculty of Pharmacy, however, the department and the research group are emphasised almost equally often (37% and 35% respectively). Only 2% chose the alternative ‘other’.\(^8\)

\(^8\) The respondents that chose ‘other’ had the opportunity to fill in an open text box. The most common answers are that their main research environment is a research institute, an alternative research network/forum, another clinical institution or that they are self-financed and self-organised.
In connection with the survey theme “research activities in the research environment”, the respondents were asked to answer a general question regarding overall opportunities to conduct good research in their main research environment. Here, a majority (76%) of the total number of respondents see these opportunities as good or very good (see Figure 5 and Table 9 in Appendix 3). This general view is also supported by the chi-square tests that, after Bonferroni correction, show no significant differences in the distribution of answers between men versus women, doctoral students versus senior staff, or respondents with a Swedish degree versus an international degree.

In connection with this, respondents were also asked to classify how they perceive their main research environment. Excluding the alternative ‘don’t know/not applicable’ (chosen by 7% of the respondents), five alternatives were presented: ‘internationally leading’ (selected by 16%), ‘internationally renowned’ (47%), ‘nationally leading’ (13%), ‘nationally renowned’ (13%) and ‘substandard’ (4%). Here the chi-square tests (see Table 5 in Appendix 3) show that a larger proportion of the senior staff than of the doctoral students judge their main research environment to be internationally leading (18% versus 12%) or internationally renowned (50% versus 41%), while a slightly larger percentage of the doctoral students than of the senior staff see it as substandard (6% and 3% respectively) or do not know (12% versus 4%). Additionally, a larger share of the respondents with an international degree than of the respondents with a Swedish degree consider their main research environment to be internationally leading, while a larger share of those with a Swedish degree see it as nationally renowned. There is also a gender difference, as a larger proportion of the men (19%) than of the women (13%) see their

![Figure 5. Overall opinion about opportunities to conduct good research.](image-url)
A majority of respondents would also recommend Uppsala University to another researcher. Here 79% selected the alternative ‘yes’ or ‘yes, probably’. Only 8% of the respondents would not or would probably not recommend Uppsala University to another researcher or doctoral student.

The chi-square tests also show a significant gender difference, as a larger share of the men (50%) answered ‘yes’ to the question of whether they would recommend people to apply to their main research environment, compared with the women (44%; see Figure 6 for distribution of answers and Table 6 in Appendix 3 for a more detailed account). Moreover, a larger share of the doctoral students chose the alternative ‘no, probably not’ or ‘maybe’, compared with respondents

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9 The gender difference regarding the alternatives ‘internationally leading’ and ‘nationally renowned’ is still significant after controlling for doctoral students, as a larger proportion of the responding doctoral students are women.
### Statements about the research environment (in research environments considered good or very good)

<table>
<thead>
<tr>
<th>Statement</th>
<th>0%</th>
<th>20%</th>
<th>40%</th>
<th>60%</th>
<th>80%</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>c) It provides the opportunity for me to freely develop/choose research topics and methods</td>
<td>15%</td>
<td>82%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) It is a stimulating and creative climate that contributes to my research</td>
<td>18%</td>
<td>79%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) It provides scope for me to test new approaches and take risks</td>
<td>19%</td>
<td>76%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) It provides the opportunity to receive constructive feedback on my research</td>
<td>6%</td>
<td>23%</td>
<td>71%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>k) There are senior researchers who take responsibility for ensuring that the collective research environment develops as good as possible</td>
<td>10%</td>
<td>25%</td>
<td>62%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f) There is an aspiration to seek complementary knowledge outside one's own research environment</td>
<td>8%</td>
<td>27%</td>
<td>62%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>m) There is an aspiration to achieve gender equality and equal opportunities (regardless of gender, gender identity or expression, ethnicity, religion,...)</td>
<td>9%</td>
<td>24%</td>
<td>60%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e) There is a sufficient number (a critical mass) of active researchers in my field of research</td>
<td>15%</td>
<td>31%</td>
<td>53%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>j) There is a satisfactory balance between junior and more senior researchers</td>
<td>12%</td>
<td>32%</td>
<td>52%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i) There is a satisfactory balance in the gender distribution</td>
<td>5%</td>
<td>21%</td>
<td>28%</td>
<td>47%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>l) There is active discussion on issues of research ethics and/or academic integrity (e.g. fraud, plagiarism, manipulation)</td>
<td>21%</td>
<td>34%</td>
<td>40%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g) There is stimulating competition between colleagues</td>
<td>9%</td>
<td>20%</td>
<td>37%</td>
<td>34%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>h) There is too tough competition between colleagues</td>
<td>6%</td>
<td>73%</td>
<td>14%</td>
<td>6%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Figure 7. Statements about the main research environment by those who answered ‘good’ or ‘very good’ to the question “Overall, I think that my opportunity to conduct good research in my main research environment is...” (n = 2,648 respondents). Answers sorted by ‘to a large + very large extent’ in descending order.*
from the senior staff, who to a higher extent opted for the ‘yes’ alternative. Additionally, a larger share in the domain of Humanities and Social Sciences answered ‘yes’, compared with the other domains.

In the survey, respondents were asked to react to thirteen statements about their main research environment. By relating the responses to these statements to the answers reported in Figure 7 (i.e. the respondents’ general perception of their main research environment), we can examine which statements receive the highest or lowest percentages in a good or a less good research environment, respectively. Figure 7 presents the answers in the combined ‘to a large extent’ and ‘to a very large extent’ categories for those who considered the opportunity to conduct good research in their main research environment to be good or very good.10 The following five statements about the main research environment received the highest percentages (compared with the answers of all respondents in parentheses11):

- it provides the opportunity for me to freely develop/choose research topics and methods: 82% agreed to a large or a very large extent (as against 75% of all respondents);
- it is a stimulating and creative climate that contributes to my research: 79% (66%);
- it provides scope for me to test new approaches and take risks: 76% (65%);
- it provides the opportunity to receive constructive feedback on my research: 71% (60%); and
- there are senior researchers who take responsibility for ensuring that the collective research environment develops as well as possible: 62% (51%).

Thus, environments that are deemed to provide good opportunities to conduct good research tend to allow for academic freedom, both in developing/choosing research topics and methods, and in testing new approaches and taking risks. According to the respondents, these environments also seem to be characterised by collegiality, a creative climate and seniors that take collective responsibility for the research environment, not least in terms of constructive feedback.

Those who were more displeased with their opportunities to conduct good research in their research environment (choosing the alternatives ‘very poor’ or ‘poor’) gave the following five statements the highest combined proportion of answers in the ‘not at all’ and ‘to a small extent’ categories:12

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10 The number of respondents here is 2,648.

11 See also Table 12 in Appendix 3 for a presentation of the results for these statements for the total population.

12 The number of respondents here is 324.
• there is a sufficient number (a critical mass) of active researchers in my field of research: 61% not at all or to a small extent (as against 24% of all respondents);
• there is active discussion on issues of research ethics and/or academic integrity (e.g. fraud, plagiarism, manipulation): 59% (28%);
• there is stimulating competition between colleagues: 59% (27%);
• there are senior researchers who take responsibility for ensuring that the collective research environment develops as well as possible: 59% (18%); and
• it is a stimulating and creative climate that contributes to my research: 52% (11%).

In the above cases, there seem to be an insufficient critical mass of researchers and an absence of senior researchers leading the way, as well as a lack of both stimulating competition and a creative climate. The statements regarding absence of seniors and a stimulating climate show the largest discrepancies between all respondents and the displeased respondents. Moreover, and more importantly, as many as 59% answer that an active discussion on issues of research ethics and/or academic integrity does not exist at all or exists only to a small extent.

Furthermore, examining the answers for the total responding population, the chi-square tests show that men generally answered more affirmatively to several of the statements than women (as a larger proportion of the men than of the women chose the alternative ‘to a very large extent’). Thus, a higher proportion of men agree with statements about the main research environment having a stimulating and creative climate, providing scope to test new approaches and take risks, providing opportunity to freely develop/choose research topics and methods, and having a satisfactory balance in the gender distribution and between junior and more senior researchers. On the more dissenting side of the scale of response options, a larger proportion of the women than of the men chose the alternative ‘not at all’ regarding the statement concerning a satisfactory gender balance and the statement concerning the aspiration to achieve gender equality and equal opportunities. Moreover, a larger proportion of the men than of the women chose the alternative ‘not at all’ regarding whether there is too tough competition between colleagues.

Regarding differences between doctoral students and senior staff in the survey, the responses among the senior staff tend to be more affirmative concerning the research climate, testing new approaches and taking risks, the opportunity to freely develop/choose research topics and methods, and the aspiration to seek complementary knowledge outside one’s research environment, compared with the responses of doctoral students. The doctoral students give more dissenting
responses regarding the statements that there is stimulating competition in the main research environment and that there is active discussion on issues of research ethics and/or academic integrity. Following the above patterns, respondents with a Swedish degree are also more affirmative regarding, for example, the opportunity to test new approaches and take risks, and the opportunity to freely develop/choose research topics and methods, than are those with an international degree. The latter, on the other hand, answered more affirmatively to the statements that there is a satisfactory balance in the gender distribution and between junior and senior researchers, and regarding the aspiration to achieve gender equality and equal opportunities.

In the survey, six statements were also advanced concerning the extent to which respondents perceive that their main research environment places importance on different issues (see Figure 8). Here, publications in highly ranked journals came out on top (77% in the combined ‘to a large extent’ and ‘to a very large extent’ category), followed by the aspiration to conduct world-class research (64%) and establishing contacts with internationally leading research environments (55%). Meanwhile, working actively to communicate, promote and utilise research in industry and society, and providing support to researchers who are
newly graduated doctors have the highest combined proportion of ‘not at all’ or ‘to a small extent’ answers (22% and 20% respectively).

According to the chi-square tests, men, senior staff and respondents with an international degree in the survey population responded more affirmatively than their counterparts did to the question of whether the main research environment places great importance on the aspiration to conduct world-class research. In short, a larger proportion of the senior staff than of the doctoral students answered that they think their research environment to a great extent places great importance on publications in highly ranked journals, active quality management, establishing new contacts with internationally leading research environments, and working actively to communicate, promote and utilise the research in industry and society.

Seminar and meeting culture

The respondents were also asked to answer questions about the seminar and meeting culture at the primary seminars at Uppsala University that they normally attend. According to the respondents, what characterises the individual seminars at Uppsala University (see Figure 9) to a large or a very large extent is above all that everyone can speak on equal terms (78%), that there is an open, permissive and lively discussion climate (76%), that senior researchers participate (73%) and that scientific and critical thinking is stimulated (72%). Moreover, a small share of the respondents (9%) state that the seminar culture to a large or a very large extent is too kind (not critical enough).

![Figure 9](image-url)

*Figure 9. Statements about the seminar or equivalent (sorted by ‘to a large + very large extent’ in descending order).*
extent is too kind (i.e. not critical enough), while most of the respondents choose the alternatives ‘not at all’ or ‘to a small extent’ (58%). Likewise, an even smaller share (3%) state that the seminar culture is too tough (i.e. overly critical), while the vast majority (83%) choose the ‘not at all’ or ‘to a small extent’ alternatives. Here the chi-square tests show that a larger share of the men than of the women responding to the survey are more affirmative regarding the possibility for everyone to speak on equal terms. A larger share of the doctoral students than of the senior staff give a more dissenting response regarding the ability to stimulate scientific reasoning and critical thinking and the aspiration to stand for an open, permissive and lively discussion climate. A larger proportion of the respondents with an international degree than of those with a Swedish degree answer that they do not regard the seminar culture as too tough, and they are also more affirmative about the possibility to speak on equal terms.

Cooperation and collaboration
In terms of research-related cooperation, the answers show that the largest combined proportion of a large and very large extent of cooperation takes place in the local milieu, primarily within the main research environment and in the department (62% and 40% respectively). Figure 10 also shows that cooperation is more common with other universities in the European Union (29%) than with other universities in Sweden (27%), with people at another department/equivalent at Uppsala University or clinic at the University Hospital (25%), or at universities outside the European Union.

Less research cooperation takes place with stakeholders in the health care, business and government sectors. This is also highlighted by the proportion of respondents answering ‘not at all’ or ‘to a small extent’, indicating that least cooperation is taking place with hospitals, medical centres or similar other than Uppsala University Hospital (77%), the business community, industry and spin-offs (74%), and government agencies or organisations other than universities (72%).

According to the chi-square tests, external cooperation with other universities in, as well as outside, the European Union is more common among the men in the survey than among the women. Moreover, a larger share of the women than of the men answered ‘not at all’ to the questions of whether they cooperate with other departments at the University, with other universities in Sweden, universities in or outside the EU, or with the business community, industry and spin-offs. When it comes to differences between doctoral students and the senior staff, the senior staff state that they have more external cooperation throughout all the alternatives listed in Figure 10, compared with the doctoral students. A larger proportion of respondents with an international degree than of respondents with a Swedish degree answered that they cooperate with other universities in the European Union. In cases where cooperation is taking place within the department,
with other departments at the University, with other universities in Sweden, the business community, hospitals etc., this is more common among respondents with a Swedish degree. Looking at the disciplinary domains, a smaller proportion of respondents in the domain of Humanities and Social Sciences answer that they collaborate or cooperate with the business community etc., while a larger proportion state that they collaborate with government agencies etc., compared with respondents in the other two domains. Not surprisingly, more respondents in the domain of Medicine and Pharmacy than in the other two domains state that to some, to a large or to a very large extent, they collaborate and cooperate with hospitals, medical centres or similar.

Overall, third stream activities, i.e. collaboration with the surrounding society, do not seem to be well represented among respondents overall (see Figure 11). In

![Figure 10. Respondents’ research-related cooperation.](image-url)
terms of working actively to communicate and promote research and knowledge in the field outside the University (e.g. through popular communication or speaking engagements), 32% of the respondents do this to a large or a very large extent. Here the faculties of Educational Sciences, Arts and Theology have the highest combined proportions of ‘to a large extent’ and ‘to a very large extent’ answers. Among all the respondents, an even smaller combined proportion, 17%, works actively to a large or a very large extent with businesses and other organisations so that research can provide mutual benefit (e.g. through the commercialisation of ideas arising from the research).

The chi-square tests here show that respondents with an international degree generally work less actively to communicate and promote research outside the University than those with a Swedish degree. Moreover, regarding the question of working actively with business and other organisations so that their research provides mutual benefit, the test shows that women, doctoral students and respondents with an international degree state to a lesser degree that they work with this issue, compared with men, senior staff and respondents with a Swedish degree respectively.
Funding, recruitment and career paths

Looking at respondents overall, 46% state that their current funding situation does not enable them at all or enables them only to a small extent to have a long-term research perspective, while 24% state that it enables this to a large or a very large extent.

According to Figure 12, a larger share of the women respond more negatively to the question about their long-term funding situation compared with the men, who also have a larger combined share of ‘to a large extent’ and ‘to a very large extent’ answers (27% of the men versus 21% of the women). The chi-square test (see Table 7 in Appendix 3) also corroborates this picture, as it shows that the women in the survey perceive their long-term funding as more uncertain compared with the men. Also, a larger proportion of respondents with an international degree than of those with a Swedish degree answer ‘not at all’. Moreover, there is also a significant difference between the disciplinary domains, as a larger share of respondents in the domain of Humanities and Social Sciences answer ‘to a very large extent’, while a smaller share in the domain of Medicine and Pharmacy answer in this way. However, this could possibly be explained by the fact that within the domain of Humanities and Social Sciences, a larger proportion of the respondents are employed as senior lecturers and a smaller proportion as researchers than in the other disciplinary domains, and in this sense have a more secure employment situation.

Figure 12. Perceptions about the current funding situation per respondent group.
In terms of the future research funding situation, nearly half of the respondents (49%) are rather or very uncertain, while 25% are rather or very certain.

This pattern is also repeated in the chi-square tests (see Figure 13), where a significant and larger proportion of the men than of the women answer that they are ‘very certain’ regarding their future funding situation. Also, a larger share of the women than of the men opt for the alternative ‘don’t know/not applicable’. A larger proportion of the doctoral students than of the senior staff are ‘very uncertain’, while a larger share of the senior staff than of the doctoral students choose alternatives either right or left of the middle option, i.e. ‘rather uncertain’ and ‘rather certain’. Once again, the domain of Humanities and Social Sciences has a larger share of respondents answering ‘very certain’ to the future funding question, compared with the other domains (see Table 8 in Appendix 3), which possibly could also be explained by the larger share of senior lecturers.

Figure 13. Future research funding situation, by respondent group.
Research and teaching
To the question regarding to what extent respondents estimate they were active in research at Uppsala University over the past semester (spring semester 2016), senior staff and respondents with a Swedish degree report spending a lower percentage of full-time employment on research than doctoral students and respondents with an international degree. No gender differences are apparent. To the follow-up question, regarding whether the amount of time spent working on research is less or more than set out in their formal terms of employment (i.e. contract hours), a larger share of men and senior staff than of women and doctoral students consider that they spend ‘much more’ time on research than agreed in their contract. However, at the other end of the scale, more senior staff and respondents with a Swedish degree than doctoral students and those with an international degree state that they have spent ‘much less’ or ‘less’ time on research than agreed in their contract. Lastly, a larger proportion of both doctoral students and respondents with an international degree answer ‘the same’, compared with their counterparts.

When asked about teaching, most respondents answer that they teach up to 20% (45% of the respondents) or 21% to 49% (22%), while 21% of the respondents state that they did not teach at all at either graduate or undergraduate level last semester. Half of the respondents state that the time spent on teaching last semester was the same as the teaching hours set out in the terms of employment, 8% state that they taught less or much less, while 33% state that they taught more or much more than they agreed to in their terms of employment. Comparing the time spent on research and the time spent on teaching, a larger share of the respondents thus consider that they spent more or much more time on teaching than agreed, compared with time spent on research (see Figure 14).

According to the chi-square test, a larger share of women, doctoral students and respondents with an international degree in the survey answered that they did not teach last semester, compared with the men, senior staff and those with a Swedish degree, respectively. To the follow-up question of whether the time spent on teaching is less or more than agreed, a larger proportion of the doctoral students and the respondents with an international degree than of senior staff and those with a Swedish degree answered that the time spent on teaching is ‘less’ than in their contract, while a larger proportion of the senior staff answered ‘much more’ and those with a Swedish degree ‘more’, compared with their counterparts.
When asked whether they think that great effort is made in the main research environment to connect teaching with research in a carefully planned and executed manner, 33% of the respondents agree to a large or very large extent. Senior staff and respondents with a Swedish degree have a larger share of answers in the greater extent categories and a smaller in the lesser extent categories than doctoral students and those with an international degree.
Collegial climate and social interaction

A majority of the respondents (75%) think that the social environment in the department is good or very good, while 9% rate the social environment as poor or very poor. Here the chi-square test shows that a slightly larger, but significant, proportion of women than of men choose the alternative ‘poor’ (8% versus 5%, see Figure 15).

Within the disciplinary domains (see Table 10, Appendix 3), a slightly larger proportion of respondents in the domain of Humanities and Social Sciences answer that they think the social environment in their department is very poor, compared with the other domains. Moreover, a larger share in the domain of Medicine and Pharmacy answer ‘don’t know/not applicable’ than in the other domains, which could possibly be explained by the fact that respondents in the domain of Medicine and Pharmacy may have several different affiliations.

![Figure 15. Overall opinion about the social environment, by respondent group.](image-url)
## Academic leadership

In relation to their immediate superiors (see Figure 16), the respondents generally feel that their superiors are available when contact is needed, have confidence in their employees and are engaged in research matters. Among the statements where the respondents feel their superiors are less supportive, aspects such as efforts to secure research funding (such as time and resources) and encouragement in the research career stand out.

A larger proportion of men than of women choose the alternative ‘to a large extent’ (31% versus 23%) regarding the question of whether their immediate superiors take charge of things that are not working in the research environment. No other significant gender differences are found in the chi-square test. However, in terms of differences between doctoral students and senior staff, the doctoral students show a more affirmative response pattern regarding the statement that

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**Figure 16.** Statements about immediate superiors (answers sorted by ‘to a large + very large extent’ in descending order).
their immediate superiors “are interested in how my research proceeds”, while a larger share of the senior staff answer ‘to a large extent’ to the question of whether their immediate superiors “have confidence in me as an employee”. The senior staff also tend to be more dissenting regarding the statements related to positive feedback and research funding support. Moreover, a substantial number of questions show significant differences between respondents with an international and those with a Swedish degree, as those with an international degree tend to be more affirmative regarding all nine statements than those with a Swedish degree. This especially applies to interest in how the research is proceeding, involving employees in long-term issues, research funding support, and encouraging the next career step within the university sector.

Support and infrastructure
Overall, 72% of the respondents judge the access to support and infrastructure to be good or very good. The chi-square tests show neither gender differences nor differences between doctoral students and senior staff (see Figure 17 and Table 11 in Appendix 3 for distribution of answers). However, when testing differences between respondents with an international or a Swedish degree, we find that respondents with an international degree are more positive about the support and infrastructure than respondents with a Swedish degree. The tests also show a difference between the disciplinary domains, as a larger share in the domain of Science and Technology think that the support and infrastructure they have access to is very good than is the case in the other domains. However, it is

Overall, I think that the support and the infrastructure that I have access to is...

![Figure 17. Overall opinion about support and infrastructure per respondent group.](image-url)
hard in this case to assess the direction of the causal link, i.e. whether the larger share of respondents with an international degree has an effect on the domain of Science and Technology or whether the conditions in the domain affect respondents with an international degree.

The need for support and infrastructure varies across the University, depending for instance on field of research, availability or accessibility, and may also vary based on resources internal to the research environment, department, faculty or disciplinary domain. In the survey, respondents were asked to state to what extent they are satisfied with the infrastructure and support needed to conduct research (irrespective of within or outside Uppsala University). Figure 18 shows the distribution of answers to all support and infrastructure alternatives in descending order, based on the combined proportion of answers in the ‘to a large extent’ and ‘to a very large extent’ categories. In order to address the different needs of specific infrastructure and support across the University, the answers in the ‘don’t know/not applicable’ category are excluded. Hence, of the respondents with an opinion regarding support and infrastructure, the five topmost satisfactory alternatives are: library services and digital media (e.g. journals/periodicals) (88%); computer equipment, databases, data storage and software (71%); administrative support (e.g. staff administration, financial administration) (71%); experiment materials (70%); and technical laboratory equipment (e.g. analysis tools) (68%). It is also worth noting that when it comes to career support and support for cooperation with businesses and organisations, the answers are more unsatisfactory than satisfactory, as the largest share of answers is found in the combined ‘not at all’ or ‘to a small extent’ category.

However, also including the response alternative ‘don’t know/not applicable’ reveals which of the support services or which kind of infrastructure most respondents use or have an opinion about (see Table 13 in Appendix 3). Some support services and infrastructure are central to many respondents across the University, while others are perhaps more specialised or directed toward certain activities within the University. Among the alternatives with only a small share of ‘don’t know/not applicable’ answers, we find support services such as:

- library services and digital media (only 2% of answers in the ‘don’t know/not applicable’ category),
- administrative support (e.g. staff administration, financial administration) (4%),
- computer equipment, databases, data storage and software (4%), and
- IT support (4%).
Figure 18. Satisfaction regarding infrastructure and support (regardless of within or outside of Uppsala University). Answers in the ‘don’t know/not applicable’ category excluded (answers sorted by ‘to a large + very large extent’ in descending order).
The above services are universal and affect more respondents in their research than some of the more specific support and infrastructure that has rendered the largest share of ‘don’t know/not applicable’ answers. In descending order, these are:

- patent and commercialisation (76% in the ‘don’t know/not applicable’ category),
- equipment for field research (74%),
- museums and collections (74%),
- experiment materials (64%), and
- legal support (62%).

It should be noted that we do not know if the respondents choosing the ‘don’t know/not applicable’ option have done so based on the fact that they do not have any use for the support or infrastructure in their research or if they have poor knowledge about them. It is however quite clear that most of these services and infrastructure are relatively tied to specific research fields.

Regarding the support and infrastructure alternatives (presented in Table 13 in Appendix 3), the chi-square tests show that men are slightly more satisfied than women with a number of support and service alternatives listed. This includes technical laboratory equipment, research premises, research support, legal support, support for academic qualifications, support for cooperation with businesses and organisations, and patent and commercialisation support.

The tests also show that the doctoral students, on the one hand, are more satisfied with support and services related to technical laboratory support, equipment for field research, experiment materials, IT support and administrative support, while the senior staff, on the other hand, are more satisfied with research premises, research support, legal support, patent and commercialisation support, and support for cooperation with businesses and organisations. Moreover, the senior staff are more dissatisfied with career support and support for academic qualifications, compared with the doctoral students.

As for the differences between respondents with an international or a Swedish degree, this test shows the clearest pattern across the three pairwise groups compared, as those with an international degree in general answer that they are more satisfied with all different aspects of support and services (except for legal support, which did not show any significant differences after the Bonferroni correction).
Bibliometric results

Background
The bibliometric analysis in Q&R17 served as background material on past performance for both the departments and the panels, complementing the research environment survey and basic data. As part of the preparatory phase of Q&R17, each evaluation unit (department/equivalent) received a bibliometric report including data on number of publications, performance indicators, subject orientation, collaboration patterns and publication channels. In keeping with the process-oriented focus of the evaluation, less attention was paid to bibliometric impact indicators than is often the case. This chapter summarises the bibliometric patterns for the University as a whole.

Methods
Uppsala University is a full-scale university with nine faculties, divided into three broad disciplinary domains. Publishing traditions of course differ markedly between disciplines and fields, which creates some challenges when carrying out a comprehensive bibliometric study.

Figure 19 shows the distribution of publication types across the disciplinary domains. The scholarly article is the most common type of communication in all three domains, but there are significant differences. In Medicine and Pharmacy, articles represent 83% of all publications, while in Humanities and Social Sciences, articles represent 62%.

![Figure 19](image.jpg)

Figure 19. Publications from Uppsala University 2007–2015 by disciplinary domain and publication type.
BIBLIOMETRIC RESULTS

Sciences the figure is only 39%. Here books and anthologies are nearly as common as articles, although the latter have increased in both absolute and relative terms in recent years. Science and Technology displays a third pattern. Here too, articles are the most common form, accounting for 64% of all publications, followed by conference papers with 24%.

The most common bibliometric method is citation analysis, but given the variation in publication patterns and the fact that not all articles are represented in the main citation database – Web of Science (WoS) – a complementary method is needed. For this reason, the ‘Norwegian model’ was used. This model offers a way to analyse how ‘well’ a unit publishes. It includes and compares different publication outlets, including monographs and articles in anthologies, as well as journal and review articles. The model focuses on the publication channel (i.e. journals and publishers) rather than on individual publications.

The publication types included in this study are articles, reviews, books, chapters in books, conference papers, and doctoral and licentiate theses. Every publication with a distinct author affiliation with Uppsala University was included in the study. This means publications by retired scholars and individuals formerly working in the research unit are included. Previous publications published under the name of another university are not included, even if the author is now employed at Uppsala University.

Indicators

The following indicators are used as performance indicators at all organisational levels in the bibliometric study, but here results are presented only for departments and higher levels.

\[ \text{P Nor model} / \text{P} = \text{Proportion of unique publications published in channels defined as scholarly according to the national Norwegian model (level 1 or 2), as share of the total number of publications, based on fractional counting by author name.} \]

The national Norwegian model is used at the national level in many European countries (not Sweden) and has a broader approach than WoS. Besides articles, it also includes books, chapters in books and (some) conference papers. Unlike commonly used bibliometrics, the model analyses the publication channels – journals and publishing houses – rather than the article or book itself. However, journals have to be peer-reviewed and the publishing houses are carefully examined before being classified as scholarly.

\[ \text{P Nor model level 2} / \text{P Nor model} = \text{Proportion of unique publications published in scholarly journals or by publishers at level 2 (prestigious) in the national Norwegian model, based on fractional counting by author name.} \]
The Norwegian model includes a quality indicator, in that the scholarly channels are divided into two levels, prestigious (level 2) and normal (level 1). The prestigious level consists of 20% of all publications within a subject area, while the rest (80%) are considered normal.

The proportion of publications on level 2 can therefore be used as a quality indicator to complement WoS, especially in areas where WoS coverage is weak.

Decisions on which journals and publishing houses should be assigned to level 2 are taken by advisory boards in the respective subject areas.

\[ \text{Pwos/P} = \text{proportion of publications in Web of Science, based on fractional counting by author name} \]

This is the number of fractionalised papers in WoS. Fractionalisation is at author level, which means that an article counts as 1 divided by the number of authors. For example, if an article has three authors and two of them are from the same unit, the article gives 2/3 to this unit.

\[ \text{PPtop10\%} = \text{Proportion of frequently cited publications (top 10\% within the subject area)} \]

This is a traditional impact indicator and describes a unit’s performance by measuring the proportion of highly cited papers compared with all articles in WoS. This is done by identifying the 10% most cited articles (90th percentile) in every subject area in WoS.

**Data sources**

The bibliometric report uses data from the local repository at Uppsala University, DiVA, in combination with Monitor, a tool used for analysing data from Web of Science. All publications between 2007 and 2015 were examined, including articles, reviews, books, chapters in books, conference papers and theses, both doctoral and licentiate. Since the publications have been generated over a rather long period, the organisational structure of the University has undergone changes, which means that extensive efforts had to be made to map older publications onto the present organisational structure.

**Problems and discussion**

One of the major problems in the bibliometric report has been to find an overall method that can be applied to the entire University. Different areas tend to use different measures. Generally speaking, there is reluctance towards WoS-based analyses within the humanities and (parts of) social sciences, while there is reluctance towards the use of the Norwegian model in the domains of Science and Technology, and Medicine and Pharmacy. Therefore, for some departments additional citation indicators were used to complement the indicators presented here.
Another data problem had to do with the mapping between the older and the present organisational structure. Since DiVA does not include the organisational history of individual authors, some departments found that some of their publications were not mapped correctly and had to be re-mapped.

Results

Publishing patterns

Table 3 shows the results of the indicators for all departments. There are notable differences in publishing patterns between faculties, especially between Humanities, Languages, Theology, Law and Educational Sciences on the one hand and Medicine, Pharmacy and Science and Technology on the other. The number of publications (fractional count) is almost as large as the total number of publications for the former group of faculties, which means that most publications are single-authored. Furthermore, the share of papers in WoS is low in these faculties, which is explained by the fact that a substantial proportion are published as publication types other than articles, or in journals not covered by WoS.

The Faculty of Social Sciences occupies an in-between position, with some departments having a relatively high number of multi-authored papers (Psychology, Economics) while others have a publishing pattern similar to that in the humanities.

There are also differences in WoS coverage within the Faculty of Science and Technology, where some departments have quite a low number (Information Technology, Engineering Sciences). One explanation is that many publications from these departments are conference papers, which do not appear in WoS.

The faculties of Medicine and Pharmacy are quite homogeneous in the sense that most publications are multi-authored and the coverage in WoS is high.

The coverage in the Norwegian model shows a different pattern. There, the faculties in Humanities and Social Sciences display higher rates than they do in WoS, though they do not exceed 50 per cent of the total number of publications, with the exception of the Faculty of Law.

In the faculties of Medicine and Pharmacy, the figures are at the same level as or higher than the coverage in WoS, and the same goes for the Faculty of Science and Technology. This is a consequence of the fact that nearly all journals in WoS are represented in the Norwegian model.

<table>
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<th>Department</th>
<th>P</th>
<th>Frac P</th>
<th>PNor model/P</th>
<th>Level 2/Level 1 Nor model</th>
<th>Pwos/P</th>
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<td>( \text{Frac} \ P )</td>
<td>( P \text{ Nor model}/\ P \text{ Nor model} )</td>
<td>Level 2/Level 1 Pwos/\ P</td>
<td>Ptop10%</td>
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\( P \)=Total number of publications
\( \text{Frac} \ P \)=Total number of papers, fractional counting by author name
* Indicators are calculated from publications 2008–2013
**Performance indicators**

The performance indicators in this report are the ratio between level 2 and level 1 publications in the Norwegian model and the PP top 10% (the top 10% most cited publications in a subject area).

As already mentioned, the Norwegian model defines two levels of scholarly publication, level 1 (normal level) and level 2 (prestigious level), and the relative proportion in each of these categories is used as an indicator of research performance (or more exactly, as an indicator of the quality of the publication channels used). The lack of an overall national model in Sweden makes it hard to make comparisons with other universities, even if many universities use the Norwegian model internally.

For the PP top 10% indicator we have chosen data from the internal database at the Centre for Science and Technology Studies at Leiden University (CWTS), which is a copy of Web of Science but with a somewhat different classification. For benchmarking purposes, three other full-range Swedish universities were chosen, Gothenburg, Lund and Stockholm, and finally Sweden taken as a whole. The indicators were calculated in Monitor, which is a tool developed by CWTS. In some cases the subjects are grouped into larger units for a better overview.

The results are presented in Table 4. The total figure is almost the same for Uppsala, Gothenburg and Lund, and at the same level as Sweden in total. Stockholm University has higher total scores and in some subject groups – Chemistry, Environmental Sciences, and Energy Science and Technology – over 15% of its publications are among the top 10% most cited.

Uppsala University has a relatively even level across several subjects, with Environmental Sciences and Energy Science and Technology the subject groups with over 12%. Other areas with a higher score than the average for the whole University are Mathematics and Computer Sciences, Chemistry, Social Sciences, Life Sciences and Biology.

However, it should be noted that the classification of subjects depends on how journals are classified, and that authors working in a given area can publish in a journal that is not necessarily in their field. Therefore, there is no direct correlation between the subject field and the organisational structure of Uppsala University.

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PART 3
SUMMARY OF THE PANEL OBSERVATIONS

Q&R17 emphasises the preconditions and processes that underpin high-quality research. In the following, the panel observations are summarised with regard to recurrent strengths and weaknesses of Uppsala University’s research environments, and an overview of the major panel recommendations is provided. Although heavily summarised, there has been an attempt to keep some of the original flavour by using quotes and wordings from the panel reports. The full panel reports are available in Part 5. Panel reports.

The overview reflects the natural variation within a comprehensive university, but also points to areas where there are consistent challenges across the University. It is hoped that these compiled recommendations may be of inspiration throughout the University, as may the examples of good practice that are acknowledged by the panels. Learning about the bigger picture may also serve as a benchmarking exercise, in that it makes it more apparent to individual research environments in which areas they find their relative strengths and weaknesses.

Although Q&R17 emphasises the preconditions and processes that underpin high quality research, most panels have also commented on the quality of research per se. In most cases they state that research quality is high by international standards, or internationally leading, which is consistent with the panel assessments in the previous research evaluation, Q&R11. They support their conclusion by referring to strong individual researchers publishing significant research, high acceptance rates in applications for prestigious external grants, and success in fostering scholars who have later gained positions at other prominent universities. Still, there are environments whose research is deemed to be no more than fairly good, and in a few instances research is considered to be weak. Several panels also report that quality is uneven within individual departments. Further, while some environments are commended for having had a very positive development in recent years, others are seen to have stagnated and are in urgent need of change. Yet others risk becoming too complacent after long periods of unbroken success.

Since Q&R17 was not designed to assess research quality per se, these types of cursory panel judgements should, however, be regarded with some caution. The panels have had limited access to systematically compiled data on which to base assessment of research outcomes, since the focus has been on preconditions and processes for high-quality research.
The research environment

The research environment is put to the forefront in Q&R17, i.e. the milieu in which academic staff and doctoral students do research and interact on a daily basis, both formally and informally. The panels have identified a number of strengths and weaknesses in the University’s research environments and have made recommendations on academic leadership and strategy, research focus and sustainability, academic culture, academic publishing, research-teaching linkages and equality and equity. Although the unit for evaluation is the departmental level, there are observations and recommendations pertaining to the faculty, disciplinary domain and university levels as well.

Academic culture

According to the panel reports, there are many examples of good academic cultures in all three disciplinary domains at Uppsala University. The panels highlight some features of these good milieus. In several of these departments, the culture is indicative of good academic leadership, such as a committed head of department, a group dealing with strategic research issues, or a shared research strategy.

The department is led by a dedicated head, inspiring confidence in fairness and transparency. For example, a departmental newsletter, a seminar series on frontiers in [the discipline] and language courses are all considered important components of a vivid department. (S&T panel)

Other aspects emphasised are academic freedom, collegiality, a good overall collegial atmosphere, a shared commitment expressed across all levels and a strong desire to work together.

The panel was very impressed indeed with the collegiality of the faculty/department, and the extent to which this spirit of collegiality animated its forward-planning for substantial changes in its organisation (H&S panel)

In a similar vein, some panels note that the research environments show an obvious readiness to identify problems and challenges in their own milieu and in relation to their research activities. Some departments have been good at formulating proactive strategies, and have a clear agenda for the future.

Although the department is an outstanding, high quality institution, we observed that the self-evaluation report was written in a critical way, recognizing mainly problems in department organization and recruitment. This expresses a definite wish for further improvement and optimization of performance. (M&P panel)
Another quality mentioned in some panel reports is a good seminar culture with knowledge transfer from senior to junior staff, regular seminar series, seminars that favour critical thinking and stimulate intellectual openness.

Several panel reports also reveal a strong commitment among the academic staff and supportive environments with a good social atmosphere. Some panels observe a strong sense of belonging and common identity.

A highly inclusive and supportive research environment with a strong common identity and sense of belonging despite the diversity of themes, research areas and disciplines. The informal structures are institutionalized and provide a constructive environment and working climate. (H&S panel)

Panel reports from all disciplinary domains provide proof of research environments characterised by equality and equal opportunities (See Equality and equal opportunities).

With regard to weaknesses and areas of development pertaining to the academic culture, the most common themes are a poor seminar culture and a lack of critical mass. Some panels also mention a weak departmental identity and a lack of community-building efforts. Concerning the seminars, there are examples of seminar cultures being weak and vague, hierarchical and having a poor discussion atmosphere. In some cases, too few PhD students and/or too few senior researchers take part, and in some environments it seems to be too easy not to attend seminars.

It seems relatively easy to free ride by not attending seminars and sub-seminars and by not participating actively in commenting on grant applications (H&S panel)

The effectiveness of the Research Seminar, its ability to encourage all researchers, and its openness for all voices, are not clear (H&S panel)

The seminar culture is weak and senior researchers as role models and inspiration to junior researchers could be more visible. (M&P panel)

Some panels (such as the panel cited above) mention that younger researchers are not as included in the environment as they should be, and another panel reports that PhD students and postdoctoral students feel abandoned by senior researchers. Yet another panel finds that a lot of tacit knowledge is transmitted informally, if at all, to newcomers and junior researchers.

Panel recommendations
Panel recommendations mainly focus on three areas: arenas for common strategic thinking, seminars and arenas for discussion among peers, and mentoring schemes. Some panels state that the departments should approach issues of gen-
der and diversity much more proactively, and that the issue of gender equality should be high priority.

Create arenas for strategic thinking. Strategic thinking is seen as an integral element of a sound academic culture. One panel writes that this is a way to enhance self-reflectivity in the organisation, as well as a useful element in the training of PhD students and postdocs. A concrete suggestion for improving widespread strategic thinking was to introduce an annual research day bringing all staff together.

Create and revitalise (arenas for) scientific discussions. Different arenas for discussions are proposed by the panels in order to create and revitalise the seminar culture, e.g. lunchtime seminars and other innovative ways of academic sharing between levels of academic staff, such as senior/junior presentations. There are also suggestions for having seniors chair seminars, and for regular publication meetings. Department-level seminars may be held to strengthen unity and group-specific seminars to affirm diversity. One panel emphasises a revitalisation of the higher seminar:

[…] as a place where the staff can pool their resources come together around publications, grant applications, PhD students etc. Senior staff needs to be more engaged. There should be more planning going into the seminar, and measures should be taken to increase the participation. (H&S panel)

Another panel emphasises that the academic leadership could help to foster stronger norms for collegiality, including attendance at seminars, and clearly signal to new and senior employees that they are expected to contribute actively to the seminar culture.

The question of creating a seminar culture where all voices are allowed to be heard and where everyone dares to raise their voice is raised. The seminar is also seen as a way to promote a sense of community, increase information-sharing and create a stronger identity.

Create mentoring schemes. Some panels mention better integration of staff in the academic milieu. One suggestion is to establish mentoring schemes to integrate both incoming staff and younger researchers, a way of making tacit knowledge accessible for all. Mentoring schemes are also seen as a means of improving academic networking.

Strengthen equality and equal opportunities. See Equality and equal opportunities below.
Academic leadership and strategy

According to the panel reports, the quality of department leadership at Uppsala University varies. Several panels praise the leadership, using words such as professional (both administratively and scientifically), collegial and democratic, bottom-up, dedicated and engaged, fair and transparent, and open to changes and renewal. The well-functioning leadership seems to strike a good balance between what is common and what is allowed to vary by subunit. A transparent overall structure provides administrative effectiveness, and joint activities such as seminars stimulate sharing and collaboration. Apart from that, subunits are largely self-governing.

The Department Chair is dedicated to the success of the department and the university. He is motivated to work with his colleagues to establish an effective and productive faculty and has a strong commitment to education. The Department Chair has established an effective leadership structure and is proposing new approaches with the goal of augmenting research collaboration and compliance with administrative requirements. (M&P panel)

The formal governance structure is inclusive and allows broad participation in many departmental issues. The open and candid leadership seems ready to solicit advice from below. There is explicit recognition of the need to encourage women's promotion to e.g. professorships. (H&S panel)

The department is led by a dedicated head, inspiring confidence in fairness and transparency. For example, a departmental newsletter, a seminar series on frontiers in [the subject] and language courses are all considered important components of a vivid department. At the same time the programs are highly diverse with respect to number of people, size of block grants or number of doctoral candidates. (S&T panel)

Several panels also note that department heads face great challenges both due to a lack of clarity in their role and in their formal mandate, and due to cultural barriers. The current role of heads is perceived to be mainly administrative, and there is relatively little room for strategic research leadership. One panel points out that this deficient empowerment pertains not only to department heads, but also to deans.

The Department Chair's leadership role is not well defined, and he has not been provided by the university with a mandate or the tools to ensure that the potential of the department is fulfilled. In the absence of empowerment, the Department Chair is handcuffed, and the department's productivity and impact are unlikely to achieve their full potential. (M&P panel)

Too much history presides in some decisional pipelines. (S&T panel)
Several panels also suggest that there is a need for improved strategic thinking. Aims, goals and action plans often seem to be inadequately articulated at department level. While several panels praise the rich breadth of research present in individual departments or faculties, and the strength of bottom-up initiatives, there is also a concern that dependence on bottom-up only may make research too fragmented.

Panels also identify some organisational structures that they believe weaken the capacity for strategic decision-making. Some also find the University’s overall organisation to be too complex, primarily because of multiple layers, which may stifle decision-making and increase bureaucracy.

In some cases, decision-making reportedly lacks transparency, which creates frustration, especially in relation to resource allocation. One panel finds that especially doctoral and early-career scientists are insufficiently involved in the decision-making processes. Some panels also encourage department leaderships to exert more influence over the faculty and university levels with regard to big projects and initiatives.

The panels also bring up the issue of steering by incentives. While some panels give positive examples of ways of incentivising high-quality research that are already in place (e.g. incentives to apply for Swedish Research Council grants), other panels criticise the lack of such examples.

**Panel recommendations**

*Clarify the role of the department head.* Several panels find that that the role of the department head should be better defined, including the delegation of decision-making powers. One panel suggests that this should be done at university level:

> The University Management team should define the leadership role of the Department Chair, and through provision of appropriate resources, empower the chair with a mandate to effectively lead the department. (M&P panel)

Some panels also suggest that the department should consider appointing a small external advisory committee to support the department leadership, in relation to strategic research development. One panel recommends that such an advisory board should preferably be international.

*Improve strategic thinking and strategic decision-making.* Many panels call for strengthened strategic thinking (see also Academic culture above). The suggested approaches to this differ somewhat, from introducing arenas for common strategic thinking to more structured approaches. Several panels stress the need for an explicit overall department strategy to identify and prioritise future research foci. One panel suggests that clear department-wide goals should be developed and followed by ‘aggressive’ implementation of these goals. The same panel calls upon us to “overcome ‘Nordic reserve’; relax emphasis on bottom-up approach
where necessary” (S&T panel). In contrast, another panel suggests that a collective vision for the department future should preferably be developed in a bottom-up process.

The panels provide some specific suggestions on how to organise for strengthened strategy-making. One panel suggests the department establish a research coordinator part of whose task would be to improve intra-department communication and collaboration. Another panel recommends the foundation of a joint research committee at the department, composed of a mix of staff at different levels. In a case where the department already has a research strategy group, the panel recommends that it should be developed into a real leadership function. As mentioned earlier on, an external advisory committee may also contribute effectively to strategy development.

One panel suggests that the University should instruct all departments to develop a strategic plan, covering both research and education, and provide the departments with resources and a mandate to effectively implement the plan.  

*Increase steering by incentives.* There are also suggestions for reinforced steering by incentives, both symbolic and material. Successful researchers/research groups should be rewarded with additional support and recognition by the department and the levels above.

Celebrate successes on a regular basis, e.g. a monthly meeting, with presentations of new large grants, or very good papers by their PI/1st author etc. to encourage the culture of excellence. (S&T panel)

Recognise and support successful research leaders via celebratory events, prizes and practical support to ensure they feel valued by their organisation. (M&P panel)

There should also be incentives for high quality collaborations and internationalisation, and one panel suggests that incentives should be provided “to clinical faculty employed by the hospital to promote their engagement in productive research” (M&P panel).

*Make sure that the organisation is fit for purpose.* Recommendations pertaining to organisational issues range from simply clarifying the current organisation, to suggestions for complete reorganisation. In some cases, the department is urged to make the organisation more transparent by clarifying the delegation of actual decision-making powers. Other departments are recommended to reorganise to increase critical mass, better tap synergies and enhance research performance. One panel emphasises that the organisation has to allow for flexibility – ‘research clusters’ should be allowed to develop and change flexibly to be able to act on new opportunities. There are also suggestions to review the organisational structure above the department, and to consider removing some layers and shortening reporting lines. Finally, it is stressed that the effects of organisational change should always be evaluated.
Research focus and sustainability
There were also comments referring to the focus, breadth and profile of the departments’ research. Several panels commend the department’s research profile by referring to its strong focus, or remarkable breadth, its scientific importance, originality, societal relevance or its focus on fundamental science. There were also comments about tensions due to multiple, and sometimes conflicting, ambitions. One panel noted:

...tensions between the national focus and international research trends; policy and applied research and fundamental research; and interdisciplinarity vis-à-vis disciplinarity. (H&S panel)

The delicate balance between focus and breadth of research emerged as an important strategic matter. Although breadth was often praised, there were also comments referring to problems with regard to a lack of overall focus.

...There is no coherent departmental direction; this weakens the ability to cooperate internally and identify external partners; there is a weak departmental identity; and a lack of critical mass at the departmental level. (H&S panel)

Great diversity in research may also lead to too small research environments. Even though the researchers may be excellent, panels pointed out that small research environments are vulnerable to staff leaving or retiring, they have insufficient critical mass and limited capacity for development and renewal.

There was also an observation on focus being too strong, with all research activities concentrated in one area, which may also be vulnerable.

Panel recommendations
Make research more focused. In cases where the research diversity is too great, and the lack of a joint focus makes it hard to have meaningful interaction between the different parts, the panels promote different solutions. One panel suggests that the department should “decide on a single vision for the Department – it cannot be all things” (H&S panel), thereby implying active prioritisation for reduced diversity. Another panel urges the department to try to balance unity and diversity by identifying the lowest common denominator and letting this form the basis for cooperation across the department, e.g. in joint seminars, while also letting the different research groups grow their uniqueness individually. Yet another panel proposes a more radical solution, to increase focus by letting some research groups move to other departments with a more appropriate profile. Regarding small research environments with deficient critical mass, one panel finds that they just have to grow, one way or another.
Academic publishing strategies

Publication as a theme is mostly commented on by panels in the humanities and social sciences. These panel reports make it clear that there are ambitious publication cultures and publication goals, as well as a commitment to strive for high-quality publications. There are examples of training in publishing for junior staff and offers of co-authorship with experienced seniors. Thus, there is an awareness of the importance of publishing in international top-ranked journals, and there is a lot of proof that this is being done. There are good publication records in terms of dissemination, quantity and variety.

The department has a very strong research output and consciously works to improve this. Output has been significantly strengthened in recent years, and a new publication culture seems to have been created, partly via the examples of successful researchers. (H&S panel)

A very strong “publication culture” focused on producing cutting-edge research in especially top journals. (H&S panel)

The panel reports, however, also point to some problematic aspects of publishing traditions in the research environments. In some cases there seem to be limited international aspirations and publications appear in low- rather than high-ranking journals. A number of panels also point to a lack of publication strategies or unclear publication strategies. One panel acknowledges that knowledge about publishing is often tacit and needs to be passed on to younger researchers in a more structured manner.

Panel recommendations

Panels emphasise the importance of publishing in top-ranked journals as a means of strengthening the profile and the reputation of the research environments. Other recommendations from the panels are to formulate publication strategies, implement publication meetings and establish mentoring for doctoral students and junior researchers.

Formulate publication strategies. Some of the panels stress the need to develop publication strategies both for encouragement and to scale up the ambitions of researchers and doctoral students.

There is a need to move at a slightly faster pace to develop some key areas such as the publication strategy that is already in progress. (H&S panel)

Develop a clearer and more ambitious publication policy for publication in cross-disciplinary journals vs disciplinary journals, set high quality goals. (H&S panel)
Implement publication meetings. Some panels find that it would be fruitful to establish regular publication meetings. One panel suggests that these meetings should focus on:

[…] personal experiences regarding facilitators and barriers for publication. (M&P panel)

One panel suggests that such meetings could be part of a way to develop a “more formalised structure for research leadership” (H&S panel). This could also be part of the mentoring suggested below.

Establish mentoring schemes. The degree to which knowledge about publishing is passed on to doctoral students and junior researchers varies between supervisors and research environments. In some research environments this is done, in others not. Some of the departments are advised to:

Build more formal practices of mentorship in publication skills, especially for PhD students and junior researchers. (H&S panel)

Consider explicitly directing PhD students and junior scholars to publish in international journals and equipping them with the required skills to do so. (H&S panel)

Ensure that all publications are readily accessible. One panel suggests the University implement a means to make all research outputs easily accessible outside the specific academic community, e.g. ORCID or Google Scholar.

Research-teaching linkages
At a university, research and teaching are two sides of the same coin, which means that teaching is an integral part of most research environments. The relationship between research and education is most evident in PhD programmes. Formally, a PhD programme is education, the PhD students are students and there are elements of structured teaching (PhD courses). At the same time, PhD students form an integral part of the department’s academic staff and overall milieu and make a substantial contribution to both research and teaching. Research-teaching linkages are, however, not quite as evident at the undergraduate level and at the Master’s level, although all teaching is supposed to be research-based. In the following, the panels provide a number of recommendations on how to improve PhD education, and on how to strengthen research-teaching linkages at the undergraduate and Master’s levels.

PhD education
The panel reports highlight various strengths in postgraduate training. Among other things, the panels mention that departments constitute a good training environment for PhD students, and that general guidelines have been developed
for postgraduate training. Strengths connected to internationalisation are brought up, such as support and encouragement to study abroad, travel and attend conferences, as well as good international networks among PhD students. Additional strengths that are revealed are good access to courses (in cooperation with other institutions) and strong mentorship.

However, some panels note a lack of an integrated doctoral school or organised doctoral training programmes. Some panels have noted that PhD students’ conditions seem to vary considerably depending on such factors as department and supervisor. Examples of such differing conditions are the availability of career mentoring, and mentoring of publication strategies, as well as support in applying for external grants. Some panels note that tacit knowledge is not transferred to all PhD students, and that the quality of the supervision *per se* is sometimes poor, which make some PhD students feel neglected.

Some panels also highlight that the number of PhD positions is too small, that the critical mass of PhD students then becomes too low, and that some PhD students cannot find relevant courses. Recruitment of PhD students is also mentioned. In some cases recruitment is limited only to Swedish candidates, and in other cases candidates are not obliged to send in a research proposal in their application, which is seen as a shortcoming.

**Panel recommendations**

*Establish structured mentoring programmes.* Several panels suggest structured mentoring programmes for PhD students. These might include formal and informal training in preparation for research grant applications and research proposals, publication skills, career progression support, strategic career counselling and career planning.

*Cooperate around PhD education and/or create doctoral schools.* Given the PhD students' differing conditions, several panels suggest more cooperation between departments within the same faculty or within the University, regionally or nationally, and a more integrated design for doctoral studies, e.g. in the form of structured doctoral schools. This way a critical mass of PhD students will be ensured, forming a basis for courses and seminars. Panels also suggest that the doctoral school should develop common criteria for recruitment, procedures for supervision, assessment of PhD progress and examination. Further, there can be common administrative procedures, an overview of teaching duties, quality of life and research conditions, and career support.

**Research-teaching linkages at the Bachelor’s level and Master’s level**

Some panels underscore the importance of keeping research and teaching tightly knit at the undergraduate level and the Master's level as well, since this is of mutual benefit to both research and teaching. Although the benefit of teaching being
based on research is most obvious, teaching offers a potential path for recruiting young researchers, and study programmes across departments may spur research collaborations.

The relationship between research and teaching may also offer opportunities. Specifically, as discussed for some individual departments, the teaching side can open connections to research. Swedish as a Second language bridges teaching and research naturally and across departments, understanding how to teach online language courses successfully can extend to bringing along young researchers. (H&S panel)

Some panels observe a strong link between research and teaching, although some find that the interdependence between education and research appears to be most pronounced at the Master’s and doctoral levels, and less so at the undergraduate level.

The panels’ main concern is, however, the imbalance between teaching and research.

The academic staff has significant teaching obligations which are distributed unequal between individuals and different staff categories. (M&P panel)

For some academics and departments, teaching opportunities are too scarce, while for others research is outcompeted by extensive teaching commitments. In many departments, if not all, PhD candidates and young researchers tend to belong to the first category, although they would benefit from teaching experience in their career development. Some PhD candidates do not get to teach at all, or only at the undergraduate level (i.e. not at the Master’s level), and non-Swedes are often completely excluded from teaching due to the language barrier. In contrast, mid-career academics often have too much teaching, especially in small departments. The teaching semester tends to be long, and opportunities for uninterrupted research time limited, unless you ‘buy out’ of your teaching.

The imbalance may in turn influence the academic culture. According to one panel “the uneven teaching obligations among the lecturers seem to have resulted in a weak research culture in some of the groups” (M&P panel). Another panel notes a tension between professional teaching needs and research direction.

The panels also make observations on teaching that are not directly linked to the question of research-teaching linkages. One panel finds that the teaching organisation is fragmented, another notes a lack of systematic follow-up of careers of former students. Yet another identifies a lack of awareness of the connection between student numbers and the wider regional and national economic context.
**Panel recommendations**

The panel recommendations focus on the distribution of teaching opportunities, and the mutuality between teaching and research.

_Distribute teaching more evenly – or not._ Some panels suggest that the distribution of teaching opportunities should be more transparent and uniform across teachers, and that teaching ‘buy-outs’ should be restrictive. Further, PhD students and junior researchers should be allowed and encouraged to teach “as part of the enhanced career progression and mentoring initiative” (H&S panel referring to the University’s upcoming initiative for strengthened career support). It is also stressed that teaching opportunities are an important means of better integrating junior international staff. It is also suggested that visiting scholars should be used flexibly in teaching and supervision, as another way to keep research and teaching together.

Panels also recommend that teaching schedules should be better planned to allow for concentrated time for research. There should be internally supported sabbaticals for teaching staff to keep up research, e.g. time to apply for funding and finish publications.

Two panels suggest measures that point to _increased_ separation between teaching and research. One panel recommends that teaching-only contracts should be considered for staff that do not have the ability to win enough research grants. Another panel suggests that reduced teaching loads should be used as an incentive to encourage publication in highly ranked international journals.

_Strengthen the mutuality between research and teaching._ Some panels suggest strengthened teaching collaboration with other departments and institutions, since that may in turn spur research collaboration, and vice versa.

Explore formal multi-department undergraduate majors with the anticipation that joint research will follow (e.g. Stanford University’s Human-Biology and Computer Science joint majors). (S&T panel)

One panel suggests that workshop series for credit could be used to allow departments to offer ad hoc courses by visitors and researchers on short-term contracts.

_Teaching in general._ The panels also put forward some recommendations related to teaching in general. They suggest new study programmes and courses in specified areas, across campuses (Uppsala and Gotland) and in international collaboration. One panel suggests that there should be an ambition to have all teaching material in English.

One panel suggests that students should be encouraged to learn how to write for different audiences. Another panel proposes that the use of Uppsala’s rich cultural resources in research and postgraduate training should be further developed.
The importance of teaching qualifications and recognition of good teachers is emphasised by one panel. Another panel suggests that student representatives on boards should be encouraged to assert real influence, since that does not seem to be the case at present. Yet another panel suggests that teaching at all levels should also be evaluated, alongside research.

Equality and equal opportunities
Panel reports from all disciplinary domains provide examples of research environments characterised by equality and equal opportunities. Some milieus are reportedly highly aware of equality as quality enhancing, and have already carried out ambitious interventions to improve equality. Other environments have a longer way to go, but generally, efforts are made to improve gender balance as well as ethnic diversity, inclusion and participation.

The department has made successful efforts to establish appropriate gender representation in the Department board and is working hard towards equality on different levels and areas within the organization. (S&T panel)

There are also examples of research environments that are not gender equal in the composition of staff, in the distribution of members in the department board, or in the distribution of tasks and responsibilities. Panels in particular highlight gender imbalance among senior staff. There is also mention of the fact that male members of departments are better at protecting their research time than female members. Some panel reports also note a lack of awareness of the problems and a lack of strategies to act upon gender equality.

Gender imbalance at senior level and concern over female career progression. (H&S panel)

The composition and gender profile of the department board is unsatisfactory. (S&T panel)

Other points of contention found in many of the departments are forms of gender imbalance, both in terms of recruitment, participation in department activities and in the ability to protect research time from being encroached upon by teaching and administrative tasks. At present, none of the departments has any on-going projects dealing with this […] (H&S panel)

Panel recommendations
Although attention to equal opportunities is required to permeate all activities at the University, the panels point to some key areas that warrant special attention: the culture in the local research environment, decision-making, recruitment and career support. (For panel recommendations with regard to recruitment, see Talent attraction and retention.)
Several panels urge departments, faculties and the University to be more alert to gender issues and seek to address them. Gender issues should be treated at a high priority level. Panels state that decision-makers at all levels within the University should approach gender equality more proactively. One suggestion is to implement “unconscious bias training” for all staff dealing with allocation of human or financial resources.

Implement strategies, policies and plans. Apart from plans directly linked to recruitment, several panels suggest strategies, policies and plans aimed at promoting gender balance and equal opportunities, for example, a gender mainstreaming policy and a strategy for a more equal gender composition of staff. Panels also suggest better implementation of existing plans at university and faculty level.

One panel in particular emphasises the importance of increasing the proportion of women in decision-making. One suggestion is to:

Redesign the appointment procedures to the Department Board to ensure that the profile of the voting members is gender balanced, and that this balance also exists on all decision-making bodies concerned with finances and hiring/promotion. (S&T panel)

Boundary-spanning activities

According to the panel reports, most research environments at Uppsala University engage successfully in various forms of cross-border collaboration and connectivity, including multidisciplinary collaboration across subjects within the University, collaboration with other universities across the world, and external collaboration and outreach. Panels provide numerous examples of departments’ successful engagement in national and international research projects, networks and research consortia.

Internationalisation

Several panels conclude that Uppsala University is highly international in many respects: research performance, publications, staff, recruitment, research environment, reputation, students, networks and cooperation. Research is performed in internationally growing fields and there is an awareness of the importance of internationalisation.

It is a highly international department, with about 65 % of the personnel being foreigners (from 35 countries). (S&T panel)

The Faculty of […] is successful partnering in major national and international research consortia. (M&P panel)

Impressive international reach and reputation and firm commitment to expanding activities and enhancing reputation (eg moving up into QS top 50). (H&S panel)
Some panel reports highlight the support given to PhD candidates and junior staff in their international endeavours. Examples include contacts and international networks, financial support for international travel, training and research in the form of fieldwork and archive research, encouragement to study abroad and support to attend international conferences and workshops.

Other panel reports point to a lack of international staff – or limited international recruitment of staff – and limited international benchmarking and networking. In some cases, international recruitment is hampered by the fact that positions have only been advertised in Sweden. In other cases the reason is a need of academic staff that can speak Swedish and are knowledgeable about the Swedish context. The question of language is pointed out as a challenge:

The historical use of Swedish as academic language is being challenged by the obligation to recruit the most talented researchers on all levels, who will not, indeed, should not, always have Swedish as their mother tongue. Nevertheless, Uppsala University, in spite of its global aspirations, is a Swedish university, financed by Swedish money and with obligations toward the Swedish public, both students and citizens. This means that it would be irresponsible to abandon Swedish as an academic language completely. To strike the right balance between national and global interests will be one of the great near-future challenges for everyone working at Uppsala University. (H&S panel)

Some panels question the absence of structured approaches to sabbaticals, allowing time for in-depth research work in another milieu, and visiting professors as a means of enriching the research environments. There are also statements that indicate that PhD candidates do not get enough support for spending time abroad. Some panel reports point to vaguely formulated internationalisation strategies and limited European funding.

The rationale underlying the different international networks is unclear. An absence of a clear departmental strategy for international linkages and visitors. (H&S panel)

Panel recommendations
Panels emphasise international exchanges of staff and international research collaboration as important means of strengthening internationalisation. There is also a call for a strategy on how to handle the need for both English and Swedish as working languages at the University.

*Increase internationalisation through recruitment, staff exchanges and collaboration.* To broaden the recruitment base and attract candidates outside of Sweden, positions should be advertised internationally, at least in the Nordic countries. Another suggestion is to utilise international networks to attract applicants and recruit staff. One way to do this is to encourage international staff exchange and focus on building connections internationally. Another suggestion is to be more
explicit about the aspiration for internationalisation in criteria for recruitment and recruitment processes.

Several panels suggest that international exchanges of researchers via sabbaticals and visiting researchers should be encouraged and supported more, and that there should be an explicit strategy for how to make this happen.

Language and integration. As stated above several panels consider the question of language a challenge. Some panels suggest, contrary to the panel cited above, that English should be the official language of communication, or that English should become acceptable as the teaching language in all courses. The use of Swedish is seen as hampering recruitment and limiting teaching opportunities for international staff. One panel suggests the development of a strategy on teaching in Swedish for members of staff coming from abroad. Some point out that better integration of new staff is needed, and that a part of this is to offer greater teaching opportunities. Another suggestion is to change the language at board meetings to English.

Formulate strategies and visions for internationalisation at department level. Several panel reports include recommendations on developing strategies and visions on internationalisation, mostly at department level. These suggestions include an overall vision and strategy for internationalisation, as well as explicit strategies for international exchanges of researchers (and for applying for funding for this), international benchmarking, international collaboration and bidding for European funding. One panel proposes that the faculty level should provide comprehensive information about formal and informal international networks to support the departments in their strategic work.

Incentivise international collaboration. One panel recommends that high-quality collaboration should be incentivised, while another advises that the University should offer co-financing for international grants as an incentive.

Cross-cutting collaboration within the University and multidisciplinary research
A major reason for cross-cutting collaboration within the University is to further the development of multidisciplinary research. Several panels stress the importance of this area for the future, and as one panel put it: “Interdisciplinarity creates a dynamic academic culture with considerable space for renewal” (H&S panel). The panels also identified some exceptionally good examples of multidisciplinary initiatives, referred to as “sustained and imaginative”, “vibrant and well-calculated” and the like, e.g. the Human Evolution programme, the Hugo Valentin Centre, Medical Humanities, the Centre for Multidisciplinary Studies on Racism, and the multidisciplinary thinking and action of the Faculty of Theology.
We found a positive atmosphere with freedom of research and high sense of belonging, and an academic culture which is open within the department as well as in various ways outward e.g. in seeking and building interdisciplinary collaboration within the university. Interaction with other departments is brought about in various ways e.g. by inviting researchers from other departments to present their research at the department. This active interdisciplinary openness and readiness can also be seen as an asset. (H&S panel)

The panels especially commend initiatives to improve internal collaboration beyond ad hoc initiatives taken by individual researchers, e.g. through the establishment of centres and fora that serve across departments and faculties. Some of these primarily aim at stimulating multidisciplinary exchange, e.g. the Research Centre model at the Faculty of Theology, and the Human Evolution programme, while others provide state-of-the-art research support, e.g. Uppsala Clinical Research Centre.

The department is strongly affiliated with the Uppsala Clinical Research Centre, an outstanding resource for development and implementation of investigator-initiated, sponsored and intra-institutional clinical research and clinical trials. (M&P panel)

The Research Centre model itself appeared to provide a useful model for other departments at Uppsala to think with, allowing for more sustained excellent research than individual collaborations or the ‘nodes’. (H&S panel)

Some weaknesses also become apparent. There are still departments that have limited internal and external collaboration, with regard to both research and teaching. In some environments there is an “inability to grasp emergent collaborative opportunities” (H&S panel). In several cases, however, departments seem to have successful external collaboration, but fail to make use of potential synergies within the department, and/or across the faculty and/or the University.

Programs still operate in isolation from each other. Therefore, the impressive potential of the department is not yet used in the most effective way. (S&T panel)

According to panel comments, this inability is linked to the lack of a joint vision and a departmental research strategy.

/…/ the four research areas are closely connected in terms of subject matter and in order to win large grants and to develop relevant research questions for the future, interdisciplinary collaborations need to be fostered. Instead of a rather fragmented research situation, we suggest that the department joins its forces towards a common strategic research vision. (M&P panel)
Some panels note that especially the PhD students and early-career scientists express strong wishes to better connect and integrate across programmes and departments.

There are also comments on a lack of structure above the department level to promote multidisciplinary research. Where there are such structures in the form of research centres, panels are positive but find that insecurity about medium- to long-term funding poses a considerable challenge.

The panels also spot some tension between disciplinary and multidisciplinary research. One panel calls for some rethinking of the definition and deployment of the term ‘discipline’, while another notes that the multidisciplinary structure puts tension on researchers in relation to their disciplinary belonging. Finally, one panel finds that the researchers at the department in question are not well equipped to optimise multidisciplinary trends in their field.

Panel recommendations
The panel recommendations include a call for the University to be more strategic in the development of multidisciplinary research, and to stimulate multidisciplinarity by various means. There are a number of recommendations on how to increase collaboration within the University, and how to be more strategic about collaboration in general.

Develop a strategy for the further development of multidisciplinary research. One panel points to the need to develop a strategic vision for multidisciplinary research at the department level. According to the same panel, the strategy would include bringing in more expertise from neighbouring disciplines, to add to mainstream research in the field.

Strengthen collaboration inside the University. Several panels suggest that more structures that facilitate inter-disciplinary research should be created above the department, inside a faculty, and across faculties, e.g. research centres and other joint fora. One panel recommends that there should also be a formal mechanism for joint appointments (within the University and with outside institutions) to encourage multidisciplinary research.

Making effective use of possibilities for improved internal collaboration is deemed important for becoming – or staying – competitive in the future. The panels suggest different ways of doing this. With regard to improved collaboration within departments, multidisciplinarity can be strengthened by formal mechanisms (e.g. by introducing an advisory board, joint seminars and joint research). It can also be achieved by cross-cutting mentoring schemes, and cross-cutting methods teams that support all research groups. Further, thematic work groups – where the content crosses current research groupings – can be established, and intra-departmental communication can be enhanced by a departmental newsletter in English and a department day.
Collaboration between departments can be reinforced by strategic identification of departments with which to collaborate in order to promote and support the department’s research agenda. Next, a committee composed of representatives of stakeholder departments and programmes at the University could be created. Cross-cutting research design and methodology services could also be further developed and broadened (e.g. qualitative methods, health economics, feasibility studies, implementation science, statistics).

Additional ideas for strengthening multidisciplinary research include training all PhD students in multidisciplinary research, and establishing multidisciplinary study programmes for the benefit of both research and teaching. One panel underscores the importance of attending to the long-term sustainability of multidisciplinary research initiatives, e.g. by securing the medium- to long-term financial basis of research centres. Finally, one panel proposes that bibliometric monitoring should be carried out in a way that better reflects multidisciplinary research, in order to incentivise its growth.

Make sure that collaboration is meaningful. While unequivocally promoting increased boundary-spanning collaboration, the panels also acknowledge that collaboration should not be an end in itself. As one panel puts it: “There is a strong need for meaningful bridge building to other departments, centres and institutes” (H&S panel), highlighting that collaboration should take place for a reason. Several panels underscore that there is a great potential for ambitious multidisciplinary research if collaboration were to be improved. Another panel states that: “links to other departments [should be made] in order to minimize the risk of reinventing the wheel” (H&S panel), which resonates well with the idea of sharing methods support across the University. The panels’ impression clearly was that some opportunities for meaningful collaboration are overlooked, possibly due to the history and the culture in the walls. This does not mean that the panels question the need for specialisation – they promote both breadth and depth.

Research at Campus Gotland
In the panel report template, one theme to consider was research involving Campus Gotland. Thus, all departments that have research at Campus Gotland reflected specifically upon this theme. Further, one panel was tasked with looking at Campus Gotland as a research environment in itself. This section builds largely (but not only) on this specific panel’s assessment. This panel also included the one department that is wholly located at Campus Gotland, and several departments with staff located both in Uppsala and at Campus Gotland. Research (and teaching) involving Campus Gotland highlights the challenges and opportunities in developing cross-cutting collaboration within the University.

The panels note that there has been a lot of commitment at department level to integrate and to find synergies and overlaps between the milieus in Uppsala
and at Campus Gotland. Links are established in all three disciplinary domains. Some have worked proactively and successfully.

The panel was very impressed by the successful and proactive efforts by the department to fully integrate Campus Gotland into all activities of the department as a whole. The research specialities represented by Campus Gotland clearly enhance and complement the strengths of Uppsala-based staff, and there is very good evidence for collaborative teaching and research. (H&S panel)

The panel points to the fact that the merging process has been resource-intensive; the department has, for example, committed funds to ensure that staff exchanges take place in both directions. One of the panels states that Campus Gotland:

has all the potential to become one of the most cutting-edge, interesting academic environments in Scandinavia. (H&S panel)

Communication is, however, highlighted as a general challenge. One aspect of communication relates to funding, others to communication techniques and housing. There are limited resources to bring scholars working in Uppsala to Campus Gotland. Even though funds for travel can be used to bring staff in that direction in theory, in practice this is uncommon. There is also limited technical infrastructure for teleconferencing and teaching rooms with stable video links. Further, limited housing opportunities in Gotland hinder stronger educational and research links in some disciplines, especially during the summer months.

Panels also spot a problem of siloing. Instead of bringing departments closer together there are concerns that the present structure leads to fragmentation with regard to both academic and administrative activities.

Many of the difficulties that Campus Gotland is experiencing are due to different forms of division, fragmentation, and siloing, both at Gotland and between Gotland and Uppsala. (H&S panel)

It seems that the transition to becoming a more research-driven institution have led to the construction of new disciplinary silos, rather than opposite. (H&S panel)

Panel recommendations
The recommendations regarding research at Campus Gotland mainly concern communication, multidisciplinarity and complementarity.

**Develop possibilities to communicate.** Several panels recommend that the possibilities of communication between Campus Gotland and Uppsala have to be improved to develop cooperation and synergies. Here, communication relates both to technical equipment and to the possibility of traveling back and forth in both directions. The suggestion is to invest in more and better communication infrastructure for meetings and for teaching, as well as to provide travel funds for travel in both directions. Both these measures are seen as a “very good investment
at this point in the process of merging the two institutions, which will pay off richly in the near future” (H&S panel). This is seen both as a question for department managements and for the faculties, since central funds are needed.

Another suggestion is that Uppsala University could take more responsibility for the housing situation for staff that are to visit Campus Gotland.

*Develop Campus Gotland as a centre for multidisciplinary, problem-oriented research.* The risk of fragmentation at Campus Gotland, and between Campus Gotland and Uppsala, is partly due to the alignment of Campus Gotland to the organisation of Uppsala University. The panel therefore proposes that Campus Gotland should be developed into something different – a hub for multidisciplinary problem-oriented research.

Instead of implementing the traditional university model from Uppsala on Campus Gotland, university management should take this opportunity to create a space of experimentation and innovation, around topics and questions which are Campus Gotland’s proven strengths: such as heritage, sustainability, tourism etc. (H&S panel)

However, to fulfil that potential Gotland cannot just be made into a smaller, less centrally located version of Uppsala, with the same disciplines and the same standards. On the contrary, it should be cultivated into a field of experimentation for multidisciplinary, problem-oriented research. In Campus Gotland, Uppsala University has a unique possibility in experimenting with other disciplinary formations, work modes, and dissemination formats. (H&S panel)

It seems that there might be opportunities to create field stations at this location. This can also create opportunities for research groups at the Uppsala Campus. It is not recommended to try to create a “mini-Uppsala” moulded on the classical academic university model. (S&T panel)

Multidisciplinary initiatives should be supported, as should cross-faculty cooperation. One panel suggests that a project development centre should be created, where research staff from different departments or faculties can meet to develop new projects. This also relates to the question of complementarity (see below).

*Create synergies through complementarity.* One recommendation is to think about the two campuses as complementary and develop them accordingly, “the two sites need to offer students and researchers complementary academic specializations, instead of replicating each other” (H&S panel). The development of distinct research profiles is suggested:

The development of a distinct teaching and research profile is required, which complements the activities at the main campus in Uppsala and therefore creates adequate synergies. (S&T panel)
Other panels agree that the relationship between the two campuses should build on local strengths to create mutual benefits at the two sites. Opportunities are identified in different fields based on Gotland’s geographical location. Some see possibilities to establish field stations. Another panel specifies that “complementarity also involves a complementarity of functions and formats” (H&S panel) relating for example to the suggested project development centre mentioned above and that certain PhD programmes related to specific research groups or clusters could be based in Gotland. One panel writes that the situation calls for a strategy.

**External collaboration, outreach and impact**

According to the panels, several research environments have a strong record of external collaboration, outreach and impact. The panels praise their long tradition of external collaboration with relevant stakeholders, and point to the research area’s relevance for, and impact on, society.

The department provided good examples of clinically and socially relevant, applied research with demonstrable effect. The fact that the breadth of collaborations go beyond health care, places the department in an ideal position to be university pioneers in capturing and assessing impact. (M&P panel)

The special importance of the University Hospital (Akademiska) as a collaborative partner is emphasised by several panels. They note that the Hospital plans to give higher priority to research and education, and conclude that this is crucial in achieving a higher quality of academic performance by the University.

Some panels also commend the highly visible outreach activities at some departments, including research staff engaging with diverse non-academic audiences in public events.

In other departments/programmes/research groups, panels find that this area is more or less unexploited and that more effort should be put into reaching out to the general public and other stakeholders (e.g. industry, government). One panel notes that this is also reflected in doctoral education. There is “little incentive to have PhD students get a broader experience from outside culture” (S&T panel).

In some programs, efforts towards outreach are not sufficiently encouraged, albeit major opportunities for communicating and transferring research outputs to outside communities are in place. (S&T panel)

There are also examples of the opposite, i.e. that external parties show a lack of interest in fully taking advantage of collaboration with the University. This has been seen to apply to the University Hospital (up until recently).

Providing readily accessible and updated information to the surrounding society is also important. Several panels find that the department’s website is un-
informative and does not showcase the department sufficiently well. It is not updated and/or is difficult to navigate.

Finally, one panel concludes that the limited engagement in outreach may be due to lack of recognition, i.e. appreciation of the value of outreach is uneven, as are incentives to stimulate its further development.

**Panel recommendations**

*Put more effort into external collaboration and outreach activities.* Several panels indicate that more energy should be put into improving external collaboration and outreach activities (i.e. the science-society interface), and into connecting the department’s research to themes of local, regional and national importance.

According to several panels in the domain of Medicine and Pharmacy, there is a particularly urgent need to further the relationship between the University and the University Hospital. They signal that this question warrants attention at all levels of the University.

The level of integration between the University and the Hospital should be enhanced to provide better alignment between the development of surgical specialties, research priorities and clinical excellence. (M&P panel).

*Focus research around themes of societal relevance.* One panel suggests that multidisciplinary teams should be put together to be able to tackle big science questions around issues of societal and economic relevance. Another panel goes a step further and proposes that research groups should be organised “into themed areas which are externally facing (e.g. community, prevention, ageing), and develop leadership capacity across these areas” (M&P panel).

*Improve dissemination of research results.* Several panels recommend the department to more actively disseminate research results to the rest of society. For example, one panel suggests that a small project group with engaged junior and senior clinical researchers should be given the task of testing new ideas on how to integrate clinical work and research.

*Incentivise and recognise external collaboration and outreach.* Some panels touch upon the need for stronger recognition of external collaboration and outreach. One panel suggests that the department should establish a workload model that recognises valuable academic activity beyond teaching and research. Another panel underlines that impact should be a part of evaluation of research quality, e.g. “who uses the information in published papers and how that knowledge is used is more informative than number of papers published” (M&P panel).
Talent attraction and retention
The panels highlighted the need for more attention to recruitment, career structure, and career support in order to attract and keep talented scholars, and issued a number of recommendations on how to make this happen.

Recruitment strategy and process
Recruitment is an area where virtually all panels have made observations, identified weaknesses or at least peculiarities, and where there are many recommendations.

It should first be stated, however, that several panels are also impressed by the fact that broad-based recruitments with open call procedures do attract wide fields of strong applicants. There are also a number of cases where panels are impressed by recent recruitments made. They acknowledge cases of competitive recruitments with international outreach at all levels of staff, renewal through new recruitments of energetic researchers, and cases where departments have been:

...proactive and successful in recruiting internationally, and have not been defeated by the alleged difficulty of appointing non-Swedish language speakers to positions below the level of Professor. (H&S panel)

Several panels are also impressed by the recruitment of PhD students, post-docs and junior researchers, and conclude that strong recruitment of high-quality international PhD students and post-docs has contributed to a research environment with a young and dynamic faculty with ambitious future plans.

At least three panels in the domain of Science and Technology also take note of such success in the form of “attraction of good post-doctoral staff thanks to the good research reputation of the best researchers”, “ability to attract excellent young people”, or generally that “the quality of junior researchers is very impressive”.

Still, most observations in this area concern alleged weaknesses in recruitment strategies and processes.

One issue brought up in several panel reports relates to what is perceived to be a lack of strategic thinking when it comes to deciding how recruitment should be done in order to strengthen the long-term development of the environment.

There is room for more strategic management with respect to hiring new employees. The Head of Department has relatively little influence on these issues. Recruitment possibilities seem somewhat inflexible. (H&S panel)

Inability to recruit in response to departmental priorities is noted as a major weakness in one case while another panel states that:

The department does not have access to resources that would allow implementation of a comprehensive and feasible plan to increase the impact of its research through strategic recruitment and targeted faculty support. (M&P panel)
Another issue brought up is concern about the lack of international recruitment at the higher levels. One panel argues that the strong preponderance of Uppsala-trained postgraduate students and staff in the department reduces its diversity and international reach, and suggests that there is a need to actively develop and implement mechanisms for reducing this localism. In a similar vein, a panel in the M&P domain finds that recruitment of talent from abroad seems limited at the senior level.

Panels in all three domains also make observations on slow recruitment processes and the consequent risk of losing key candidates.

Recruiting new professors appears to take an inordinately long time in the Uppsala University system. (H&S panel)

The speed of hires for senior positions is inordinately slow and can lead to missed opportunities to enhance teams. (H&S panel)

The time to recruit academic staff at the senior level is too long and may reduce recruitment potential. (M&P panel)

The mandated internal recruitment process takes too long and makes the process hard. (S&T panel)

Faculty hiring procedures are too complicated and slow, and the Faculty hiring board inadequately represents the hiring department. (S&T panel)

Several of the quotes above also allude to a fourth frequently noted theme, concerning the limited involvement of the departments in the recruitment processes. These processes are generally organised at faculty level, where one or more committees per faculty, on delegation from the faculty board, carry out the actual recruitment processes. The department can be involved in proposing external reviewers, but is otherwise not directly involved in the selection decisions, except that the department head may be invited to attend recruitment committee meetings, but without taking part in the decision.

The hiring process ignores departmental expertise and needs. (H&S panel)

Some units expressed a strong desire for more direct involvement in hires, which could be very helpful for strategic planning. (H&S panel)

The Department Chair is not provided with the opportunity to strongly make his case for high priority recruitment to the Domain Board. Perhaps excessive and unnecessary concerns regarding conflict of interest stand in the way of successful communication of department goals. (M&P panel)

Several panels mention the gender imbalance among senior academic staff and some note that there are expected retirements among senior research faculty.
Recruitment is seen as a significant instrument to achieve a greater gender balance. Gender should be an important consideration in future recruitment exercises. Some panels stress the importance of recruitment plans to ensure gender balance and equal opportunities.

Panel recommendations
The recommendations made by the panels relate quite closely to the weaknesses identified above.

**Speed up recruitment processes.** There are a number of calls for action aimed at speeding up recruitment processes, but relatively little concrete advice on how this can be done. Recommendations on increased use of search committees could perhaps be seen as a means towards this end:

The university should develop a policy for use of search committees (at department level) that are used to identify top-qualified candidates before the tenure track position is posted. (M&P panel)

**Strengthen the role of departments in recruitment.** A number of panels in the domains both of Science and Technology and of Medicine and Pharmacy make clear recommendations that departments should be given a stronger role, both in recruitment strategy and in the recruitment process:

Increase departmental involvement in and transparency of Faculty/University decision making around research priorities, recruiting and infrastructural investments. (M&P panel)

More influence must be given to the department in the selection processes of new hires. (S&T panel)

Put systems in place to ensure that departments have greater decision-making capacity when recruiting new staff. (M&P panel)

The internal recruitment process should respect the expertise of the department. (S&T panel)

**Consult external advisors in recruitment issues.** A couple of panels in the same two domains also recommend that departments should make use of external advisors when formulating recruitment – and research – strategy.

Install an International Scientific Advisory Board for advice in recruitment and strategy. (S&T panel)

Consider appointing a small External Advisory Committee that would develop an ongoing relationship with department leadership and provide feedback on recruitment and research development goals and strategies. (M&P panel)
Formulate recruitment strategies. Several panels call for more strategic planning for recruitment, i.e. systematic work and longer-term planning on how departments should ensure that they can attract and develop the talent they need:

The department should be charged by the university with developing a comprehensive recruitment plan that will achieve the research and education goals of the department and the university as well as appropriate representation based on gender and other considerations of equity. (M&P panel)

Such plans should include succession planning, keep an eye on age distribution, and seek to enhance the gender balance:

Succession planning needs more attention and should be balanced with the current bottom-up focus on growing young talent. This needs to be addressed at both Department and Faculty levels. (H&S panel)

Recommendations in this area call for regular opening up of junior researcher positions, and recruitment into strong tenure track programmes supported by mentoring programmes in terms of scientific, career and teaching development.

Improve gender imbalance through recruitment. When it comes to enhancing gender balance, there are recommendations that a position should only be posted if the search committee is able to identify competitive candidates regardless of gender, and to ensure gender balance on all decision-making bodies concerned with finances and hiring/promotion. Another suggestion is to broaden the recruitment base through international advertising. Some panels point out that departments need to think carefully about how decisions about recruitment impact upon gender.

Career structure and career support
Nearly all panels identify career structure and career support as important, but mostly underdeveloped areas. Based on the panel reports, the overall impression is that the University has to reconsider its career structure and improve its career support, especially with regard to junior researchers.

Career system
Several panels note that the University lacks a well-functioning career structure/path, and a ‘proper’ tenure track system. There are comments on the lack of postdoc strategy and postdoc positions, and the potential risk of losing talented researchers due to limited internal career opportunities. One panel raises the issue of high grant application success rates leading to an excess of intermediate-level researchers without any chance of one of the limited number of permanent positions or even a tenure-track perspective.
Panels express some concerns with regard to equal opportunities in relation to career development (see *Equality and equal opportunities*). Furthermore, one panel finds that researchers that focus on ‘less fashionable’ applied research areas are at a disadvantage with regard to opportunities for research and advancement.

In part, the deficient career structure is due to regulations that are beyond the University’s control, but the panels also find that the University has not fully used the room for manoeuvre that it has.

**Career development and support**

A related recurrent theme in the panel observations is the lack of structured career support for PhD students and junior researchers, including advice on research direction, grant applications, where to publish, requirements for permanent positions, etc.

A lot of tacit knowledge is not readily available to junior scholars. For instance, PhDs lacked strategic advice on which research fields to enter and where to publish. Junior scholars lacked advice on how to develop grant applications and joining research groups. It was not always clear to them what was needed to achieve a permanent position and whether this was a genuine possibility in their case. Much seemed to rely on information passed on via informal networks cross border collaboration including interdisciplinary collaboration. (H&S panel)

There is also a need for junior researchers to have spaces to talk about their challenges, both research-related and personal.

PhD students and Postdocs, especially those in the clinic, have difficult roles and need more space to talk, not only about the research in itself, but also the emotional challenges involved in the sometimes frustrating process of doing research. (M&P panel)

Panels also comment on the lack of personal and professional mentoring of academic staff. Structured support is provided in individual student/supervisor connections, but cross-departmental mentoring and training is less well developed.

Although the overall impression is that career support is deficient, the panels do identify a few examples of good practice. The Institute for Housing and Urban Research offers mentorship and a structured introduction for junior researchers, both to the scientific community in general, and to the Institute more specifically. Junior researchers at the Institute for Russian and Eurasian Studies have access to a solid group of mentors. The Department of Peace and Conflict Research provides ample opportunities for junior researchers to get feedback on their research and grant applications. The Department of Information Technology offers a comprehensive career support scheme including grant training, career development training, start-up research money and limited teaching obligations. At the Department of Ecology and Genetics, junior researchers receive strong...
support for attending international conferences and workshops. The Department of Medical Sciences has also prioritised supporting the development of successful faculty careers, particularly those of young researchers.

The fact that most departments lack structured support, however, does not necessarily imply that there is no support whatsoever. Some research environments are commended for having a culture that is supportive and nourishing in itself.

The doctoral and early-career scientists appreciate a scientifically stimulating and international research environment as well as a collegial atmosphere at the department. (S&T panel)

Panel recommendations
Several panels underscore the need to develop a true tenure track procedure, and a scientific strategy for selection of successful young scientists. According to one panel, a tenure track system will allow for early identification of upcoming researchers that will secure excellence without the resources that are needed when recruiting well-established scientists to full professorships. Another panel stresses that the provision of more tenure track assistant lecturer posts would also provide more opportunities for researchers to be involved in teaching, a vital component of career development for young researchers.

Several panels also emphasise that there should be clear tenure and promotion criteria for ‘up or out’ – and clear exit strategies. The requirements for a tenured position should be explicit, and clearly stated in a document.

Management could communicate more explicitly what is needed to achieve a tenured position and a professorship. This would not only ensure that those qualified actually apply but potentially also make it clear to some scholars that they have to plan for a future elsewhere. (H&S panel)

One panel states that there are already well-functioning tenure track models implemented at individual departments that may well form the basis of a model of good practice for the entire University, e.g. at the Department of Economics.

It is also suggested that there should be a parallel career path for researchers leading to permanent positions as supporting scientist without group leader responsibilities. Further, that the structure of non-tenured positions should be simplified, and that there should be clearly designed career paths with corresponding opportunities to acquire additional competences such as the “Excellent Teacher” qualification.

The panels also advocate improved career support for researchers/lecturers in general, and junior researchers specifically. They suggest that tenure track should be combined with support in terms of scientific, career and teaching development. The support should involve how to raise and manage research money, i.e.,
help with grant applications, for example by pre-submission grant review. Such support may be vital for producing competitive proposals, not least with regard to daring high-risk (and high potential gain) research.

More formal structures could be created to support junior researchers in applying for funding (e.g. by matching them with seniors with experience in attracting funding and/or experience from research councils). A person could be appointed to be in charge of this, with the understanding that senior researcher has an open door policy if juniors are directed to them by this person. (H&S panel)

The support should also entail advice on career opportunities within and outside academia. Several panels stress that tenure track researchers also have to be prepared for non-academic research and career opportunities.

More strategic career counselling at the PhD and post-PhD stages. This would also be an opportunity to discuss career opportunities elsewhere. Invite alumni or people working in the public sector, private consultancies or international organizations to give a talk on such issues. Make a brochure or homepage about these issues. (H&S panel)

Other recommendations for strengthened career support include supporting tenure track with a substantial start package, which could include faculty-financed PhD students, and protected research time for newly recruited lecturers. Further suggestions include training of junior researchers in multidisciplinary research methods and critical appraisal of research, as well as publication meetings with a focus on personal experiences regarding facilitators and barriers to publication. There should also be training in Swedish for members of staff coming from abroad, leadership development courses, and training and support for research group leaders.

Provide mentoring, training and support for Research Group leaders from all departments [within the faculty/domain], including case studies of successful research groups and change management. (M&P panel)

Although the panels suggest a number of possible approaches for delivering the support, mentoring programmes are most widely endorsed. One panel stresses that mentors can be found not only inside, but also outside of academia. The panels also suggest that there should be introduction programmes for newcomers, five-year staff research plans, and yearly career development interviews.

We encourage the introduction and implementation of a formal mentoring scheme for all levels of staff including annual development and discussion of individual research plans. This might well include the development of a Research Coordinator role (senior academics in rotation) to enable the above and to assist with strategic research development. Mechanisms for disseminating the learning experience across the cohort should be developed. (H&S panel)
One panel thinks that support should also be available to researchers on fixed-term contracts, and another that there should be career support for researchers that exit the tenure track programme. Several panels recommend that career support should not be reserved for junior researchers. Medium- and long-term career development of permanent academic staff should be attended to as well.

**Basic preconditions for high quality research**

The panels also raise issues about research funding, infrastructure and administrative support, and provide a number of recommendations on how to improve these basic preconditions for research.

**Research funding**

Research funding is a core issue brought up in many panel reports. The panel reports reflect on the Swedish model of public research funding, with the block grant from the government to universities constituting a smaller share than competitive research grants attracted from other public and private funding bodies. For the University as a whole, external funding makes up 56 per cent of the research funding, but for individual departments or indeed research groups, the share is much higher.

Thus, many research environments are heavily dependent on *external funding*. It is therefore perhaps not so surprising that many panels are impressed by the ability to attract such competitive funding. Such views are found in panel reports across the University. In cases where departments have been able to attract ERC grants or, say, Wallenberg Fellows grants, this is duly noted by panels who see it as a clear sign of strength. There are also several remarks regarding good department practices when it comes to administrative and professional support, e.g. for writing applications for external funding, and incentives to apply for grants. In some other cases, however, panels see potential for improvement when it comes to strategies for accessing research funding from international sources, notably EU funding.

There are several comments on the (lack of) balance between block-grant funding and external funding, mainly indicating that the high degree of dependence on external funding hampers the potential for longer-term research initiatives and limits the room for strategic priorities within the University.

The challenge of competitive vs. block grant funding was noted repeatedly throughout the process. Short term anxieties with regard to budget planning and general uncertainties are limiting longer term visions and strategic planning for research. (H&S panel)

Research Group funding is too short-term, without cushioning mechanisms at the termination of grants. Infrastructure funding is also short-term, making sustainability of programmes difficult. (M&P panel)
There are also remarks about external funding not covering the full economic costs (that is, it does not fully cover overheads), and thus 'colonising' the block grant and further limiting the strategic room for manoeuvre.

Finally, when it comes to the allocation of the block grant within the University, and within departments, there are examples of panel reports finding that internal departmental funding allocation is open, collegial and generally accepted by its members. Several more, however, see problems here. One panel simply states that “the distribution of block grants leaves little opportunity for strategic initiatives” (M&S panel). In the same vein, one panel in the Science and Technology domain notes that the allocation of research funding through the divisions reduces the strategic freedom of the department, and weakens the department relative to the divisions.

Panel recommendations
Develop transparent and dynamic funding strategies. One panel notes that the University is relatively wealthy when it comes to strategic money at the university level, and that it should be made completely transparent how these funds will be allocated and what criteria should be met to be eligible for support. Also, relating to the opening up of new research initiatives, one panel in the Science and Technology domain calls for the opening up of a new joint department-faculty dialogue on budget allocation. Another panel in the same domain sees a need to clarify the role of the department head and that of the departmental board in defining the strategy and re-allocation of research programme funding. On the same issue, one panel in the Medicine and Pharmacy domain wants to see “increased departmental involvement in and transparency of Faculty/University decision making around research priorities, recruiting and infrastructural investments”.

Provide economic support for cross-cutting and multidisciplinary research initiatives. Other issues are related to cross-cutting collaboration, where one panel notes that if the University wishes to take initiatives, it is necessary to provide more and in particular longer-term funding in order for the initiative to gain sufficient strength. Another panel proposes instrumental use of multidisciplinarity as a means of attracting funding. If EU funding does not target a certain discipline, the researchers may team up with disciplines that fit more easily within the EU framework, and be part of applications that lie at the borders between disciplines.

Combine funds for teaching and research. The enforced separation between funds for teaching and research is noted by one panel to reduce academic freedom, while bringing little benefit.
Research infrastructure
There are numerous panel observations on specific infrastructure matters, but they are scattered across a broad range of support structures and they do not form a pattern that can easily be generalised into strengths, weaknesses and recommendations. Therefore, this section simply picks up some selected comments made by the panels in relation to some core infrastructure and support structures.

Library services are mainly commented upon by panels in the Humanities and Social Sciences domain, but they are generally seen to be good, with some remarks on specific databases, e-books or journals that are missing. Related to this, there is a call for a coherent, central infrastructure for data management, typically including storage, some special computer needs, and access to non-local electronic assets.

When the built environment is commented upon, it is generally in positive terms, with comments about attractive buildings, including functional spaces, that facilitate collaboration and communication.

Social spaces, such as the coffee room, where informal research conversations can take place, are regarded by all as important features of the research environment. (H&S Panel)

Some panels find Uppsala’s rental model to be highly unusual. The same applies to the fact that overhead costs vary across the University.

Lack of uniform overhead rates between departments create unhealthy competition. (M&P panel)

This is linked to the administrative support structure. While there is praise for some administrative support, there are observations about senior academic staff spending too much time on administrative tasks, and several comments about perceived inefficiencies concerning IT, procurement and travel.

Finally, when it comes to research platforms and facilities as such, several panels are impressed by the high standard. This goes for experimental facilities and state-of-the-art infrastructure. SciLifeLab is seen as an important infrastructure and one panel points out that several SciLifeLab platforms are strongly affiliated with and are supporting high impact research studies in departments. Uppsala Clinical Research Centre is also pointed out as an outstanding resource for development and implementation of researcher-initiated, sponsored and intra-institutional clinical research and clinical trials.

Several panels note that there is a need for more concerted efforts when it comes to prioritisation and funding of infrastructure and instruments, as well as the technical support structure. One panel argues that the faculty could be more proactive in gathering in needs for common infrastructure and equipment.
investments from the departments, in order to submit strong cases for funding from the special university funding programme. Within the Science and Technology domain, there are panel remarks stating that technical support needs improvement because it limits the training of new researchers in how to use new instruments and maintain quality. This applies to laboratory work, including lab notebooks, troubleshooting, and basic scientific actions, as well as calls for creating a special fund in support of activities such as the use of supercomputer facilities, workshops and instrumentation development.

Some panels also find that measures have to be taken to decrease the time academic staff spend on administration, to free up time for research.

Like other departments, there is a need for some administrative relief and budget stability. On the former, like in many or most research universities worldwide, routine administrative work is being pushed onto departments and even subunits, taking already limited time from research (and teaching). (H&S panel)

Feedback and evaluation

Some panels report that research environments have no, or only weak, formal processes for evaluating or monitoring research. One panel writes that the lack of clear processes for evaluation and quality assurance is a serious weakness. Another panel finds that there is a lack of interest in standardised evaluation processes. More specific processes that are mentioned in panel reports are monitoring of publication output, regular performance reviews and explicit international benchmarking for research groups and the department as a whole. As background material for the self-evaluation and the panels, the evaluation units and the panel experts were handed some basic data (see Appendix 4). However, one panel notes that there are “inconsistencies between university and departmentally held base information” (S&T panel). There is no uniformity of data regarding e.g. staff and grants.

Panel recommendations

In general, there are three recommendations regarding feedback and evaluation in the panel reports. Firstly, departments and research groups should appoint external national and international advisory boards to support evaluation of research in addition to strategic decision-making. Secondly, they should conduct formal regular review of academic staff’s research performance. Thirdly, they should undertake international benchmarking in order to clarify the department’s international position and be able to better articulate its identity.

Individual panels also suggest that the faculty level and departments should assess the impact of structural changes, assess administrative/academic procedures of the University regarding recruitment of staff, undertake exit interviews with leaving researchers and make a review of criteria and metrics for productivity assessment.
Summary of panel observations
per scientific domain

Humanities and Social Sciences

Introduction

Humanities and Social Sciences had seven panels in Q&R17, covering 32 departments or units in six faculties. Each panel comprised two to eight evaluation units, each evaluated separately. In general, the panels found the research level and the level of productivity of the departments or units to be rich and impressive, originating from environments that differ in size and disciplinary scope. Due to the multitude of research environments, the panel reports cover a wide range of themes and topics. This summary will highlight some of the comments that recurred in several of the reports and that seem to be of particular relevance and importance for research within the domain of Humanities and Social Sciences.

Research strategies

Although all the panels found the research environments generally to be of high quality, one overarching and important theme the panels identify is the need for departmental research strategies.

The panels highlight several factors or problems that affect collective endeavours.

Firstly, a lack of departmental direction, sometimes paired with a weak departmental identity, undermines the ability to cooperate.

Secondly, the panels note that the organisational structures seem relatively decentralised, leaving researchers or departments without any firm support in research planning. The faculty structure of the domain can thus be seen both as an enabler of and as a block to collaboration across faculties. However, the role of the disciplinary domain appeared unclear in relation to research strategies and the development of research programmes.

Thirdly, the panels identify an individualistic culture within some parts of the domain of Humanities and Social Sciences that is counterproductive for establishing strong research environments internally and for identifying external partners. In addition, the external funding system seems to lead to reactive, project-based and short-term projects.

Thus, conscious of and respecting the individual freedom of the researchers, several of the panels suggest collective endeavours to develop long-term and strategic research programmes. The tradition of relying on personal interest needs
to be balanced by a consistent effort to develop more focused areas of research. Such efforts would benefit from long-term in contrast to annual planning. The panels also suggest developing or utilising scientific councils for strategic research planning, introducing performance management systems to ensure equality of treatment and offering mentoring advice. Furthermore, it is suggested that departments establish workshops on grant applications, and develop and foster incentive systems to encourage and acknowledge research excellence.

Several of these suggestions could balance and manage the tension of unity and diversity in research found in the domain, both within and between departments.

Research leadership, recruitment and career advancement

Closely related to the observations on research strategies is the panels’ identification of a need for coherent recruitment strategies in response to departmental priorities.

The time-consuming and slow recruitment process at the University can lead to missed opportunities to enhance research teams. Some departments also expressed a strong desire for direct involvement in hiring.

In some departments, there is a high level of turnover among researchers and a risk of losing talented researchers partly due to limited internal career opportunities. Furthermore, it is noted that the Swedish university system is tough for young researchers because it can be very difficult to obtain a tenured position.

Departments and units are advised to develop a staffing policy for recruitment and retention, and to establish a mentoring system for career development. Mid-career staff need to be able to see career development opportunities leading to promoted professorships. Furthermore, the panels suggest a plan for effective recruitment as part of succession planning and in light of the age distribution, and to seek to enhance the gender balance and ethnic diversity. Some panels were also struck by the predominance of Uppsala-educated academic staff.

A few panels suggest strategies that include staffing policies that actively encourage the search for excellent candidates to recruit. Not only in cases of vacancies, but as a permanent mode of scanning and identifying interesting and innovative colleagues all over the world.

All units would benefit from considering themselves as being in ‘permanent search mode’, rather than waiting for appointments to arise. They should not abdicate responsibility for identifying and securing excellent candidates (especially international candidates and candidates from diverse ethnic backgrounds) to a combination of advertising internationally and the operation of the invisible hand of the market. (Panel 6)

In sum, the panels recommend the appointment of research leaders at departments, mentoring systems for career development, and strategic and proactive recruitment.
Organisational structure
The question of the administrative structure of the University is discussed in several of the panel reports. Some of the panels found it difficult to understand the precise roles of the “layers of bureaucracy”, i.e. the relationship between disciplinary domain, faculty, department and unit. They call for greater clarity about the different roles and better communication between the different layers. They suggest that the domain level could be developed to give incentives for cooperation across domains or faculties. They note that the development of successful research environments at department level in many instances requires assistance “from above”.

Multidisciplinary research
Another recurrent theme in the panel reports is the need for multidisciplinary approaches to research as a driving force towards renewal. The panels have noted that in general there seems to be a widespread awareness of this and a multitude of cross- or transdisciplinary cooperation is mentioned. However, the panels identify several obstacles to achieving well-functioning and widespread cooperation. One such obstacle identified by several of the panels is the lack of structured efforts and strategies to enhance cooperation. According to one panel, a lack of strategies combined with a widespread awareness of the necessity of encouraging cooperation has resulted in a rather unstructured organisation for the development of multidisciplinary research.

The University has created a plethora of new matrices, on top of the old discipline and department structures. Their names can be different, nodes, clusters, centers, forums, even domains, and they might differ enormously in size, scope, and structure, but they perform more or less the same function: namely to facilitate the transition from an old and traditional university, organized according to an order of knowledge which emerged in the 17th and 18th centuries, to a flexible and dynamic institution able to deal with the changing knowledge needs of society. The panel warmly supports this ambition, but feels that there is risk that many of the initiatives will never bear fruit, if there isn’t a more sustained engagement from the Faculty and the University. Many departments are left to their own devices in finding their way into a more post-disciplinary, integrated, problem-oriented university. At worst these initiatives come across as unsystematic, randomly selected, and evaluated in an opaque manner, thus leaving the units more fragmented and with a lacking sense of direction. (Panel 2)

Many of the topics identified for these different centres etc. looked to one panel to be too top-down determined, giving limited incentives to the researcher at department level to join. Several panels also pointed out that many researchers seem uncertain about what the centres are and what they can be used for.
However, there were also panels that found this multitude of new matrices positive and a good strategy for adapting to new circumstances while being able to keep old disciplinary structures, stating: “This is clearly the way to go.”

Some panels pointed out the need for administrative solutions to enhance cooperation in order to increase opportunities and vehicles for cross-, inter- and transdisciplinary research. Examples of such solutions was e.g. included joint appointments of academic staff, visiting researchers and team-taught graduate seminars.

The organisation of the University is also seen as an obstacle to the development of true multidisciplinary research. Some of the problems stem from different disciplinary cultures. But the lack of specific funding for multidisciplinary projects at university level and in the research councils is pointed out as another hindrance. Differences in publication cultures furthermore contribute to the difficulties.

There was an expressed feeling that the systems at Uppsala University did not lend themselves to cross department, faculty or domain research. The majority of staff we talked to identified impermeable barriers across the University to interdisciplinary work and a lack of clear facilitative policy and resources. (Panel 4)

While the panels mentioned some examples of good practice, these practices often depended on individuals making these links or being driven by research funding.

In summary, it is difficult to find a clear view of how cross-, inter- and transdisciplinary research can be enhanced within a university that values disciplinary research highly. There is a need for a balance between disciplinary research – the very foundation of successful multidisciplinary research – and encouraging cooperation between researchers from different disciplines. While economic incentives might be difficult to initiate, greater efforts should be made to abrogate administrative obstacles. Communication about available multidisciplinary platforms can also easily be improved.

**Internationalisation**

Internationalisation of the research environments was a theme that permeated many of the other themes in the panel reports. Internationalisation is conceived as a major force towards successful research.

Probably the most important impetuses for catapulting Uppsala University into the 21st century, and upward the ladder of excellent universities, will not come from inside the university as it exists today, but from outside, in the form of cooperations and networks, but more than anything in the form of recruitments. (Panel 2)
One aspect of internationalisation that was mentioned in several reports concerns international recruitments. A number of panels called for a more explicit strategy for international recruitments in relation to strategically defined research areas and competences. They noted that this is the responsibility not only of the faculties and departments but also of the higher university levels. They also underlined that it is not always crucial that the best of the best are hired. Internationalisation as such is very fruitful in helping to create a diverse research culture, but there is a need to balance bottom-up and internal recruitment with staff with an international academic reputation.

Some panels also mentioned the desirability for departments to benchmark against appropriate international institutions as a matter of routine. One panel identified a need for departments to profile themselves more clearly at international level.

Several panels highlighted the need for university staff to be able to go abroad for shorter or longer visits. A need for a more proactive approach to encourage doctoral students to spend time abroad was also pointed out by several panels.

The question of language was mentioned by several panels. There is a need for a consistent and clear language policy and an answer to the question of how the University can adapt to English-speaking work without sidelining the use of Swedish.

**Research, teaching and administration**

The combination of research and teaching, for most lecturers and researchers, was seen both as a problem and as an opportunity. On the positive side, teaching can open links to new research. Furthermore, the Swedish language can be an asset in bridging teaching and research, when teaching in Swedish and building on and performing international research.

Research in the context of teaching and administrative demands was, however, widely noted as a problem.

The little time they have for research in their job description is eaten up by teaching and administration. (Panel 2)

When these duties compete, lecturers tend to feel obligated to prioritise teaching and doing administrative work for their unit over research, with the result that research suffers. This time pressure was especially prominent for senior lecturers and in teaching-intensive humanities subjects.

The pressure of maintaining the necessary time and resources for research while under heavy teaching and administrative obligations is recognised by the panels as a problem for universities worldwide today.

Given this commonly identified problem, the panels had few suggestions or recommendations for creating a better balance between research and teaching
commitments. It was noted that the teaching could be more evenly distributed between lecturers and professors, and between ‘chaired’ and promoted professors at some departments. One suggestion was to reinstate and formalise the sabbatical system. A better acknowledgment of how to handle administrative and academic work in overall workloads, especially for early and even mid-career staff, would furthermore be beneficial.

In sum, the panels asked for a more substantive research allowance and/or reduced teaching loads. At the same time, however, they underlined that university-oriented teaching should be firmly linked to research.

Publication strategies
A few panels noted a lack of publication strategies. They called for increased efforts to publish in top-ranking field-specific journals, in combination with the current tradition in many disciplines of publishing monographs. It was also pointed out that clear signals about publication strategies provide strong guidance for young researchers.

Some panels also discussed the value of bibliometrics. They noted that even though metrics is one means of assessing research excellence, there were concerns that the particular bibliometric measures employed are of limited value for the humanities and in parts for social sciences. Efforts have to be made to help the faculties to contextualise bibliometrics in a fair and appropriate way.

Doctoral education
The panels considered doctoral education from various perspectives. Initially, both the relatively low number of doctoral candidates within the domain, and their uneven distribution between departments and disciplines, were noted as problems. The small size of the PhD cohorts was judged to be a potential hindrance to achieving excellence.

Doctoral education as such could benefit from a more integrative design of doctoral studies, for instance some shared coursework, especially across smaller units with shared needs. Furthermore, several panels suggest developing more generic modules on key areas such as publication, conference presentations, preparing applications and research ethics.

One additional aspect concerns internationalisation in doctoral education. The importance of international travel and research collaboration in developing international research profiles deserves to be highlighted more systematically and more prominently for doctoral students in some departments.

It was also noted that doctoral students need to develop employability skills and competencies in the broadest sense. They need to have a realistic understanding of job markets and to receive adequate professional training.
It is a responsibility of the university to ensure that doctoral students, post docs and young researchers have clear and realistic expectations about future possibilities both within and outside of academia, and are offered assistance in career planning, and courses that provide them with the necessary skills to pursue their individual careers. (Panel 7)

It was stressed that PhDs can pursue many rewarding careers in other sectors of society and that they have much to offer those other sectors. The suggestion is therefore made to more systematically offer training at department or faculty level, designed to reflect the many non-academic careers that humanities PhDs can pursue.

In sum, doctoral education needs to be adjusted to the job markets, which would accord well with an enhanced focus on generic competences and cooperation between disciplines, departments and faculties.

**Gender equity and ethnic diversity**

Most panels paid close attention to gender equity. It was noticed that there is a high awareness of the importance of gender balance and diversity and most departments have a fair gender balance among faculty and doctoral students, although higher up in the hierarchy there is an increasing imbalance. In some instances, panels called for a more proactive approach to redress this. It was pointed out that addressing gender imbalance is not only a question of recruitment but also of having policies that contribute to a gender-equal research culture. It is also about being self-reflexive in all practices to ensure fairness for all.

One panel noted that there is a need to improve the ethnic diversity among academics. Ethnic diversity is also a factor that contributes to research excellence.

**Concluding remarks and general recommendations**

**– Humanities and Social Sciences**

The panel reports in general reflect vibrant and in many ways impressive research environments in the thirty-two evaluation units in the six faculties evaluated. Many of the research environments visited expressed a keen interest in and readiness for further renewal and development. However, the plurality of disciplines and research areas in the disciplinary domain of Humanities and Social Sciences is both a strength and a potential weakness. There is a lack of explicit long-term strategies concerning several important factors for developing excellent research environments, such as strategies for research, recruitment, publishing, gender equity and internationalisation. This lack of more overarching strategies can in part be explained as the result of a profound respect for academic freedom and there is a delicate balance to be struck between unity and diversity in research in the domain. Another challenge lies in the formulation of strategies that are initiated by and based on the researchers themselves, a necessity if overarching research
strategies are to fulfil their function. In order to truly develop towards renewal of research, there is a need for multidisciplinary approaches to research and more cooperation between researchers and groups, but also between departments, faculties and scientific domains. Several panels point out that one way of doing this is to review the somewhat rigid structure of the university organisation. More active use of the relative richness of accumulated resources in the disciplinary domain of Humanities and Social Sciences could, according to several of the panels, enhance research in creative and innovative ways and in accordance with the changing knowledge needs of society.
Science and Technology

Introduction
The six panels related to Science and Technology comment upon or recommend measures regarding numerous issues. Among the most common ones are organisation and leadership, funding issues, gender and diversity, and career paths and support.

One recurring observation is the massive dependence on external funding which, in turn, affects e.g. employment profiles, career paths, diversity, and incentives to invest in more long-term projects and multidisciplinary research. The number of faculty staff has been growing and accordingly the output volume has been increasing, mainly due to this increased external funding. The teaching volume was observed to be very non-uniformly distributed and the panel members find it hard to understand the very strict division in funding between base funding for research and teaching, respectively. This division is perceived by the panels to lead to reduced flexibility.

In general, the panels do also comment on research quality, in spite of not being asked to judge or grade this. The panels find many of the environments to be of high quality, or even excellent and world-leading.

Organisational structure, strategies and leadership
There are frequent comments from the panels regarding organisational and governance issues. The governance structure of the Faculty of Science and Technology is perceived to be too hierarchical, with too many layers and long decision paths. The purpose of the section level is not obvious, especially where the section represents multiple separate departments. Some panels also comment on the lack of clear and overarching strategies at department level, and the opportunity and willingness of the different departmental boards to work strategically seem to vary from strong to rather weak. Because of this, several panels recommend that those departments that have not yet established some sort of external advisory body should consider establishing (preferably international) advisory boards.

Some of the panels report confusion regarding the role of the head of department, related to some extent to the perceived lack of influence on funding strategies and the fact that the Faculty Board distributes roughly half of the Faculty’s base funding for research directly to the individual research programmes. However, the conclusion from other panels is that the strategic work at department level works well.

The Panel was given the impression of a very well-functioning department with strong and dedicated leadership, and with excellent, collegiate working conditions. In particular, the able administrative staff made it possible for the Head of Department to focus on strategic decisions. (Mathematics)
**Funding issues and limitations associated with this**

All panels note the very heavy dependence on external funding in the Faculty of Science and Technology. Another issue, already mentioned above, relates to the large degree of direct funding of research programmes. This provides considerable strategic opportunities at programme level but also limited incentives for joint efforts, such as multidisciplinary initiatives, initiated at department or faculty level. Thus, we find several reports discussing the limited mechanisms to facilitate the introduction of new multidisciplinary research areas. To some extent, this can be related to the strong bottom-up culture within the Faculty, and within the University as a whole. Also, the way in which the base funding is distributed between research programmes is seen as non-transparent and sometimes difficult to grasp.

There is a collegial structure in terms of funding and sharing of resources. However, there is a lack of transparency on how funding in research programs are distributed. *(Chemistry)*

The Biology panel formulates its conclusion as follows:

The current block system funding is rigid and therefore prevents the synergisms necessary for top science, especially when inter- and cross-disciplinary collaborations are essential in order to address grand challenge questions for society. A key issue of concern for the departments, as strongly expressed during the site visit, as well as of the university as a whole, is the disproportionately low level of block funding, which considerably limits long-term strategic planning.

**Research infrastructure**

A majority of the research milieus within the Faculty are dependent on access to first-class research infrastructure. Overall, these infrastructures are perceived as very good or even excellent, but most panels comment upon possible future difficulties in upholding the necessary level of access to high quality infrastructure.

Funding for research infrastructure, in particular instrumentation, is a concern. External funding is now the majority, but the national funding strategies for infrastructure seem to have changed dramatically over the last few years. This is a real concern because two of the key strengths of the department are its technical staff and the development of instruments beyond state of the art. *(Physics)*

The unit is heavily dependent on competitive infrastructure and with processes being too slow there will be unnecessary standstills and in the long run an obvious risk that competitiveness is reduced. *(Chemistry)*

The development of tools inspired by the sharing economy is one recommendation, to enable effective sharing of lab facilities and knowledge inside the University.
Gender and diversity issues
Some, but not all, panels discuss gender issues in research and note that the survey results indicate that women at different career levels do not feel as well supported as men. The gender balance in permanent positions needs immediate attention, and the recruitment process should be improved to reach the largest possible pool of competent and well-qualified applicants of both genders. The Chemistry panel recommends that the failure to achieve a minimum fraction of female applicants in a call should entail that a new call must be commenced with revised criteria.

The staff composition is highly international, with almost half of the staff at lower levels having a first or second degree from outside of Sweden. However, the lack of diversity at higher levels in the hierarchy is commented upon as an area where the faculty could do better.

Career paths and career support
The career structure for young researchers is commented upon in terms of a need for a more uniform career track, titles and support system. The tenure track initiative is appreciated, but should evolve into a true tenure track system with appropriate and well-defined criteria for ‘up or out’. Several panels also note that the number of young researchers within the tenure track system is currently very low, e.g. only five positions in one department with more than 360 employees. The need for a good exit strategy for young researchers is also discussed.

The balance between tenure-track and non-tenure track positions should be altered towards an increase in tenure-track positions. Indeed, the lack of clear career paths, including exit paths, and paths into jobs in industry, the environment, and other forms of teaching creates stress and frustration for the young researchers. (Biology)

Some young researchers are enjoying a stimulating research environment, whereas others are troubled by lack of confidence in their future careers. The current formal career paths at junior level are recommended to be clarified with a clear separation between the tenure track path, possibly leading to a professorship, and the equally prestigious track that prepares young researchers to leave the Faculty after a designated time and pursue careers elsewhere.

The panel is concerned about the individual careers of young researchers that may be employed in positions that are regarded as a “dead end” without proper career guidance and with a consequent lack of risk appetite for pursuing truly innovative ideas. This is particularly relevant for the “researchers”. (Chemistry)

Career paths should be more clearly defined in terms of support and expectations. In particular, clarification of the tenure track and other career routes is needed. Provide early career counselling for young scientists that need to decide on whether to go for a career as combined research and teaching staff in academia, and assist them in making a career plan that leads to fulfilment of their objective. (Engineering)
The role of doctoral students as part of the research community, rather than students, is commented on both as being good and as leading to some confusion and stress, and a need is identified for more in-depth career guidance for doctoral students. The Earth Sciences panel found that current guidance concentrates on careers in academia, while those interested in alternative careers are less well provided for.

Successful [PhD] students, of whom a commendable 40% are female, are well equipped and do high quality research. They have the ambition to publish in the highest impact journals, i.e. they demonstrate great research ethos. (Earth Sciences)

All [PhD] students appreciate the open atmosphere, good colleagues and administration, and several different kinds of duties in their research group. Also, all PhD students interviewed were aware of the IPR system in Sweden and their power to effect on their own future. (Engineering)

Recruitment
In general, the panels find that recruitment takes too long, and the panels comment on the risk of losing talents because of this. In addition, some of the panels discuss the need for heads of department to be more involved in decisions regarding recruitment, and for the disciplinary competence to be strengthened in the joint Faculty Appointment Committee.

Follow-up of research progress
Finally, more regular follow-up of research progress is recommended. The IT & Mathematics panel found that there is a strong culture of academic freedom, management consensus and general contentment. However, the panel found no regular culture of self-evaluation and recommended the departments to be proactive, and involved in the process of selecting the metrics for such evaluations.

The aim of the current process of Quality and Renewal is for self-evaluation leading to an assessment of the current processes for engendering excellent research and their effectiveness. It is essential that the research staff engage with this process for the benefit of the exercise to be realised. It is also recommended that the process is used as model for ongoing self-evaluation and renewal. (Engineering)

Concluding remarks and general recommendations
– Science and Technology
The Science and Technology panels report on strong bottom-up structures with a multitude of projects and a heavy dependence on external funding. This is perceived as both a strength (many successful research applications) and a weakness (less stable financing). The panels found, in some departments, a lack of strategic planning of research and they also found a lack of co-funding on all levels for new
research initiatives. Some panels recommend an increased strategic role for heads of department. A regular contact with an external advisory board could help in planning for research renewal at the department level. Research freedom is fundamental for university research and we will still encourage bottom-up strategies and individual grants from e.g. the Swedish Research Council. However, a balance between bottom-up and collaborative efforts supported by funding made available would be beneficial for quality and renewal.

Also linked to excellent research is the availability of funding to maintain a state-of-the-art infrastructure. Many research environments have good infrastructure today, but we need to think ahead to plan for future investments not only in large, but also in small infrastructure.

Tenure track and career development are identified as important priorities, as well as a need for more dynamic recruitment processes for teacher positions, while keeping high quality. If recruitment is too slow, we risk losing the best candidates. From both a gender equality and excellence perspective, recruitment could also be improved, e.g. by more systematic use of search groups already in the planning stage for new positions.

The panels, but also the Q&R17 team and the Science and Technology faculty management, believe in a quality and progress follow-up ‘owned’ by the University, but also assisted by external boards. Best practice for research and renewal could be discussed much more frequently. The recommendations from Q&R17 will be followed up by the Science and Technology faculty board and are included in the action points for the Faculty’s yearly plan.
Medicine and Pharmacy

To begin with, the panels, while giving critical feedback, have noted that the quality of the research produced is high and that researchers have access to good research infrastructure and facilities. Several panels have noted the Science for Life Laboratory, which provides the University with state-of-the-art facilities in the life sciences, as well as other infrastructures and facilities.

This section summarises some comments that were directed to the Disciplinary Domain or the University and that were judged to be of general importance. Addressing some of these comments may require changes to the Swedish university system. The comments that are summarised lie chiefly in the areas of leadership, recruitment of teachers and researchers, the career path for teachers and researchers, doctoral training, effective support functions, research infrastructure and internationalisation. There were also comments that are specific to the individual faculties. For the Faculty of Pharmacy, the specific comments mainly concerned the department structure. For the Faculty of Medicine, the specific comments primarily focused on cooperation with the University Hospital.

Leadership

Several panels conclude that there is a discrepancy between the responsibility of the department heads and department boards and their decision-making power, both in relation to the governance structure of the University and the Disciplinary Domain, and internally. Some panels are concerned about departmental involvement in decisions made by the board of the Disciplinary Domain that affect the department’s abilities to achieve its goals; this applies, for example, to decisions regarding research priorities, recruitment and infrastructure.

Although the Department Board and its chair represent an appropriate group to implement the university’s and the disciplinary domain’s strategic plans, the panel observed that the department has not been empowered to execute the responsibilities and strategies relevant to the Department […] A disciplinary domain board, elected by the departments, makes important decisions relevant to the department but does not always take full advantage of input from the Department Chair. (Panel 17)

Several of the panels also recommend having external Scientific Advisory Boards (SABs) at department level.

Recruitment of teachers and career path

Some panels observe that the faculties seem to recruit most senior teachers and researchers locally. This may or may not be considered problematic. There is, however, a discrepancy between the University’s stated goals and policy in the area and what the panels observe.

The career structure at Uppsala University is perceived by the panels as complex and not clearly communicated, and in part deficient. Several panels have given
recommendations on how to address these deficiencies, for instance, by adopting a US-inspired tenure track model or by improving personal and professional guidance.

**Doctoral education**
Several panels note that the PhD programme appears to be successful and that doctoral candidates were in general pleased with the training offered. Some panels recommend that PhD training should be reformed and standardised across the Disciplinary Domain or specific departments. Recruitment, supervision, mentorship, training and progress evaluations are identified as areas for improvement. Furthermore, there are suggestions on integrating PhD training with the medical training for prospective physicians. The status of doctoral candidates employed by the hospital was also discussed.

**Effective support functions**
Another theme that can be observed in the panel reports is that Uppsala University and the faculties should evaluate and streamline administrative processes.

Departments feel burdened by increasing overheads, much of which is not perceived to return to research. The university should strive for transparency with regard to the service functions covered by overhead and focus on preserving generated funding for research purposes. (Panel 15)

**Research infrastructure**
As previously mentioned, several panels have noted that the departments provide research infrastructure of high or very high quality. However, one panel also finds that access to this infrastructure is hampered by insufficient communication and awareness of the availability of infrastructure and core facilities. Some panels are quite critical regarding the IT infrastructure provided by the University and its departments.

Through the Science for Life Laboratory, the University has access to state-of-the-art infrastructure within the life sciences. The Uppsala Clinical Research Center is an important resource for clinical studies.

**Internationalisation**
Several panels also stress the need for a university that strives to be internationally competitive to have guidelines and procedures available in English. This also ties back to the themes of recruitment of teachers and career paths, as well as the training of doctoral candidates. In order to recruit international faculty and staff, it is necessary to communicate well in English with prospective applicants. A large number of doctoral candidates are recruited from abroad, and there is therefore an increased need to be able to communicate effectively in English.
Faculty of Pharmacy
The panel (14) that evaluated the departments within the Faculty of Pharmacy has suggested that the organisational structure should be changed so that the heads of department report to the Dean. Furthermore, there is a suggestion that the department structure should be reorganised by merging departments, research groups and research areas in order to harvest synergies.

The panel acknowledges the Faculty of Pharmacy as an internationally leading and internationally renowned pharmaceutical institution and also that the scientific output is high, both in terms of number of publications and their impact.

Faculty of Medicine
Several panels note that the priorities of the University Hospital and the University do not always align, and that this may be detrimental to the quality of the research produced. Recommendations include systematically reviewing the different prioritisations, research support and career paths to obtain a better coherence between the University’s and the University Hospital’s programmes.

Several of the panels note that the departments produce relevant research of very high quality. Some panels mention the Uppsala Clinical Research Center, UCR, and the facilities it provides, as a success factor for research in some areas.

General recommendations – Medicine and Pharmacy
The theme related to leadership and governance was almost universally identified as an issue. Recommended is that the Vice-Rector along with the leadership of the Disciplinary Domain develop a governance structure that includes the departments and their leadership in a clear and structured manner. To some degree this may also require changes in the University’s governance structure. Acknowledged are that the position of head of department is very challenging, and that department heads have differing preconditions. Therefore, it is recommended that new department heads be offered mentoring or counselling.

With regard to recruitment of teachers and career paths, it is recommended that a mentoring and support system are developed for junior researchers. Furthermore, it is recommended that the current career path, especially for clinicians, be described in a clear and easily communicated way. Essentially, any faculty member should be able to describe the career path to prospective recruits.

A further recommendation is that the Faculty of Pharmacy review its organisational structure.

Furthermore, the University’s and the University Hospital’s strategies have to align. At present, a fear is that this is not the case. Therefore, it is recommended that the University Hospital are more closely linked with the University, for instance by making the Hospital a subsidiary of the University.
The Q&R17 project has been a major undertaking, engaging leadership, academic staff, PhD students and support staff at all levels and across the University, as well as almost 130 external evaluators acting as critical friends. The various materials assembled through the internet-based survey, bibliometric analyses, departmental self-evaluations and – most of all – the panel reports, make up a rich source for taking stock of how well Uppsala University works when it comes to fostering high-quality research and stimulate the opening up of new research ventures.

The process of carrying out the Q&R17 project has hopefully been useful in itself, by bringing issues of research quality and renewal to the fore, and stimulating discussion and reflection on such issues throughout the University. The project will have real and lasting effect, however, only insofar as there is an organised follow-up process, where lessons are learnt, conclusions drawn and actions taken.

In this chapter, the project team behind Q&R17 identifies a number of key themes that we see as particularly important to consider when following up this research evaluation (for a complete list of all panel recommendations, their rationale and concrete examples on how to meet them, see Part 3, and the individual panel reports in Part 5). We formulate these as recommendations for action in areas where there is a need for improvement or room for inventive, forward-looking initiatives. We thus point out areas where change is needed, though we deliberately refrain from stating exactly what actions should be taken.

The themes identified all refer to areas with potential for improvement or unexploited opportunities. It should therefore be stated at the outset that most evaluation panels also make many positive remarks and assessments. Thus, there are some recurrent strengths that should be actively preserved where present, including:

- good academic cultures
- professional performance of academic leaders
- effective recruitment strategies attracting strong applicants
- impressive ability to attract competitive funding
- strong international connectivity
- strong records of external collaboration, outreach and impact
- structured collaborations facilitating multi-disciplinary research via the establishment of cross-cutting centres or fora

PART 4
RECOMMENDATIONS FROM THE Q&R17 PROJECT MANAGEMENT TEAM
• commitment to integrate, and find synergies and overlaps between, the mi-
lieus in Uppsala and Gotland
• high awareness of the importance of equality, and ability to take concrete
action
• good training environment for PhD students, including ample opportuni-
ties for international experiences.

Even though the task of the evaluation panels was not, this time, to grade the
quality of research as such, many panels state that the research is indeed of the
highest quality. Often, they even remark that excellent research is carried out,
despite the existence of several obstacles to renewal – structural, regulatory, fi-
nancial, cultural, etc. Thus, even the most successful environments may have
untapped potential to become even stronger.

In the following, we list the seven most persistent areas of concern, challenges
and opportunities that have come to the surface throughout the Q&R17 project,
and propose no less than 40 concrete actions to be considered, followed by four
suggestions addressed to the government.

Quality culture and quality assurance
The survey results suggest that academic freedom and various manifestations
of collegiality (e.g. a creative climate, constructive feedback, and seniors taking
collective responsibility for the environment as a whole) are important features
of a good research culture. The panels also highlight several of these qualities,
emphasising the importance of professional performance of academic leaders,
mentoring, a common identity, a good social climate, and an ability to be for-
ward-looking and strategic, as well as a capacity for critical self-reflection. One
point that comes across strongly is the crucial role of a good seminar culture (or
other forms of scientific dialogue) in strengthening identity and balancing and
managing unity/diversity in a research environment. The results also suggest that
women and junior researchers are somewhat less satisfied with the research en-
vIRONMENT. There is also a relative lack of active discussion on issues of research
ethics and/or academic integrity in many research environments. Seven recom-
mandations emerge in this area:

1. Attend to the quality culture in the research environments by nurturing
collegiality, academic freedom, a good social and creative climate, critical
self-reflection, and other elements of a good research culture.
2. Develop the seminar culture and improve seminar attendance where need-
ed.
3. Make research ethics – and good research practice in a broader sense – an
integral part of the ongoing conversation in research seminars and the like, if
this is not already the case.
4. Introduce systems for regular (annual) monitoring of the research performance of individuals and groups at department level, where such systems do not already exist.

5. Examine whether the culture in the research environment favours some researchers over others on irrelevant grounds (e.g. sex, transgender identity or expression, ethnicity, religion or other belief, disability, sexual orientation or age), and if so, take necessary measures to ensure equal opportunities. Much of this should be done by implementing existing strategies, policies and plans for equal opportunities more thoroughly.

6. Develop, where needed, publication strategies at department level to scale up ambitions on where to publish.

7. Develop the University’s bibliometric data and tools so that they are as relevant as possible in research monitoring across the University, despite variations in publication strategy and citation styles between different research fields.

Leadership and strategic renewal

Overall, the panels and the survey results indicate that the academic leadership at Uppsala University generally functions well. According to the survey results, however, there is scope for change with regard to leaders’ ability to give their researchers personal support, e.g. with regard to funding and career planning, as well as feedback on their performance. Leaders’ ability to involve researchers in strategic planning and their readiness to take charge of problems in the research environment could also be improved. Some panel reports suggest that department heads should have greater powers than is now the case. Another recurrent theme concerns whether Uppsala University is sufficiently equipped for research renewal. Some panels find that the balance between bottom-up and top-down action needs to be addressed to unleash the University’s potential, since too much dependence on bottom-up may lead to research fragmentation. There was also a call for stronger strategic thinking in all areas. This is said to be linked to several different problems that need to be addressed:

8. Create better fora for continuous discussion on strategic matters at all levels of the University, set goals and identify means of evaluating success. This includes strategies on new research themes, recruitment, career support, research infrastructure, publication strategies, internationalisation, external collaboration and outreach, multi-disciplinary research, research-teaching linkages etc.

9. Find ways to strengthen the tools available to department leaderships (and research leaders) for driving research renewal.

10. Strike a balance between bottom-up initiatives (which should indeed be encouraged) and more concerted top-down action (which sometimes needs to be strengthened).
11. Make sure resource allocation at different levels within the University releases sufficient resources for the growth of new initiatives, e.g. by dismantling older and less successful initiatives.

12. Consider reinforcing steering by incentives (e.g. for publishing, external collaboration and outreach, internationalisation, etc.).

**Talent attraction and retention**

Shortcomings in the academic recruitment process, the lack of a well-designed academic career system, and a lack of structured career support are key issues brought up in many panel reports. Many panels find that recruitment processes lack strategic thinking and are uniquely slow, and that departments seem to be insufficiently involved. They also find that international recruitment could be further strengthened, and that equal opportunities should be more actively addressed. The panels also urge the University to pay more attention to retaining promising and excellent researchers once they have been successfully recruited, e.g. by providing good conditions for research and attractive career opportunities. The conditions for junior researchers are of special concern in this regard. When it comes to PhD education, doctoral students at Uppsala University are generally considered to be of high quality and to have very good material conditions by international comparison. Problems noted in relation to PhD education mainly relate to whether PhD education has sufficient volume, a lack of mobility, and problems with too small PhD studies milieus in some areas. These problems are well known and are being dealt with in different ways within Uppsala University, as well as in Sweden generally, but there are nevertheless issues that should be addressed:

13. Find ways, within the existing regulatory framework, to develop something that de facto functions as a tenure track system, including the option of denial of tenure and exit strategies.

14. Sort out the nomenclature for academic positions, so that it harmonises as closely as possible with international standards.

15. Take action to speed up recruitment processes.

16. Consider whether departments should become more involved in recruitment processes, and how such involvement should best be organised.

17. Formulate recruitment strategies at department level, including succession planning.

18. Develop career support systems at all levels, including mentoring.

19. Consider the career options for key personnel employed as researchers (*forskare*).

20. Continue to seek ways to improve the gender balance where needed, by attending to equal opportunities in both recruitment and retention.

21. Find ways to shorten the clinical research career.
22. Create larger PhD milieus where needed, e.g. by creating research schools.
23. Encourage PhD students to spend a semester abroad during their programme.

**Internationalisation**

The panels note that researchers at Uppsala University take part extensively in international collaboration, and that the number of international staff and students is increasing at all levels. This is a positive development and a sign of the standing and attractiveness of the University, but it also poses some challenges. The language issue is one example, especially since it makes it hard for international researchers to obtain opportunities to teach. Some panels suggest that English should be the official language, while others suggest that efforts to teach international researchers Swedish should be reinforced. Further, the survey indicates some differences between how international researchers and their Swedish counterparts perceive the research environment. In order to make further progress towards making Uppsala a truly international research university, several new developments are needed:

24. Formulate strategies for further internationalisation at all levels, including the department level.
25. Move the University towards a situation where multilingual communication contributes to integrating staff and students in its activities.
26. Develop a strategy to integrate international staff fully in the running of the University, not least in leadership positions, and increase teaching opportunities for international doctoral students, post-docs and faculty.
27. Find measures to increase the (temporary) outward mobility of doctoral students, post-docs and faculty, and increase the strategic influx of visiting scholars.
28. Consider using international advisory boards to obtain broader input in discussions on research, recruitment and internationalisation strategy.
29. Undertake systematic international benchmarking at all levels as a way of strengthening research evaluation.

**External collaboration and outreach**

Both the panel reports and the survey results indicate that collaboration with wider society and outreach should be further developed in some research environments. One third of the survey respondents report that they communicate and promote research and knowledge outside the University to a large or very large extent, and one fifth that they actively work with businesses and other organisations to a similarly high degree. Panels note that incentives for outreach efforts are poor, and survey respondents find support for external collaboration and outreach relatively weak. One major external partnership is between the Domain of Medi-
cine and Pharmacy and the University Hospital. Panels call for efforts to improve this collaboration. Three recommendations are made in this area:

30. Identify untapped possibilities to strengthen the potential for research renewal, and dissemination of research results, by external collaboration and outreach.

31. Continue efforts to find ways to incentivise external collaboration and outreach.

32. Develop dialogue and relations with the University Hospital generally (including the issue of office and lab space).

Research-teaching linkages

Regarding links between research and teaching, a mixed picture emerges. Some panels find that the mutuality between research and teaching should be strengthened, and that every faculty member should do both research and teaching. There are, however, also suggestions that go in the opposite direction, towards further separation of the two tasks. However, considering the ideal that research and teaching should go hand in hand at a research university of good standing, there seems to be room for improvement. Some milieus and individuals are seen to suffer from a too heavy teaching load (and too little research time), while others have too few teaching opportunities. This is confirmed by the survey results; one fifth of the respondents do not teach at all, but among those who do, a higher proportion state that they exceed their allotted teaching quota than fall below this. Panels call especially to let international researchers teach, for the benefit of both the students of the University and the researchers themselves, who would then gain important teaching experience. Research-teaching linkages are not only about having researchers as teachers, however; they require deliberate thinking on how to integrate research and teaching. The survey shows that a third of the survey respondents find that their local research environment has such a deliberate approach to a strengthened research-teaching nexus. There are also calls to take the perceived imbalances into account when the University decides on volumes of research and teaching in different areas, either by building new teaching programmes in areas overly dominated by research, or by adding research resources in areas with heavy teaching loads. Finally, the separate budgeting processes and accounts for teaching and research are questioned. Calls for action include:

33. Consider using research and teaching budgets in a more integrated way.

34. Consider the research-teaching balance when allocating resources to faculties and departments.

35. Find ways of allowing all academic staff to do both research and teaching, although in varying proportions.

36. Consider ways of connecting teaching and research in a more profound and effective way.
Organisation and infrastructure
Organisational and infrastructural issues come up in different forms and shape in Q&R17. Some panels provide examples of organisational structures that they find hinder, rather than support, high-quality research due to their complexity. In addition, the panels suggest that cross-boundary research collaboration within the University should be used more actively to strengthen and renew research and develop multi-disciplinary exchange. With regard to infrastructure and support, less than half of the survey respondents found that their needs are substantially met with regard to the following: legal support, research support (e.g. EU project coordinators, research secretaries, application support, publications support, project support), technical laboratory support, patent and commercialisation support, support for cooperation with businesses and organisations, and career support. Some panels reported some inefficiencies with regard to IT, procurement and travel. Four recommendations are made in this area:

37. Intensify work to make use of the broad University by stimulating and removing barriers to multi-disciplinarity and cross-cutting initiatives.
38. Attend to the risk that Campus Gotland becomes a miniature replica of Uppsala, and use its unique potential for multi-disciplinarity, improve the communication infrastructure between Uppsala and Gotland.
39. Continue to strengthen concerted efforts in prioritisation and funding of infrastructure and instruments, as well as the technical support structure.
40. Investigate what lies behind the researchers’ comparatively low level of satisfaction with some infrastructure and administrative support, and make joint efforts between domains/faculties and the administration to improve support that is vital for high research quality.

Most of the issues raised above can be actively addressed at different levels within the University. In some cases, specific challenges arise due to contextual and structural conditions that are set above the university level. It should therefore be noted that in some cases, the observations, findings and recommendations made by the international peers also form recommendations that must be directed to the Swedish government:

1. In order to strengthen academic leadership and the strategic capabilities of Swedish universities, the relative size of the block grant, as a share of total public research funding for universities, must increase.
2. The government should limit the freedom of public research councils and other public authorities to demand co-funding from universities when making research grants.
3. To make a Swedish tenure track model possible, the decision to promote and give tenure to an assistant professor (biträdande universitetslektor) should be defined as a possibility for the University rather than a right of the individual.
4. Universities should have more flexibility to redistribute some money between research and teaching budgets.

Suggestions regarding follow-up of Q&R17 results and insights

It is not up to the Q&R17 project management to decide in detail how the follow-up of the project should be organised, but we nevertheless offer some advice on this as well.

Generally speaking, the responsibility to make use of the findings, conclusions and recommendations emerging from the exercise will be divided between the organisational levels of the University. Ideally, every level of the University, including the administration, will scrutinise all the recommendations with reference to its own goals and remit, and identify appropriate actions. This process has already started in some parts of the University. It is, however, important to underline that not all recommendations have to be followed – there may be good reasons not to do so – though they should be thoroughly examined.

Assessment of the recommendations also entails prioritisation between actions. The recommendations differ in importance and feasibility. Some are presumably straightforward, while others require considerable rethinking, time, probably resources and, in some cases, joint action across the University. Furthermore, some recommendations precede and are connected with others, while others may be dealt with independently. Yet others may conflict with one another. Thus, prioritisation requires careful consideration. Of the above recommendations, some will be highly relevant in some departments/faculties/domains and not at all relevant, or already attended to, in others. Once prioritised actions have been identified in relation to the specific context, action plans may be established and then implemented and followed up on in relation to pre-specified means of evaluating success.

Much of the follow-up work in relation to Q&R17 will deal with specific observations made at the level of the individual departments and clusters of departments evaluated by each panel. Needless to say, each department is expected to scrutinise the analysis and recommendations made by its panel, and consider the concrete recommendations presented. Here, the responsibility rests with the heads of departments, the department boards and/or the various collegiate bodies organised at that level.

The faculties and domains have two important roles in the follow-up of Q&R17. One is to encourage and monitor actions taken at the departmental level by organising a structured follow-up process to make sure that the departments do their follow-up thoroughly. The other role is to look self-critically at rules and procedures defined at the faculty/domain level concerning quality control and enhancement, and at the role of resource allocation in instigating renewal.
A corresponding double responsibility rests with the University Board, Vice-Chancellor and university management team. One role is to oversee that the faculties/domains fulfil their responsibilities, as detailed above. The other is to review rules, procedures and strategic measures taken at the overall university level, in order to gear them towards optimising the preconditions for high-quality research and education.

The university administration has an important task – to analyse the Q&R17 results and recommendations, and to consider in what ways it can actively support the further development of the preconditions and processes that are conducive to high-quality research.

No doubt, some ambitions will be easier to realise if all levels of the University work together in joint and coordinated efforts. In some cases, communal approaches and structured support may ease the burden on departments and faculties, and make more room for core academic matters. In discussion of the preliminary recommendations at a meeting with the University’s deans, they underscored that the further development of career paths and career support, the role and support of department heads, administrative support, infrastructure (including IT), internationalisation and bibliometrics are better solved by joint forces, at least in part. The Vice-Chancellor’s Advisory Committee on Quality identified related prioritised areas, including the strengthening of the academic leadership’s capacity for strategic renewal, clearer career paths and improved career support, and improved capability to join forces across the whole of the University when needed.

In line with panel advice, Q&R17 should also be followed up to monitor effects over the long term. There is always a risk of change not taking place in response to an evaluation, even though everyone agrees that it is needed, including those who have been evaluated. One way to maintain momentum is to keep up a collective interest in what takes place in response to Q&R17. Therefore, actions taken in the light of Q&R17 should also be followed up via existing reporting channels, e.g. in regular dialogues, annual planning and follow-up processes within the University.

In addition to regular follow-up processes, there should be collegial discussions across the University on how to approach the joint challenges that have surfaced in the Q&R17 process. Seminars and workshops could be arranged for sharing ideas and good practice within big departments, between departments and across domains and faculties. The themes might include methods that can be used to develop research strategies, how to enhance recruitment processes, various means of improving career support, how to strengthen research-teaching linkages, cross-boundary research collaborations, etc. The Vice-Chancellor’s Advisory Committee on Quality may organise cross-cutting activities across domains with the support of the Division for Quality Enhancement, the Human Resources Division and others.
The possibility of continuing the dialogue with the panels should also be considered. At the feedback session ending the panel visits in May 2017, the chairs expressed a wish for feedback on their recommendations – a continued dialogue. Such follow-up is often lacking in evaluation processes, although it is likely to push and support desired change. One way of realising this dialogue would be to invite panel chairs and ‘researchers on research’ a year from now for a continued, forward-looking dialogue. The departments may also want to use other external peers for this. Some departments plan to engage international advisory boards, which most likely would be very well equipped for this task. New peers, i.e. other than those in the Q&R17 panels, will obviously be less well informed about the context, but will on the other hand be able to add new perspectives.

In this dialogue, the department would describe if and how the recommendations have been adopted, present any other initiatives that have been taken as a result of Q&R17, and look further ahead. Such ‘mini-panels’ should also meet the faculties/domains, and finally summarise their reflections on the dialogue in a brief report. The compilation of these reports would give an overall picture of actions taken in response to Q&R17 – and their effects – and any unresolved issues. These reports would also be a source for sharing ideas and good, or promising, practice across the University. The dialogue could be repeated again at some interval if deemed valuable. This would strengthen the continuous process of quality assurance and quality enhancement of research at Uppsala University.

Final remarks

In July this year, the Swedish Higher Education Authority (Universitetskanslersämbetet, UKÄ) received a new assignment from the government. From now on, the authority will be responsible for the quality assurance of not only education, but also research at Swedish higher education institutions. This means that UKÄ will review Uppsala University’s system for quality assurance of research (as well as education) and judge whether it is trustworthy. The Q&R exercises, the action taken in response to them and the continuous follow-up that takes place between the exercises will be an important part of our answer.

Making the Q&R17 exercise as useful as possible will be a collective responsibility. It requires that everyone – from PhD students to researchers, lecturers, post-docs, professors, research leaders, department boards, department heads, domain and faculty boards, deans, vice-rectors, the administration, the Vice-Chancellor and the University Board – make the most of it individually and together. Doing so will make the University’s research even stronger, defend its position as a world-class university, and give wider society reason to trust that Uppsala University is capable of renewing and enhancing itself when needed.
1. Introductory remarks

Panel 1 reviewed the Faculty of Languages, which consists of four departments — English, Linguistics and Philology, Modern Languages and Scandinavian Languages. Each department is itself internally complex, including both linguistics and literature, and covering many languages, dialects and historical periods, for instance. We are grateful to the KoF17 team for assembling a panel that covered the remarkably broad research interests of the Faculty. Our panel worked collaboratively and our remarks reflect fundamental consensus on all points of substance.

Our reports follow the structure and format provided by KoF17, but instead of the four requested reports (one for each department), we have opted to provide five, with an introductory one highlighting the profoundly parallel situations across departments. This general report is often referred to in reports to individual departments, so we trust that this general report will be shared with all units with the ‘local’ report.

* Panel 1 consisted of Joseph Salmons (chair), Jürgen Enders (researcher on research), Jost Gippert, Saara Haapamäki, Fred Karlsson, Julie Sanders and Lars-Håkan Svensson. Throughout we use the term ‘faculty’ (lower case) for staff members and ‘Faculty’ (capitalized) for the administrative structure.
2. Observations and analysis

We found the self-evaluations very useful on the whole. Departments largely engaged constructively with the exercise. On our visit, we saw overall a top-quality research environment by international standards and the four departments are overwhelmingly working toward ‘renewal’, that is, to ensure that they stay abreast of and in the best cases ahead of current developments in their fields. Stress was placed in preparation for the visit on the importance of units showing awareness of their weaknesses and engaging with those. We were pleased that units by and large did this.

Faculty-wide, we note these major overarching points, drawing especially from the self-evaluations:

• Research in the context of teaching and administrative demands was widely noted as a problem: When these job duties compete, faculty tend to feel obligated to prioritize teaching and doing administrative work for their unit over research, with the result that research suffers. As discussed below, this is especially acute for senior lecturers, colleagues at a critical career juncture whose futures depend on research excellence but whose job description requires 80% teaching (/administrative service) vs. 20% research. There appears to be no consistent approach to internally hosted sabbaticals which introduces a further element of risk into the situation.

• There is a pattern of teaching for other faculties, for example, Education. This has been done previously without compensation for the research component of staff commitments. We understand that the Faculty is working to address this situation and we strongly second them underlining that university-oriented teaching cannot be cleanly separated from research. (We understand that the Faculty and University are limited by allocated resources in this area.)

• The relationship between research and teaching may also offer opportunities. Specifically, as discussed for some individual departments, the teaching side can open connections to research. Swedish as a Second language bridges teaching and research naturally and across departments. At the same time, innovative teaching can not only bring along new researchers, but improve the research environment generally, e.g. by bringing along young researchers better and faster.

• Echoing a point made during introductory sessions about a decline in PhD enrollments in the humanities and social sciences, concern about maintaining a ‘critical mass’ among PhD students was a theme. In some subunits and at least one whole department, the numbers of funded PhD students are so low that the situation threatens the effort to bring them along as world-class researchers. While most research in languages and linguistics is not
done in a laboratory culture to the extent that it is in many of the ‘hard’ sciences, all areas badly need to have effective cohorts, e.g. because peers provide a critical part of the research environment.

• Related to the last point, PhD education in the Faculty would benefit from a more integrative design of doctoral studies, that is, some shared coursework across especially smaller units with shared needs. For instance, many students across the Faculty will ultimately be working with digital corpora of linguistic or literary sources and an introduction to fundamentals of design, tools for analysis and so on would benefit many. (As developed below, we emphatically do not intend this as a recommendation for ‘smorgasbord courses’, onerous or irrelevant required courses, or any additional administrative structure.)

• While PhD students naturally face challenges like those already noted, across the Faculty, we were consistently impressed with the energy and motivation of the PhD students. As we trust is clear throughout the following pages and over the individual reports, they are a dynamic group and, along with a small group of outstanding post-doctoral researchers, they are leading a lot of the most exciting research innovation within the Faculty. This is, we believe, exactly as it should be, leaving the challenge to the departments and Faculty of how best to enhance and continue this through aspects of the research environment such as international networking, research seminars and coordination, career development opportunities and cross-disciplinary initiatives.

• The value of metrics as one means for assessing research excellence seems widely accepted, but there are widespread and real concerns about the value of the particular bibliometric measures employed. The ‘Norwegian list’ has proven ill-suited for most of the fields in the Faculty of Languages and even a carefully crafted ‘Swedish list’ would have limited value in some smaller, highly specialized fields, where the number of outlets may be vanishingly small, for instance. Faculty broadly understand the need for any quantitative metrics to be fully contextualized in the relevant research environment. Fundamentally, we call attention to the growing resistance to the notion of bibliometrics in general, represented in the San Francisco Declaration, https://en.m.wikipedia.org/wiki/San_Francisco_Declaration_on_Research_Assessment. Future efforts should help the Faculty contextualize bibliometrics in fair and appropriate ways. A further piece of the context is that editorial work and refereeing of books and articles, both utterly central to the peer review process and thus to the development of research in general, are not credited in these systems.
• Library resources were a regular topic of discussion. While many are generally satisfied with the library situation, some are concerned with the situation regarding electronic resources and off-campus access. This included the now ubiquitous issue of how much to invest in electronic publications versus physical copies. A number of people called for enhanced access to digital resources and databases from Early English Books Online to JSTOR and beyond. The issue of sustainability with journal e-subscriptions in a changing funding environment is pressing worldwide, including with regard to Open Access fees, and finding a good balance is a major task, especially when minor subjects are concerned.

• One issue we paid close attention to was gender equity. We were pleased that available evidence pointed to equity, broadly speaking, though English literature noted an asymmetry within their ranks that will require attention in hires in the near future.

3. Summary

Here are the broad major themes that emerged from our visit and discussions beyond those just raised that apply in important ways to the Faculty as a whole:

1. There is clearly world-class breadth and quality in terms of languages and varieties covered and approaches to them, including in many small subunits. In terms of academic life, research in the Faculty spans from much classic work in the humanities through a wide swath of social sciences and reaching in important ways into the hard sciences.

2. Organizational structures seem relatively decentralized, and this was mentioned by university leadership as a traditional characteristic of the university as a whole. For example, some subunits are structured differently within departments, and sometimes they show clear traces of earlier mergers and restructurings. Indeed, the coherence of particular units was a common theme, usually as a challenge and sometimes as one that has been turned into an opportunity. A basic question that echoes throughout our reports is this: What does and should the current administrative structure actually mean for research in the Faculty? Is it assumed, for instance, that all units within Linguistics and Philology share some mission in common that differs from what is shared in Scandinavian Languages? English Literature and Linguistics are distinct enough that their decision to submit separate self-evaluations seems well motivated to us, but where do SINAS and Celtic fit there when they do not support PhD programmes or pipelines of early career researchers? Put another way, research is largely organized along two distinct dimensions, the department (and Faculty) on the one hand, and cross-cutting collaborations on the other. It would be worthwhile to think about how those are inter-
twined and what meaning is assigned to each within the Faculty. This we see as a general issue for the whole University: What is the best organizational structure to allow both optimal research collaborations and efficient administration with appropriate roles for governance by the research community. Existing structures are, probably for good reasons, built around administrative and teaching needs rather than research needs. This underscores the need for continuing strong support for initiatives for research collaboration within and across departments.

3. Networking efforts within the Faculty and across faculties have clearly produced rich fruit, particularly with the successful LiLAe program. There is much potential for such efforts, e.g. in the broad area of language documentation/endangerment/minority languages, to be supported at an institutional/domain level to create globally recognized centres of excellence at Uppsala University. Still, in a couple of cases sketched in reports to individual departments, we see concerns about the sustainability and continuity of such efforts, including how new initiatives are best developed and brought along.

4. The hiring process is problematic, particularly in two regards. First, the speed of hires for senior positions is inordinately slow and can lead to missed opportunities to enhance research teams. In small units, some having only a single professor, a gap of several years without the post filled is devastating to the local research environment and to strategic development of areas. Second, some units expressed a strong desire for more direct involvement in hires, which could be very helpful for strategic planning.

Below, we provide a fuller, brief catalogue of strengths and weaknesses we saw and/or which were discussed in our meetings, some of these connected to points above.

3.1 Strengths

- Collaboration and connectivity
  - Strong international networks
  - Strong interdepartmental collaborations, including ad hoc initiatives from students, grassroots
  - LiLAe and other fora a great success
- Funding
  - Travel grants for lecturers, PhD students are available (1 from the Faculty, others from departments)
  - Most units comparatively rich in external funding
- Remarkable breadth within complexity of units
  - Support for continued survival of small units (subjects)
• Right to promotion as an incentive for lecturers
  – promoted professors better situated

3.2 Weaknesses
• Difficulty of understanding the role precise roles of layers of bureaucracy
  — domain vs. Faculty vs. department vs. unit — by rank and file researchers, lack of clarity and communication. Particularly unclear is the role of the disciplinary domain.
  – Where do research programs develop? Chair level?
  – Austerity on domain level
  – KAIA project is not seen as having yielded results; administrative overload in project administration
  – “Patience is necessary in this university”

• Sustainability
  – Stability of funding for planning required, infrastructure vs. external
  – long-term planning necessary (vs. annual)
  – Lack of mentoring structures

• Teaching bleeding research, especially for mid-career people (20% for senior lecturers) and especially in small units
  – teaching term too long (August > June)
  – teaching for PhD candidates is restricted to beginners’ (undergraduate) level, different from Sciences. (We simply note this difference in practice. In some cases, it can be valuable and professional important for PhD candidates to have some advanced teaching experience.)
  – having more opportunities to teach would be appreciated in career development terms
  – internally supported sabbaticals needed for all teaching personnel (at least 3 months) to finish publications, advance project applications etc.

• PhD positions:
  – More PhD positions needed
  – Uneven distribution of PhD students
  – Time required for PhD students to prepare applications for career development and employability
  – Change of supervisors may be difficult

• Administrative duties on the lecturer level: 70% teaching vs. 10% admin vs. 20% research is extremely problematic for keeping and bringing along top faculty.
  – can be compensated by research grants but administration of external projects required
• Career advancement of lecturers depending on successful (i.e. completed) PhD supervisions (replaceable by excellent record of undergraduate teaching)
  — sabbaticals needed for lecturers
  — researcher vs teacher distinction
  — missing incentives for research success
• Renting system for offices and inner-university services
  — Unusual system in terms of budget, in our experience, that units pay rent on space.
  — Lack of systematic distribution of information on calls for project applications

3.3 Recommendations

Teaching intensive workloads
• Time pressure of teaching-intensive humanities subjects was a recurrent concern. This is acute for staff at the non-professorial level, such as senior lecturers restricted to 20% research time, as already noted. Others mentioned the summer period having to be used to catch up on core research, meaning that annual leave was not taken. This is a well-being issue but also contributes to a suboptimal research context, where staff are unable to 'get a run' at projects or to spend extended time in archives, doing necessary fieldwork or data gathering. The problem will limit success and career development in long term. The sabbatical system needs to be reinstated and formalized at an internal level to ensure equitable opportunities but also a strategic approach to research careers. We noted that sabbatical was a specific challenge for very niche areas for programme delivery and difficulty of teaching backfill was hindering staff mobility on research projects, to give a key example.

• A number of staff requested a more nuanced workload management tool, though the panel is wary of recommending too complex a system, one which could become another source of bureaucratic overload in itself. Nevertheless a more substantive research allowance and the better acknowledgment of administrative/academic citizenship in the overall loads especially for earlier and even mid-career staff would be beneficial.

Recruitment hiring and retention
• A major question arose repeatedly about recruitment and hiring of full chairs, especially with regard to timeline (often a 2-3-year process, meaning major opportunities lost) and involvement of lower levels (even though the department proposes the area of focus, only the department chair attends
trial lectures, participates in interviews with applicants and is present at the meetings of the recruitment committee). Chair appointments have a major impact and legacy on success or otherwise of research groups and environments. This is particularly pressing given the looming generational turnover of senior faculty in some key areas.

• There needs to be a way to create a situation where mid-career staff can see a career development opportunity leading to promoted professorships. This will be to Uppsala’s advantage as it will mean stability, by retention of those who might otherwise move in a competitive international market or avoiding a tier of staff becoming non-research-active by default as they see no incentive in research output.

• There is a need for greater clarity about the relationship between chair appointments and promoted professors in some units. This appears to be a potential source of tension and is hindering development of teamwork and collaborative research. A clearer definition of research leadership role of all professors could be an institutional advantage as would more structured and consistent future planning across all units and teams, working from individual research plans up to institutional priorities.

Interdisciplinarity, infra- and cross-faculty working

• Interdisciplinarity is both a strength and a weakness across the Faculty. Faculty members are generally thinking in the right way, in our view, about fostering and enabling the cross- or trans-disciplinary work but some of the topics identified for centres, etc. look too top-down and do not appear to have buy-in or be gaining purchase in the departments. For example, while it came up in self-evaluations, no group mentioned Digital Humanities despite Faculty headlining this in opening presentations, and it’s not clear how developed this idea is at present beyond a lead from the Library.

• Faculty structure is an enabler but also ironically a block to collaborations across faculties – the Faculty of Languages has clear potential for projects and co-working with, to give one example, the Faculty of Arts (History, Comparative Literature, Archaeology, Music, etc.) but the links are small if they exist. Are there lost opportunities here for Uppsala University as a result? Systems, not least financial ones, seem to be a disincentive here. The ‘nodes’ that have been developed create opportunities, but these need to be nourished in ways that help researchers continue to identify new topics and themes.

• Some efforts have been made toward creating cohesion among those working on topics like language documentation, minority languages and endangered languages, but they certainly do not exploit the fact that Uppsala is
a world leader in this burgeoning area. These are areas where the kind of scholarly and scientific research happening at Uppsala can have positive social and culture impact in the Nordic countries and far beyond. Promoting and developing these areas — along with efforts in other key areas of strength like corpus work in linguistics and literature — would require ultimately modest investments and would have great rewards, in our view.

- A pressing need for many faculty and students across the Faculty is for coherent, central infrastructure for data management. This typically includes storage, some special computer needs, and access to non-local electronic assets. These are, as just noted, modest in terms of costs, and they are already needed for existing research and will become even more critical in the near future.

- The pressing need for development of agenda-setting, leading-edge research in the area of Swedish as a Second Language is likewise recognized and there is commitment to addressing it. Here too cooperation and collaboration across the Faculty and beyond could make Uppsala an internationally recognized leader. Just as with language documentation, the Faculty of Languages is well positioned to go beyond ‘cookie cutter’ notions of Swedish as a Second Language and build a program anchored in the key allied research areas, including sociolinguistics, language acquisition and Conversation Analysis. We urge the University (and indeed the national government) to commit significant new resources to this socially and politically pressing topic, not simply as a part of teaching but as an opportunity for new research excellence.

- Overall, these matters all connect in one way or another to the issue of administrative structure mentioned above. Given that some units are simply housed within larger structures for historical reasons, one way to making things work is to have robust and flexible opportunities for full and free collaboration across units within departments, across departments and beyond the Faculty.

Management tiers and rationales

- The purpose and effectiveness of the disciplinary domain is unclear to us, and it appears unclear to a number of faculty as well. It seems to introduce another tier of complexity and distances the academics from executive level decision making. Could a more agile research environment be fostered with fewer tiers or more incentive to move across domains or faculties? If, as our discussions have indicated, Uppsala could be a global hub or centre of excellence in language documentation, the natural next assumption would be link directly to ethnographers, historians, anthropologists, etc., who all
Societal impact and translational/applied aspects of research

- The external engagement/impact agenda seems to be in its very early stages. We heard a little about educational outreach from some very motivated PhDs (in English and also in German Studies) but relationships to museums or other cultural partners seemed relatively underdeveloped. This may not be as big a driver in the Swedish system as in (for example) the UK but the University may also be missing opportunities for PhDs and others to develop employability skills and competencies in broadest sense through collaborations on themes like heritage. In the Uppsala context where the importance of tradition and national responsibilities (for languages, for Scandinavian heritage, etc.) was stressed, this seems like a missing link worth exploring to take the research environment to the next level of maturity.

Short term versus long term

- The challenge of competitive vs. block grant funding was noted repeatedly throughout the process. Short term anxieties with regard to budget planning and general uncertainties are limiting longer term visions and strategic planning for research. As discussed elsewhere, nodes or themes seem to get start-up support but then may not be renewed, so turnover of ideas is quite rapid and not always sustained. A change to three-year budgeting periods was announced and welcomed – and even longer periods might be desirable.

PhD cohorts and training

- In terms of PhD studentships, almost all departments wanted and some clearly need more positions, to build critical mass in cohorts and teams. Some units are more actively seeking external funds to support such positions than others and some dissemination of best practice across the Faculty may be advisable.
- The issue of improved or enhanced research environments for the PhDs seems to us to warrant more attention – where cohorts are small there would be benefits in more enablers for meeting with students from other cognate groups. (We see LILÆ as the best example in practice of what is possible and how much it is valued and appreciated.)
- We see some value in developing some more generic modules to be shared/delivered at faculty level or above – not least on key areas like publication and bid preparation, on research ethics. This overall seemed to be an un-
derdeveloped part of the research environment at Uppsala University, surprising in view of the kinds of projects being worked and the vulnerabilities and sensitivities involved.

• If teaching load and teaching time are putting pressure on research quality, as we heard several times, this generic aspect to delivery of doctoral training would also enable a more efficient or streamlined approach by ensuring staff aren’t duplicating delivery of training modules.

• Some of the smaller areas were looking to national or regional consortia to help with this aspect of delivery and that seemed a valid move and worth supporting. This would be similar to moves to place doctoral training in regional consortia in the UK.

• The Faculty of Languages has 15 doctoral programs. We did not obtain a clear picture of an overall strategy of the Faculty of Languages as concerns doctoral education. The few programs we saw in detail were very different and there were only three common core courses: qualitative methods, quantitative methods and teaching. In the course of our discussions with the PhD students it turned out that some students were not fully aware of the offerings and doings in the other programs. Furthermore, many PhD candidates did not know candidates in other programs. An enhanced research environment would foster greater consistency of experience and opportunity for the PhD community.

• The Faculty of Languages could consider a more integrative design of doctoral studies. Topics such as philosophy and history of science, history of linguistics, research ethics, philosophy of linguistics could profitably be taught to most PhD candidates in the various programs. Such common courses would also serve the important goal of expanding the networks of individual candidates to other language families, theoretical frameworks and methodological tools than those of the program where the candidate is enrolled.

• With these ideas, we stress that the intention would be tightly focused coursework fitting the particular needs of particular students as defined from the ground up. For instance, there may well be benefit to introductions to corpus methods and analysis for a wide range of doctoral students across the Faculty, while introductions to paleography, field methods, acoustic phonetics, literary theory or theories of language change could serve more focused audiences across departments within and beyond the Faculty. Any such innovations should be developed with an eye on specific needs for cutting-edge research in the next generation and certainly need not entail additional administrative structure (as in the Graduate School model).
Library resources

- A consortia approach to library resources, not least digital, might be considered. There were recruitment issues with what was perceived to be a much reduced library budget for journal subscriptions and new purchases in niche areas, though people also cited examples of best practice, including help with Sinology searches from a Chinese language speaker in the team, embryonic thinking on databases, and a swift and positive response to new book purchases. A good interlibrary loan scheme was also noted by PhDs.

Research coordinator

- Scandinavian Languages, as part of their self-evaluation, indicated that they were actively considering the creation of a research coordinator role (in UK institutions the title of ‘director of research’ would commonly be used). This was envisaged as being a rotating post (perhaps with two or three years minimum to ensure continuity?) held by senior academics and it would have the dual advantage of providing mentorship and guidance to early career staff — the role could for example be oversight and curate/collate discussions of the individual research plan process being considered in a number of the departments we met — and also ensuring a lead for strategic and longer term visioning of research. If the post were created in all departments in the faculty there would be the added advantage of a go-to senior team for the dean and deputy dean on strategic research matters, which would perhaps enhance the stronger join-up of ideas and networks already in existence as well as the development and fostering of innovations.

- Some comments were made about the role and responsibility of programme professors or externally appointed chairs and this in the right circumstances would model research leadership at the highest level while ensuring vertical mentoring of the kind actively requested by the PhD and assistant Lecturer cohorts.

Bibliometrics

- As outlined above, the particular bibliometric measures currently used need to be significantly revised and need to be interpreted in the relevant broader context of scholarship in a given field.
4. Reflections on the similarities and differences between evaluation units within the panel – what to learn from each other?

Uppsala University has been an international leader in research in languages and linguistics basically as long as there have been university research and research universities in those areas. The Faculty of Languages and its four constituent departments continue this extraordinary tradition. The quality, in our view, remains very high overall by international standards, and the opportunities for renewal and advancement are very real, something often most visible in the energy of outstanding PhD students and post-doctoral researchers. Most of the shared challenges faced by those in the Faculty are familiar in humanities and social sciences at leading research universities worldwide today, for instance, in the pressure to maintain time and resources needed for research under very heavy teaching and local administrative obligations.

Throughout this report, we have also highlighted a number of structural challenges that all departments and subunits face in common.
Department of English

1. Introductory remarks
The present document provides detail on the English Department, treating linguistics and literature and its other units (SINAS and Celtic) together. It should be read in conjunction with the overall report on the Faculty of Languages.

2. Observations and analysis
Unusual for Swedish universities, the Uppsala Department of English has three chairs (for linguistics, English literature and American literature, respectively) as well as a professor at SINAS (a historian) and a researcher in Celtic languages. In addition, the department has 15 senior lecturers, 5 researchers, and 18 doctoral candidates (13 of whom are currently active). Though the SINAS professor and the Celtic researcher do not supervise doctoral candidates in their fields, the overall impression is that the Department of English is well staffed as a research institute.

As regards research interests, the linguistics section is particularly well known internationally in historical linguistics and corpus linguistics, but also strong across broad areas from manuscript studies to sociolinguistics and pragmatics on to second-language acquisition and English as a second language. Research in English-language literature is very diversified, ranging from Early Modern Studies to Modernist literature, African literature, and 19th-century and Contemporary American literature. A recent project involved English-language Arab literature, which connects to research interests in contemporary Arabic fiction in the Linguistics and Philology team.

There is little doubt that the breadth indicated above is supported by the abilities of the researchers in English. The department has been extremely successful recently in winning research grants, and there are plans for future ventures, involving digital literature and border-language research. The linguistics and literary sections seem equally active in this respect, and efforts are being constantly made to broaden current research areas.

Other signs too suggest that the department is a vibrant academic milieu. Several of the researchers are engaged in projects with colleagues at other departments in Sweden and elsewhere. (Indeed external connectedness seemed to be a virtue of several of the departments and groupings the panel met with.) The department has an informal exchange programme with the University of California at Berkeley, which is particularly useful for the doctoral students. The linguists
in the department form part of leading networks in their fields such as ARCHER and the Workshops on Immigrant Languages in the Americas. The department has had a string of visiting guests from abroad and from other Swedish universities in recent years (though the impact of this was less clearly fully laid out in the site visit than might have been supposed), and on a more local level the doctoral students have been active in the LILAre forum, a bottom-up initiative that has clearly been very successful and has brought the department’s students in touch with PhD candidates in other departments.

Despite all these obvious strengths there are also reasons for concern. Foremost among these is a widely shared sense that the department is not and will not be allotted an adequate and fair number of PhD positions. In fact, the likely intake is only one per year, which will be detrimental to the critical mass necessary for research excellence. A possible factor here may be that a relatively high number of PhD candidates have not finished in time and that those who are successful appear to take longer than students in other departments (the Department of Scandinavian Languages, to give an example); given the fact that 400,000 SEK is allotted to the department for each successful defence, this may lead to a downward spiral in that fewer defences directly lead to the allocation of less money. Some defences are planned for the near future, but they are unlikely to be enough to redress the situation. The lack of a sufficient number of students, completion rates notwithstanding, is crippling for the research mission of English and needs to be looked at with some urgency.

Another problem, shared with other departments, is that although some of the senior lecturers have made successful applications for research grants, it is nonetheless felt that they have too little time for research, a problem further aggravated for many years by the fact that the important contribution made by the lecturers in teacher training work in Education was not rewarded by research time. The senior lecturers are also burdened by their administrative duties. Even where that work is compensated, it serves to distract from research; these and related duties tend to fall on particular staff (a worldwide problem, it seems). To counter this, a new scheme for dividing the administrative work more evenly among staff has been devised but it is seen only as a first step, not as a real solution. More consistent workload modelling in English and the wider Faculty would be beneficial, as was noted in the self-evaluation document.

The department is in the process of implementing another attempt to help lecturers organise their research by requiring them to compose and discuss annual individual research plans (IRPs). The explicit aim, adumbrated in the self-evaluation, is to encourage them to write at least one article per year but the purpose of IRPs could be articulated as a broader tool for career development and support. On the whole this initiative was welcomed by staff and could aid strategic development and a more cohesive research environment across the departments.
The self-evaluation – the fifth in ten years for this department – deserves commendation for dealing so explicitly with some of the problems that have beset the department and it bears testimony to the department’s keen awareness of the need to plan for the future. This will involve important changes in that the three full chairs will retire in the next few years. As recruiting new professors appears to take an inordinately long time in the Uppsala University system (2-3 years, as discussed in the overall report), the department seems determined not to lose time, and advertisements for the two posts involving retirement in early 2019 are being made now. Expectations are high; the new chairs are expected to be world leaders in their field and complement and expand on existing expertise.

While finding new professors to fill the department’s three chairs will obviously be a vitally important task, those chairs cover only three of the five major areas in the department. In the faculty-wide report, we have already raised the issue of coherence of units and that is a serious one here. It is essential that the department also considers carefully its intra- and inter-departmental collaborations. The two literary sections organise joint seminars and the linguists have, in ways that seem appropriate to us, strong ties to SINAS and linguists in other units, to give two examples. That said, there was little indication of interaction of any kind across some other boundaries, e.g. between linguists and literary scholars. Within English, beyond the highly successful LILAE, there is relatively little talk of shared coursework with other departments and subjects at Uppsala. (There is, though, some degree of collaboration with other departments at other universities.) As mentioned, the PhD students seem very enthusiastic about LILAE and MODIS, but further initiatives with Modern Languages, Swedish or Comparative Literature would be most welcome. Corpus-based and other digital work would be a possible bridge there, especially in light of the great strength of English Linguistics in that area.

Much PhD research, especially in literature, seems to be on the initiative of individual students and could be supported by some simple structures such as a departmental research coordinator, also the implementation of the above-mentioned individual research plan conversations on an annual basis for this cohort. To an extent, this is happening now, but largely on an ad hoc basis. More structure and consistency of expectations for PhDs as teaching staff would be advantageous. In all respects the employability of research students should be seen as an important point of consideration in developing the research environment of Uppsala University.

Another concern was with the adequacy of Uppsala’s library resources. While suggestions for acquisitions are usually promptly acted upon, several important databases and journals are not available (a staff member in Celtic languages mentioned that JSTOR is not available, and the self-evaluation deplores the absence of the searchable full-text databases of Early English Books Online and collections
of 19th century newspapers), and the library has less money to buy books than in the past. As noted in our general report, the issue of physical versus online resources is real and rapidly changing. This needs to be addressed in an appropriate manner and will require ongoing attention.

Still, the department has devoted scholars and teachers, and it is part of a faculty that has ampler resources than other Swedish universities. Much good work is being done, and new and exciting initiatives are being taken despite the limitations sketched above. For example, much hope was being placed in a three-year guest professorship which will promote postmodern and multi-modal research, and provide important intellectual stimulus during a crucial period of transition as the present chairs prepare to retire.

3. Summary

Here are the broad major themes that emerged from our visit and discussions:

1. As already noted, the overwhelming and consistent concern about future research in the Department of English is the need for more PhD students. The current situation is not viable even in the relatively short term if there is to be vital and sustainable research in the department.

2. The organization of the department is complex and how or whether the department coheres intellectually is a challenge. The linguists in particular seem to have developed strong ties and connections beyond the department, but many further collaborations of various sorts are lacking.

3. Mentoring for students is uneven. We admire the initiative shown by students but they need further support from the department and from senior staff especially.

Below, we provide a fuller but brief listing of strengths and weaknesses we saw and/or which were discussed in our meetings, some of these connected to points above.

3.1 Strengths

- Impressive amount of external funding for an English department
- Student-led outreach in local schools, a possible model for others
- Work-in-progress seminars were clearly important in the culture: enabling knowledge transfer from senior to junior staff, one day a week
- Collaborations internal and external, especially among the linguists
  - Linguistics and SINAS (migration patterns and heritage language linguistics)
  - collaboration across universities
3.2 Weaknesses

- Division into five sections, but only three with doctoral education
  - reduction in PhD allotment
  - allocated per subject, not per professor
  - 400,000 SEK for success (within 4 years)
  - Do these issues lead to a downward spiral?
- Disconnected at the highest level compared to the PhD cohort
- Profiles of the different “sections” are really very diverse; there is lack of join up between the different parts of the department, hindering more innovative project work.
- Discussions about possible introduction of annual formalised discussions of individual research plans should be implemented for all levels of staff and in a consistent fashion.
- 9 million SEK from Faculty of Education (vs. 10 million internally) including 20% for research but no cross-Faculty strategy.
  - Changes ratio between teaching and research (see Faculty-wide report)
- Only undergraduate teaching is occurring in Celtic Studies and there is no critical mass, leaving this area vulnerable and unable to build on opportunities for more advanced resourcing, or development.

3.3 Recommendations

- There need to be more doctoral students. Critical mass in smaller areas of study needs to be created to ensure adequate resourcing and depth and to create an effective research environment for young scholars and scientists.
- We encourage the introduction and implementation of a formal mentoring scheme for all levels of staff including annual development and discussion of individual research plans. This might well include the development of a Research Coordinator role (senior academics in rotation) to enable the above and to assist with strategic research development. Mechanisms for disseminating the learning experience across the cohort should be developed.
- Assuming that coherence within the department is a goal, mechanisms for joint discussions across literature and linguistics and the other interests in English should be established. Either way, reaching out across the Faculty and beyond should be developed to encourage collaborative research. An example of this would be a course and/or network on corpus-oriented research, already a well-known strength in linguistics.
4. Reflections on the similarities and differences between evaluation units within the panel – what to learn from each other?

In some ways, one might expect the English Department to be the most coherent unit within the Faculty of Languages, but this isn't so at the present time. English Linguistics is one of the stronger areas in the whole Faculty in terms of international profile and other areas have strengths but these sometimes seem to work in relative isolation. Bridges across units in the department and/or beyond the department are needed to maximize the potential for Uppsala University.
Department of Linguistics and Philology

1. Introductory remarks
The present document provides details on the Department of Linguistics and Philology. It should be read in conjunction with the overall report on the Faculty of Languages.

2. Observations and analysis
On first glance, this department appears – and in some ways it is – the most internally diverse and complex unit within the Faculty of Languages, including a wide swath of the world’s languages past and present, and approaches from computational linguistics to literary studies and traditional philology. This is acknowledged as a challenge by the Department but there are clear and well-considered efforts to make the unit work in all its complexity, with rich inter- and intra-department collaboration and collaboration across faculties to some extent.

Noteworthy to us was the Department’s preparation for the visit, which mirrored the high participation rate in the self-evaluation survey. We were provided with extensive, clearly organized materials and almost every group we met with was ready with focused points for discussion. The inclusion of a set of poster presentations over the lunch period allowed us to see very concretely some of the many research projects going on in the department and in a team-based context which ranged from early career researchers on to Chair professors.

3. Summary
1. There is a remarkable amount of internationally recognized research happening across a set of units within this department. Department leadership and other individuals stressed the view that the best initiatives have been grass-roots, have come from the bottom up and been supported by faculty but not simply introduced from the top down.
2. The breadth of research and teaching in this department is the greatest within the Faculty. While this inevitably leads to unevenness (some areas are stronger than others for many reasons), this department has a record of real innovation within the Faculty, and is the driving force behind a set of collaborations. It has played an important role in LiLAe, as well as fostering a series of rich external collaborations.
3. Looking forward, Linguistics and Philology is the natural home for further research initiatives across and beyond the Faculty. The obvious example here would focus on the cluster of research programs in language documentation, language endangerment and minority languages. This is a prominent and burgeoning cluster of research areas worldwide and Uppsala has remarkable amounts of talent, expertise and resources, including specialists in many language areas from Sweden on literally around the world. This work connects automatically with research across the Faculty (e.g. Celtic in English, or Finno-Ugric in Modern Languages). Initiatives here could attract significant new outside funding and make the world more aware of the strengths the department and faculty already have in this realm. The amount of internationally recognized work happening at Uppsala on issues of comparative linguistics (in the sense of what languages are related to what others and in what configurations) suggests another opportunity. This is already happening with Finno-Ugric and proffers chances for collaborations not only with computer scientists but also biologists and statisticians, e.g. in applying phylogenetic methods to linguistic relatedness. In yet another important instance, Linguistics and Philology is probably not the natural leader but surely a key partner: Swedish as a Second Language. On this, see the report on Scandinavian Languages.

Below, we provide a fuller, brief catalogue of strengths and weaknesses we saw and/or which were discussed in our meetings, some of these connected to points above.

3.1 Strengths

- Successful acquisition of third party funding
  - Cosmopolitan and Vernacular Dynamics in literature, as one example
- Collaboration of Computational Linguistics in The Nordic e-Infrastructure Collaboration (NeIC)
- National responsibility for Assyriology, Hindi, Persian, Turkish, Kurdish, plus a remarkably wide range of other languages, including:
  - Swahili only in Uppsala
  - Armenian offered by Greek
- Cooperations across subjects successfully initiated
  - Ancient (/ Early) languages and cultures (with Archaeology and others)
  - “The Urban Mind” (completed) > Environmental Humanities (but sustainability / continuity is an issue)
  - Forum for South-Asian studies (with History, Economy, Peace and conflict, Theology)
  - Forum for China Studies
– Forum for Turkic Studies
– language contact, bilingualism: Turkish, Iranian, Semitic; Linguistics
– language documentation: especially with Modern Languages (Saami)
– Empirical Linguistics (Linguistics, etc.)
– translation theory (Sinology, etc.)
– Digital Philology (Computational Linguistics, Scandinavian Languages, Quill to Bytes; historians)

• External cooperations
  – Greek: AGORA (European)
  – Greek: Ars edendi project
  – Indology: European institution for South-Asian studies
  – Sinology: Silk road studies
  – Nordic Consortium acquiring Chinese databases

• Regular seminars, group meetings
  – Computational Linguistics
  – National seminar for students in Sinology

3.2 Weaknesses

• A major issue noted (and echoed in some of the points that follow) was long-term instability in the budget, which hinders, sometimes significantly, research planning. As noted in our general report, this is a problem that reaches far beyond any single department.

• Vacancies in minor subjects were open for too long. Again, this appears to be a broader problem, not restricted to this department.

• Uneven personnel structure
  – mid-level staff missing in some key areas (Turkology, Latin, Assyriology)
  – compensation for guest scholars needed

• Additional support needed for PhD students
  – no real programs that create coherence within the PhD community, only some courses, but it would be possible to engage staff on the departmental level to offer courses which could benefit PhD students across language subjects.
  – Organizational support for PhD students is not transparently offered / organized
  – courses in statistics missing, which could be offered by the Faculty
  – information on how to access to funds needs be provided
  – communication channels must be activated
  – Faculty introduction day required to build community and collaboration
• There is a need for funding to support new PhD students
  — Number of PhD students increasing only via external funding
  — Once students are funded, the ‘backpack’ of support for travel, research
    and networking strikes us as strong and valuable.
• Computational Linguistics prefer being part of Faculty of Languages, but
  this means less infrastructure than they would enjoy with the Informatics
  Faculty.
  — Former national Graduate School in Language Technology no longer ex-
  ists
• Library acquisition problematic
  — The library strategies for acquisition of e-books was seen as inadequate
  — Remote access problematic
  — No fixed sums allotted

3.3 Recommendations
• We urge the department to pursue new initiatives to solidify and further
  develop Linguistics and Philology’s existing strengths in, most notably, mi-
  nority languages / endangered languages / language documentation. This
  has enough potential impact that we hope the Faculty and higher admin-
  istration would be willing to support the effort. (See also our report for
  Scandinavian Languages on Swedish as a Second Language.)
• Our panel discussed at some length, with Linguistics and Philology and
  among ourselves, the possible benefits of some shared coursework for PhD
  students. Almost no single course would be advisable for all doctoral stu-
  dents in the department, but large groups would benefit from coursework
  in, for instance, research methods and ethics, linguistic and/or philological
  theory, or issues of linguistic computing. This could be potentially especial-
  ly valuable for students in smaller units to ensure strong networks where
  there are shared interests and needs. (See our general report for similar
  suggestions to the Faculty as a whole.)
• Like other departments, there is a need for some administrative relief and
  budget stability. On the former point, like in many or most research univer-
  sities worldwide, routine administrative work is being pushed onto depart-
  ments and even subunits, taking already limited time from research (and
  teaching). On the latter, we saw in this department more than anywhere
  else the serious consequences of having small units without a professor (for
  example) for periods of several years.
4. Reflections on the similarities and differences between evaluation units within the panel – what to learn from each other?

This is a tremendously complex operation but from all we could see it is broadly successful. From our discussions across the department we take seriously the view from within the department that this reflects the negotiation of achieving balance along key parameters, like these:

- Maintaining departmental coherence but with much decentralization, allowing lots of grassroots innovation, though it may occasionally carry some risk of fragmentation.

- Maintaining traditional areas and pushing innovation at the same time. That so many successful initiatives have come from the department where Latin, Greek and Sanskrit are housed is notable though the join-up here is not always fully realized, notably between Latin and Greek.

- The major hindrances for Linguistics and Philology are familiar from other departments: lack of stable, longer term budgeting and the demands of administrative work that keep faculty from researching (and teaching). A particular problem consists in the duration of vacancies of professorships – in one-professor subjects, this obviously requires special attention.
Department of Modern Languages

1. Introductory remarks
The present document provides detail on the Department of Modern Languages. It should be read in conjunction with the overall report on the Faculty of Languages.

2. Observations and analysis
This department, the result of mergers in 2004, has still not coalesced into a single, coherent department. The department expressly saw the self-evaluation as an opportunity for valuable “self-reflection” on the transition from being four distinct units to one, especially in terms of research. The basic message we got was that the department is slowly feeling its way forward toward becoming a coherent body but that has not yet been achieved. There is not, for instance, an explicit common research strategy within the department.

This reflects the general question we raised in our Faculty-wide report, namely to what extent departments are expected or required to be coherent research units, as opposed to administrative units which allow diverse and even minimally connected research programs. Is there or can there be a single unified PhD program within this administrative configuration? At times, that seemed to be a tacit assumption here, but in other departments, sub-units seem to function in relatively decentralized and independent ways.

Take the example of Finno-Ugric, an area that teaches some national standard languages (Finnish, Estonian, and Hungarian) but is ultimately committed at least in large part to research devoted to minority and endangered languages, whether Saami or Meänkieli. This situation and these research interests have little or no tradition parallel to those well established for the German, Romance, and Slavic languages. Indeed, the projects and potential projects from Finno-Ugric align far better with Linguistics and Philology than with those other units in Modern Languages. And they also have strong collaborations there in phylogenetics and linguistic subgrouping. Note that we are not suggesting that Finno-Ugric move to Linguistics and Philology; rather we are asking whether the optimal arrangement for Finno-Ugric at Uppsala might consist of an administrative home in Modern Languages and very strong collaboration and coordination with relevant groups in Linguistics and Philology. If there is an initiative in the Faculty on minority and endangered languages, for instance, Finno-Ugric should be a major partner in that effort.
3. Summary

Here are the broad major themes that emerged from our visit and discussions beyond those just raised:

1. A particular challenge to a unified research program and profile here may well be that there are longstanding and nation-state oriented research traditions in German(ic), Romance and Slavic, so that these units may not be as malleable locally as others given the need to work within traditional disciplinary constructs and traditions.

2. The teaching missions of the units in Modern Languages seem especially successful, e.g. in having very robust online course offerings and areas where the numbers of applicants vastly outnumber available spaces, with 5 or 6 to 1 ratios for Polish and Finnish. While the faculty in Modern Languages are largely linguists or literary scholars, the teaching side present opportunities for connections to new research angles, given interest not only in understanding how to teach online language courses successfully but also how to bring along young researchers in literature and linguistics of the languages under study. This speaks to a concern expressed about connecting and integrating teaching and research.

Below, we provide a fuller but brief listing of strengths and weaknesses we saw and/or which were discussed in our meetings, some of these connected to points above.

3.1 Strengths

- Promising plan for distributing 3-4 available PhD-positions per year across the Department
- Cooperation with other departments
  - in supervising dissertations
  - Phylogenetic investigations into Saami and other Uralic languages
  - Language documentation project envisaged in coop with Turkic, Iranian
  - “World literatures” (Romance: doctoral and MA course, under prep.)
  - MODIS (Modern Languages, Discourse, Interaction)
  - Valentin Centre (Slavic > History)
  - Centre for Russian Studies
  - Forum for German Studies
  - Translation theory
- Cooperations beyond Uppsala
  - Stockholm University (Historical Linguistics)
  - Double degree MA with Bochum (German)
• Successful instantiation of distance (online) teaching (esp. Polish, Finnish)
  — central admission service exists
• Teaching export
  — Interpreters’ Academy (Armed Forces; Slavic)
• National responsibility for Albanian, Bosnian, Croatian, Estonian, Finnish and Serbian
  — Minority languages in Sweden
  — Albanian covered in teaching
• Doctoral association functioning
  — Support forum rather than research-oriented

3.2 Weaknesses
• Recruitment of PhD students
  — Swedish required for PhD applicants
• More postdoc positions required
  — missing postdoc strategy ("rare and temporary")
  — PhDs have to go abroad
• Library support
  — has no specialist for Slavic languages
  — otherwise "fantastic"

3.3 Recommendations
• In some way — we cannot possibly recommend exactly how — the department needs to develop and implement a unified research strategy or adopt the position that they are not a coherent whole (just as English and Linguistics and Philology are not coherent wholes) and treat the structure as an administrative one, not an intellectual or research one. The robust and exciting collaborations with other departments within and beyond the Faculty of Languages suggest that the second strategy may be the emerging one and, if that is the case, it would benefit from acknowledgement and strategic coordination. One step toward that might well be creating a research coordinator as discussed in the Faculty-wide report.
• Most generally, we recommend that the department move beyond the 2004 merger to develop a future-facing vision. Key energy was visible here in the student Board and some dynamic post-docs bought in through external funding. There is energy here to connect and to be strategic that in some ways can set the pace for the department. The department’s faculty and students have internal examples of best practice to build on and harness, and it may suggest that Faculty or university money would be best spent on enhancing critical mass at the postdoc level in this department.
4. Reflections on the similarities and differences between evaluation units within the panel – what to learn from each other?

In some areas of linguistics today, a common research theme is using the past to understand the present and the present to understand the past. In this department, far more than any other, we see the past informing and even shaping the present, in the sense that long gone administrative boundaries still seem to play a role in the department. The department is clearly successful as a set of research units and also as teaching units. In this report, we have outlined possible ways to move beyond the past and we hope that the future will see continued development of current strengths and development of new ones.
Department of Scandinavian Languages

1. Introductory remarks
The present document provides detail on the Department of Scandinavian Languages. It should be read in conjunction with the overall report on the Faculty of Languages.

2. Observations and analysis
The Department of Scandinavian Languages is particularly well known for historical linguistics, broadly speaking, and increasingly for sociolinguistics. Especially in historical linguistics, these strengths appear unique in Sweden and possibly across the Nordic countries. Beyond that, it covers a broad range of approaches to Nordic languages. Still, by some measures, this Department is the most homogenous within the Faculty of Languages — the languages taught here make up the North Germanic branch of Germanic, relatively closely related with much shared language history. Unlike the other three departments, it contains only linguists (and philologists), not literary scholars.

The major theme we saw emerge from discussion was an effort to negotiate a balance between tradition and innovation. While other units are wrestling with this, the stakes are particularly high here, as sketched below, with a clear concern to continue existing research in the traditions of excellence in historical linguistics broadly balanced against a need to expand and develop strength in Swedish as a Second Language. This issue seemed to us particularly acute with regard to the study of place names and of runes / runic inscriptions, where continuation of those areas was expressed as a concern. While these are real challenges, we saw a department aware of the situation and eager to engage in solving the challenges it faces.

This report gives somewhat more attention to teaching than some other reports, reflecting the content and direction of our meetings and discussions.
3. Summary
Here are the broad major themes that emerged from our visit and discussions beyond those just raised:

1. There is general recognition that the department needs staff and students to engage with Swedish as a Second Language as a research topic as well as a teaching need. Like none other we saw on our visit and in our reading, this issue reaches beyond the academy to pressing social and political matters, as Sweden continues to open its doors and arms to refugees and immigrants who need, among other things, to learn the national language and culture. This cannot become a wholesale reorientation but rather needs to be additive — a development of new strengths but without losing focus on existing strengths. Such an effort will really require significant new funding, ultimately best from the national government rather than merely from within the university.

2. As already noted and as discussed further below, this need is balanced against a concern for the protection of important traditional areas like onomastics and runology.

3. There was much discussion from the department about the existing seminar culture, and we see these as extending to general collaboration and engagement.

4. The department raised serious questions about bibliometrics, in particular whether currently used measures can possibly capture research excellence in the fields of study found in the department. See our Faculty-wide report for our understanding of this problem and possible reactions to it.

5. Below, we provide a fuller but brief listing of strengths and weaknesses we saw and/or which were discussed in our meetings, some of these connected to points above.

3.1 Strengths

- Very strong external funding
- Strategic group for research established
  - There is discussion of a research coordinator role and we encourage its development.
- Breadth, including the desire to continue Onomastics and Runology
  - but vulnerable and can lead to a defensiveness about structures and processes that inhibit innovation
- Cooperations
  - bilingualism to be developed together with Linguistics and Philology
  - Network language and learning
  - MODIS (> Modern Languages, Discourse and Interaction)
  - Syntax seminar with Stockholm
• Data sessions with Linguistics and Philology
• Swedish National Heritage Board (external)

• Teaching
  • Native speakers teaching for all Scandinavian languages.
  • “Language workshop” (university-wide)
  • Department performs national tests in Swedish (also 2nd language)

3.2 Weaknesses

• Most teaching-intensive of the departments we saw
• Limited internal and external collaborations, including shared courses which would benefit students
• Efforts necessary to establish Swedish as a second language
  — vs. Stockholm Centre for bilingualism
  — vs. Gothenburg program
• Academic culture needs development, as seen by discussions surrounding the seminars vs. colloquia
  — Two seminars, one in Onomastics
  — In seminars too hierarchical, with too many senior folks, not enough PhD students
  — Discussion atmosphere not critical enough while colloquia are more critical
• Staff recruitment and succession planning problem
  — members retiring within 10 years

3.3 Recommendations

• The largest issue facing the Department of Scandinavian Languages is the need to ramp up Swedish as a Second Language in both teaching and research contexts. This has its most obvious implications for teaching in the short term, but it also brings real potential payoffs for research, especially if it is (1) fully contextualized in issues of culture and language acquisition, for instance, and (2) implemented in express collaboration with relevant colleagues in other departments and faculties.
• Closely related to this is the need to maintain some of the more specialized research areas, notably runology and onomastics. These carry on traditions long understood as important in the Nordic countries and they are areas developing new energy today. We understand both runology and onomastics as important parts of Uppsala’s research profile and as valuable areas and ones that deserve to be continued in the future.
• In line with what the department expressed in their self-evaluation, we recommend the development of a research coordinator role (filled by a senior academic, with some kind of rotation) to assist with mentoring of early career researchers and to enhance strategic thinking.

• There would be great value in rethinking of current mode of research seminar delivery to develop a more collaborative research environment in which early career researchers and senior staff receive constructive feedback on work in progress.

4. Reflections on the similarities and differences between evaluation units within the panel – what to learn from each other?

The near future may pose the greatest challenges and offer the greatest opportunities to Scandinavian Languages. Developing and integrating Swedish as a Second Language in terms of both teaching and research is the heart of the matter, especially doing so without losing or compromising existing strengths. Challenges of such balance reach farther, e.g. to historical versus modern, theoretical approaches to linguistics. Again, as we noted above, the department is well aware of these issues and working to resolve them.
1. Introductory remarks

During the week in Uppsala, we had meetings with 7 departments, as well as an eighth meeting with representatives from Campus Gotland. The majority of the departments belonged to the Faculty of Arts, but we also met with Sociology from the Faculty of Social Sciences. According to the organizing committee no other panel had as many departments as Panel 2, which meant that there was little time for anything other than interviews. Most of the planning of the organization and distribution of the work was done on the first day. Generally, the person with the best knowledge of the disciplines in question would lead the conversation, but all other panel members were of course encouraged to join the conversation, and almost always did. The panel chair managed the interactions with the representatives from Gotland. Another panel member took copious notes during all conversations, which were then shared with all members of the panel on Google Docs. This became our common working document all through the week. Since we had relatively little time to write between the interview sessions this document was crucial for the progress of the panel. Mostly, the material we had received beforehand, together with the interviews with different groups at each department, proved sufficient for the panel to form a comprehensive picture of what is going on. However, the panel members missed a more systematic engagement with earlier KoFs, since that would have given us an interesting starting point for evaluating the work that has been done in the meantime. The only
department that offered this kind of internal benchmarking was Sociology, and in this case it helped us a lot in understanding the complete – and indeed very impressive – make-over this department had gone through since the last KoF. Finally, we would like to mention our host and facilitator, who not only managed to guide us through our packed days with ease and generosity, but also was an invaluable source of information about Uppsala University. This would have been a much weaker report without her.

Before we move on to discuss our findings regarding the single departments, we would like to make a few more general observations. In general, the departments that were assigned to us, all expressed a strong feeling of living in a period of transition, or indeed, with the term selected for this evaluation exercise: renewal. The old and venerable institution of Uppsala University, still characterized by a certain conservatism when it comes to the organization of research, is about to change into a higher education institution for a new age. For this purpose the University has created a plethora of new matrices, on top of the old discipline and department structures. Their names can be different, nodes, clusters, centers, forums, even domains, and they might differ enormously in size, scope, and structure, but they perform more or less the same function: namely to facilitate the transition from an old and traditional university, organized according to an order of knowledge which emerged in the 17th and 18th centuries, to a flexible and dynamic institution able to deal with the changing knowledge needs of society. The panel warmly supports this ambition, but feels that there is risk that many of the initiatives will never bear fruit, if there isn’t a more sustained engagement from the Faculty and the University. Many departments are left to their own devices in finding their way into a more post-disciplinary, integrated, problem-oriented university. At worst these initiatives come across as unsystematic, randomly selected, and evaluated in an opaque manner, thus leaving the units more fragmented and with a lacking sense of direction. Mechanisms for self-evaluation and -correction are not yet in place, which could serve as support for the heads of the department and management staff in their attempts to reform and change the departments to adapt to new knowledge demands and needs. Only in this way can Uppsala University become the frontrunner in restructuring or empowering its research programs in the humanities and social science as it wants to be.

Without proper leadership at all organizational levels there is a risk that the proliferation of structures and units will become a problem, rather than a resource, since they demand different kinds of attention from management on all levels. That again means that Uppsala University is about to develop a wide range of units, in various shapes and sizes, with different tasks and people, which are treated in different ways. Depending on where you are based in the structure of the University, you will have different possibilities, but also different preconditions for both research and teaching: there are cores and peripheries, and there
are people and kinds of scholarship that are at the top and the bottom of a more or less visible hierarchy.

This risk of fragmentation is amplified by the fact that Uppsala University in fact has several campuses, and the departments evaluated include two, one in Uppsala and one on Gotland, which were merged in 2013 and are still struggling to figure out how to work together across these distances. The last introductory comment also has to do with this complexity, which indeed has changed leadership at University (or faculty or department) level into a much more time-consuming and complex job than it used to be. The Heads of Department who have taken this new challenge seriously, are generally much more successful in their jobs than those who are more reluctant to adapt to this new situation, thinking that we can retain early 19th century models of university organization and hierarchies. But this also means that the position of department manager has become a lot more demanding, to an extent that it hardly can be expected that incoming Heads of Department will have the competence and know-how to deal with all the challenges involved in this job. How these candidates are selected and what kind of training they are offered after having taken up their management position, are question that needs to be addressed soon rather than later. The times when the University could afford to think of leadership as inconsequential, at best, and a necessary evil, at worst, have definitely passed and are not returning anytime soon. Instead Uppsala University – like many old and venerable research institutions across Europe – is facing the challenge of achieving renewal through good planning but without the self-defeating top-downism and audit culture that is causing so many problems in other academic contexts. Instead of excessive managerialism, this panel will speak up for sensible and supportive leadership in tandem with a resourceful collegiate.

Finally, in our last introductory remark the panel wants to highlight the effects of internationalization and even globalization: Part of the move into the 21st century involves the general question of how the university can adapt to English-speaking work (and also incoming faculty) at both research and teaching levels, without sidelining the use of Swedish. In the following report there will be many examples of how the historical use of Swedish as academic language is being challenged by the obligation to recruit the most talented researchers on all levels, who will not, indeed, who should not, always have Swedish as their mother tongue. Nevertheless, Uppsala University, in spite of its global aspirations, is a Swedish university, financed by Swedish money and with obligation toward the Swedish public, both students and citizens. This means that it would be irresponsible to abandon Swedish as an academic language completely. To strike the right balance between national and global interests will be one of the great near-future challenges for everyone working at Uppsala University.
Department of Musicology

1. Introductory Remarks

Department of Musicology is a small, monodisciplinary unit with a teaching focus on historical musicology and a research focus on music in early modern Europe. The department invested much energy in a failed merger with the history department, but has nonetheless undergone an impressive development over the past years, from being mainly a teaching-oriented unit to becoming an internationally renowned milieu for research into early modern music. The department comes forward as a well-functioning research environment with high quality PhD candidates and an active higher seminar. As per today most staff members are working within the main research area, but most often they also have secondary fields, such as, for example, vocal performance or popular music. The PhD students’ work ranges from Middle Eastern music to post-war Swedish popular music.

The department is characterised by an open and friendly research atmosphere where critical thinking and scholarly exchange are encouraged. This means that the department is in a favourable position for further development. The next step is to broaden the research interests, attract more external funding and become more active and visible on the international research arena.

2. Observations and analysis

Strategy and vision: The department states that their vision is to develop and expand their already strong research environment for early modern European music. Accordingly, their present strategy is to consolidate and strengthen this profile. In addition, they work to expand their research activity into new areas (this was suggested by the previous KoF evaluation panel). Given that the department’s research milieu for early modern music is strong, with a high research output in terms of publications and a network of international scholars, it seems logical to continue to strengthen this research area and work towards a larger grant application to national and/or international funding bodies. The second aspect of the strategy, that is, the aim of broadening the research profile to also include new fields, seems highly appropriate as well. The department is small and having teaching capacity in other fields than early modern music is key to
avoiding to develop into a very specialised milieu with limited ability to educate students with a competence of relevance to the society at large. At present, however, the expansion into new fields comes forward as quite incoherent and not resulting from a well-thought-out strategy. Generally, the profile of the research activities that fall outside of the department’s main area, seems to be largely directed by the research interests of the best qualified PhD candidates. This might be good for providing fresh perspectives on existing research, but might not be as effective as to establishing a second field of gravity in the research profile of the department. It is also unclear what role the two staff members in permanent positions that do not fall within the main research area (early modern music), will play in the strategic development of new research fields. One was recruited in 2014 but has been director of studies and thus had little time for research. The second of these new staff members was recruited very recently (August 2016).

Recruitment and collaboration: The recruitment strategy for PhDs has been open calls and the quality and merits of the applicants have been decisive. This has obviously lead to highly qualified PhD candidates, but as noted above they work in very different fields. The PhDs have normally one main supervisor from the department and a secondary supervisor at a different institution. The generic aspects of the PhDs’ work are taken care of by the main supervisor. In some cases, the main supervisor has a secondary research interest that matches the profile of the PhD project, but generally the more specialised competence needed for each project is covered by a co-supervisor from a different institution. These secondary supervisors represent an important network for the department.

There seems to be a great willingness to recruit also permanent staff within new research areas. However, as of today there exists no plan for this expansion into new territory. Likewise, there seems to be little systematic consideration regarding possible future cross-border collaboration. Given the gender imbalance of the permanent staff of the department and, one might add, European musicology in general (most senior researchers are male), we also call for a reflection on the ways in which opening up activity in various directions might affect or not affect the gender imbalance of the department.

A challenge when recruiting permanent staff is that the room for strategic decisions at the departmental level is somewhat limited. One solution to this problem could be to let external reviewers make a shortlist of highly qualified candidates without ranking them, and then leave the final decision to a second committee with a mandate to take the research strategy and needs of the department into consideration. Many Finnish universities practice this system and recent developments in the procedures for recruitment of permanent staff at the Faculty of Humanities at the University of Oslo point in the same direction.
Funding: The department aims at doubling the amount of external funding and works toward a larger grant application anchored in the main research area. However, in order to be able to expand and attract funding in the long run it seems necessary to steer toward establishing a second strong research environment that also has the potential to attract external funding.

Leadership and academic culture: The PhD students express great satisfaction with their situation despite the fact that there is often little expertise in their respective fields within the department. The use of secondary supervisors at other national and international institutions to compensate this situation seems to work well. Generally, the academic culture of the department comes forward as open and friendly. The research leadership has by and large been conducted by the chair professor. The general survey indicates that the sense of responsibility to “group-wise issues” is low compared to other departments (although the result is not alarming). This situation has probably historical reasons since the department up to very recently was even smaller than it is today. Because the department is so small, almost all staff members are members of the department board and thus have an arena for influencing important decisions. However, as the department expands it is important to make sure that there is a forum where all staff members can air their opinions about departmental issues. Generally, there is a need for involving more people in strategic considerations and decision-making.

Publication: The department is productive, but could achieve better when it comes to publications in highly ranked international journals. The general survey shows that the department scores relatively low on the indicator “I think that my main research environment places great importance on publications in highly ranked national and international journals” compared to other units. The transition from publishing mainly in Swedish to publishing mainly in English has been going on for several decades, but most of these publications are in international anthologies and volumes rather than in top-ranked journals. The need for publications in highly ranked international journals should be taken into consideration in the strategic development of the department.

Research-teaching linkages: The department scores low on this indicator in the survey, but is not very concerned about this in the self-evaluation. However, it is a potential weakness that the department focuses so much on one research area. Establishing more research-teaching linkages is therefore yet another argument for broadening the research profile.
3. Summary

3.1 Strengths

- strong environment for research into music in early modern Europe
- inclusive, open and friendly academic culture, room for discussion and critical thinking
- strong PhD candidates with international networks

3.2 Weaknesses

- most research activities concentrated in one area
- little collaboration across thematic and disciplinary borders
- relatively weak on external funding and publications in highly ranked international journals

3.3 Recommendations

- Continue to strengthen the primary research area and work toward a major grant application to national and/or international funding bodies
- Develop a plan for building up a second strong research area comprising both permanent positions (more than one) and PhDs. Resources in existing permanent positions, potential for future cross-border collaboration, and gender issues should be taken into consideration
- Consider establishing some form of incentive to encourage publication in highly-ranked international journals such as, for example, reduced teaching load or extra support for operating costs
- Develop a more formalised structure for research leadership through, for example, establishing a research committee or having regular staff meetings on research strategies, grant applications/plans for external funding, publication strategies etc.
Department of Game Design

1. Introductory remarks
Any discussion of the Department of Game Design need to be taken in the context of our more general discussion of the state of the Gotland campus. We saw a strong possibility for the development of Game Design, but largely in the context of closer ties with the main campus (through ALM and Computer Science) and through exploring the possibility of making Gotland a true magnet for transdisciplinary research – where Game Design, which already bridges many disciplines could play a central role: both recommendations would entail significant costs and risks may be simply unrealistic. For example, the issue of summer housing for researchers and students in Gotland – when it is a most attractive destination and faculty from other departments would have time to commit – would need to be addressed. The research vision document that the Department produced is thoughtful and expansive, but largely unimplementable in its current form.

2. Observations and analysis
The Panel was most impressed by the work that is being done in Game Design. There was evidently both a high degree of collegiality and a desire to turn this into a consistent vision – though it must be said that the research vision document provided sketched a whole domain (very well) and demonstrated a laudably cooperative department rather than providing any sense of focus. We were observing a department in formation, one which has not reached critical mass in two key ways: having sufficient faculty to lead a signature research agenda; and having a pipeline of Masters and PhD students to provide long-term viability. For Game Design to be viable in the long term, new senior hires need to be made.

Game design is an emergent field which has rather practical roots – it is just now internationally trying to isolate its core epistemological and ontological commitments and questions. We recommend that the Department remain grounded in their hands-on approach while exploring these options.

Steady state will not work for this Department. Our druthers were to suggest that the Department be scaled up significantly and turned into a central plank for making Gotland a magnet campus.
3. Summary
Overall, we were most impressed with the commitment and vision offered by the faculty; we could not see how these could be further developed without significant new University level funding.

3.1 Strengths
- Highly collegial department with a strong desire to work together
- Self awareness around the need to create a research vision
- A field of research with rapid international growth

3.2 Weaknesses
- Geographical isolation with limited prospects for improvement
- Lack of a career path line for students
- Need to grow in order to become a viable Department

3.3 Recommendations
- Hire a major external figure who can act as a funding magnet and to provide research vision
- Build stronger (not service) links with other Departments in the University
- Decide on a single vision for the Department – it cannot be all things
- The University should make a significant investment in this Department
1. Introductory remarks

The program at the Department of ALM brings together perspectives from Archival studies, Information studies, and Museum and Heritage studies. By its nature, this is a highly interdisciplinary field – and one which has undergone fundamental changes over the past 30 years as developments in computing have changed the nature of record-keeping, librarianship and museology. In parallel with this move, the nature of the research environment has changed – it has moved internationally from concentrating on professional training to developing a research focus. This has, in ALM related departments throughout the world, been a difficult period of growth and change.

2. Observations and analysis

This Department has made some fine moves to respond to these changes. The integration of teaching at the Masters level across the three wings of the department is clearly a good move: as the job market has changed, a more common set of skills has emerged across the three areas. The ALM department retains a strong and laudable commitment to professional education. Although it is a relatively small department, it has great range as well as depth.

A central dilemma that came out during our visit was that there is a commitment both to an internationalization of research, which involved large-scale collaborative grants, and to meeting the need to train professionals. This has been in issue for similar schools worldwide over the past 30 years. Successful departments – such as the iSchools (Information Schools) in Berkeley, Michigan and Syracuse – have devoted their efforts to building a strong research profile at the expense of their traditional ‘bread and butter’ programs devoted to training early professionals to receive the credentials needed for their future work in libraries, archives or museums. The background of this has been a much less robust job market in both Archives and (traditional) Librarianship. There is no simple response to the challenge of both needing teachers who can cover the basic courses and investigators who can build the research profile. However, there is a real sense of urgency here: the Department must receive the support necessary to scale its research
profile and to develop a strong vision for the future. It is addressing central issues in information use and management that cannot be/is not covered by Computer Science Departments (for example, there is a greatly increasing need for education and research in social, political and cultural dimension of the use of data science).

Fortunately, ALM is very well placed to address the emergent issues. It is a highly collegial and supportive Department – this extends to researchers at all levels. The commitment to gender equality is clear – something we did not experience in every Department we looked at. Support for PhD students is excellent. It is commendable that ALM PhD students have one supervisor in Lund – and that this arrangement is reciprocal. This both leverages the resources of the two Schools and provides a fertile ground for future cooperation. It is good to see that other such linkages are being actively pursued.

While we did recognize and applaud the commitment to pluralism, there is sense of fragmentation in the department – with researchers tending to work independently or with external colleagues. There are great opportunities in the field, however, which might call for a more unified approach – in the United States, the iSchools which survived the widespread closure of library and information science schools in the 1980s have grown and prospered through a difficult process of integration and specialization. It must be recognized, though, that in some cases this has led to over-specialization. In order to adapt to changing funding priorities, similar schools in many countries have had to strengthen their research core. This inevitably means deciding collectively on a signature research direction for the department as a whole.

While this could be a period of great growth for the department, the self-evaluation is not optimistic on this front. Further, the Department sees limited hiring opportunities in the immediate future, which makes it difficult to develop a career pipeline for PhD students.

Research in the department is thriving through smaller scale grants, with a robust support infrastructure for grant development, including application seminars and when possible time off for faculty to develop grants. This latter is an excellent initiative – it is extremely difficult to find time to write applications.

However, the Panel did feel concern about the degree of separation between faculty in the department. It is also notable that many survey respondents did not see a commitment in the Department to conduct world class research; further, it was noted in the self-evaluation that there was not a commitment to publishing in international journals. While we are sympathetic to the desire to maintain current publishing practices – since much of the research is conducted with local institutions in a specifically Swedish context – it does seem unusual not to use metrics for research evaluation which would favor publishing in high-ranked, international journals.

One specific area for growth which came up a few times was in the field of Digital Humanities (we choose this as one example, not necessarily a recommen-
dation) – which traverses the three parts of the department – but there seems to be little appetite for any large scale research moves which might make ALM a core part of the intellectual life of the campus, despite the fact that the issues that it is grappling with are widely relevant across the human, social and natural sciences. While it was rightly pointed out that Digital Humanities was an interest in many departments, ALM could be a natural nexus for it. Vital questions of how to store, access and maintain digital artefacts from frequently transient digital environments are at play; the Norwegian and Swedish Digital Museum is indicative of the potential museological dimension. We are happy to see that there is a move to develop a Digital Humanities laboratory and organize a Masters. These service initiatives in themselves do not go far enough.

Further, there has been some reluctance on the part of the Department to consider positioning itself internationally in a more focused manner. While the Department can continue to operate at a steady state – it is, after all, doing a very fine job – the Panel felt that it could actively explore more large scale research opportunities. We sensed little movement towards working on large EU grants, even though some support is available for developing grants. We recognize that this might involve a significant financial commitment. Similarly, there has been little integration into campus-wide research initiatives: there was some engagement with the Nodes but this did seem limited. While we are sympathetic to the expressed concern for more forward notice about initiatives to give time to prepare, the Department might consider developing practices to allow for a more nimble approach to emerging opportunities.

This would involve both more focused leadership from above and a groundswell of enthusiasm for collaborative, cross-university research. While respecting the need for faculty autonomy, this needs not conflict with the choice of one or two major initiatives to position the department nationally and internationally. This leadership could be given direction by a series of seminars (or preferably one or two day retreats) over the next few years to explore possibilities: however at the end of the day this will involve giving the Department Chair a core role in shaping the vision. In a similar situation in the United States, sometimes central administration will open a search for a leading researcher in the field to come in as Chair, with a strong remit (and appropriate faculty lines) to grow a research vision. Given the opportunities that exist, there is the potential for the faculty to grow significantly over the next ten years. The ALM could be a strong research presence across campus through collaborative ventures, if it were given sufficient resources at the University level. Given the increasing importance of ALM research, this would seem to be an opportune moment for such investment.

While there is excellent cross-campus cooperation, it would be interesting to further explore connections with Computer Science and with Game Design. ALM is a traditionally Humanities discipline that can play well with others across

campus. Indeed, many natural science departments are wrestling with issues of data access and storage that are well suited to ALM. The central issue here is how the Department can retain its own, separate, research profile while collaborating more widely.

3. Summary

The ALM Department is making great efforts to accommodate the radically changing world of archives, libraries and museums – a world in which each of these three institutions is underdoing thoroughgoing change. The question is how to do this with each of the multiple commitments the department espouses – to building a research profile, to providing professional training and to being a cross-campus resource. The Department should decide on a single, boundary spanning area for research and teaching, such as the digital humanities; and should be receive sufficient investment from the University to make this possible. This is a time when the Department could be reaching for the stars; there is currently a feeling deadlock, of being trapped in a difficult situation with respect to teaching and research.

3.1 Strengths

• High collegiality
• Supportive environment
• Synergy with other Scandinavian University with respect to teaching
• Excellent attention to gender balance
• Integrative teaching
• Commitment to pluralism
• Excellent attention to formation of PhD students

3.2 Weaknesses

• Need for more central role for research leadership
• Lack of research focus
• Difficulty dealing with the conflict between professional teaching needs and research direction
• Current inability to grasp emergent collaborative opportunities

3.3 Recommendations

• The University should provide more resources to the Department so that it can collaborate on central initiatives – for example the digital humanities
• The Department should develop a strategy for being more nimble in a rapidly changing environment
1. Introductory Remarks
This is a vibrant and highly research-active department, with a high international as well as national reputation. In recent years, growth has been promoted both by new hires and by incorporating Ethnologists from the former University of Gotland. One recent hire has been a directly appointed Distinguished University Professor of Anthropology—a signal of the Department’s ambition and ability to attract high-profile scholars. Apart from managing the location of activities at two campuses, the Department also brings together two disciplines, Cultural Anthropology and Ethnology, which have separate histories but considerable potential for complementarities of method and focus, not least around the use and promotion of ethnography as a research tool.

2. Observations and Analysis
These complex structural demarcations of the Department, alongside its different strategies for growth, are complemented and cross-cut by a number of research clusters that are flexible, adaptable, and strategic in their constitution, oriented around activities that produce a ‘multicore’ research environment where projects/networks reflect different sets of research interests, allow for overlapping memberships and also in some cases incorporate connections with scholars beyond the Department. These research clusters draw on different funding resources and are constructed at different scales. Both the Forum for Africa Studies and the Engaging Vulnerability Programme maintain a high international profile as well as a home for doctoral and post-doctoral researchers. These are well-established research clusters and have a specific mandate to work beyond the department. Sustainable Visits (Hållbara Besök) takes advantage of the Department’s presence on Campus Gotland and focuses on tourism, while other groups explore urban–rural issues, racism, and conflict is also active in faculty-wide research nodes. Meanwhile, the Institute for Pentecostal Studies is a research resource available to scholars worldwide, as well as the location for a journal and a host for international conferences.
The relatively large number of research clusters is a reflection of a dynamic research environment and has various advantageous features: it allows for multi-disciplinary contacts to be made, provides a degree of identity, training and networking for research students, and also makes the Department less vulnerable if any one cluster were to cease to exist. One disadvantage of maintaining such groups is the high amount of administrative effort that is required, exacerbated at times by difficulties of administrative coordination beyond the departmental level, for instance in making financial transfers between research units that are collaborating in research. The multi-level and multi-core research organization also presents challenges for departmental leadership, in part because multiple managers are involved, and in part because decision-making at a departmental level must filter through research clusters of different size and organization. More generally, we support the point made in the self-evaluation report that IT and administrative support for research groups is key, and an investment at Faculty and University level that should pay for itself in terms of efficiency, morale, and motivation of staff.

The departmental linkage of Cultural Anthropology with Ethnology, which has been in place since 1996, provides economies of scale and gives the Department a distinct profile. Clear differences between the two disciplines exist, which produce challenges that were also evident in KoF 2011, but which are also playing into more recent questions of organization and strategy, such as the relationship between the Uppsala and Gotland campuses, different pools of recruitment for students, researchers, and permanent faculty, and the departmental response to the Internationalization agenda of the University. At the moment, the separation of campuses also maps on to a separation of disciplines, in the sense that Ethnology and not Anthropology is taught at Gotland. An important initial point to make is that these challenges are largely recognized and made visible in the Department’s self-evaluation: they are long-standing, but have not been ignored. One of the salient issues regarding research is Cultural Anthropology’s default use of English in publishing, and Ethnology’s tendency to use Swedish. This distinction in language-use expresses and reinforces different patterns in the location of publications, and may also have an effect on communication between doctoral students in some research seminar contexts. An issue relating to teaching is whether, and in what form, Anthropology classes/field trips might occur on Gotland.

A number of broader responses are possible to the complex juxtaposition of Cultural Anthropology with Ethnology. For instance, it is important not to assume that difference is inherently problematic: in certain contexts, researchers and students of the two disciplines need to retain distinct identities, not least in providing enough specialized training to permit doctoral students to display
appropriate forms of expertise on the job market. Furthermore, maintaining a
degree of difference allows the Department precisely to emphasize the distinct-
iveness of its profile: as a teaching and research context that can take advantage
of the historical expertise of ethnology and the comparative orientation of an-
thropology.

At the same time, it is clear that the Department is taking action to explore
ways in which the two disciplines might be brought more closely together, for
instance in a redesigned Masters programme. In addition, the two disciplines
are represented at the Joint Research Seminar that meets fortnightly. The rela-
tively new Engaging Vulnerability programme, while headed by a Cultural An-
thropologist, includes an Ethnology PhD researcher. An open question at this
stage is whether the Cultural Anthropology and Ethnology relationship might
be developed more in relation to certain areas of cooperation or collaboration at
the research level. As noted both disciplines have strong ethnographic compo-
nents, raising the question of whether the Department might argue in teaching
or research contexts that it can represent or carry out ethnographic research in
a multi-faceted way, drawing on expertise in both research traditions. In addi-
tion, there appear to be common thematic interests in migration, racism, and
material culture—topics that also resonate with research activities beyond the
Department. While Cultural Anthropology at Uppsala has historically tended to
work away from Sweden, and Ethnology has often focused more on research at
the national level, in practice so-called anthropology ‘at home’ is nowadays quite
common, while Ethnology itself may incorporate a comparative dimension. Both
disciplines have the capacity to provide a powerful academic voice in more pub-
lic debates in Sweden. More practically and specifically, one question is whether
at least some Ethnological publications can be published in both English and
Swedish, thus potentially increasing both readership and impact. Some journals
or edited volumes, for instance are willing, with due acknowledgement, to pub-
lish papers that have appeared in a context that is not considered to compete
with the subsequent publication.

A further specific point about language relates not to the Swedish to Eng-
lish issue, but to the question of whether and how English-speaking research-
ers and faculty members should be moving towards competency in Swedish. If
the University and Department emphasize the need to internationalize not just
networks and research projects, but also students and staff, the question of lan-
guage competence is likely to become increasingly significant. Clearly, work has
already been done on this issue, including for instance the provision of classes at
University level, and the assumption that teaching in Swedish is not expected for
the first two years of taking up a post. However, the question remains of how to
explicitly highlight and assess the impact of lack of Swedish knowledge on the
experience of doctoral researchers, as well as on teaching staff. More generally, especially in the context of a Department that wishes to expand and to bring in the best scholars possible, it might be useful to set up a mentoring scheme for incoming staff, which can both help the person concerned, and gather information about recurring structural problems that can be addressed. These are issues that have also been raised in the self-evaluation report, and the suggestion in that report that faculty club arrangements could be strengthened seems both sensible and strategic. A more developed mentoring scheme, explicitly divorced from assessments for promotion, and involving perhaps no more than one meeting a year unless more are requested, might also be used to address the question of academic networking; for instance a more experienced or ‘networked’ staff member might be twinned with someone wishing to develop networks. In some instances, it might also be productive to have mentors and mentees that cross the Cultural Anthropology and Ethnology divide, to increase mutual knowledge and internal departmental networking.

A further question relating to departmental integration relates to the role of the Research Seminar. This is an important activity within the Department, although it clearly competes with the wealth of other seminars available in the Department and University. In the light of gendered differences revealed by survey data on the perception of the openness of the seminar to all voices, it would seem helpful to continue to monitor such responses, for instance through an annual survey. The key questions seem to revolve around the encouragement of female but also more junior members of the Department to feel comfortable in joining in questioning and discussion.

3. Summary

3.1 Strengths

• The Department is clearly a national and international leader in its fields, with an impressive array of contacts and networks within and beyond Scandinavia.
• The diversity and range of students and scholars visiting and working at the Department.
• The self-evaluation report indicates an understanding of many of the challenges facing the Department.
• The research clusters indicate a very high level of activity as well as aiding in producing vertical and horizontal integration within the Department.
3.2 Weaknesses

- Integration of new staff could be developed further.
- Lack of clear and systematic in-house professional training for PhD students.
- Research clusters depend on individual leadership of scholars, and thus are vulnerable to a member of staff leaving, retiring, etc.
- More cooperation or discussion between Cultural Anthropologists and Ethnologists at a research level might be developed.
- The effectiveness of the Research Seminar, its ability to encourage all researchers, and its openness for all voices, are not clear, as revealed by the survey and self-evaluation.

3.3 Recommendations

- Strengthening internal integration of new staff, and development of a realistic strategy in terms of teaching in Swedish for members of staff coming from abroad.
- Monitoring of the quality of courses taken by doctoral students away from the University, by maintaining internal records of feedback from relevant students.
- Developing professional training for PhD students further (e.g. regarding publication, conference presentation, job markets)
- Encouraging cross-cutting integration and information exchange within the Department, for instance through establishing a simple mentoring scheme.
- Exploring further opportunities to develop courses cross-cutting the Uppsala and Gotland campuses.
- Monitoring the effectiveness of the Research Seminar.
1. Introductory Remarks
The Department of Sociology received rather critical reviews in the K0F07 and the K0F11. It was assessed as being too strongly captured by local recruitment, too little dynamic and productive in its research and as lacking a promising research strategy. The evaluation takes these two critical reviews as a starting point to reflect on the progress made up until now. The panel appreciates the detailed description and critical self-reflection of the steps taken so far in order to improve the department’s research quality and its power of renewal. There is a clear and pronounced statement regarding the goals to be attained as laid down in a strategic five-year plan for the years from 2013 to 2018, and of 5 to 10 years in the longer run. The goals set for the years 2013 to 2018 include recruiting internationally renowned staff, increasing external funding, and achieving higher quality of publications in leading journals and publishing houses. The plan is aimed at doubling external research grants and reaching the world’s top 50 sociology departments within 10 years. Discussions with the head of the department, the leading researchers, the researchers, and the doctoral students presented a group of highly energetic people in the department’s leadership, a group of dynamic young researchers on the Ph.D. level, and a group of researchers on the medium level doing their best to support the department’s strategy to raise the research performance.

2. Observations and Analysis
Looking at the Q&R17 research environment survey of Uppsala University the Department of Sociology scores among the highest ranks in a number of factors among all 52 evaluation units, a fact that can be regarded as describing major aspects of an inspiring research environment. Accounting for 40 respondents out of 48 staff – of which 38 are research staff – the return rate also mirrors a well working department with a highly positive climate of collaboration. With regard to the importance ascribed to publications in highly ranked journals, the department is No. 5 among the 52 evaluation units; with regard to active quality management for the development of research activities, it is also No. 5; with regard to stimulating scientific reasoning and critical thinking, it is No. 4; with regard to an open, permissive and lively discussion climate in the seminars, it is No. 11;
with regard to the opportunity to conduct good research, it is No. 8; with regard to the long-term development of research, it is No. 13. Nevertheless, the department’s members are pretty self-critical to find space for further improvement when they see their international position still lower than the larger part of the university’s departments. With regard to item no. 33 of the survey whether they regard their department as internationally leading the ranking position is 35. The link of teaching and research is also a major task, which requires improvement in the eyes of the department members (rank 34).

The discussion with the department’s research staff was focused on the doctoral training and research, the research profile and research strategy, recruitment, funding, international outreach and publication strategy.

*PhD students and PhD program*

The discussion with the doctoral students right at the beginning of the meeting presented an enormously energetic and forward-looking sample of young researchers, who seemed highly satisfied with their program and the advice and feedback given to them for developing their research skills and writing their dissertation. They underlined how happy they are being hired as a group, a cohort, which is a great asset for integrating the department. The revised program for the first year, focused more directly on the first steps of academic socialization, met with great appreciation among the students. They undergo a thorough training in theory, qualitative and quantitative methods. The traditional imbalance in favor of qualitative methods has been reduced successfully in the wake of the appointment of Professor Mäkinen. The department is encouraged to go ahead in this direction, because quantitative skills have become increasingly important in sociology on the international level.

*Recruitment strategy*

The department’s recruitment strategy has shifted clearly from the old promotional system favoring local careers towards a tenure track system involving open internationally outreaching competition for new positions from the Ph.D. level and the post-doc researcher and senior lecturer levels right through to the professorships. The department stresses inward and outward mobility very much. This strategy has led to an enormous renewal of staff on all levels. Seven out of 13 new appointments for permanent positions made since 2012 have come from outside Uppsala, and in part even from outside the country. Incoming new professors have brought along an enormous amount of energy for driving the department towards a considerable improvement of its research quality and potential for renewal. The panel appreciates this achievement very much and wants to encourage the department to continue along this promising track. The appointments of the professorships in social work and in work, organization and economy will be
important next steps that will hopefully be made in the immediate future. It is most important that these hirings fit into the current very positive development of the department and do not disrupt ongoing work.

Research profile and international outreach

As regards the research profile, the department has established three research groups to be better focused and to improve collaboration, mutual stimulation and feedback internally and, also, to be more visible externally. The panel’s impression is that this strategy has helped a lot to improve the backdrop for doing research and to promote the development of ideas, project applications for grants and publications. The department is encouraged to proceed along this track, yet also to look for ways of closer collaboration in joint projects and publications. This seems to be working best in the Economic Sociology Lab, which has a research agenda shared by all members of the group. It works in a dynamically growing research field and is part of a strong international network of leading scholars in the field. The two other groups – Culture Matters and Welfare and Life Course – are both internally more loosely organized. The Welfare and Life course group is very large in size and may need to split up into smaller units that focus on a joint, internationally outreaching and networked research agenda. The existing Social Gerontology group might be one of these smaller and more focused groups. The appointment of the professors for social work and work, organization and economy should be the appropriate time to tackle this problem. The reorganization of this group should be of first importance for providing an inspiring research environment which would also enhance research activities of the staff which is predominantly engaged in teaching so far. Building a vivid research environment focusing perhaps on aging, work life and disabilities would also help to establish a strong research profile in social work with the recruitment of the new professor. This is particularly important in the Swedish context and would need systematic linkages to leading environments in the Nordics and beyond. The Culture Matters group includes a number of interesting topics, of which the research on the relationship of humans and animals is most remarkable and unique. The panel thinks that cultural sociology is an important field and should be a major part of the department’s research profile. The group is encouraged to move ahead one step further to find a joint research agenda that is inspiring for a number of projects and involves an international outreach with international networks. There is, for example, a well-established network centered at the Sociology Department at Yale University with Ron Eyerman, previously working in Uppsala. Other interesting partners would be at Goldsmith’s College and King’s College in London and at Lancaster University. Building international networks can be best promoted as natural activity of the research groups and should aim at reaching out to the best researchers in a field that is livelier than formal rela-
tionships on the institutional level. Such a strategy will, as a rule, imply links to “high ranking” departments. Though the research groups have helped quite a lot to focus the department’s research on common topics and to develop an inspiring environment, forcing researchers to commit themselves exclusively to one of these groups would involve too much organization of research with a negative effect on creativity. Also, there should be sufficient space for research that does not fit in one of the existing groups.

Funding and career development
The department receives about half of its research budget from external grants and aims at enhancing external funding to be more productive. Developing ideas and research questions and transforming first proposals into promising applications proceeds primarily within the research groups. It might be helpful to establish a seminar, which is focused on these skills across the research groups. Looking for funding strategically for joint projects within the research groups and looking for cooperation partners outside the department and also outside the university could enhance chances to obtain higher funds. The panel understands, however, that the department wants to settle its transformation process before it reaches out for larger collaboration networks aimed at large-scale funding. Nevertheless, writing applications will be another major skill demanded of young researchers in their post doc career phase. In order to promote the development of these skills, it could be helpful to hold regular workshops devoted to writing applications where the post docs can learn from successful applications and can give feedback to each other’s drafts. These workshops should also include the systematic training of developing promising and feasible research questions. The workshops could be part of the department’s activities, which are directed to career development. Establishing a mentoring system would also contribute to career development. The panel thinks that career development should be a departmental activity. The researchers contribute to enhancing the department’s research and can expect the department to assume responsibility in promoting their own career. The panel also recommends strongly encouraging PhD students to spend time abroad, because this is of major importance for broadening their horizon, to build networks and to get new feedback and inspiration for their projects. Time abroad will strengthen their research and networking skills, which also helps to promote their further career beyond the PhD phase. The department could establish grants devoted to supporting stays abroad. As the department reaches out internationally, it has to be aware that PhD students coming from abroad should not feel excluded. In as much as they are affected by administrative decisions, it is appropriate to discuss administrative matters in English.
Publication strategy
The department aims decisively at publishing with leading international journals and publishers. So far, it has been fairly successful in this respect, but there is still some way to go, as the department states in its self-evaluation. It has established an incentive system, which is very much approved by the panel. It is also acknowledged that the department’s publication record is not only based on the sheer number of publications on first rank in the faculty of social sciences, but also holds a respectable position in publications according to levels 1 and 2 of the Norwegian list and in the WoS list as far as the publications are counted per research staff or research money. The department provided a more elaborate and detailed bibliometric analysis on this question, which was very helpful. The panel encourages the department to proceed along the chosen track. It also recommends putting special emphasis on the development of research questions starting with problems established in specific research fields and of research questions addressing major problems of society and societal change.

3. Summary
3.1 Strengths
To sum up, the following strengths are pointed out:

• Critical self-reflection
• Enormous renewal through new recruitments of energetic researchers on all levels since the last evaluation
• Competitive recruitments on all levels of staff with international outreach
• Lively seminar culture furthering critical reasoning
• Focused research profile with three research groups
• Commitment to high quality publications
• Ambitious goals regarding recruitments, funding and publications

3.2 Weaknesses
The department has learned from KOF07 and KOF11 and has made considerable steps of improvement in the right direction. It is well aware that it has still some way to go in order to attain its ambitious goals. This includes efforts with regard to

• International networking
• Successful international recruitments
• Extended funding
• More high-standing publications
• Better integration of teaching and research
- Furthering of incoming and outgoing mobility
- Departmental responsibility for career development
- Overcoming constraints coming from the university administration as regards recruitments based on too strict implementation of labour law
- Getting more freedom in defining the profile of positions of senior lecturers and professors.

3.3 Recommendations
- Go ahead consistently in the chosen direction
- Be ambitious as regards recruitments
- Establish a mentoring system for career development
- Establish workshops on grant applications on the departmental level
Department of Art History

1. Introductory Remarks

The Art History department is in a process of transition. Since 2007 the staff has tripled in size, first through the inclusion of Textile Studies, then through the merger with Gotland University in 2013. Since then, the department as a whole and especially the management has been working hard to integrate the department, looking for and finding synergies and overlaps, with some success. This has been a highly complex process, since it includes three strong and clearly demarcated disciplines, Art History, Textile Studies and Conservation, but also two campuses. These disciplines have quite different traditions in the way they think about research: Whereas Textile Studies traditionally works closely with stakeholders outside the university and are used to publishing their findings in Swedish, directed to their Swedish users, Art History is a more traditional academic discipline with a broad field of research topics, of a more or less international scope, and research agendas. Conservation Studies, finally, based entirely on Gotland, comes out of a tradition of applied research and are leading in many of their more practical fields, but seems to feel that they need a PhD-program before they can come into their own in terms of research. It goes without saying that the work to integrate these three disciplines with their very different research traditions and needs is not an easy task. The panel has great respect for the work that has been going into this process from management and staff alike. But obviously, such a transition leaves its marks and there is still a lot of work to do.

2. Observations and analysis

Until now and for good reasons, the integration process at the Art History department has been focusing mainly on teaching, whereas research has been left more to the individual researcher according to a model described by the department management as either “bottom-up” or “let thousand flowers bloom”. In and by itself there is nothing wrong with this strategy, and there will – and should – always be a large degree of individual freedom in research. But it seems that the Art history department has arrived at a point where a more sustained and active form of leadership is needed, to help the staff progress in their work as scholars and researchers. Management should build on the successful work done in the teaching area and find ways of applying it to research, as well.
There is great potential for the Art History department to become world-leading in many of the fields that it covers, in all three disciplines. Both Conservation and Textile Studies are unique in Sweden, whereas Art History itself has developed research groups that have potential of taking leading positions in their fields, such as Sacred Heritage and Medieval Art. This is obviously a good thing and a great strength. However, for these very reasons, there is also a certain tension between the strategies and the work to develop and strengthen each discipline, and the strategies and work to develop and strengthen the department as a whole. This tension is increased by the fact that the disciplines in part have different, even slightly conflicting ambitions: Conservation wants a PhD-program, whereas Textile Studies is looking for sustained engagement with other partners and stake-holders inside and outside the university – and Art History is looking to consolidate and develop specific areas into world-leading research fields. The challenge consists in giving room to these different strategies as well as adjusting them to each other – “making the work horses pull in the same directions”, as the department chair put it. In the opinion of the panel, one of the greatest resource for bringing the department forward, as well as the singular disciplines, is the very impressive and interesting group of PhDs, which is less concerned with disciplinary borders and more focused on building the department as a whole. A lot of the energy needed to pull off this transition will come from here, if they are just allowed to. Hence, to develop a common PhD-program for the department as a whole, in which PhD-students from the different disciplines bring their research interests, theories and methods to the table, and are offered seminars on transdisciplinary topics, should be a high priority.

An additional difficulty that the departmental management needs to deal with – which came clearly across in the survey – is that many of the faculty members have come to the rather despondent conclusion that they will never get any time to do research anyway, because they are completely caught up in teaching and administration. To turn this around, both psychologically and administratively, is clearly a management task, though not an easy one.

The panel recognizes four areas where more visible leadership and a management strategy is needed:

1. Time management: As already mentioned many of the permanent staff feel that they are trapped in a vicious circle they cannot get out, in spite of the fact that they adhere to the same regulations for time management as scholars all over Sweden (70+20+10). The little time they have for research in their job description is eaten up by teaching and administration. To get more time for research, in terms of buy-outs from teaching, they need to obtain external funding, in other words, research grants. But they feel that they have no time
to write the applications to get these grants, because of the same pressure from teaching and administration. To counter this rather fatalistic tendency, the department management needs to intervene to help the individual researcher to actually protect the little research time he or she has and use it meaningfully, for instance by planning and writing grant application or working on publications. Based on the interviews and the survey, the panel would like to stress that this kind of time management cannot be left to the single researcher. The department management needs to find ways of using the resources of the department, both human and financial, to help researchers get the most out of their research time: for example by offering help in writing grant applications, or developing publication strategies. This might even be a task for the Higher Seminar. Another way to proceed could be to offer some form of ‘seed money’, which can be used strategically to help single researchers or research groups to develop project applications, by inviting guest or hiring outside readers. The panel is aware that the Art History department has limited financial possibilities at the moment and would thus encourage the faculty to give some financial aid to realize this plan.

2. Gender: The challenge of time management and protecting research time clearly intersects with the challenge of gender equality. A recurring topic both in the survey and in the interactions with the panel was the way the male members of the department were better at protecting their research time than the female, who generally seem to feel a stronger obligation to common tasks like teaching and administrative duties. It should be added that is by no means an issue at this department only, but can be found in several departments across the faculty. The gendered aspect of this challenge just underscores why this is not something that can be left to the researchers alone, but is a leadership and a management issue.

3. In a more general, and indeed less tangible, way a task of management appears to be to change the opinion in large parts of the department that research is something completely different from what many of the members think of as their day-to-day activity. Indeed, this is something that is often seen in departments with a heavy teaching load: Due to a prolonged and consistent feeling that it is impossible to ever get around to do research, the activity of research itself, let alone the results, turns into an almost transcendent and even utopian thing. Looking at the quantitative data, there is obviously much great research going on at the Art History department. It is something the members of the department are already doing, although to a changing degrees depending on position and gender, not something they may be will return to in a distant future. This is an attitude which the management needs to imbue in all members of the department.
4. Finally, as mentioned earlier, there is clearly a tension between developing the Art History department and developing the different, and indeed quite diverse disciplines within that department. From the perspective of the panel it is quite clear that scholars should do research in the disciplines, in order to develop the disciplines, work with colleagues and partners outside the university etc. However, what is also quite clear is that in order to free more time to do research, streamline grant application development processes, and create a more vibrant and integrated research environment, the department needs to come closer together across the disciplines, and play on the strengths of the people who are already there. The Art History department at Uppsala has a unique constellation of different fields of knowledge and should work at finding the best ways of profiting from that situation to create new knowledge and building the department.

3. Summary

3.1 Strengths

- The department combines three strongly developed disciplines, which have great potential of working together and making the department distinctive in an international context.
- Because of the broad spectrum of disciplines and research interests the department has many and promising connections with other departments and faculties, even outside the domain of Arts and Humanities, not least at Campus Gotland.
- The department has come far in integrating education, and is well placed to do the same in research.

3.2 Weaknesses

- Because of the three disciplines and the two campuses the department comes across as rather fragmented, at least as far as research is concerned.
- There is a frustration in the department that there seems to be little or no time to do research, or even to develop grant application in order to buy out that kind of time.
- The department suffers from a gender imbalance when it comes to the distribution of tasks and responsibilities.
- The department has some members working at Campus Gotland who feel more or less cut off from the rest of the department.
3.3 Recommendations
As already mentioned, the general recommendation from the panel is that the management involves itself more in developing the department as a functioning research unit, and also that the entire department is more involved in strategic thinking regarding research. The panel would recommend four possible ways of doing that, partly drawing on what seems to have been successful at other departments:

- Revitalize the Higher Seminar as a place where the staff can pool their resources come together around publications, grant applications, PhD-students etc. Senior staff needs to be more engaged. There should be more planning going into the seminar, and measures should be taken to increase participation. All the most successful departments this panel has been looking have a strong Higher Seminar with broad participation from junior and senior faculty.

- The panel sees much promise in the plans for a Research Strategy Group. However, to be successful, it needs to be developed into a real organ of leadership, in the sense of a representative body invested with the authority to make decision about the allocation of research funds. The first task should be to identify the research the department is already doing.

- The management could approach one of the departments who have been through similar processes with success (from our portfolio Sociology comes to mind) to learn more about what kind of role departmental leadership can play.

- Better communication between Uppsala and Gotland. Partly this is a question for the department management, but it is also a resource question and should thus be directed to the faculty: More resources are definitely needed, both for regular travel, back and forth, between Uppsala and Gotland, and for better video link equipment, making other forms of dialogue possible.
1. Introductory Remarks
The Department of Archaeology and Ancient History is a large (60 staff members) and dynamic unit which encompasses teaching and research in archaeology, classical archaeology, ancient history, Egyptology and osteology. Staff members are located both in Uppsala and Campus Gotland (osteology and aDNA research), and the department is working very proactively and successfully to integrate staff across both locales. The panel was impressed by the positive level of engagement of staff at all levels in the evaluation process, which included a series of full departmental meetings and follow-up discussion sessions. Numerous examples of good practice in the department could serve as models for enhancing quality and renewal elsewhere in the Faculty of Arts and the University more generally.

2. Observations and Analysis
Aims, strategies and vision/research profile and internationalisation
The department has very ambitious goals for itself in terms of enhancing its international reputation through the quality of research, recruitment, and research income generation. Four broad research objectives inform strategy, three of which emphasise enhancing international reputation in all areas and a fourth stressing leadership in the development of digital humanities which also reflects a Faculty-level goal. In support of these broad goals are existent international networks which include collaborative research projects, linkages with international institutes, and a series of educational exchange agreements (eg ERASMUS).

Staff members conduct research around the globe, with particular foci including Scandinavia, the Classical world, east and southern Africa, Egypt and the Pacific. Staffing is uneven in terms of association with these particular foci: for example, while Egyptology has long been a component of the Department, it is currently represented by two individuals. Tying these diverse regions together is expertise in landscape analysis (especially linked to the in-house GIS unit); ancient DNA analysis; the integration of written and material sources; and a shared commitment to ethical practice and capacity building particularly relating to engagement with indigenous communities.
The Department has noted its intention to further expand through research in China, Japan, and South America. The success of these expansion initiatives will lie in the ability of the Department to link geographically diverse research together through clearly stated emphasis on shared approaches such as ethical, engaged practice and capacity building.

The Department recognizes the challenge of maintaining a coherent vision and set of practices given the diversity of research foci. To help give direction and cohesion, the Department has recently introduced seven research clusters (Critical Heritage Studies; Cult; Global Historical Archaeology; Material Culture, Cultural Diversity and Identity; Monuments and Monumentality; Urban Societies; and War, Conflict and Force). Staff members at all levels expressed enthusiasm about the clusters, and many are members of more than one. It is clear that the clusters emerged from existing interests and informal collaborations across the department, rather than being artificially constructed and imposed.

Recruitment Strategy
The department has identified priority and medium term needs for staffing, beginning with enhancing capacity in Egyptology with a professorial appointment and appointments in Scandinavian prehistory and Classical Archaeology/Ancient History. It is clear that the department looks internationally in its recruitment exercises as underscored by recent appointments. There is a gender imbalance in the department, particularly at the senior level. While this cannot be entirely solved through recruitment, it should be an important consideration in future recruitment exercises. In the self-evaluation document, the Department also noted challenges relating to the Swedish recruitment system and its dependence upon external assessors who may be unfamiliar with the strategic aims of the Department. While this is a matter that cannot be entirely resolved at unit or institutional level, the Department is encouraged to be proactive in the recruitment process; for example ensuring that job descriptions clearly align with strategic aims and in selecting and presenting appropriate candidates to external assessors. Another issue that is common across all of the departments evaluated is a need for a more formalised system of induction and support for internationally recruited staff to facilitate integration in to the Swedish academic system and culture more generally.

Research leadership
The Department recognised in 2015 a lack of a coherent research leadership structure, notwithstanding the evident success of the department in its acquisition of research funds and strong (QS top 100) international reputation. As a result, the seven research clusters were developed and plans set out for a centralised research committee to help to direct and support research initiatives. The inten-
tion for this research committee, as highlighted in the self-evaluation document and further considered in the staff meetings, is that it be drawn from across all levels in the Department. This committee would take responsibility for organising and implementing a more formal structure for encouraging research funding applications and overseeing strategic research priorities, plans, and activities. We strongly support the creation of such a committee with a broad composition of staff members.

**Academic culture**
The Department exhibits a very strong and positive academic culture as reflected through the serious way in which the self-evaluation was conducted and as evident in all of the panel meetings with staff. This provides a very useful foundation upon which to build further good practice. The department recognised concerns expressed by staff over career progression and mentoring, doctoral training opportunities, and gender equity, and expressed commitment both in the self-evaluation report and in meetings to addressing these challenges. The evident culture of openness and collegiality will contribute measurably to these improvements. Attention should be paid to ensuring gender parity through fostering and maintaining an equal discussion culture. It should also be noted that the Department operates a successful higher seminar series as well as a wide range of activities (eg workshops, conferences and public events) that place an emphasis upon external engagement.

**Career development**
Both the survey and discussions with staff members identified concerns over career progression and development for junior staff. In recognition of these concerns, the Department has proposed setting up a system of both formal mentoring of junior staff as well as five-year research plans. These initiatives should be encouraged and will help to structure development as well as support the Department’s broader research strategy and goals. Postdoctoral staff also expresses concern over access to teaching opportunities. As a key area for career development, opportunities for gaining teaching experience should also be factored into the five year planning and mentoring systems.

**Funding**
The Department has been very successful in attracting quality research funding for research, but has nonetheless identified both the potential and need for increasing EU grant capture (European Research Council and Horizon 2020). Staff members indicate a strong informal culture of support, but expressed a shared desire for a more structured support system. The introduction of a formal Research Committee as well as enhanced mentoring and five-year research plans
are important steps towards increasing research funding capacity and success. There is an imbalance in achievement between Uppsala based staff and Campus Gotland based staff that the Department links to the different contracts in place for staff members (eg. much higher teaching loads at Campus Gotland). The Department is considering actions including adjusting balances in contracts to support Campus Gotland staff in particular.

**Publication Strategy**

As is common for the disciplines of archaeology and ancient history, staff members publish in a variety of formats, from sole author monographs to multiple authored scientific journal articles. The self-evaluation report notes a rise in the number of publications arising from international collaborations, reflective of the global profile enjoyed and encouraged by the department. An emphasis on encouraging Open Access publishing is noted, with a suggestion that funding be provided to assist staff members (especially junior staff) to publish in this format. This is an issue for the University more broadly.

**Campus Gotland**

The panel was very impressed by the successful and proactive efforts by the department to fully integrate Campus Gotland into all activities of the department as a whole. The research specialities represented by Campus Gotland (aDNA, osteology, Island archaeology and the Pacific) clearly enhance and complement the strengths of Uppsala-based staff, and there is very good evidence for collaborative teaching and research. Additionally, the extensive historical and archaeological resources present on the island have been acknowledged by the Department as an important if underutilised asset. The department has committed funds to ensuring that staff exchanges take place across both locales, and crucially not only to bring Campus Gotland staff to Uppsala, but the reverse. The panel noted the imbalance in institutional support for such exchanges, with finance only provided to bring Gotland staff to Uppsala and not the reverse. It is clear that the success demonstrated by the Department’s approach to integration rests firmly on the ability for everyone to move between locales. However, it clearly is a strain on the Department’s finances, just as the limited technical infrastructure for teleconferencing also negatively impacts on integration activities. Additionally, the limited availability of housing on Gotland constrains the desire of the Department to build stronger educational and research links and to capitalise upon the potential of the heritage assets on the island. This is a broader issue to be addressed by the University. The integrated academic culture developed by the Department of Archaeology and Ancient History is a clear demonstration that it is possible to integrate Uppsala and Campus Gotland in a positive way that enhances research and education activities in both locales.
3. Summary

3.1 Strengths

- Open and positive academic culture and shared commitment (expressed across all levels) to enhancing performance and reputation.
- Impressive international reach and reputation and firm commitment to expanding activities and enhancing reputation (eg moving up into QS top 50).
- Effective and proactive processes of integration between Uppsala and Campus Gotland.
- Clear agenda for the future in terms of new structures and processes (research committee, research clusters, five year plans, mentoring).
- Proactive responses to identified challenges/problems.

3.2 Weaknesses

Through conducting a thorough self-evaluation, the Department is aware of its weaknesses and has already begun implementing plans to address the difficulties. Weaknesses identified include:

- Lack of structured mentoring system.
- Gender imbalance at senior level and concern over female career progression.
- Need for formal system for encouraging coherent research strategy and shared activities, especially in relation to further improving external research funding capture.
- Organised doctoral training programme and postdoctoral opportunities for teaching.
- Fragmentation of research activities given global diversity.

3.3 Recommendation

- Continue to capitalise on the positive momentum generated by the process of the internal review and evaluation—ensure that all staff continue to remain engaged and see that their input has led to change and improvement.
- Implement the proposed plan for a central research committee composed of a mix of staff at different levels.
- Implement and imbed the system for five-year staff research plans, along with a more formalised mentoring system.
- Develop a more structured process of grant support, via new research committee. Feedback from staff highlighted the openness and collegiality in the department regarding the sharing of good practice. This informal support could be leveraged more effectively.
• Research clusters are positive development and will be most successful if allowed to develop and change flexibly. Seven clusters may be too many for the size of the department, but given the newness of the system the appropriate number will emerge as the clusters evolve.

• As suggested by the Department, introduce an annual Research day to bring all staff together.

• The department should approach issues to do with gender and diversity much more proactively, given the male-dominated nature of the senior levels. This is not just an issue to be addressed via recruitment (although that is important) but about being self-reflexive in all practices to ensure fairness to all. This also a university-wide issue, but given the strong culture of the department there is an opportunity to lead in initiatives. It may be helpful to look at the UK-based Athena SWAN programme for useful guidance.

• Consider creative approaches to providing teaching opportunities for postdoctoral staff as part of the enhanced career progression and mentoring initiative.

• Approaches to increasing research income should focus on department level targets rather than on individual targets, given the diversity of research conducted within the department.
Campus Gotland

The panel also had a 45-minute conversation with representatives from Campus Gotland, who were there not to represent their disciplines but the campus as such and thus gave us an opportunity to discuss some of the general structural issues cutting across disciplines, faculties and domains. Naturally, this discussion mainly dealt with how the merger between the two campuses had impacted work at Campus Gotland, the complexities arising from the merger of two academic environments and cultures, and not least the – in part technological – challenges in surmounting the problems caused by the sheer distance between the two sites. It should be noted that the panel was given the task to take more general look at Campus Gotland, because many of the departments in our portfolio have important interests on Gotland, in terms of both students and faculty members being based there, as well as research and teaching straddling the two sites. In other words, the opinions and evaluations presented here are not only based on the 45-minute discussion but also on our meetings with other departments. That said, the panel like to express a certain element of surprise that Campus Gotland only came into this part of KOF17 as something of an afterthought and was allotted only 45 minutes, when so many of the challenges the departments in our unit are facing, are in different ways linked to how they deal with the fact that their activities take place not at one campus, but two. Clearly, many of these challenges can better be understood and dealt with at the department level, but there are also several more general institutional topics, which we have a better chance of understanding and dealing with if we see them in a more infrastructural perspective. Unfortunately, in 45 minutes and with half of the interlocutors on video link there were many issues we never managed to cover. That also means that we are not in a position to answer all the questions the representatives of Campus put to the panel. Many of them are also of a rather practical nature (such as “how to acquire long term financing for projects?”), which this panel cannot really answer.

Prior to the merger with Uppsala University the University College of Gotland had around 2,000 full-time students of which about 70% studied in distance learning and the remaining 30% (600) were students on the university campus in Visby. The activities were predominantly education at the bachelor level. In economic terms ratio was 80% education and 20% research. After the merger, which took place on July 1 2013, Campus Gotland is facing two major challenges: to have at least 1500 on-site students and to become a research institution. Obviously, both these demands could be put in question, but that is not the task of
this panel. Neither is the problem of student recruitment. Hence, the only thing we can meaningfully discuss here is how the transition to becoming a research institution is going and what is furthering and hampering it.

In general, we get the impression that many of the difficulties that Campus Gotland is experiencing are due to different forms of division, fragmentation, and siloing, both at Gotland and between Gotland and Uppsala. Inversely, most successes emerge from processes of integration and innovation across disciplinary and geographical borders. In the view of the panel there are several exciting and promising research-related ventures taking place at Gotland: Among them is the establishment of four new multi-disciplinary MA-programs (in Cultural Heritage and Sustainability, Sustainable Management, Sustainable Destination Management and Regional Development, and in Wind Power Project Management), which are linked to two similarly important research initiatives: the Heritage research node and the research group on Sustainable Visits. These projects seem to combine many of the strongest research environments on Campus Gotland and at the same time have a close link to the local environment and society, in which many live from tourism. Another success story is taking place at the Department for Archaeology and Ancient history, which have been able to build on a long-standing cooperation with the colleagues at Gotland in order to create a viable and thriving research environment. And surely, there are others like this.

However, in the conversations with the management at Campus Gotland they observed that these are in certain sense the exceptions, and this was at least in part supported by our conversations with other departments, such as Art History and Cultural Anthropology, which both have a strong presence on Gotland, and for whom the integration of staff, students, teaching and research at the two different sites have proved to be a real challenge – one they are not quite sure how to handle. In general, it seems that the these challenges in turning Campus Gotland into an indispensable and fully accepted part of Uppsala University can fruitfully be analyzed along three parameters: communication, inter (cross- or trans) disciplinarity, and complementarity. How these challenged are tackled, or not tackled, influence to a large extent something as basic, but also as vulnerable as the morale of the Gotland staff, which didn't always seem as strong as one could wish for in this kind of transitional moment.

That communication poses a challenge to the integration of Uppsala University and Campus Gotland did not come as a surprise. Still – or rather for this very reason – the panel was really surprised to hear that there never have been special funds allotted to bringing scholars working at Uppsala to Gotland. Even though the 20.000 SEK the departments receive per staff member placed at Gotland in theory can be used for financing travels for Uppsala-based staff to Gotland, it is mostly used for travels for Gotland-based staff to Uppsala – as if the mutual interest and engagement between the two institutions in reality only goes one
way. In the panel, the term “neo-colonial” was used to describe this relationship between center and periphery, jokingly, but the reference was obvious. Finally, several departments complained that they don’t have enough teaching rooms with stable video link to organize both seminars and working groups with straddles both campuses. The panel feels that providing more money for travel – going both ways! – and investing in more good video links appear to be a very good investment at this point the process of merging the two institutions, which will pay off richly in the near future. Additionally, communication is hampered by the lack of housing at Gotland, especially in summer, which is when many of the Uppsala staff want to go there, but also when housing prices are driven through the roof by tourists. It seems absolutely thinkable that Uppsala University could take more responsibility for the housing situation for visiting scholars at Gotland than it has done so far.

The representatives from Campus Gotland expressed worries that instead of bringing departments – of which Gotland has 20 – closer together the present process rather leads to fragmentation, both on a an academic and an administrative level – administrative rules (for example overhead) making cooperation more difficult rather than easier. The main cause for this seems to be the doubling of administrative routines and bureaucratic practices after the merger with Uppsala. Furthermore, it seems that the transitions to becoming a more research-driven institution have led to the construction of new disciplinary silos, rather than the opposite, at the precise moment when any other higher education institution try to break down disciplinary borders, to make research more able to meet the grand challenges of the 21st century. Instead of implementing the traditional university model from Uppsala on Campus Gotland, university management should take this opportunity to create a space of experimentation and innovation, around topics and questions which are Campus Gotland’s proven strengths: such as heritage, sustainability, tourism etc.

Continuing along the same lines, we come to the issue of complementarity. There is already a strong feeling among university management that the two sites need to offer students and researchers complementary academic specializations, instead of replicating each other. The panel agrees that this is the way to go. The successful integration of the two campuses within the department of Archaeology is at least in part due to the fact that some of the archeologists on Gotland specialize in osteology and have acquired both the facilities and the international standing to be very successful. A similar scenario seems possible and even probable at the department of Art History, where the scholars based on Campus Gotland specialize in Conservation. However, far from expressing the same kind of self-confidence as the archeologists, the researcher we met from Conservation expressed a worry shared by many of his colleagues that the discipline wouldn’t be thought viable in the long run. But, in the view of the panel,
Conservation should have the same potential as the osteologists to develop into a singular research environment which would become an indispensable research site for the university. A third example could be Game Design, which exists only at Gotland and which absolutely has the potential to become a leading academic environment for this growing field in Scandinavia. However, the members of the department seem to feel that they should become more like any other discipline at Uppsala University, instead on building on their own strengths. In this way, Campus Gotland could also be made the vehicle for institutional innovation. As we mentioned earlier, a merger between the Informatics and Media Department in the Faculty of Social Sciences, ALM and Game Design, would have the potential to create a powerhouse in the swiftly growing and developing area of Digital Humanities. This kind of cross-faculty cooperation, possibly leading to a merger of departments could be pioneered at Campus Gotland. And if presented appropriately these initiatives could be parlayed into applications for funds, i.e. indicating that the Uppsala-Gotland link provides a unique research and teaching environment. Finally, complementarity also involves a complementarity of functions and formats. For instance, one could imagine that certain PhD-programs, related to one of the research groups or clusters could be located at Gotland, or, more directed at senior researchers, a center for project development, where scholars from different departments or faculties could meet to develop new projects.

1. Recommendations

In summery the panel would give the following recommendations to contribute to quality and renewal on Gotland:

- Communication: Provide ample funds so scholars can move easily back and forth between Gotland and the mainland as well as for more and better video links.
- Interdisciplinarity: Support interdisciplinary initiatives instead of just replicating disciplinary borders from the ‘mother university’.
- Complementarity: Think about the two campuses as complementary and develop them accordingly.
Concluding Reflections

In a period of transition like the one Uppsala University is going through at the moment, resulting from the demand for other kinds of knowledge and innovation, as well as expansion in various forms, but also, in a more concrete way, from the merger between Uppsala University and the University College at Gotland, some departments are by necessity more successful than others. In general, Uppsala University’s strategy for adapting to the new circumstances has been to hold on to most of the old disciplinary structures, but expand them by a set of different matrices made up of new and different organizational units, such as clusters, nodes, and centers. This is clearly the right way to go. The departments that have been successful in establishing new clusters, at the department level, combining different disciplines, traditions, and research interests, such as Sociology, Cultural Anthropology and Ethnology, and Archaeology and Ancient History, are clearly also succeeding better in this transition process than those that have not taken any similar initiatives.

It is the impression of the panel that the least convincing of the recently established units are the nodes, established at faculty level. Although people hold positive feelings about them, when they are brought up in conversation, they are often very unsure about what the nodes are and what they can be used for. One obvious example is the Cultural Heritage Node, which has the potential of engaging many researchers, at both sites, Uppsala and Gotland, but which for some reason appears not to draw as much participation as expected from Gotland, in spite of being quite close to the research interests of many Gotland scholars.

In general, Gotland and the on-going attempts to merge two academic environments are one of the processes, in which there are huge differences between different departments. As mentioned earlier, most successful in completing this merger is the Department for Archaeology and Ancient History, in which there are seemingly very few asymmetries between the two sites and which has used the research clusters actively to establish connections and integrate the two academic traditions, with great success. In this way this department could serve as a bench-mark for other departments, which struggle much more to achieve something similar. But indeed, they make no secret of the fact that this integration process has been resource intensive in the sense that they have spent a lot of money on facilitating this research and teaching collaboration. They have also been somewhat lucky in the sense that the two academic environments in question were already cooperating before the merger and have complementary com-
Petences and interests. Nevertheless, departments like Art History and Cultural Anthropology and Ethnology have something to learn from Archaeology in how to expand and deepen the cooperation with Gotland.

Other points of contention found in many of the departments are forms of gender imbalance, both in terms of recruitment, participation in department activities and in the ability to protect research time from being encroached upon by teaching and administrative tasks. At present none of the departments have any on-going projects dealing with this, which is slightly astonishing based on how many who actually mentioned this problem in surveys or interviews. The panel would like to stress how important it is that these challenges aren't individualized and privatized, but are seen as what they are: collective and political.

Above we have written a lot about the need for leadership at the department level to navigate the transition from a traditional, strictly disciplinary to a more post-disciplinary, cooperation- and network-driven, problem-oriented university. But another imminent challenge is what the panel perceived as the somewhat deficient role of the Faculty, and maybe also the Domain. Since the somewhat confused and fragmented presentation on the first day didn’t give us a whole lot to work with what the Domain is concerned, we will direct our suggestions to the Faculty. In our conversations with the departments, the Faculty emerged as something like an umbrella, more precisely as administrative coordinator of a very uneven bunch of activities – some education driven, some research heavy, some flourishing, some slowly dying, etc. We saw little evidence of the Faculty taking a proactive stance to the various units and areas of engagement. The debacle which followed the initiative to merge History and Musicology, was may be the most striking example of non-engagement on the part of the Faculty, but others may include the weak drive give to more shape and coherence to ALM, the complete absence of any sustained Digital Humanities-initiatives, and the somewhat sterile relationship between Ethnology and Anthropology. Even though the Faculty governance tradition in Sweden is rather laissez faire, the same challenge that we directed at the Heads of Department should also be addressed to the Faculty: In this period of transition at Uppsala University there is a strong need for sustained and engaged leadership, beyond managerialism and auditing practices, setting the course into the future and mobilizing the staff at all departments to renew their research ambitions and ideals.

We would like to conclude this report by pointing at three forces for renewal at Uppsala University and what should be done to keep them alive, for the good of the university:

- PhDs: Across all departments we have been very impressed by the PhDs, and generally by the young scholars. Uppsala University has succeeded in recruiting talented young researchers, from across the globe, who are en-
thusiastic and engaged, in their own futures, but also in the future of the department and the university. Hence, whatever the recruitment strategy is, it seems to be working well. Most happy about their jobs and prospects are those who have been recruited as a group or a cohort, and thus can use each others as sounding boards for ideas, form discussion groups etc. Nevertheless, there are two obvious fields of possible quality enhancement in the PhD education: 1) Facing a more and more professionalized career structure, the PhDs need career progression support, more help in career planning, and this should also take place within the departments, not just at faculty or university level. This kind of mentoring, which should be added to the supervision they get today, might include publication strategies, writing grant proposals, applying for jobs etc. Especially, the PhDs need to ask themselves, and others, if they really want to publish their dissertations in the Acta series, instead of reworking it into a monograph and publish it with an international publisher. 2) Secondly, many PhDs are in small programs, which can hardly offer them all the seminars they need and want. However, to take PhD-courses elsewhere at the university would presuppose that they know about them, and at present there is no shared widely used list with all PhD-seminars on offer at the university of Uppsala. If something like this could be constructed, it would help the PhDs a lot in navigating the university.

• Internationalization: Furthermore, the great promise demonstrated by the PhD candidates, perhaps the strongest sign of renewal happening from below, points to another important force of renewal, which the University has yet to harness and use for its purposes, namely internationalization. Probably the most important impetuses for catapulting Uppsala University into the 21st century, and upward the ladder of excellent universities, will not come from inside the university as it exists today, but from outside, in the form of cooperations and networks, but more than anything in the form of recruitments. Even though all positions are announced internationally and the recruitment processes are highly competitive, most positions in the humanities at Uppsala – according to a study from 2014, as much as ¾ of tenured staff – are occupied by scholars who have their basic degree and PhD from Uppsala. In some areas there are important exceptions to this tendency, primarily in the recruitment of PhDs and the Post-Docs, but also for tenured staff in some departments like Archeology and Ethnology and Ancient History. Indeed, this might a sign that the tides are turning at other departments as well. Furthermore, at many departments there are indications of the misalignment between those coming from outside Uppsala and Sweden and the departmental inner life, which is still very much dominated by recruitment from within Swedish academic culture.
Among our units, Sociology could count as the exception to support the rule. Clearly, in the future Uppsala must do better not just in recruiting staff from outside Uppsala and Sweden but also in actually absorbing and utilising recruited competence, if it wants to modernise and keep pace with the dynamics of research intensive universities worldwide. The question of which language is used in undergraduate teaching as well as in department meetings, is there to be solved, and must not be allowed to become a stumbling stone for one of the most important renewal processes taking place at the university in the present.

- Campus Gotland: Another possible crucial force for renewal at Uppsala University is Campus Gotland, which has all the potential to become one of the most cutting-edge, interesting academic environments in Scandinavia. However, to fulfil that potential Gotland cannot just be made into a smaller, less centrally located version of Uppsala, with the same disciplines and the same standards. On the contrary, it should be cultivated into a field of experimentation for multi-disciplinary, problem-oriented research. In Campus Gotland, Uppsala University has a unique possibility in experimenting with other disciplinary formations, work modes, and dissemination formats. And the most dominant disciplines don’t have to be e.g. Anthropology and Art History, but rather Game Design, Osteology and Conservation. Many other universities are struggling hard to arrive at similar opportunities, in terms of centers, external partners etc., often without much success. For this reason it is even more important that Uppsala doesn’t squander this golden opportunity to create something new and different. That means, however, that the university management should be careful not to turn Gotland into a smaller, more peripheral, and thus less relevant version of the Alma Mater in Uppsala, with the same disciplines, and the same research and dissemination strategies – instead of using both the history and the geography of Campus Gotland to create something different.
1. Introductory remarks: Assessment procedures

Panel members came from a wide variety of disciplinary backgrounds, and with considerable knowledge and diverse experiences, not least from participation in previous assessment exercises in many higher education establishments (including Uppsala).* Having individually studied in depth the self-evaluation report and accompanying material of each department, we recognized that we had independently identified many issues in common and so were able to proceed swiftly to develop a collaborative process for the review and evaluation of the four departments allocated to us. In short, we very quickly became an effective team, with a wide range of complementary knowledge bases and skills. It is also important to record the very valuable contribution made by Linda Stafbom to the work of the group, providing important local knowledge and making sure that all the arrangements for the week ran smoothly.

The following steps were taken collectively by our team:

1. We identified core themes for assessments (which were later formalized into categories as set out in Summary Tables 1–4, below).
2. We prepared a list of questions per theme, as a form of schematic interview protocol.
3. Thereafter, we divided the responsibility among team members to focus on particular themes-cum-questions (note, importantly, this was not done on a disciplinary basis) as an efficient means of ensuring that all aspects would be

* Panel 3 consisted of: Panel chair: Ray Hudson (Durham University); Panelists: Claes Alvstam (Gothenburg University), Ron Boschma (University of Utrecht; Lund University), Gili Drori (The Hebrew University of Jerusalem), Jari Ojala (University of Jyvaskyla), Rebecca Piekkari (Aalto University), Haridimos Tsoukas (University of Cyprus; Warwick University); Uppsala University Guide: Linda Stafbom.
thoroughly and consistently covered and the interviews and evaluation process would be comparable across departments.

4. The interviews invited various constituencies within each department to provide the Panel team with their distinct and diverse impressions, and, indeed, in the process, at times exposed intra-departmental differences in views on important issues. The interview protocol allowed careful consideration of all principal themes and enabled the collection of comparable information from the various departments. Interview scheduling also allowed colleagues in departments to introduce their department to us in a way that reflected their philosophy and approach to research and cognate issues; one might say “the spirit of the department”, which we appreciated.

5. Directly after each interview, we collectively summarized ideas, information and impressions into the respective summary tables. We felt that this immediacy was very important, given the intensity of the work programme. In this way, we ensured that an accurate record of each departmental discussion was created before moving on to the next department.

6. When all four summary tables were drafted, we extracted common issues that stretched across departments and identified particular issues for each department (see the following Summary Table 5).

7. We then returned to and re-reflected on the summary tables, following discussions and re-interviews with departmental leadership and a very helpful discussion with the Faculty Dean.

8. We finalized the draft report as the final stage in the site visit (early on Friday afternoon), and collectively read through the report, editing for consistency and cohesion. Subsequently, in the following week, we again read through the report to check that it accurately represented what we had found.

9. In these respects, the conclusions reflect collaborative discussions and the considered judgements of the whole team, led by the Chair.

10. In conclusion, then, we would thus emphasise that the report is a collaborative product of a collegial process, in which all team members made significant contributions. The opportunity to discuss issues with a range of staff in each department was crucial in either amplifying or clarifying issues identified in the self-evaluation reports (which we generally found to be of high quality) and in some cases identifying and opening up issues that were not present in those reports.
2. Observations and analysis: Cross-departmental patterns and similarities

Over the course of assessing and comparing among the four departments, several common issues regarding research became evident. These include:

*Academic leadership*

- There is a need for systematic performance management systems, of both research processes and research products.
- Rigorous self-reflective assessments should be an integral part of every department strategy and should be carried out regularly, for example no less than annually, and monitored at Faculty level to ensure that they are effective.
- There is a need to consider merging the functions of academic and administrative leadership into the role of the Head of Department.
- There is an inherent tension at the departmental level between individual “academic freedom” versus a more strategic approach to research organization and management.
- “Exploitation vs. exploration”: the inherent tension at the departmental level between taking advantage of current strengths versus innovating and adapting to new and changing circumstances.
- There should be a comprehensive programme of training in academic leadership for Heads of Departments.
- The Faculty Dean should take a pro-active mentoring role towards the Heads of Department.
- There is an opportunity to leverage the strong collegiate culture as a formal platform for leadership and strategic thinking.
- Some departments could consider a dual-seminar strategy, where unity is strengthened by department-level seminars and diversity is honored by group-specific seminars.
- Departments need to respond imaginatively to the challenge of creating a departmental academic culture.
- Some departments are locked in to dysfunctional patterns of self-reinforcing, negative behaviours (e.g., over-dependence on teaching, over-dependence on external grants funding), and this lock in should be broken.
- There needs to be effective management of the over-dependence of the activity and reputation of some departments on a small number of highly productive researchers (i.e., a challenge that follows the well-documented
pattern known of Lotka’s law, the consequences of which require careful management).

- There needs to be consideration as to whether there is significant added value from the domain level in social sciences and as to whether this level should be retained in the future.

**Personnel structure and profile**

- Gender imbalance: issues of equity in promotion and support urgently require serious attention.
- Recruitment (national/international) should be in relation to strategically defined research areas and competences.
- Building critical mass is a necessary element in meeting the aspiration to become internationally competitive, which needs to be coupled with a hitherto strong culture of individual freedom in research.
- Processes to identify and prioritize departments within the University with which to collaborate in order to promote and support the department’s own research agenda should be developed.

**Internationalization**

- The strategic focus should be on academic excellence in research, and internationalization should be assessed as one means to that end.
- Evaluate the feasibility of international grant applications and assess these against opportunities in Sweden.
- Departments should benchmark against appropriate international institutions as a matter of routine.
- There are issues of language and a need for a consistent and clear language policy (issues to be addressed here include the risk of having two classes of employees, inclusion/exclusion; limited teaching opportunities for non-Swedish PhD students).
- Develop processes to identify and prioritize departments with which to collaborate in order to promote and support the department’s research agenda.

**Funding**

- Most of the external research funding does not cover the full economic costs of the research (that is, it does not allow for overheads) and there is a pressing need to increase the volume of research funding that will bring overheads.
• Departments should prioritise developing a process for turning successful and unsuccessful funding applications into opportunities for renewal, spin-off projects, and re-application to alternative funding bodies.

• Departments should be cognizant of the risks of the end of the funding cycle, and plan ahead towards these to mitigate their negative effects.

Identity and branding

• There is a need for departments to profile themselves more clearly at the international level; this profile should also be reflected in the name of the department.

• Cross-departmental linkages and cooperation within the University should be nurtured; when appropriate, this could lead to more formal integration.

3. Analysis of Research Environment

The rationale of the structure of our summary tables is the following. For each department we assessed, in the left-hand column we identify a range of issues that emerged as significant from our analysis of the self-evaluation documents and supporting materials. We briefly summarise our analysis of each department’s strengths and weaknesses in relation to each issue in the next two columns. On the basis of that analysis we make a recommendation in the right-hand column. In making these recommendations, we would emphasise three points:

1. These recommendations are for the departments to consider. We of course would hope that in responding to these issues and the choices involved, a variety of dilemmas will be resolved.

2. They are in no sense prescriptive as to what the departments should do in response, or how they should do so. Some of these issues may require decisions by departments to change existing behaviours and practices, perhaps in consultation with the Faculty. We acknowledge that, after due consideration, the decision may be to ignore our recommendation.

3. We also recognize that if departments accept our recommendations, they may need help from, for example, Faculty or central University levels, in seeking to implement some of them and manage change. It is important to recognize the limits on autonomy and action at departmental level and the need for assistance “from above” if some changes are to be successfully implemented.
Department of Economic History

The internationally well-recognized department of economic history is large within its field, though small compared to other departments in the Faculty. The department has a rather diversified research profile within the Economic History umbrella. The department has no sub-disciplines but one affiliated research centre: Uppsala Centre for Business History (UCBH, www.ucbh.uu.se), while a previous centre, the Uppsala University Centre for Science and Technology Studies (STS, www.sts.uu.se), was formally terminated in 2015. The latter still exists as a research milieu with some funding by the department. The UCBH has no external funding at present, but receive some funding by the department.

Summary Table 1

<table>
<thead>
<tr>
<th>Description</th>
<th>Strengths</th>
<th>Weaknesses</th>
<th>Recommendations (Dilemmas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research strategy</td>
<td>This is not explicitly articulated; it is implicitly defined; the key is decentralized individual freedom.</td>
<td>There is no coherent departmental direction; this weakens the ability to cooperate internally and identify external partners; there is a weak departmental identity; and a lack of critical mass at the departmental level.</td>
<td>Consider establishing a clear explicit departmental research strategy while still respecting individual freedom.</td>
</tr>
<tr>
<td>Academic leadership</td>
<td>A collegiate model – with a leadership team, including a prominent role for one of the two chaired professors, responsible for research strategy.</td>
<td>The lack of a clear process for research assessments, evaluations and quality assurance is a serious weakness.</td>
<td>Develop a rigorous process to regularly review research performance across the entire staff (from doctoral students to full professors to ensure equality of treatment), while maintaining local collegiality.</td>
</tr>
<tr>
<td>Description</td>
<td>Strengths</td>
<td>Weaknesses</td>
<td>Recommendations (Dilemmas)</td>
</tr>
<tr>
<td>------------------------------</td>
<td>-----------------------------------------------------</td>
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</tr>
<tr>
<td><strong>Funding</strong></td>
<td>A good track-record of attracting external funding.</td>
<td>Too much of the external funding does not cover the full economic costs (that is, it does not bring overheads).</td>
<td>Consider attracting more external funding that brings overheads (VR and R); and also more international (Nordic and EU) funding. Consider formulating a strategy to attract external funding (identifying topics and partners). Identify adequate funding for STS if it is to be kept within the department.</td>
</tr>
<tr>
<td><strong>Publication strategy</strong></td>
<td>Historically published mainly monographs (in Swedish) but also some good international publications.</td>
<td>Limited international aspirations; national rather than international benchmarks; low-rather than high-ranked journals.</td>
<td>Consider increasing efforts to publish in top ranking field-specific journals; Consider explicitly directing PhD students and junior scholars to publish in international journals and equipping them with the required skills to do so.</td>
</tr>
<tr>
<td><strong>Recruitment and career path</strong></td>
<td>Open calls for PhD students and vacancies; a good reputation that attracts high-quality external applicants.</td>
<td>Lack of coherent recruitment strategy and the inability to recruit in response to departmental priorities is a major weakness.</td>
<td>Consider being more explicit regarding the criteria for recruitment and career development while recognizing the institutional constraints on recruitment processes. Utilize international networks to attract applicants and recruit quality staff.</td>
</tr>
<tr>
<td>Description</td>
<td>Strengths</td>
<td>Weaknesses</td>
<td>Recommendations (Dilemmas)</td>
</tr>
<tr>
<td>----------------------</td>
<td>------------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>Internationalization</td>
<td>The department has a variety of international links, but hardly any funding for international exchange.</td>
<td>Awareness of the importance of internationalization. International contacts are researcher-dependent rather than a result of coherent departmental policy.</td>
<td>Identify and prioritize departments with which to collaborate in order to promote and support the department’s research agenda. Profile the department more clearly at the international level.</td>
</tr>
<tr>
<td>Identity and branding</td>
<td>Currently economic history in general.</td>
<td>UCBH and STS are well-known brands.</td>
<td>Consider closer alignment of the name of the department with its principal activities (e.g. economic and business history).</td>
</tr>
</tbody>
</table>
Department of Business Studies

The Department of Business Studies is a large and diverse department consisting of the following research groups: Accounting, Commercial Law, Entrepreneurship, International Business, Management and Organization, and Marketing. It enjoys a strong national and international reputation and position, which provide it with a solid foundation for further development and renewal. However, its challenge is to maintain the momentum in an increasingly competitive and resource-scarce environment. Historically, the internal diversity of the department has been a source of strength but, in the new environment, this diversity will need to be actively and creatively managed to strengthen the departmental identity. The forthcoming appointment of the new head of department as well as KoF2017 are opportunities to catalyze strategic thinking about the future development, identity and competitive positioning of the Department in Sweden and abroad.

1. Summary (from table 2)

1.1 Research strategy

Description

• This is primarily defined at the individual and group level; however, there is some promising evidence of cross-group collaboration.

Strengths

• Strong research groups, some of which are internationally very well recognized.

Weakness

• A potential danger of inertia and possible complacency as a result of a record of enduring success.

Recommendations (Dilemmas)

• Manage the tension between needing to renew and become more competitive nationally and internationally at the departmental level vis-à-vis preserving the commitment to the historical legacy of respecting individual and group-based research.
1.2 **Academic leadership**

*Description*

- There is evidence of academic leadership, primarily at the group level, and some evidence at the departmental level.

*Strengths*

- The recently re-organized scientific council exists as a place that could become a regular forum for discussion of research-related issues.

*Weakness*

- There are weak formal processes for evaluating and monitoring of research.

*Recommendations (Dilemmas)*

- Utilize more effectively the scientific council for strategic research planning.
- Introduce rigorous performance management systems for all staff beyond the level of PhD students to ensure equality of treatment, and where appropriate, offer mentoring advice.
- Develop and foster incentive systems (material and symbolic) to encourage and acknowledge research excellence.

1.3 **Funding**

*Description*

- Partly dependence on external funding for research and PhD education.

*Strengths*

- Dedicated funds for student travel and conference attendance; support for project application preparation; support for joint courses with SSE and SBS.

*Weaknesses*

- There is limited capability to attract funding from more diverse sources.

*Recommendations (Dilemmas)*

- Give the highest priority to increasing external funding, both in basic and applied research.
- Consider employing a grant officer at the departmental level.
1.4 Publication strategy

Description
• A strong track record of national and international publishing.

Strengths
• Awareness of the importance of publishing in top-ranked journals and evidence of doing so; offering training for junior staff to publish and co-author with experienced seniors.

Weaknesses
• Insufficiently consistent emphasis across all staff, especially at the PhD level, on the need to publish in top-ranked journals.

Recommendations (Dilemmas)
• Emphasize consistently publishing in top-ranked journals as a means of strengthening the profile and the reputation of the department.
• Build more formal practices of mentorship in publication skills, especially for PhD students and junior researchers.

1.5 Recruitment and career path

Description
• A high proportion of well-qualified staff from Uppsala; increasingly recruiting from other Swedish universities; few from abroad, although PhD students are recruited internationally.

Strengths
• Several internationally recognized researchers; the department has produced many scholars who have been successful in gaining positions at other universities.

Weaknesses
• A potential risk of losing talented researchers due to limited internal career opportunities.

Recommendations (Dilemmas)
• Develop a staffing policy for recruitment and retention. Be alert to gender issues in terms of career development and recruitment, and seek to address them. Introduce a more structured Visiting Professors’ Programme.
1.6 Internationalization

Description

- Multiple and diverse international links and networks.

Strengths

- A strong international reputation, especially in some groups.

Weaknesses

- A variation in the extent to which the groups are recognized internationally.
- There are no explicit international benchmarks for the groups and for the department as a whole. The language barrier limits the teaching opportunities for non-Swedes.

Recommendations (Dilemmas)

- Develop an explicit departmental strategy for international benchmarking.
- Strategically review the range of international activities to align them with advancing research priorities objectives.

1.7 Identity and branding

Description

- A social science department within a fully-fledged university; a strong historic legacy.

Strengths

- The strong reputation of Uppsala University and its position in international ranking lists.

Weaknesses

- A lack of clarity in articulating the identity of the department as a non-business school.

Recommendations (Dilemmas)

- Develop a strategy regarding how to be a business studies department with a distinct and competitive identity without being a Business School (i.e. how to “shine” outside the Business School model).
- Consider including public administration within the department’s scope, and, possibly also its name.
Department of Informatics and Media

The Department of Informatics and Media is a young and still developing department, structured around the academic disciplines of Human-Computer Interaction (HCI), Information Systems (IS), and Media and Communication Studies (MCS), each with their own research traditions and practices. The department's research spans from cultural studies to formal aspects of computation, all carried out at the digital technology-social practice nexus with several complementary perspectives and skills.

**Summary Table 3**

<table>
<thead>
<tr>
<th>Description</th>
<th>Strengths</th>
<th>Weaknesses</th>
<th>Recommendations (Dilemmas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research strategy</td>
<td>A young department with a clear mission statement (“unity in diversity”); linked to a unifying theme of “contextualized technology”.</td>
<td>A risk of fragmentation (e.g. lost unity in diversity); the “liability of newness” with the risks that this brings.</td>
<td>Develop routines to balance and manage the tension of unity and diversity. For example, unity can be strengthened by department-level seminars, and diversity by group-specific seminars. Create better links to other departments in order to minimize the risk of “reinventing the wheel”.</td>
</tr>
<tr>
<td>Academic leadership</td>
<td>Clear evidence of academic leadership to enact the strategy.</td>
<td>A risk that senior staff might lack capacity and time to provide leadership.</td>
<td>Actively manage the ongoing tensions inherent in implementing the “unity in diversity” strategy.</td>
</tr>
<tr>
<td>Description</td>
<td>Strengths</td>
<td>Weaknesses</td>
<td>Recommendations (Dilemmas)</td>
</tr>
<tr>
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</tr>
<tr>
<td><strong>Funding</strong></td>
<td>Lack of external funding; an over-dependence on teaching income.</td>
<td>An awareness of efforts to diversify the funding structure; we commend the department on the development of the “RATS” strategy.</td>
<td>Precariousness of external funding (e.g. a risk that external funding cannot be received due to a failure to meet the necessary requirements and criteria).</td>
</tr>
<tr>
<td><strong>Publication strategy</strong></td>
<td>An awareness of the importance of group-specific publication norms and outlets.</td>
<td>There has been early and effective dissemination of the publication strategy; there is a good research profile for a young and evolving department.</td>
<td>An over-dependence on a small number of highly productive researchers and the risk that these might leave.</td>
</tr>
<tr>
<td><strong>Recruitment and career path</strong></td>
<td>Rapid growth in numbers of research staff.</td>
<td>Successful recruitment of researchers, though not necessarily with equal success in all three groups (PhD, post-doc, lecturers).</td>
<td>A high level of turnover among researchers; heavy teaching loads act as a deterrent in seeking to recruit high-productivity researchers.</td>
</tr>
<tr>
<td><strong>Internationalization</strong></td>
<td>Internationalization is integral to their work.</td>
<td>The diversity of the faculty and PhD students; an awareness of foreign funding opportunities and seeking to access these.</td>
<td>The rationale underlying the different international networks is unclear. An absence of a clear departmental strategy for international linkages and visitors.</td>
</tr>
<tr>
<td>Identity and branding</td>
<td>Description</td>
<td>Strengths</td>
<td>Weaknesses</td>
</tr>
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</tr>
<tr>
<td>Under formation.</td>
<td>Internally clear within the department.</td>
<td>Less clear beyond the department and the university.</td>
<td>Benchmark the department in order to clarify its position internationally and better articulate its identity.</td>
</tr>
</tbody>
</table>
Department of Social and Economic Geography

Historically the department has had particular strengths in economic, historical and – especially if one includes those IBF researchers affiliated with the department – urban geography, but today cultural and political geography and geographical information science (GIS) also feature strongly. Consequently, staff currently have a diverse range of research interests within human geography. The department is quite loosely organized and highly decentralized, in that there is currently no formal division into sub-disciplines or groups according to research focus or formal research management strategies. It is unique in Sweden in having small group of physical geographers affiliated to the department, mainly focused on undergraduate teaching.

Summary Table 4

<table>
<thead>
<tr>
<th>Description</th>
<th>Strengths</th>
<th>Weaknesses</th>
<th>Recommendations (Dilemmas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research strategy</td>
<td>An aspiration to be an internationally leading department; an awareness that if this goal is to be attained there is a need to develop more focused areas of research, while respecting academic freedom.</td>
<td>The appointment of a new chair has brought in fresh thinking and influence in the department; a second new chair appointment should follow in the foreseeable future and should reinforce these tendencies; there is strong recruitment of high-quality international PhDs and post-docs; success in winning external funding.</td>
<td>The legacy of research based on individual interests; the department is vulnerable to the loss of key senior staff and highly talented post-docs.</td>
</tr>
<tr>
<td>Description</td>
<td>Strengths</td>
<td>Weaknesses</td>
<td>Recommendations (Dilemmas)</td>
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<tr>
<td><strong>Academic leadership</strong></td>
<td>There is an absence of academic leadership; this relates to the separation between academic and administrative responsibility.</td>
<td>An awareness of the lack of academic leadership. Considerable potential for renewal is created by the arrival of new chaired professors.</td>
<td>An absence of academic leadership; a vacuum created following the departure of two chairs. Rally the senior staff to support the new department head to develop and enhance collective academic leadership. Maximise the potential for change as a result of the appointment of new chair professors.</td>
</tr>
<tr>
<td><strong>Funding</strong></td>
<td>Successful in securing project-based external research funding from competitive funding agencies.</td>
<td>Funding helps enhance the department’s profile and visibility; it provides resources to recruit high-quality post-docs.</td>
<td>Reactive, project-based and short-term funding, which has a tendency to lead to a “research hotel”. There needs to be collective endeavour to develop longer-term and strategic research programmes.</td>
</tr>
<tr>
<td><strong>Publication strategy</strong></td>
<td>There is a general understanding of the need to publish in high-quality outlets among all levels of staff; and an ambiguous attitude towards and reluctance to adopt a departmental publication strategy.</td>
<td>A good publication record in terms of quantity and variety of outlets.</td>
<td>There is no over-arching department-wide publication strategy; individual staff members are left to determine what and where they publish. The Department is relatively weak in publishing in high-quality journals. Consider focusing on publications in top-quality journals, and writing path-breaking research monographs in English, in line with the aspirations to become a world-leading department.</td>
</tr>
<tr>
<td><strong>Recruitment and career path</strong></td>
<td>There have been many international applicants and recruitments recently; additional new recruitments are in progress.</td>
<td>There has been recent success in recruitment of new staff, both at professor and lecturer levels. An attractive institution, with many applicants to choose from as a result.</td>
<td>Career planning at junior level is weak; there are challenges related to staff retention; and there is a strong gender imbalance. Consider capitalizing on the strong reputation in recruitment to address the gender imbalance and to enhance the research profile. Consider conducting exit interviews with leaving researchers and enhancing succession planning.</td>
</tr>
<tr>
<td>Description</td>
<td>Strengths</td>
<td>Weaknesses</td>
<td>Recommendations (Dilemmas)</td>
</tr>
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</tr>
<tr>
<td><strong>Internationalization</strong></td>
<td>There has been a recent rapid internationalization process; Internationalization is manifested in recruitment, collaboration and publications.</td>
<td>Poor integration of international staff, particularly at junior levels, is a problem. There is limited administrative support for research.</td>
<td>Consider identifying comparable international peers and explicitly benchmarking against their successful features. Consider introducing stronger processes for integrating junior international staff, e.g. offering greater teaching opportunities at all levels.</td>
</tr>
<tr>
<td><strong>Identity and branding</strong></td>
<td>Currently social and economic geography.</td>
<td>Relations to physical geography and IBF pose challenges.</td>
<td>Consider developing as a comprehensive geography department. We suggest continuing dialogue on how to best integrate all staff members in the teaching and research mission at the department. Also, consider developing a more formal relationship with IBF.</td>
</tr>
</tbody>
</table>
Cross-Departmental Analysis

There are many issues of shared concern which we have already considered in the preceding sections. Indeed, the commonality of shared concerns and issues is striking. In contrast, in this section of the report we therefore focus upon those issues – some positive, some negative – that are specific to particular departments. These are issues that seem of especial significance to those departments.

Summary Table 5

<table>
<thead>
<tr>
<th>Department</th>
<th>Shared Concerns</th>
<th>Department-specific Concerns and Highlights</th>
</tr>
</thead>
</table>
| Dept. of Business Studies                  | See section 2   | • There is an ongoing debate regarding the alternative model of a Business School. Resolving this and deciding whether to remain a Department of Business Studies or become a Business School, with all that that implies, is a (and maybe the) critical issue for the department.  
  • Very proactive and explicitly reflexive regarding strategic considerations at department level. |
| Dept. of Economic History                  | See section 2   | • UCBH as a strong department-specific centre for research. This brings both benefits and risks at a strategic level.  
  • Managing the tensions between retaining the benefits of its past successful approach and the need to adapt to a changing environment in order to continue to be successful is perhaps the key issue here. |
| Dept. of Informatics and Media             | See section 2   | • This relatively young department is the most proactive and explicitly reflexive department of the four we assessed regarding strategic planning at department level.  
  • Conversely, it carries the risk of the “liability of newness” – that is, the risks that unavoidably come with being a young and growing department. Managing these successfully is a (maybe the) major challenge for the department. |
| Dept. of Social and Economic Geography     | See section 2   | • An opportune moment for renewing academic leadership and developing a more strategic approach to research, with significant new appointments at Chaired Professor and lecturer levels.  
  As this will be an opportunity that will not recur for some time, it is crucial that it is grasped by the department. For this department, this is the key issue. Settling the issue of the position of physical geography should be part of this review as to direction of renewal. |
1. Introductory remarks

The cluster represents a range of diverse departments, with some having little in common thematically but many of the barriers to developing integrated or inter-disciplinary research across University faculties and domains appear to be common.

In the pre-meetings of the panel* there were a diverse range of views from – ‘should the focus be on outputs’ to – ‘we are here to consider processes’. Some of the panel thought that the process could/should not be divorced from outcomes. In fact many of the self-evaluation reports identified issues related to research publications. A balance between these views was adopted by the panel as it was felt one could not be addressed without the other.

Accordingly the panel adopted an open approach to the process of being a critical friend to the Departments visited, this took the form of listening to the key information presented and then asking key questions based on an iterative process vis-à-vis the background material (self-evaluation, survey data, bibliometric analysis and basic data). So while individual departments might comment on an issue in the reflective report we could also use some faculty level data for comparison.

We did however, as a panel, decide to ask specifically about research linkages within the University of Uppsala and with other universities, staff recruitment

* Panel 4 consisted of: Chair: Martin Caraher, City, University of London, United Kingdom; Researcher: Liisa Husu, Örebro Universitet, Sweden; Panelists: Gunnar Rosenqvist, Hanken School of Economics, Finland, Klaus Fiedler, University of Heidelberg, Germany, Lea Pulkkinen, University of Jyväskylä, Finland, Christian Schultz, Köpenhænn University, Denmark, Louise Rönqvist, Umeå University, Sweden; Local guide: Anna Sofia Hedberg, University of Uppsala.
and retention, gender balances in employment and a question that we asked all Departments was on sick leave/absence and its monitoring.

The self-evaluation documents were the main basis for our probing as critical friends and were very useful in helping focus our discussions and questions.

The panel worked well together and while not agreeing on all issues or the importance of them were able to reach a consensus on key issues.

We set out our observations under a separate heading for each Department and address the overall issues in the final section.
Department of Psychology

1. Introductory remarks
During a full-day visit to the department of psychology, the Panel engaged in several discussion rounds, first with the department chair and the deputy, and with principle investigators from three major research groups: Affective Neuroscience, Cognitive Psychology, and the Child and Baby Lab research team. Two further discussion rounds were devoted to the remaining smaller research groups and delegates of PhD students. A final discussion with the department leaders revolved around possible ways of dealing with existing coordination and governance issues in the department.

2. Observations and analysis
The Department of Psychology at Uppsala has a long history of successful research. It has been one of the leading departments of psychology in the Nordic countries. There have recently been generational changes due to retirements and as a consequence the new generation, mostly trained in the same department, has become leaders of their respective research groups. Although the feedback from all subgroups converged in revealing similar strengths and similar sources of differences each group brought up their own distinct issues.

The largest research unit within the Department is the Child and Baby Lab group, which has acquired the status of the most productive research unit, both in terms of personnel and research income. For instance, the leader of this research group had received a prestigious ERC grant; other principal investigators were also highly successful in publishing and in attracting research income.

The Affective Neuroscience group is smaller in size and competitive at an international level. Empirical research in this group concentrates on social and affective approaches to neuroscience, in the interface of clinical, social, and emotion psychology, drawing on different methods and technological equipment. Several outstanding research findings from this group have been published in the most influential journals in the field, and the principle investigators have acquired a very high standing in the scientific community.

The Cognitive Psychology group is mainly involved in fundamental research on perception, memory and decision-making. Like the Affective Neuroscience group, the cognitive-science group is prominently presented in the world’s most influential journals in the field (by the journals impact factors and other ratings),
and the principle investigators are playing prominent roles in the international scientific community.

In addition to these three successful major research units, several smaller groups represent the psychology of music and emotions, memory, clinical psychology, and social psychology.

According to the self-evaluation document the research funding for the Department amounted to 218,626 SEK since 2010. The Child and Baby Lab raised 94,861 SEK; the Affective Neuroscience 51,244 SEK; Cognitive Psychology 24,699 SEK; the Memory Lab 10,880 SEK; Music Psychology Group 5,810 SEK; and the remainder (31,132 SEK) split between the funding activities in small-group research.

Feedback from all the research groups and graduate students confirmed a number of points that were also addressed in the Department’s self-evaluation. In particular, the Department did not succeed in reducing the gender imbalance at senior levels that had already been documented in the 2011 KoF evaluation round. Although international collaboration is obviously flourishing, and all research groups are obviously striving for international competition and publication in high impact journals, there seems to be relatively little collaboration between different disciplines or faculties within Uppsala University. A notable exception are the links that Affective Neuroscience group has developed with medical science, which is obviously due to the fact that psychologists are strongly dependent on the expensive research equipment that is required for neuro-imaging studies and that is only available in the medical department.

With regard to corporate identity, feedback to the panel revealed that most staff more strongly identified with their specific research subgroup than with the Department as a whole. The Department’s aims and strategic directions were embedded in the research units at the expense of having a coherent department aim. The strength and drive for the Department is clearly located in the research units.

The survey results indicated some level of dissatisfaction with the work environment and there were indications of some individuals not feeling part of the Department. In the third meeting with the cluster of smaller research grouping and individuals, feedback highlighted a number of staff members who did not feel part of the Department. Some aired the opinion that the dominance by the major research groupings was exclusive in nature.

The issues of perceived gender equality and the monitoring of sick leave in the Department were also raised. Junior female members of staff raised issues of equity in terms of advancement and promotion opportunities that were seen not just as Department issues but also as wider University ones. The Head of Department and the various research units all expressed a desire to address the gender
imbalance at senior levels (i.e. currently 20% females at the level of promoted and full professors).

When asked for details of future recruitment plans and how the gender imbalance at the level of professors might be addressed, the panel were told that the VC/Rector was using her power under Swedish law to appoint directly a chaired professor. The panel discussed this at some length with management team and among themselves in private session. There were concerns raised among the panellists with recruitment in general, because the Department – as far as the panel was informed – does not appear to be developing a long-term recruitment strategy and a deliberate strategy to improve the departmental culture and current practices in terms of gender equality. This concern was heightened by information received that a previous female professorial appointee had resigned after a short time in the post.

The reply to the questions on sickness monitoring indicated that in recent years, the number of long-term illnesses has clearly increased, especially among female staff in different job categories in the Department. We were informed of three on-going cases of long-term sickness – all involving women. The difference in the sick-leave prevalence among women and men in the department suggests that the work environment is less welcoming and supportive for women, this is supported by written evidence supplied to the panel.

A number of problems and sources of tension in the Department are relevant to the final evaluation and recommendations provided by the panel below. These critical issues can be summarised as follows:

- the calibre of leadership currently displayed among the senior staff in the research groups is needed for the development of the whole department to be stronger and to develop its research activities. Such leadership would positively affect the working atmosphere in the Department and the consideration of its goals and activities in a balanced way.
- a lack of future planning regarding recruitment goals and strategies or future developments at a Departmental level;
- an obvious imbalance between the major research units and the more peripheral units, with clearly lower overall satisfaction in the latter than in the former subgroups;
- perceived problems of distributive justice and procedural justice among some members of staff heightened by an apparent lack of knowledge of procedures and processes. Some respondents reported a lack of (positive) feedback and encouragement for their research contributions, a perceived lack of support from the senior researchers for collaboration across research groups (both within the department and across the University) and little engagement the current seminar culture. Some talked about dissatisfaction
with salary levels that they felt that did not reflect their merits and achievements. This feeling is present despite the existence of formal procedures for yearly salary negotiations involving University management and the Unions.

- concerns with focusing on recruiting a new female professor without first addressing more broad issues of gender equality at the department including uncongenial departmental culture and practices.

3. Summary

3.1 Strengths

- As already mentioned, the productivity of the leading psychological research groups successful in achieving external funding for research and the prominent representation of their work in prestigious scientific journals is a major strength.

- Furthermore, because this productive research is anchored in well-established research programmes, the potential of which is by no means fully exploited, this scientific success story seems likely to persist in future years with Uppsala University’s psychologists continuing to make strong and substantial contributions to the behavioural sciences.

- The modern and original research profile constitutes another asset. This profile can be characterized in terms of such features as the distinct theoretical approaches propagated by the Cognitive Psychology research group, their methodology, originality and methodological scrutiny, the huge unexploited potential of young-infant research for a deeper understanding of human cognitive development and sensorimotor in general, the originality of music psychology as a topic that is hardly represented in many other psychology departments, or the distinctiveness of the personality and social psychology approach.

- The department members at all levels of seniority exhibit corporate identity and pride for the academic institution to which they belong, although the unit of identification may not be the department but the compact research group or lab to which they belong. Students and young scientists seem to embrace and adopt the research questions of the dominant research units and projects, and this naturally grown academic identity is also reflected in what was reported to be an attractive curriculum and teaching programme.
3.2 Weaknesses

Notwithstanding these various uncontested assets of the psychology department, though, the hearings also revealed a number of problems that impair the work climate and that could in the long run threaten the productivity of research and the quality of research based teaching in the department. These problems can be summarized as referring to issues of perceived distributive and procedural justice. As to whether these issues are real, they were reported to the panel and were of concern and ‘real’ to those reporting them and therefore require action. Many of these actions require processes and procedures to be more transparent and clearly identified in written form for use in formal University processes such as annual reviews, allocation of teaching workloads and salary negotiations.

- Regarding the former issue, distributive justice, some staff in the smaller research units express feelings of dissatisfaction about the uneven distribution of resources in general and block funding in particular. There seems to be an insufficient understanding about uneven teaching obligations as a function of teaching buy-out from research income.

- Related to the issue of procedural justice, there was a notable degree of uncertainty reported concerning the rules for democratic decisions and applications aiming to realize even essential needs (such as conducting empirical research, using a subject pool, or finding cooperation partners within and beyond the department boundaries). Procedural guidance and structures – like the mapping of the needs of individual scientists and subgroups onto the functions to be served by the Department Board and the allocation of teaching loads – remain non-transparent to some members of staff.

- The Self Evaluation report said ‘[T]here was, until recently, financial support for PhD students to visit international conferences (ograd), these funds was removed in 2017 due to a budget deficit at the department level. Re-initiating these funds would be highly valuable in order to support the creation of international networks at an early career stage.’ Funding for PhD students to attend international conferences as a standard practice has ceased. This means that opportunities for international participation are unequal, as it largely depends on the supervisor’s resources and group affiliation of the PHD candidate.

- The frictions caused by these perceived violations of distributive and procedural justice norms have led to socio-affective problems in the department, which clearly go beyond minor transient conflict. There is a critical loss of trust and social capital which has to be rebuilt. A former department head resigned, and the situation was described as “traumatic” and as seriously undermining the academic atmosphere. The attention given to this socio-affective source of dissatisfaction in department’s self-evaluation
paper attention testifies to its significance as a problem to be tackled at the governance level.

- The continued gender imbalance among senior staff and the work well-being problems among female staff, including more sick leave prevalence, should not be considered as separate phenomena but need to be seen together to make any progress in gender equality.

4. Recommendations

- As already expressed in the Panel’s face-to-face feedback to the department chair and her deputy, the Panel strongly recommends that the problem of staff relationships more generally and gender specifically should be treated at a high priority level and that it should be given the same weight as the central issues related to teaching and research projects. We do not know exactly what kind of intervention or structural change will be most effective, but we set out a number of options and possibilities that were discussed within the panel. We also suggest that this is an Issue that the Faculty needs to address and help support the Department in solving.

- A key issue is that of the gender imbalances at senior levels, an issue that the Department itself has identified to be addressed in the self evaluation documentation. Here we stress the need to address gender equality not only the gender (im)balance in different staff groups which increases with seniority. In particular the current work situation with respect to sickness absences and future recruitment policy for female employees should be addressed as a matter or priority.

- To improve the perception of procedural justice, it is essential to engage in transparent planning of academic goals, future activities and recruitment policies. Underpinning such an approach it is necessary that transparent department goals reflect commonly subscribed democratic rules of academic self-determination and collegiality. This is necessary so that members of the department fully understand and have trust in the administration of such procedural rules. To monitor and control these procedural rules, it may be important to establish a system firmly institutionalized opportunities for social exchange.

- A well-motivated suggestion in the Department’s self-evaluation is to facilitate more natural collaboration at a somewhat higher level than the current compact research groups, by forming ‘thematic work groups’ where the content crosses current research groupings. The Panel appreciates the motivation underlying this suggestion and the department’s readiness to deal with the coordination problems. However, given longevity and the failure
to eliminate this conflict over years, the panel is inclined to suggest that the department alone may not be able to overcome the problems, relying on self-organizing forces alone. Alternatively, the department may want to draw on the assistance of the Dean of the superordinate Faculty of Social Sciences. Key to all the above actions, in the opinion of the panel, is that the sense of identify with the Department needs to be rebuilt. These actions require that senior academics members of the Department take the lead on this.

• Last but not least, the Psychology Department should consider asking an outside mediator to help them cope with the problems at the social-emotional level. This might be wise and functional, because otherwise the scientific achievements might suffer from the persisting interpersonal tensions, which are already manifest in absenteeism and seminar cancellations. It is the Panel’s conviction that coping with these “mundane problems” is of utmost importance to maintain the extraordinary status and reputation of the excellent research teams at the University of Uppsala.
Department of Economics

1. Introductory remarks
During a full-day visit of the Department of Economics, the Panel engaged in several discussion rounds, first with the department chair and his deputy, and subsequently with senior faculty, junior faculty and PhD students. A final discussion with the department head and vice-head rounded off the day.

2. Observations and analysis
The overall judgement of the panel was very positive. The Department is a medium sized economics department with a research active faculty counting approximately 50 persons. The turnover is 70 million SEK, of which a high level of 28 million corresponding to 40% comes from external financing.

The Department's aims, strategies and vision are well thought out and ambitious. The Department has as a stated goal to climb to the European top 10 and world top 50. This is indeed ambitious and represents an eminently reasonable and motivating goal to strive for.

Given the medium size of the Department the decision to focus research within the major areas: Labour economics, public economics and macroeconomics seems a wise decision. Feedback to this question elicited the response that the Department reasons that it is too small to engage in all fields, but still acknowledges that some diversification is necessary in order to provide for a broad based graduate programme. Recently the Department has broadened its approach to include areas such as macro with microdata, political economy and health economics. Such moves are very much in accordance with international trends in Economics and therefore reasonable. Several outstanding research findings from this Department have been published in the most influential journals in the field (by the journals impact factors and other ratings), and the research of the Department is in general highly recognized internationally.

The Department's recruitment strategy is both international and national. In line with top and other better economics departments in Europe, the department is open for international hires at the junior market and has been present at the market for many years. The panel supports this strategy. This means that a significant fraction of (mostly junior) faculty are non-Swedes and/or educated at other universities. This makes for a healthy and vibrant research environment. The Department management does not find that international hires necessarily are better than the best of either Uppsala or Swedish graduates, but nevertheless
that the internationalization is very fruitful in helping create a diverse research culture. The Department is attempting to recruit internationally at the senior level but pointed out that in practice this is not so easy. Swedish salaries are not high on an international scale as they are competing against global city institutions which offer higher salaries. Nonetheless it is good that the management are open for international senior recruitment. If the opportunity arises, it is important that the Department have finances to seize the opportunity. The panel encourages the Department consciously to try to attract scholars with a highly profile international reputation.

More generally, an intact academic culture provides for a productive work environment at the Department. There is a vibrant seminar culture with many seminars internally but supplemented with external speakers. The panel noted that junior faculty are in charge of running seminars, and we find this a good way to help younger faculty build an international network. We also found it an excellent idea that PhD students are encouraged and expected to meet with external speakers several times a year and discuss their own research. The department appears to have an open-minded and critical seminar culture, as evident from the survey responses. The finances required for inviting external speakers appear to be available in adequate amounts.

The panel supports the system that the Department has up and running for mentoring younger faculty. Similarly, it is positive that the publication strategy is discussed with younger faculty.

The academic culture also appeared positive in the sense that members of the Department in general seemed content with the Department and found that work-life balance was good. This is clear from the survey answers but was also the panel’s general impression during the day, when we spoke with the various groups in the Department. There is a high degree of identification with the department from all layers of faculty, junior as well as senior. Faculty seemed happy being in the Department and found the environment stimulating. The panel also applauds that the Department has a strategic approach to the sabbatical system and that it encourages faculty to take sabbaticals at universities outside Sweden, thus contributing to an internationalisation of the research culture.

The gender balance in the Department resembles many economics departments and it is not optimal especially at senior levels. The panel noted that the Department is aware of the issue and welcomed an on-going gender equality project by the department, consisting of a survey to all former graduates focusing on gender equality issues. The panel was told that according to preliminary results female PhDs feel less supported at the department. During our visit a female doctoral student stressed the importance of availability of female and male supervisors. We understand the problem that many economics departments are seeking to improve their gender balance and this makes highly qualified female
researchers a scare resource and in high demand. A positive development is the establishment of a network of female economists in the Stockholm–Uppsala area, which female members of staff participate in. This is a move that the Department supports.

The positive work environment also speaks to a good management of the Department. The panel found that the Research leadership conducted by the Department Head and his management team as well as of senior professors was strong and very functional. Our talks with the Department management were productive and the management left an impression of awareness of issues and an aspiration to improve the Department infrastructure. It is the panel’s impression that the Department is well-managed and the many positive aspects to be found in the Department also reflect a strong and high performing management team.

The department’s infrastructure appears fine. Researchers are content with IT-facilities and research support. There are resources for inviting guests, co-authors, going to conferences and going abroad and collaborate. Much of the department’ research utilizes register data from Statistics Sweden. The department has an up and running system for accessing the data and facilities in general appear fine.

Research funding is certainly an strength of the Department. Approximately 40% of department finances come from external funds. As touched upon above the department has strong finances and appears well run economically. The self-evaluation report mentions that about 45% of the lecturer payroll is funded by external grants. The two centres associated with the Department, Uppsala Centre for Fiscal Studies (UCFS) and Uppsala Centre for Labor Studies (UCLS) are well-financed and contribute to the strong financial standing of the Department. Incomes from the centres are cleverly used to create more attractive junior positions with more research time than usual junior positions. In fact, junior faculty were very content with the relatively low teaching load the Department is able to offer because of the external funding. The Centres also finance workshops, guests and many other activities. The Department’s dependence on the Centres is large and ensuring continued funding for the Centres must be a central priority of the Department.

With respect to cross-border collaboration and outreach the department’s centre UCLS is itself a multidisciplinary centre that involves economics, political science and labor law and the department is also associated with IFAU, a government agency under the Ministry of labor. So the department is clearly involved in cross border collaboration and outreach. The discussions with various staff groups also revealed that the some of the research of the department has policy implications and attracts the attention of various ministries, government agencies as well as the Central Bank – Riksbanken. The Department has also been involved in the Health Economic Forum at Uppsala University, an initiative to strengthen re-
search on health economics in collaboration with the faculties of medicine and pharmacology. The Department management, however, expressed some concern that multi-disciplinary collaborations are not easy to develop within Uppsala University. Attempts to build a strong research environment in health economics have been difficult. Some of the problems pertaining to different cultures but also to lack of cross-disciplinary funding at the University as well as the research council level. Differences in publication cultures are also important. It appears that if the University of Uppsala wishes to further cross-border collaboration it is necessary to raise more long-term funds and perhaps also in larger amounts in order to create critical mass for sufficient long time that the venture can be self-sustaining.

The Department’s publication strategy is the standard and accepted approach for any serious economics department. The bibliometric data shows a small decline in publications in particular at the Norwegian level 2 and in the top 10%, this was highlighted in the self-evaluation report. The panel discussed this with the Department management group and faculty. One explanation is that the faculty increasingly focuses on the very prestigious top five publications (publications in the five top general interest journals in economics, which world-wide are considered as the absolute best and most prestigious). This is notoriously hard, and takes a long time and may account for (some of) the decline in the total number of publications. In fact, the department’s publications in the top five journals have increased in recent years. A complementary explanation may be the retirement of a couple of very productive senior researchers and as such a question of time before other researchers fill these roles. The panel’s general impression is that the department publishes well and that there are publications in top journals within the department’s areas of strength. In particular, it is very encouraging to see that some of the younger faculty publish very well. The panel applauds that the management intends to monitor the development closely.

With reference to career structure and mobility the Department has recently introduced a tenure track system in order to be more competitive on the international market for junior economists, where such systems are widespread. The system sets out criteria so that assistant professors are “up for tenure” in year 5 and if a number of rather well laid out criteria are met, they will be promoted to an available tenured position. The system also involves “along the way” structured supervision and feedback. Junior faculty appreciate the system and the panel were also impressed with its operation. It makes for clear career paths and transparency. The Department is in the peculiar situation that it has introduced the system even though it is not the general Swedish nor an Uppsala University academic career system. The panel strongly recommends that the University uses it powers and influence to push for such a system and helps the Department in any way possible to maintain and develop the system. As noted above such
developments need to be balanced with the opportunity to continue to recruit internationally at a senior level.

A tenure track system does require long term financial planning so that the obligations to offer tenure, if the requirements for tenure are met, can be honoured. It is very important that the department reserves sufficiently large financial means so that it also able to hire at the senior level and not only rely on promoting internal junior staff. The panel discussed these issues with the department management, which was very aware of the issue and found that it is indeed a potential problem but also a problem, which can be handled.

As for mobility, as already noted previously, the panel found it very positive that the department hires internationally, and that it employs chaired professors from other good Swedish departments. We also found it very positive that (some) PhD students do go to the international market. The Department has had some notable successes in recent years placing PhD students at top US universities, Yale, Berkeley and Stanford. This speaks to a very high level and a successful PhD programme.

Feedback on the PhD programme found it to be of a very high quality and the panel applauds that the Department spends considerable resources on dedicated PhD courses. The collaboration with other universities in the Stockholm–Uppsala area on advanced courses is an excellent feature. The high quality of the programme is – as noted above – witnessed by some notable successes in placing students at top institutions. The PhD students were generally happy with the programme and support, but the panel did notice that there appears to be a bit of heterogeneity in supervision and in the support PhD students get in relation to planning stays abroad as well as in preparing applications for external grants. The panel encourages the Department to make sure that this feature of the programme is improved.

Research-teaching linkages seem fine in the PhD programme. Importantly, the beneficial financial situation of the department implies that (most?) faculty has good to excellent research conditions and sufficient time to engage seriously in research. In particular, this seemed to be the case for junior faculty.

Internationalisation. As should be clear from the above text, the panel finds that the Department is well integrated internationally and has used internationalization as a strategic means to improve the quality and standing of the Department – a strategy the Review Panel approve of.
3. Summary

3.1 Strengths
As is clear from the observations and analyses above, the panel found a Department with many strengths. We have touched upon them above and will not repeat them here.

3.2 Weaknesses and related recommendations
We found no real weaknesses in the Department. We only found a couple of issues that we would encourage the Department to take action on, also mentioned above.

• Supervision of PhD students, including mentoring of publication strategies for students as well as mentoring for stays abroad and application for external grants appear heterogeneous across supervisors. This would include plans for publication post-qualification as the department requirement for PhDs is for four publishable articles to be included as part of the PhD submission, therefore some never find their way into journal articles.

• The Department is advised to make a strong effort in attracting senior chairs at a high level, which can help taking the Department to the next level. We recognize it is very difficult, but systematic efforts should be made.

• The Department is advised to continue to monitor and act upon gender equality issues at all levels, drawing e.g. on the on-going survey to junior faculty, support networking activities of female PhDs, and to continue to strive for improving gender balance among the faculty.

• The publication output should be monitored. Perhaps the department is in a period of transition towards publishing better and there are senior retirees which affect the data. Nevertheless, the panel recommends that the development is monitored closely by the department management.

• At the University/faculty level staff reported obstacles to cross-border collaboration, which should be addressed. This pertains to career-paths, cultures etc., which may be difficult to address in the short run. But if the University wishes to strengthen cross-border collaboration – as for instance with the Health Economics initiative – it is probably necessary to provide for more and in particular longer term funding in order for the initiative go gain sufficient strength so that it can be long term viable and reach a state, where it is possible to raise external funding.

• At the University/faculty and more generally political level it is crucial to support the tenure track system and provide for its formal implementation.
The approach used in Economics could form the basis of a model of good practice for the University.

• The panel *strongly recommends* that the University learns from the tenure track system being used in the Department and uses its influence and powers both to help the Department in any way possible to maintain the system and develop it for use in other Departments.
Department of Statistics

1. Introductory remarks
During a half day the panel first met the management team consisting of the Head of Department, Director of Studies and Director of PhD studies, followed by a group of faculty members, a group of PhD students and finally again the management team.

The Department of Statistics, although one of the bigger departments of statistics in Sweden, is one of the smallest departments at the University with 22 employees, including three professors (two full/chaired, one promoted), ten lecturers (mainly senior lecturers) and PhD students five full time, one part time and one spare time. The income is 25 million SEK with 12% coming from externally funded research.

The Department is entering a new stage of development with ambitious future plans. It has been able to use efficiently resources which have become available. For 20 years there few new appointments, now there has been a generational shift and a revitalization with new appointments.

2. Observations and analysis
Traditionally there were two main research areas at the Department: time series econometrics and structural equation modelling. The recruitment of new faculty has brought with it both a revitalization of research activity, and two new additional areas of research: causal modelling and high-dimensional multivariate linear modelling. Causal modelling and related research based on big register data was installed at the Department with hiring of a new professor in 2015. There is also a group working on medical statistics.

Structural equation (and “LISREL”) modelling has a long and outstanding tradition at Uppsala University with emeritus professor Karl Gustav Jöreskog standing out as a world leader in the field and still carrying out research in this area and contributing to the Department’s list of publications. This group was quite small 5–10 years ago and there was a question whether the Jöreskog-LISREL tradition would continue at Uppsala university. Now there is a group with one professor, one associate professor and one post doctoral researcher. This is still not a big group, but it is a clear consolidation and advance.

In the self-evaluation it is mentioned that the Department’s recruitment of new faculty over the last few years “has added drastically to its research potential” and that “the most recent publication output … has increased substantially compared...
Indeed the bibliometric report shows an increased publication activity. Many of the bibliometric criteria have on average more than doubled from the period 2007–2011 to the period 2012–2015. In addition to the clearly growing trend in publication activity in quantitative terms, there are also signs of advancement in quality. Publications appear not only in statistical sciences but also in various “substantial” fields like economics, psychology and medicine, often in inter-disciplinary collaboration. Approximately two PhDs finish per year with signs of a slightly increasing trend.

The main weaknesses of the Department are the lack of critical mass, with the heterogeneity partly adding to this, and the limited amount of external funding, these were acknowledged in the self-evaluation documents. To address the issues of critical mass the Department has established different networks and opens itself up in various ways to inter-disciplinary collaboration with other subjects and Departments at Uppsala, (discussed in more detail below). Regarding the critical mass and the heterogeneity, there is on the other hand a common ground (for the Department’s different research areas) in statistical theory, and thematic research like around big register data has use of different competencies. In the self-evaluation the Department formulates a long term aim “to build a coherent research environment with the primary aim of analyzing complex longitudinal data”.

The Department also recognizes the need to increase the amount of external funding and has taken action in this respect for example by instigating more thematic research and striving after inter-disciplinary projects and consequent funding.

The Department advertises both nationally and internationally for recruitment of faculty, and part of the faculty has been internationally recruited. However the department finds it hard to recruit internationally because of the low level and inflexibility of salaries in Sweden compared with the international job market for statisticians. Choosing the best candidates has led to a broadening of the research areas. The practice of offering research time for newly recruited lecturers is well motivated and the panel supports it (three recently appointed staff have 50% research time for two years, one previous appointee has 50% and two previous appointees with 30%).

Current PhD student course collaboration between statistics departments in Sweden as well as discussions regarding a national research school for PhD students in statistics are to welcome also from the point of view that these endeavours may help to balance demand and supply for PhDs in statistics. This allocation of research time to lecturers fits with the strategic goals of the Department, e.g. with the purpose of producing good applications for external funding and more research supervision for PhDs. This helps establish a research culture where main and secondary supervisors share responsible and expertise for the PhD student and their research progress. The progress of each PhD student is reported
and discussed in the committee of supervisors, consisting of the professors and those who are supervising a PhD student. There is also a director of PhD studies responsible for administration of the PhD study programme.

Research leadership is provided through the research groups in the Department, these are not formally defined, with research at the Department as well as international and local collaboration are largely based around individuals and their contacts and research interests. This seems efficient for a small Department like this, but perhaps some more structure and clear lines of accountability would help junior faculty members and set a culture for future growth. The role of research leadership is seen as mainly to provide research opportunities.

We found an open academic culture and positive atmosphere in the Department. There is a seminar series gathering almost every week with most speakers from outside Uppsala and two to three international speakers per term. We noted the practice of inviting researchers from other departments to speak about thematic research questions and not primarily focusing on statistical theory. As we understand, this may also lead to cross-disciplinary research collaboration and future joint projects. The seminars cover a broad range of topics, both theoretical and applied. In addition there are seminars of a more informal nature for doctoral students, which seems to respond to a demand.

We did not discovered problems regarding the research infrastructure but there was some concern with central IT services not always being easy to navigate when problems arose. The plans of the Department regarding development of research based on administrative population registers will imply administrative and economic challenges (buying and organizing the data, ethical permissions, linking of registers, etc.). The plans as such are to be supported, – and the challenges to be handled in due course.

A large part of the Department’s funding comes from education (“basic/advanced level”), and correspondingly a relatively smaller part from research and ‘research education’. As noted above, the Department has recognized the need to increase external research funding and, (considering the purported tougher competition for pure methodological basic research), concluded that this implies a need to strengthen the thematic questions in the methodological applications. This seems to be a justified conclusion, especially considering the research profile and strengths of the Department. The Department also correctly notes that this highlights the necessity of collaboration with various thematic fields. Which in turn emphasizes the role of the faculty and wider university in addressing allocation of resources to take into account the participation of all departments in funding of joint projects. We have understood that at present this is a problem and deem that this problem should be solved.

There is cross border collaboration including interdisciplinary collaboration, both internationally, nationally and within the University. This is seen for exam-
ple from the affiliations of co-authors of published papers and from descriptions of joint projects in the self-evaluation. There are many co-authors from outside the Department. With the hiring of the new full professor in 2015 there has been a shift in focus rather more towards thematically oriented methodological research. One motivation for this is to increase collaboration with other parts of the University as well as to increase the likelihood of attracting external grants. The practice of inviting researchers from other departments to present their research at the Department of Statistics, as well as the Faculty funded consultancy service provided by the statistics department, should also help contribute to future interdisciplinary joint research. All of this should be to the benefit of the quality of research at other departments as well as at the Department of Department of Statistics. Within Sweden IFAU is a main collaborator, but there is also collaboration with other authorities. The panel supports the ambitions for interdisciplinary research and shared activities, projects and shared positions. As noted above we also applaud the formal application process introduced internally at the Department for granting lecturers support for research projects with the primary aim of gaining external research funding.

In the introduction we already touched upon Bibliometrics for the Department of Statistics. As briefly noted, there is a growing trend in numbers of publications, and seems to be so also in terms of quality/level of journals. Many of the bibliometric criteria have on average more than doubled from the period 2007–2011 to the period 2012–2015. A rather large fraction of the publications are in Web of Science (55%). Making judgements about the “distinguished quality” or “top” criteria of publications, the figures in the bibliometric report seem to be too small for firm conclusions about possible trends in the period 2007–2015. As an indication of improvement the home page of the Department listed for 2016 and 2017 6,25 publications in Norwegian model level 2 (with fractional counting of authorships, of the 12 papers in this category listed there). So in addition to the growing trend in publication activity in quantitative terms, there are also signs of advancement in quality. The publication strategy is to publish in well-known scientific peer reviewed international journals. Publications appear not only in statistical sciences but in many cases also in different “substantive” disciplines like economics, psychology, medicine, etc. Improvements in research publication outputs can be related to changes in internal procedures which support the research culture.

In terms of career structure and mobility staff seemed content with funding for conference trips. But except for shorter trips there is not much research mobility with few staff seeking international placement or sabbaticals. Feedback to the panel identified the need for the Faculty/University to invest some effort to improve research mobility and exchange. The panel also felt Department itself could also itself provide more encouragement in this respect. The career struc-
ture as a whole is probably also an issue rather for higher organizational levels than individual departments. However, we appreciate the current actions taken, although rather small in relation to the issue of the career structure as a whole.

Concerning gender balance this seems to be similar to other comparable departments. There was an awareness of this imbalance and the department has a gender equality focus group, and systematically encourages women students to take Master’s degree.

In terms of research-teaching linkages the self-evaluation stressed the importance of all lecturers engaging also in research, and provides good examples of how this turns out in practice, as well as of interaction between research and teaching especially at the masters level (e.g. topics for dissertations). Thus, the masters programme in statistics can to be seen as a strength also from research point of view. While the panel would like to see broader recruitment of PhD students, the masters programme contributes PhD students as well.

Some diagnostic observations on PhD studies:

- in addition to courses offered at the own department PhD students take courses given by various parties (national cooperation between statistics departments; various departments at Uppsala University). In the discussion with the PhD students they did not identify problems in this respect. One of the PhD students said that the department has generously supported taking courses outside the University.

- as noted above approximately two PhDs finish per year with signs of a slightly increasing trend, the net study time 4.13 years, giving an indication of efficiency;

- there was a need identified for more supportive supervision in the beginning of the process, e.g. in formulation of research problem, one or two joint papers between supervisor and PhD student in the beginning of the thesis process could perhaps improve efficiency;

- there is not much mobility or evidence of longer research visits of doctoral students to departments outside Sweden;

- there are opportunities for doctoral students to engage with students from other departments, like the economics department (especially those doctoral students in statistics specializing in time series econometrics);

- the panel supports the initiative regarding a national research school for PhD students. It could contribute by further improving quality and efficiency in addition to hopefully attracting funding and increasing the number of PhDs. The role and the contribution that the Uppsala Department of Statistics plays in this should be monitored.
The issue of internationalization has been touched upon in various passages above. In many respects the department is well connected internationally, e.g. in research collaboration, although a couple of aspects could be developed further (mobility inside-out for longer research visits, and broader recruitment base of doctoral students).

Other matters. As one possible solution concerning critical mass, the department notes it receives considerably less amount of funding per student than some other statistics departments in Sweden, this should be explored.

3. Summary
3.1 Strengths
As noted above the department is in a stage of positive development as can be seen from the publication trend. The department has been able to use efficiently resources and possibilities which have become available. New appointments have contributed to a research environment with a young and dynamic faculty with ambitious future plans. The various initiatives and ambitions of the Department for interdisciplinary research and shared activities, projects and shared positions should all contribute to a positive and dynamic research environment.

- We found a positive atmosphere with freedom of research and high sense of belonging, and an academic culture which is open within the department as well as in various ways outward e.g. in seeking and building interdisciplinary collaboration within the University. Interaction with other departments is brought about in various ways e.g. by inviting researchers from other departments to present their research at the department. This active interdisciplinary openness and readiness can also be seen as an asset.
- There is a demand for statisticians and the Department has had some success in placing of PhDs on the market (London School of Economics, York, Brussels and Hong Kong). Further, the master’s programme in statistics can be seen as a strength also from a research point of view.

3.2 Weaknesses
As noted above, the main weaknesses relate to critical mass and external funding, and these have been discussed at some length in the analysis above as well as how the department deals with them. Some other weaker aspects are covered by some of the recommendations below.
3.3 Recommendations

The development in the department at present are in many ways positive. Accordingly there is to begin with a number of current initiatives which we commend:

- The practice of offering research time (currently 50% for two years) for newly recruited lecturers is appreciated, as well as the active allocation of research time to lecturers, based on a formal application process internally at the department, with strategic goals of the department in mind, especially for the purpose of producing good applications for external funding. We recommend that the following should be further developed and built on for future improvements:
  - encouraging researchers to apply for external funds;
  - establish a system of internal grants allowing several researchers to have extended periods of their time devoted to research;
  - suggestion that more experienced researchers would internally review applications for external funding before they are submitted, in order to increase success rates;
  - involve junior researchers as PhD supervisors (joint with a more senior supervisor).

- The current PhD student course collaboration between departments of statistics in Sweden is commendable practice for a discipline which is relatively small at most universities. As noted above we also encourage the initiative regarding a national research school for PhD students in statistics. But we also highlight the danger of this initiative taking time and possibly not materialising. The Department should consider other back-up options in case national research school is not developed.

- Funded by the Faculty of Social Sciences the department maintains a consultancy service free of charge for researchers and thesis writers from the Faculty of Social Sciences. The Department argues that this has been a good platform for inter-disciplinary research collaboration with other research disciplines, and that the University would greatly benefit if the consultancy service could be extended to the whole University and not only the Faculty of Social Sciences, presupposing the funding is correspondingly extended. The KoF11 report took a positive attitude to this arrangement recommending an organization which secures that it is efficiently used. Members of the current panel were largely positive to this arrangement, thinking that it should build up for interdisciplinary interaction and joint research and for efficient use of resources. However, doubts were also raised about the efficiency of a system with free service available. Clearly, the arrangement
needs to be organized so as to secure efficient use. At the Food Department we heard appreciation of this arrangement.

- As noted above we recommend more supportive supervision of PhD students in the beginning of the process, not least in formulation of research problem. Furthermore, one or two papers joint between the PhD student and the supervisor in the beginning of the process is believed to perhaps improve efficiency.

- While we have commended the positive atmosphere in the Department we think that the doctoral students could be better integrated and brought together especially in the early stages of their studies.

- It is suggested that the University considers to what extent statistics courses given at other departments could be centralized to the Statistics Department as the central and competent coordinated body for teaching statistics at the University. We recommended that the usefulness of shared positions in statistics should be considered.
Department of Food, Nutrition and Dietetics

1. Introductory remarks

The Department of Food, Nutrition and Dietetics is part of the Faculty of Social Sciences with 25 individuals of which the majority are female with two male staff members; this includes post-docs, PhD students and administrative staff. It has an annual income of 24 million SEK with 19% coming from externally funded research. The department recently recruited new associate senior lecturers and as of March 2017, includes four professors, one chair professor, three associate professors, one associate senior lecturer, three postdocs with two on external funding and nine PhD students with plans to recruit another chaired professor. Our visit was the last of our four visits to Departments and consisted of a half day of meetings with staff. The format followed that of other visits and consisted of an initial meeting with the head of department, the director of studies (first and second cycle) and director of studies (third-cycle). This was followed by a meeting with senior lecturers and post doctoral staff as well as the recently appointed chaired professor in Meal Studies. We then met with five PhD candidates. The visit concluded with a meeting with all four professors.

The department has a long history and has its roots in the science of home economics. It is probably fair to say that the department while having a long history and tradition is young in its pursuance of research and grant income. The recently appointed chair professor working in close collaboration with the Head of Department is leading the development in coordination with the Professors' Committee (consisting of the four existing professors) to establish a strategy for the department's research, quality and future strategies, publication strategies, funding and research ethics. The self-evaluation report focused on moving from the current situation and set out an ambitious agenda for development and growth.

2. Observations and analysis

These meetings highlighted a number of strengths and tensions that currently exist in the Department. There is a good academic culture combined with attention to a work/life balance and staff expressed a strong sense of belonging and identity with the department. This was apparent in the survey findings and was
reinforced in our meetings with the staff. The department is unusual in Uppsala as the majority of staff are female.

**Infrastructure** is lean in such a small Department and most staff have at some time had involvement in the management group. There are links and overlaps between research and management leadership. The PhD group pointed out that they as a large part of the Department numbers felt part of the department, there were nine PhDs candidates until early 2017 and now with recent successful completions there are seven. Responses to the survey and feedback from our meetings identified that a small number of staff members were not always aware of management decisions. While the responses are better than at the Faculty level there are a group of staff who are not receiving the communications and a similar percentage felt that competence needs in the research environment and recruitment strategies were not being discussed in the department. We noted in that in the self reflection report that the Department were already addressing this issue through weekly briefings and updates.

**Research leadership** is provided by the Professors’ Committee and the chair professor is leading the development of the research strategy and helping develop the academic culture. In such a small department there are inevitable overlaps and links between the Professors’ Committee and the Department Board. Research activities are currently organised around three key areas: 1) **Meal Research** covers research on food and meals from a broad perspective focusing on cultural and social aspects, which can be related to aspects of health: 2) **Communication of dietetics** explores and analyses the role of food and health in contemporary society and how certain foods are at the centre of attention among the scientific community, how nutritional issues and healthy foods are communicated in society and perceived among different populations and professions; 3) **Nutritional research** covers nutritional assessment and epidemiology, including developments of methodology for assessment of diet, nutritional status and physical activity, dietary interventions, studies concerning food consumption pattern and meal patterns in everyday life. The research is organized by the chair professor in Meal Research, and the plan is to have two chair professors, a post as chair professor in Communication of Dietetics is currently being advertised.

**Research funding and activity.** While external research funding is low research outputs are high. The self-evaluation document outlines an ambitious plan to increase research activity and grant income. The vision for the future focus on bringing in more grant income in order to boost research inputs and outputs. The burden for this currently falls on the chaired professor but the recruitment of a second chaired professor should enable this burden to be shared. There is a proposal to change the name of the department to better reflect the research work and the three research domains.
The current published outputs are wide-ranging but not directed by a publication strategy; a publication strategy is now being developed. The bibliometric report shows a large number of publications, helped by the PhD requirement for four publications. The three research areas offer a breadth of focus but in small department the spread and heterogeneity may mean less depth and focus in publication terms, this can be seen from the statistics on publications. In conversation with staff it emerged that the some of this can also be linked to the current structure around three research areas, which remain disparate and not joined-up, potentially making it difficult to identify subject specific high ranking journals which are meaningful to the three research areas. The top journals for meal research may be different from those for nutritional research. It may be necessary to specify the links between the three research areas and develop a publication strategy which acknowledges the divergences but also identifies the overlaps between the three area and suitable high quality publications. This could be of benefit to inter or multi-disciplinary research.

In terms of research-teaching linkages the three fields of research provide a ‘backbone to the educational programmes’ and serve as an updating platform for teaching staff and possibly also in the future for in-service training/updates of PhD candidates. The feedback from PhD students confirmed a number of the above points that were also highlighted in the department’s self-evaluation. Seminars were judged to be domain specific (ie to one of the three research areas) that were sometimes seen as exclusive. Research culture was focussed within these three units and identification in terms of research identify was strongly relate to the area staff were attached to, this was balanced with a strong sense of identity with the Department. The PhD staff talked about a culture of sharing resources and contacts but admitted to not always having a lot in common with respect to the core theoretical academic issues. For example one PhD candidate said the basis of her PhD studies on meal research was based on supply chain management and not nutrition or dietetics and that there was little point in attending sessions on these topics.

Mobility and internationalisation were identified as important by the PhD candidates but some said that travel abroad was difficult due to family circumstances. While there is general support for the concept, the PhD candidates said that while the option was open and they would be supported in the Department, it was felt that there was no particular emphasis on mobility and travel abroad. The department policy is that ‘Each teaching individual can leave the department for a week yearly on mobility without problems.’ Nonetheless it seems that this is not a strategy that is proactively pursued either for PhDs or staff. Similar to feedback from other departments the block was often having family commitments in Sweden. The Department has attempted to balance this by having high profile international academics as visiting fellows.
A research colloquium involving all researchers is held four to five times a year in order to discuss current matters and joint issues of interest, such as funding and publication strategies and this self-evaluation task. There have been some moves to increase the frequency of seminars but in a small department the opportunities are felt to be limited. This has been partially addressed by the using visiting academics to deliver seminars, (noted above) and linking them as discussion partners to PhD students and junior researchers. The survey data indicated that seminars have previously not been sufficiently open and there was a lack of a supportive discussion climate, this was reflected in feedback from the PhD candidates. This issue of critical feedback culture is being addressed by assigning senior staff to act as discussants at these seminars, there are plans to evaluate this in the coming year.

Other diagnostic observations that are relevant to the final evaluations and recommendations include the following:

- there is currently a lack of a clear future strategy regarding recruitment goals and strategies or future structural developments, this was until recently compounded by the paucity of research income and a clear research strategy;
- some of the new staff felt that there is a poor specification of strategic governance structures (e.g. composition and functioning of the Department Board), the relationship to academic structures and the communication of management decisions and procedures. This may indicate the need for a more comprehensive induction programme. The Department Board publishes minutes from all meetings and circulates these at the weekly internal meetings and all management decisions are communicated and most of the time posted in advance for comments. These are welcome developments to address this perceived gap in communication.

3. Summary

3.1 Strengths

- This is a small cohesive group with clear indications of a positive, welcoming and supportive workplace climate and a strong identification with the Department.
- The three areas of research activity: Meal Research, Communication of Dietetics and Nutritional research offer potential for future funding opportunities. The plans to change the name of the Department to better reflect the research expertise in the three domains may well help to better reflect the activities of the Department. The possibility of linking across the key
three research areas to deliver more interdisciplinary research opportunities is currently being explored.

- The recent recruitment of a chaired professor and the current search and appointment of a second chaired professor is necessary to take the current ambitious plans for research forward.
- The dominant female staff numbers may contribute itself to a more cohesive culture but the department would benefit from a diverse staff composition in gender terms (broader recruitment base, role models, more diversity in research questions)
- There are strong teaching links with other departments and faculties eg Education and Medicine so teaching cooking, nutrition and home economics in education programmes and nutrition in medicine. These links offer an opportunity to develop research links and partnerships across department and faculties.
- The development of flexible and online learning and international contacts offer a potential on which to build future research collaborations.
- There are flexible training opportunities for PhD staff including access to courses at other institutions such as the Karolinska Institutet. This is built on existing good relationships with staff in those institutions.
- PhD publications give Department staff an output, the requirement is that e 4 papers that form the PhD should be published articles. The PhD students regularly co-write and publish with their supervisors.
- There has been a steady growth in research outputs since 2011. This has been aided by the use of on-going Crown Princess Margaret (Stiftelsen Kronprinsessan Margarets Minne) grant to support PhDs.
- The links that the Department have with the Swedish Agricultural University, the Swedish Academy for Culinary Arts and Science and the National Food Agency all offer potential for research collaborations. The day of our visit it was announced that the National Food Agency was moving to a site close to the Department. The links currently exist at an individual level and need to be formalised at an institutional level, this is doubly important in the light of key staff retiring etc. The three research areas and the integration across them are a big potential for inter/multi disciplinary research across meals.

3.2 Weaknesses

- The retirement of key personnel in the near future, all a similar time, raises issues of continuity of leadership and management. The strategy for bottom-up growth and the promotion of PhDs and lectures is a high-risk strat-
egy and needs to be balanced with recruitment at intermediate levels. This recruitment also needs to have a more Nordic/international focus.

• The lack of international recruitment at staff level – eg Nordic/international leadership issues needs to be addressed. The department has thus far been advertising positions only in Sweden, due partly to the teaching demands at the Master level requiring Swedish skills. Competent potential candidates with the necessary skills in Swedish could certainly be found in the Nordic region, but also beyond. The existing chair Professor for Meal Studies is Swedish and has an international reputation showing that a well thought out recruitment strategy can attract the right candidates.

• Heavy teaching load of staff was considered as a major hindrance for research development. The lack of time for research among the staff group [the 20/80 split] with currently little opportunity to expand this. The small grant income offers little flexibility to cross subsidise or buy out staff time.

• The lack of a strategy to develop staff time on research (limited by current amounts of research income).

• The Department dominance of female staff can be explained partly by the very female-dominated recruitment base. The lack of gender balance among staff and students was taken for granted and not reflected as problematic, and there were no specific plans on how to attract male applicants.

• Academic tensions in the split between a social science and nutritional science focus? Some of the panel commented on this asking were the links stronger to the natural or social sciences. In a big department these splits can work to the advantage of all but in a small department it can look like a paradox. Linked to this are proposal for the development of critical dietetics this needs more consideration.

• Small and very heterogeneous research focus reflected by both the three research areas and the PhD community, so commonality is not always apparent around research foci. The PhD candidates while highly complementary of the sharing and the collegiality in the Department but felt that the research areas were self-contained and research seminars rarely crossed these divides.

• While staff and PhDs said they were not discouraged from international travel and sabbaticals, this did not seem to be proactively encouraged or a feature of the Department’s strategy.

• Current PhD recruitment base is small and largely limited to Swedish candidates. The post docs when talking about their research work and recruitment of PhDs talked commented on the pool of candidates not reflecting a wide recruitment base.
• The 60 credits of PhD courses currently included in the PhD need to be mainly “resources elsewhere as only few are self-organised by the Department, and finding and organising the courses can be demanding and time-consuming (but a list of possible courses has made recently available). There is a need for self-organised specialist courses for PhDs, which could be jointly delivered with others in their networks.

• Small research income – but strong teaching-links with other Departments and the potential to develop key research areas.

3.3 Recommendations
The panel strongly recommends:

• Addressing the issue of the retirement of key personnel. Succession planning needs more attention and should be balanced with the current bottom-up focus on growing young talent. This needs to be addressed at both Department and Faculty levels.

• Use international/Nordic advertising in recruitment of staff and PhDs to broaden the recruitment base, to attract more high-quality candidates; broader recruitment base provides also an opportunity to attract male candidates to improve the gender balance. Mentioning in advertising that you welcome especially male candidates since the staff currently is all-female could be considered.

• To clearly map research expertise and existing – Swedish and European – competition in research. This will help distinguish the Department from competitors, what in research terms they offer that others do not and also identify opportunities for research collaborations. This would also contribute to the articulation of a clear strategic aim. So think and articulate what is the ambition of the Department-to be the best at ‘what’ or for example to be among the 10% of nutrition food departments in Europe.

• Scale up the ambition for both staff and PhD candidates. A good strategy is the on-going development of a publication strategy and the encouragement of international staff exchange programmes.

• Within the Department there should be clear linking across the three research foci: Meal Research, Communication of dietetics, Nutritional research. These offer opportunities for inter-disciplinary approaches to the study of food and nutrition.

• There is a need to move at a slightly faster pace to develop some key areas such as the publication strategy that is already in progress and increases in research grant income. This should be related to plans for retirement among a number of senior staff along with new appointments.
• General PhD orientation course on research design, and a course on philosophy of science would be needed and could optimally be organised at the Faculty level. Need also for specialist courses for PhDs, which could be sold to others in their networks.

4. Final reflections on the similarities and differences between evaluation units within the panel – what to learn from each other?

The first point we, as a panel, would like to make is that the self-evaluation reports themselves identified the key issues and problems and weakness and the majority of Heads of Departments and staff identified this as a useful process. The next step is to develop strategies and support to address these issues and implement necessary changes.

The panel felt strongly that due to the differences between the four Departments comparisons are needless and that the issue was more about learning from good practice, hence many of our comments below are observations on the practices and gaps we found. We would like to start with some more general (and critical friendly) recommendations for –all – Uppsala University leaders for further improvements of, in many parts, an already strong research environment operating at the forefront of international research:

• To enhance the contributions of young researchers as well as more senior, merited researchers at Uppsala University; implement a transparent and stable Tenure Track system.

• Create a better balance between research and teaching commitments, especially for the group of promoted professors (on the basis of merit).

• Consequent on the previous point create more space/time for writing research applications (both national grant applications and ERC etc.) and research networking at both on national and international levels. This will help create a research environment leading to improvements of long-term research outcomes as well as impacts/citations (both qualitative and quantitative aspects). Such actions should also contribute to the creation of less work related stress and conflicts (between researchers, groups and teams).

• Develop more coherent and strong academic leadership (including Heads of Departments) that focuses on the workplace setting, recruitment, organization and deployment of resources to establish research goals and environments that operate at the forefront of international research.

• There were gender imbalances among staff, especially as one went up the hierarchy. Redressing this situation needs proactive plans which should include policies contributing to a gender equal research culture. The answer
does not simply lie in recruiting more female staff if gender patterns and challenges of the work environment are left unaddressed. The work stress referred to above were more common among female researchers. It needs to be said that in none of the departments did the department leadership mention that the gender mainstreaming planning duty by the Swedish government, given since 2016 to all Swedish universities was impacting or helping in their activities on gender equality. On the basis of the departments we visited it seems that in Uppsala University, this major comprehensive gender equality duty with an idea to gender mainstream all activities of universities has not been reaching the department level where important day-to-day decisions relevant for gender equality are made. Furthermore, the Faculty representative the panel met confirmed that the gender mainstreaming duty had thus far had little impact at the faculty level, and for some reason had remained at higher administrative level at the University. We would strongly encourage Uppsala University to use the opportunities provided by the gender mainstreaming duty (including support for activities given by the Swedish Gender Secretariat) to facilitate and support departmental and faculty activities to increase gender equality and, improve gender balance at Uppsala University.

Now follow some general observations under key headings.

Research leadership and identity
There were variously levels of identification with the University, the research group and Department. Large Departments were driven by research foci whereas staff in small Departments were defined by an identification with the Department, the model used in Economics and Statistics where seminars were organised to straddle these cultural different identities and introduce a unified research culture are to be commended.

A number of panel members were concerned over the differences between chaired and promoted professors especially in terms of teaching and research allocations.

It is clear that research and work cultures need to operate in tandem, but we saw in some instances divisions between academic and management leadership; both are needed to produce a creative and satisfying work and academic environment.

There appeared to be a lack of central University support (financial and strategically) for the future development of Departments. From the four unites we explored there seemed to be tipping point of between 30–40% of research income which resulted in a flexibility to be research active. This allowed staff time to be ‘bought out’ from teaching for research.
Internationalisation
International recruitment of staff lacks a strategic direction. The responsibility for this needs to be shared with Faculty and Higher University levels. There is a need for all departments to balance bottom up and internal recruitment with the need for staff with international academic reputations.

As was identified by other panels the lack of internationalisation among staff in terms of spending time abroad on sabbaticals was an issue, the point was made that their counterparts in other counties have the same social ties and restrictions such as family etc.

The same was found with PhD students, spending time abroad was not discouraged nor was it encouraged in a formal sense. There needs to be a more proactive response to this.

Research funding and department culture
Success in research funding was closely linked to research groupings and shared interests. Membership of research groupings needs to be balanced with a sense of identification and belonging to the Department. Both are essential for the development of a strong research culture.

The tenured track system being used in the Department of Economics could be considered as a model for other departments.

The practice in the Department of Statistics was that research income was used to offer research time to new staff to help them develop their own research was highly appreciated.

Collaborations and outreach
Nearly all staff we talked to highlighted the difficulty of working across Departments, faculties and domains within Uppsala University. While there were some examples of good practice these often depended on individuals making these links or being driven by research funding. There was an expressed feeling that the systems at Uppsala University did not lend themselves to cross department, faculty or domain research. The majority of staff we talked to identified impermeable barriers across the University to interdisciplinary work and a lack of clear facilitative policy and resources.

In two instances (Statistics and Economics) and one planned (Food) links with external research centres offered a range of increased possibilities for augmented funding and research opportunities for staff.

Research-teaching linkages
One concrete aspect that could be addressed is that of the funding formulas used for allocation of resources to departments, this should recognise when more than one department is involved in a project which involves external funding.
PhD support and training
All PhD staff with contracts of employment expressed satisfaction with this situation. We found varying practices concerning stipend/contract of employment and lack of strategic direction in this respect on higher level. Contracts of employment were identified as a positive move as it allowed access to state benefits. A number of the female PhDs we talked to identified problems with access to services and benefits if on a stipend.

Additional benefits to the formal training for PhDs identified were in the support and incentives offered. For example feedback acknowledged that it is positive when the publication strategy is discussed with at an early stage in the PhD journey.

International recruitment at both PhD (and staff levels) lacked a strategic plan. Some of the responsibility for this needs to be taken on board at Faculty and Higher University levels.

Develop an e-newsletter to inform students and staff about courses and training opportunities at other departments.

Sharing good practice
There were examples of good practice in individual departments such developments in PhD training, tenure track systems, research support for newly appointed staff and PhD supervision, but much of this remains invisible across the University. At Faculty and across domains there is need to find way to share these examples of good practice. For example members of the panel were impressed by what they learned of the tenure track system being used in the Department of Economics and felt that there was a need to help the Department in any way possible to maintain and develop the system but also to share this model with other departments.

Practical issues
There were two support issues identified by the majority of Departments and staff requiring attention there were:
1. Information technology services were reported not to be addressing the needs of staff.
2. Language support for publication, with adequate disciplinary expertise.
   (There were complaints in some departments that the contracted language support of the University was not competent enough in the disciplinary areas of the texts to provide adequate support.)
1. Introductory remarks
Panel 5 assessed five units of different sizes and structures. The panel met in different constellations with their leadership, senior researchers, non-tenured, post-PhD researchers, and PhD students. In some units we also met administrators. Before the meetings, we had read and discussed a large body of material that included self-evaluation reports, surveys, and bibliometrics. During the discussions, the panel identified and agreed on specific themes that would be given special attention in each unit. This report is based on this material, the on-site interviews and the subsequent deliberations in the panel.

2. Observations and analysis
2.1 General impression
The overall and general impression of the Institute of Housing and Urban Research (IBF) is that it is a vibrant and dynamic research environment with explicit future strategies as well as structures and activities that enhance and strengthen its research. The multidisciplinary agenda implies some challenges, and there is some tension between the national assignment and policy relevance on the one hand and international research agendas on the other. There are also challenges related to funding and recruitment.
2.2 Aims, strategies and vision
In terms of strategies and vision, the IBF stressed its ambitions to enhance internationally strong research through intensified collaboration, international recruitment and publications. There is a need to increase the number of publications and to establish international networks and collaborative structures. Ideas on the interdisciplinary nature of the institute are clearly formulated. Future visions emphasise IBF’s role in a national perspective and in addressing challenges such as housing shortage and spatial segregation in a Swedish policy perspective. The institute is well positioned to play a key role in the housing and infrastructure discussion in Sweden. A clearer action plan in this regard and in policy relevance could, however, be elaborated.

In addition, a future vision for the institute that declares an ambition for a five to ten-year period could be more clearly formulated, potentially in continuation of the Quality and Renewal Process and the self-evaluation process. There seems to be little awareness of the overall university strategy and a lack of connection between the Institute and the University vision. During the site visit, it was clearly stated that internationally strong research is the highest priority, but that the institute should consider taking outreach activities to another level. These two different agendas and goals need to be explicated, problematized and concretised into plans of activities.

2.3 Recruitment strategies
The recruitment strategy is relevant and realistic with its focus on broad and open calls and strong emphasis on postdoc recruitment for renewal of research. The established structure of four core areas (economic history, human geography and political science and sociology) puts restrictions on disciplinary recruitment of scholars from, e.g., architecture and/or urban planning, which is a stated objective.

The leadership also expresses a need to balance recruitments; being an actor in the Swedish housing discussion requires international recruitment. In addition, there is a highly sensitive approach to diversity issues and equal opportunities, including gender, and a clear awareness of the need for recruitment that allows for diversity. However, the quantitative gender imbalance in senior positions must be actively addressed.

2.4 Research leadership
There is a strong, strategic and dynamic leadership of the institute with consensus on core issues. This includes a strong academic culture, good possibilities for getting comments on projects and papers, and a varied publication strategy.
2.5 Academic culture
There is a very strong common identity and dynamic academic culture. The Institute has developed a strong seminar culture with high attendance and generous room for intellectual discussions. An institutionalised informal culture exists, where academic dynamism evolves from “fika”, lunches and small talks. The general atmosphere is highly inclusive and supportive, knowledge is transmitted to younger researchers, and the senior staff is highly accessible to junior staff. Sentiments of collegiality are strong.

2.6 Infrastructure
The infrastructure generally appears to be adequate, although some obstacles are pointed out. A particular feature of the infrastructure is the internationally unique in-house database GEOSWEDEN, which is an important resource for research. Its continued existence is a concern since funding may be threatened and Statistics Sweden might not be as collaborative as it has been so far.

2.7 Research funding
The environment has been quite successful in attracting grants announced in fields related to sustainability. However, the organisation of research funding is viewed as a problem. There is no particular sector body for research on housing and the public agencies do not provide enough support for research on housing and urban issues. FORMAS, which has the formal responsibility, is perceived as being too focused on agriculture in relation to building.

The incentives for external funding appear to be rather weak. Most of the funding comes from the faculty; only around 28% come from external sources, which must be considered low for a research institute.

A structural tension could be identified between the lack of incentives for senior researchers to attract external funding and the fact that only external funding can provide mechanisms for expanding and mitigating the existing structure with four core areas. Attracting external funding is necessary in order to realise a more flexible and dynamic recruitment strategy.

2.8 Outreach
The clear assignment to work in outreach activities is fulfilled in a satisfactory manner. The potential tension between outreach, policy-oriented or applied research and internationally high-quality research is in general addressed appropriately and adequately. One could have expected a more explicitly formulated involvement in the housing situation given the high numbers of newcomers to Sweden. In addition, better links with the private sector could be developed.
2.9 Publications
The interdisciplinary environment presents some challenges in terms of producing a coherent publication strategy. Since the researchers as well as the PhD students have different “home-disciplines”, the outlet for publications varies between disciplines. There is also a certain tension between the incentives to publish in highly ranked disciplinary journals vis-à-vis more thematical journals in the field of housing and urban planning. There was a high level of awareness concerning this dilemma and the researchers were well prepared to deal with it. Publication workshops and seminars are held to improve papers for publications and find the most appropriate outlets.

2.10 Career structure
The research environment provides a high level of support for younger researchers. PhD students and younger researchers are well aware of what is required from them in terms of publishing and other steps. PhD students are admitted to PhD education in disciplinary departments and therefore have a belonging in two different environments. All PhD students seemed to benefit from the informal, collegial and inclusive structure of IBF as well as the possibility to get feedback and comments from different academic perspectives. In general, the PhD students praise their supervisors’ capacity for career advice. Each PhD has been offered a three-month postdoc after presenting the dissertation, which has made some difference in terms of being able to apply for grants and/or publishing.

There is no structured mentorship for postdocs and junior researchers, but the site visit reveals a high level of satisfaction with the informal support.

One problem when it comes to applying for tenured positions is the lack of teaching assignments and educational activities at IBF.

2.11 Research-teaching
Since the IBF does not have an educational programme at BA- or MA-level, the interaction between research and teaching is limited. This may block career opportunities and in the long run make the Institute less attractive for potential future recruitment. Considering the importance of urban processes, it would be of value for students to get more input from this research field. A general observation is that cross-disciplinary research centres may stagnate if they are not connected to education. It might be worthwhile to investigate if the faculty could distribute a small percentage of resources for education through other means in order to create more dynamics and renewal. The Institute could for instance offer short and specialized courses that address current housing issues in Sweden.
2.12 Internationalisation
IBF strives for a higher degree of internationalisation and already has a high standing through the European Network for Housing Research. Doctoral students are encouraged to participate in conferences within this network and beyond and receive support when they do. Despite institutional as well as individual research cooperation with universities worldwide, the overall strategies for increasing internationalization are a bit vague. For instance, the lack of collaboration with African universities must be remedied considering the rapid urbanisation processes in many African countries.

3. Summary
3.1 Strengths
• A highly inclusive and supportive research environment with a strong common identity and sense of belonging despite the diversity of themes, research areas and disciplines. The informal structures are institutionalised and provide a constructive environment and working climate.
• Interdisciplinarity creates a dynamic academic culture with considerable space for renewal.
• There is strong support and mentorship for younger researchers and PhDs, who are introduced to the scientific community in general and the IBF in particular in a thoughtful way.
• The institute has a potentially strong national position in Swedish research and policy formulation and housing.
• A satisfactory approach to and strategy for international publication.
• A strong awareness of diversity as quality enhancing.

3.2 Weaknesses
• Tensions between the national focus and international research trends; policy and applied research and fundamental research; and interdisciplinarity vis-à-vis disciplinarity.
• Weak incentives to apply for external funding.
• Vaguely formulated internationalisation strategies.
• Inflexibility in recruitment.

3.3 Recommendations
• Create a vision and formulate ambitions for the next five to ten years including the possible tension between the focus on international research and on Swedish housing problems respectively.
• Create incentives and strategies for applying for research grants.
• Identify clearer vision and strategy for international collaboration.
• Make a clear plan for the future funding of GEOSWEDEN.
• Make a clearer action plan to participate in discussions about the Swedish housing situation.
Uppsala Centre for Russian and Eurasian Studies

1. Introductory remarks
Panel 5 assessed five units of different sizes and structures. The panel met in different constellations with their leadership, senior researchers, non-tenured, post-PhD researchers, and PhD students. In some units we also met administrators. Before the meetings, we had read and discussed a large body of material that included self-evaluation reports, surveys, and bibliometrics. During the discussions, the panel identified and agreed on specific themes that would be given special attention in each unit. This report is based on this material, the on-site interviews and the subsequent deliberations in the panel.

2. Observations and Analysis
2.1 General impression
UCRS is a potential model of inter-disciplinary scholarship and teaching at Uppsala University and beyond. It is a vibrant nexus of research and scholarly exchanges coming from a variety of perspectives. Under the present leadership, the Centre has built on an already impressive research agenda in a very short time. It is worth noting that the Centre has grown from 8 people in 2010 to 33 at present. It is a prestigious, internationally recognized institution, among the top ten in the world. It has become internationally known as one of the very best places to study Russia and Eurasia and for visiting scholars to present their research to the Uppsala University community.

The Centre's programming reflects this leading role, showcasing prominent external speakers, internal faculty presentations, workshops and world-class conferences. We found that faculty, students, and staff all benefit from the diversity of activities at UCRS. The general research environment is good. The Centre has a clear and realizable strategic vision. As we noted in other units, it was not clear how this vision fits with the overall University mission. The self-evaluation is an honest assessment of the Centre's strengths and weaknesses.

The Centre generally reflects what is good and what is challenging about regional studies. Regional studies often compete with thematically or disciplinarily defined studies. At the outset, we would like to note that the panel believes that regional studies (and the language programs that must accompany them) are important units at many universities. Events in the former Soviet space (for ex-
ample) indeed caught many institutions (and governments) off guard in terms of regional understanding. UCRS reflects the need to strengthen the study of Russia and Eurasia, which is important for Sweden. Uppsala University’s leadership needs to send a strong message of stability to UCRS.

2.2 International network and internationalization
The Centre welcomes many international visitors to Uppsala. Clearly big money is being spent on leading international visitors. This is also reflected in the impressive conference agenda, which introduces researchers and students to a high-quality network, which is vital for the success of regional studies students. 2017 offered some excellent events. The Centre makes a lot of international footprints. It has strong links with the region, and students have the opportunity to engage in field work. The Centre has a clear and defined internationalization agenda, which will certainly be an advantage if the Centre establishes an MA program. It was clear to us that researchers and students have access to a well-developed regional network. The network of partners in Russia is particularly impressive.

2.3 Recruitment
75–80 percent of the staff at UCRS is international. This contrasts with other units with significantly less external recruitment. This is a vibrant international research environment and it is poised to become a vibrant international teaching environment too. The senior research team is internationally recognized. PhD students and postdocs therefore have access to a solid group of mentors. The students we met were enthusiastic about the Centre. The biggest drawback, they noted, is that they do not get an opportunity to teach.

2.4 Funding
Students and postdocs are content with their access to funding with seed money available for conferences and research. Much of their knowledge was latent as the Centre is not always clear in its message about funding possibilities. In conclusion, the research environment is adequate, which means that students have the basis for research success. Students did not note any difficulties with access to senior scholars. The atmosphere is very collegial, albeit somewhat formal.

UCRS is too dependent on block grants. The ratio of internal to external funding makes the situation somewhat precarious, and more sources of external funding will be necessary. Major foundations outside of Sweden should be considered given increased interest in Russia and Eurasia more generally.

The funding strategy is not totally clear. How much funding does the Centre need? Does it have enough, and would it run into problems if it attracted more external funding (with low overhead) with the consequence that other activities
would be squeezed? There are no clear signals as to how much the Centre co-
funds external funding.

2.5 Publication record and strategy
The Centre's publication record is good and internationally recognized, especially
journal publications as described in the self-evaluation. Hosting the *Journal of
Baltic Studies* reflects the Centre's commitment to engagement. However, the
research output would benefit greatly from a more active and on-going discus-
sion on what multidisciplinarity and/or interdisciplinarity could mean in prac-
tice. There seem to be some uncertainties about research identities. Reflections
on this could be especially important if the vision includes to make those great
new theoretical contributions mentioned by the team. The self-assessment notes:
“We will continue with our multidisciplinary research approach, which can be
defined as a non-integrative mixture of disciplines in that each discipline retains
its methodologies and assumptions without change or development from other
disciplines, i.e. the researchers collaborate, but they maintain a separation of their
disciplines in the process.”

The UCRS' publication strategy is not entirely clear. We received mixed sig-
nals on the preferred type of publications: Should young researchers go for jour-
nal articles, book chapters, other outlets? Should they go for general disciplinary
journals or for field journals? Some even expressed that content is more impor-
tant than publication strategy. This is hardly wise advice for young scholars. PhD
students need clear and strategic guidance to secure meaningful careers. This
vagueness seems to reflect some internal tensions that have not been addressed
by the senior management.

2.6 Absence of teaching possibilities
The absence of a teaching component diminishes the experience of the PhD stu-
dents and postdocs.

2.7 Feedback
The present talk and Q&A seminar format might have advantages with respect
to pitching ideas but it also means that feedback to junior scholars is not institu-
tionalized. The academic seminar culture could be strengthened. In addition,
students should be encouraged to learn how to write for different non-academic
audiences. It is very important for all researchers, for young researchers in par-
ticular, to receive comments on manuscripts, but it seems that most seminars at
the UCRS focus on research ideas rather than on comments to draft papers. We
think that establishment of a formalized forum for such commenting on nearly
finished papers is a good investment for all researchers, but most certainly for
young researchers (i.e. researchers who are not yet in a permanent position).
2.8 Career planning
Senior scholars could help students secure viable careers by helping them make strategic decisions in terms of the topics they write about. While acknowledging that marketability may not be the best term, students need help in making the right research choices.

2.9 Website
Finally, the website is somewhat rudimentary in that it fails to capture the dynamism of the Centre. For example, there is no information on UCRS partners or student profiles. Inadequate websites are a general problem at the units we visited.

3. Summary
The Centre is facing the same challenges as similar centres around the world. The main issue for UCRS is to become truly inter- and multi-disciplinary. This easier said than done, and the next two years are critical for the Centre.

3.1 Strengths
- Strong international network.
- Truly international staff.
- PhD students and postdocs have access to a solid group of mentors.
- Easily accessible senior scholars.
- Strong publication record.

3.2 Weaknesses
- The approach to multi- and/or interdisciplinarity needs to be discussed.
- Lack of teaching opportunities.
- Vague academic seminar culture.
- The UCRS publication strategy is not entirely clear.
- UCRS is too dependent on block grants. Unclear funding strategy.
- Non-informative website.

3.3 Recommendations
- Enhance the interdisciplinary (and scholarly) nature of the entire enterprise of UCRS.
- More formalized and regularized meetings of the disciplinary contributors to UCRS. This will further the interdisciplinary advantage of UCRS and ensure inclusion of all vested and interested parties.
• Strengthen interdisciplinarity through formal institutional mechanisms (for instance by introducing an advisory board, joint seminars and joint research) and a committee composed of representatives of stakeholder departments and programs at Uppsala University. There is a strong need for meaningful bridge building to other departments, centres and institutes.

• Develop research circles among faculty and staff at Uppsala University that include people from other universities and non-academic (including government) institutions.

• A re-organization of the Centre would help immensely with realizing points 1–4. Sustainable interdisciplinarity would come from increased stability.

• Students should be encouraged to learn how to write for different audiences.

• Introducing a multi- and interdisciplinary teaching program can only strengthen UCRS, and it is something that the panel supports. The panel urges UCRS to look at best practices in the United Kingdom and North America. UCRS is already a viable research unit which will be strengthened by a teaching program. It would be ideal if a new MA program had a mandatory interdisciplinary seminar.

• Commit to the University’s goals of gender mainstreaming and to adopting and implementing these when (and if) UCRS transitions from a centre into an institute. An equal opportunities representative should sit on the board.

• There may be a need for less formal seminars – something inbetween formal seminars and informal discussions – that focus on brainstorming.

• Improve communication to junior scholars about career opportunities. Students should also be trained for non-academic careers. If the Centre does offer a teaching program, this aspect will need to be strengthened.

• Develop better outreach programs. The website notes that UCRS “is designed to serve not only as a center of scientific excellence but also as national resource center.” We did not see much evidence of this. More effort could be put into public outreach despite challenges. Cooperation with the Government of Sweden was too easily dismissed.
Centre for Gender Research

1. Introductory remarks
Panel 5 assessed five units of different sizes and structures. The panel met in different constellations with their leadership, senior researchers, non-tenured, post-PhD researchers, and PhD students. In some units we also met administrators. Before the meetings, we had read and discussed a large body of material that included self-evaluation reports, surveys, and bibliometrics. During the discussions, the panel identified and agreed on specific themes that would be given special attention in each unit. This report is based on this material, the on-site interviews and the subsequent deliberations in the panel.

2. Observations and analysis
2.1 General impression
The Centre for Gender Research presents itself as a very vibrant and supportive research milieu with a dynamic, vital, and inclusive academic culture. Interdisciplinarity seems to be more than a buzzword here. They have a clear vision in terms of institutional strategy and where they want to be academically 5 years from now. The Centre convincingly details its aims. In particular the panel wants to stress that the Centre strives to become a unit whose knowledge and competencies are recognized and used by the entire university. So far this doesn’t seem to be the case; at least not as much as it could be. Although only established in 2003, the Centre is already an exceptional hub in Sweden for scholars and students from a wide range of disciplinary backgrounds. Its profile at the interface of medicine, natural science, humanities, and social sciences is rather unique in Sweden. The panel was impressed by the supportive atmosphere that creates “out of the box” thinking and groundbreaking new research. This was authentically presented to the panel by the management and senior staff and confirmed by the PhD students and non-tenured faculty/postdocs and researchers. However, more could be done to develop the publication profile and incentivize scholars to publish in general disciplinary journals.

2.2 Aims, vision, and strategies
The Centre has clearly defined strategic and academic mid-term aims. They point towards consolidation of permanent employment and towards teaching commission at undergraduate and advanced level. The Centre also wishes it had its own PhD funding. It has ambitions to enhance internationally strong research through
stronger international collaboration, international recruitment and publications. The research agenda might need to become more focused though the current mix of some more or less stable core areas/research groups and more ad-hoc areas seems to be productive. All groups constitute possibilities for developing collaborative ideas for projects within the group and beyond. They attract international collaborations and visiting scholars and provide space for interdisciplinary co-authoring of research articles, anthologies etc. The Centre also demonstrates an extraordinary commitment to public outreach.

2.3 Research leadership
The management is clearly generally supportive with respect to external funding, research presentation, and e.g. stress prevention. The panel got the impression that the Centre and its management made the very best out of fairly limited resources. They try to find solutions and think creatively about opportunities. The Centre is entrepreneurial in the best sense.

2.4 Recruitment
The number of tenured staff is capped by teaching obligations. The Centre has nevertheless been able to recruit three senior lecturers recently. Postdocs are recruited in different ways. Some are recruited on the basis of strategic calls and are given the possibility to go for external funding for a longer period. Recently this strategy brought about a European Marie Curie Fellowship. Postdocs as well as guest researcheras are nationally and internationally recruited. PhD students are admitted to PhD education in disciplinary departments and in the Centre, which produces some challenges in terms of background in gender studies. The management could be more ambitious and creative as regards the possibilities for increasing the share of male employees at the centre.

2.5 Academic culture
The Centre has a strong common identity and dynamic academic culture. The establishment of very specific and distinct, yet cross-disciplinary research groups with their own seminar series seems to be successful. So does the PhD forum which is organized by the professor but builds on topics chosen by the PhD students. It allows them to prepare for internal seminars and support each other to speak in a seminar environment where senior researchers participate. This appears as a tangible way of challenging the academic hierarchical structure. The Centre’s intellectual culture is informal in the best sense, including open-door policies and flat hierarchies. Leadership is extremely supportive and transparent. The director and senior researchers are highly praised by PhD students and junior researchers. PhD students benefit from the informal, yet transparent, collegial and inclusive structure and the possibility to get feedback and comments from
different academic perspectives and across all ranks. In general, the PhD students praise their supervisors’ capacity for career advice. Mentoring seems to work very well. The site visit revealed a high level of satisfaction across all academic levels.

The panel was impressed by the supportive atmosphere that creates “out of the box” thinking and groundbreaking new research. This was presented to us both by the management and senior staff as well as confirmed by the PhD students and non-tenured faculty/post-docs and researchers.

2.6 Research funding
Given the size and lifetime of the Centre, it has been quite successful in attracting grants. Though management clearly supports researchers in attracting external funding, “there seems to be some confusion about the extent to which young scholars can have some co-financing from the Centre on top of external funding”.

2.7 Outreach
The Centre clearly emphasized the importance of outreach (e.g. gender talk at the theatre and other public arenas).

2.8 Publications
The Centre has a detailed internal publication strategy for junior scholars, including presentation of publications in progress at the Centre’s seminar, discussion and feedback in the PhD forum, and co-authoring with senior scholars. However, the interdisciplinary nature of the environment makes the publication strategy less clear. Gender research still faces obstacles in getting into mainstream journals. In addition, outlet for publications varies between disciplines. There is also a certain tension between the need to publish in highly ranked disciplinary journals vis-à-vis more thematically oriented journals in the field of gender. There is a high level of awareness concerning this dilemma, and PhD students got clear advice from the academic leaders on how to approach it.

There might be good reasons for not having more emphasis on general disciplinary journals, but the danger right now is mixed signals regarding publications. It might become a self-fulfilling prophecy that there are less clear signals as regards quality publications. The multidisciplinary structure might also bias research in the direction of edited volumes and specialist journals.

2.9 Research-teaching
Education in Gender Studies is provided at BA- and MA-levels. In addition to tenured staff, non-tenured researchers, guest researchers and PhD students teach and thus contribute to the imbrication of research and teaching. However, the education commission is capped and thereby limits the possibilities to attain an extensive teaching record for researchers in temporary positions. This may affect their career opportunities.
2.10 Internationalisation
The Centre strives towards a higher degree of internationalisation and already has a high standing in European Gender studies networks. Doctoral students are encouraged and receive support to participate in international conferences. The Centre hosts a lot of international guests and participates in institutional as well as individual research cooperation with a number of universities globally. The self-evaluation report details strategies to enhance international collaboration.

3. Summary
3.1 Strengths
• Inspiring working environment, commitment to common goals
• Professional leadership, engaged staff
• Good discussion climate; good and critical feedback on papers
• Satisfactory success in external funding, including ERC funding (Marie Sklodowska-Curie Curie Fellowship)
• Awareness of the double commitment of many staff members to the Centre and other UU units.
• Strong internal administrative and professional support e.g. for writing applications for external funding

3.2 Weaknesses
• A publication strategy that is not very clear concerning disciplinary and mainstream journals
• Multidisciplinary structure that puts tension on researchers in relation to their disciplinary belonging
• A vulnerable economic situation with few senior staff
• A rather low teaching commission
• A biased gender composition of the staff

3.3 Recommendations
• Develop a clearer and more ambitious publication policy for publication in cross-disciplinary vs. disciplinary journals, set high quality goals.
• The research agenda might need to become more focused, though the current mix of more or less stable core areas/research groups and more ad-hoc areas seems productive.
• Increase internationalization through international collaborations, international recruitment and international publications.
• Develop an ambitious funding strategy that may make the budget less vulnerable.

• A transparent co-funding policy in relation to external funds, e.g. a co-funding paper.

• Consolidate permanent employment and teaching commission at undergraduate and advanced level.

• Develop a strategy for a more equal gender composition of the Centre's staff. The Centre could include recruitment of men in its vision, e.g. through special small grants aimed at researchers in male-dominated fields where a gender perspective is lacking today.
1. Introductory remarks

Panel 5 assessed five units of different sizes and structures. The panel met in different constellations with their leadership, senior researchers, non-tenured, post-PhD researchers, and PhD students. In some units we also met administrators. Before the meetings, we had read and discussed a large body of material that included self-evaluation reports, surveys, and bibliometrics. During the discussions, the panel identified and agreed on specific themes that would be given special attention in each unit. This report is based on this material, the on-site interviews and the subsequent deliberations in the panel.

2. Observations and analysis

2.1 General impression

DPCR has achieved a rare feat: It has built up a world-leading research environment in conflict research. First, researchers at the department regularly publish in some of the best journals in especially political science and peace research. Second, the department has successfully internationalized research and teaching. Third, this has occurred via a decentralized strategy that empowers researchers and research groups and via strong norms about research excellence. However, due to the very strong research culture, a lot of “tacit knowledge” is not always accessible to newcomers and junior scholars. The DPCR should strive to formalize and explicate some of the mechanisms that determine internal hiring and placements elsewhere, whether within or beyond academia. The DPCR could also act more strategically in order to counter some of the problems it feels are imposed from the outside, whether via formal rules and regulations or more general incentive structures.

2.2 Aims, strategies and vision

DPCR has a very clear vision about producing cutting-edge research on the causes of peace and conflict. To do so, it uses a decentralized strategy of empowering researcher groups that use different methodological approaches and focus on different aspects of this general theme. It cooperates intensively with other conflict study environments in particularly Northern and Western Europe via decentral networks between researchers and via more formal cooperation such as the ENCoRe-network. The internationalization also extends to the MA and PhD program. This international environment creates peer pressure that on a
continuous basis facilitates upgrading of research output, research processes, and research support. Finally, the database the DPCR has built in itself makes it a node in international conflict research.

DPCR is very closely aligned with UU’s goals. However, in both the self-evaluation report and during our visit, the management and senior researchers’ level were somewhat defensive and focused on many obstacles outside of the department, e.g. in the central administration. Other environments we visited also pointed out some of these obstacles and we have flagged this elsewhere in the report. However, it is our impression that there is more room for maneuverer on many of these issues than perceived at DPCR regarding the time horizon for planning teaching, the ability to take in more postdocs, the ability to advertise tenured positions based on external funding, and the attempt to create more equal opportunities for men and women.

2.3 Academic culture and research leadership

The strong common identity described above was shared by senior scholars, junior scholars, and PhD students alike. The most telling indication was what the self-evaluation report terms a “publication culture”. Junior scholars and PhDs perceived top journals as natural outlets for their research. This publication culture was underpinned by strong mechanisms for developing and refining research among both junior and senior scholars and strong mechanisms of integrating the different strands of research found at the DPCR. This occurs both via formal structures such as senior supervision, research seminars, and brown bag sessions, via the research projects that link different researchers to each other (many DPCR researchers are part of multiple projects), and via informal contacts that improve researchers’ ability to receive feedback. There seemed to be a lot of focus on this, expressed by initiatives such as PhD group supervision, workshops on R&Rs, and “shut up and write” sessions.

In general, DPCR has managed to create an environment where research becomes a collective enterprise even in the cases of sole-authored products. Junior scholars learn what it takes to publish in top journals, not to be discouraged by one or more rejects along the way, and how to handle revise & resubmit processes. Furthermore, there is ample room for junior researchers to pursue their independent research and develop a distinct profile. The research-oriented environment at DPCR thus allows both senior and junior scholars to build new projects around new ideas, and the opportunities for collaboration make it easier to put together a credible team when trying to attract external funding. Such teams often include scholars from DPCR and other places, some of which regularly collaborate with DPCR. The department provides structures that empower decentralized research leadership, which is probably the best way to create top
research. This also means that junior researchers know that spending time at DPCR is likely to improve their career prospects, even if they are unable to stay on and get tenure. Remarkably, researchers at all levels perceived the very strong peer pressure to do international top research – with all the difficulties this entails – as constructive.

2.4 Recruitment strategies

One aspect of the internationalization and the professionalization at DPCR is the ability to regularly attract talent from abroad based on open calls with respect to student intake, the PhD programme, and hiring at especially the junior level. The clear ambition is to always get “the best and brightest”, rather than people with narrow competences.

However, PhD students and junior researchers lacked explicit information about how to progress in their careers, specifically how to achieve a tenured position. The attitude among especially junior scholars was that “It tends to work out for people – but we don’t know how”. A general document describes the requirements, but junior researchers, senior researchers and management pointed out that it is vague on how exactly these general requirements should be operationalized. This is very problematic in a system where so few tenured positions are announced and where it is therefore important to know when tenure is unrealistic. Likewise, PhDs mentioned a lack of structures for career advice in other respects than publishing top research, namely how to get a research position as postdoc at DPCR, a similar position elsewhere, and moving into international organization such as the World Bank or the United Nations.

There is clearly room to create more transparency on these issues, which can be rather stressful at both the final PhD stage and the post-PhD stage. It should be mentioned that the need for a more explicit junior recruitment strategy was already acknowledged by the senior researchers and management. With regard to equal opportunities, there seemed to be a common understanding that this is in place at DPCR, which seems plausible based on the overall gender balance. Nonetheless, we encountered a somewhat defensive attitude, perhaps an unwillingness to acknowledge the privilege of some at the expense of others. Furthermore, DPCR is strikingly monodisciplinary in one respect, namely the dominance of researchers with a political science background in peace research or political science. While we understand that e.g. economists, psychologists, geographers, and mathematicians may have fewer incentives to spend time at DPCR than peace researchers and political scientists, there is a risk that the focus on biased incentives impedes DPCR’s ability to stay leading in a conflict research environment that is increasingly cross-disciplinary.
3. Summary

3.1 Strengths

- A strong common identity based on the thematic focus on peace and conflict
- Vibrant connections to other conflict research environments in especially Northern and Western Europe
- An international research environment with the ability to attract students from the outside
- A decentralized structure that empowers research networks and research projects that criss-cross the department and mitigate problems of fragmentation.
- Ample opportunities for junior researchers to get critical feedback on their research and grant applications
- A very strong “publication culture” focused on producing cutting-edge research in especially top journals
- The consequent pressure to publish at high standards was perceived as constructive at all levels

3.2 Weaknesses

- The very strong culture creates a lot of tacit knowledge that is transmitted informally, if at all, to newcomers and juniors
- It is taken for granted that all PhDs want to pursue a career in academia. This might not be possible for many of them in a not too distant future
- A somewhat defensive attitude towards problems imposed on DPCR from the outside
- Few available junior positions in the post-PhD phase. DPCR might lose talent by having such a thin postdoc layer
- Limited in-house expertise in disciplines such as economics, psychology, geography, and mathematics, which are becoming increasingly relevant for conflict research
- Lacking strategy to ensure gender mainstreaming

3.3 Recommendations

- Formalize and explicate some of the mechanisms that determine internal hiring and placements elsewhere, whether in or outside academia. Act more strategically to counter some of the problems DPCR feels are imposed from the outside, whether via formal rules and regulations or more general incentive structures.
• Increase emphasis on including postdoc positions in applications for large external grants in order to augment the junior researcher layer. Consider using a larger portion of the block grant to create postdoc positions.

• Formalise procedures for promotion and explain the requirements for a tenured position clearly in a document.

• With respect to careers in non-university environments, DPCR might not have the resources to counsel on this, but it should be possible to reach out to alumni and collaborators within the international development environment.

• With respect to teaching, one possible strategic aim would be to lobby for a workshop series, for credit, along the lines of “Topics in Peace and Conflict” that will allow the unit to offer ad hoc courses by visitors and researchers on short-term contracts.

• Management could develop a strategic vision to bring in more expertise from neighbouring disciplines, which increasingly add to mainstream research on causes and consequences of conflicts.
Department of Government

1. Introductory remarks
Panel 5 assessed five units of different sizes and structures. The panel met in different constellations with their leadership, senior researchers, non-tenured, post-PhD researchers, and PhD students. In some units we also met administrators. Before the meetings, we had read and discussed a large body of material that included self-evaluation reports, surveys, and bibliometrics. During the discussions, the panel identified and agreed on specific themes that would be given special attention in each unit. This report is based on this material, the on-site interviews and the subsequent deliberations in the panel.

2. Observations and analysis
2.1 General impression
The overall impression of the Department of Government is that it has a vibrant and dynamic research environment that has produced very good research; in some areas close to world-class research. The department has managed to attract a very high proportion of external funding (out of total budget), which illustrates these strengths in light of the hard competition for these resources. This environment strongly incentivizes PhDs, junior scholars, and probably also senior scholars to put in a large effort, publish in high-quality general disciplinary journals, and write good research applications. There is also a good social environment and a general appreciation of being employed at the department. However, a lot of tacit information is not readily accessible to PhDs and other junior groups. There is also some danger that the overall dynamism creates unequal opportunities depending on the specific research environment. More information about career possibilities can be provided so that junior scholars can make better informed choices. The presence of some very strong research groups makes strategic management more difficult but also more needed.

2.2 Vision and strategies
The vision to pursue academic excellence in research and teaching seemed to be broadly shared. The department assumed that this vision was not in conflict with the more general vision of Uppsala University, but it did not devote much time and attention to the UU’s vision and strategies.
2.3 Recruitment strategies
The department tries to recruit internationally. It has managed to attract some very skilled researchers from the internal talent pool and from other Swedish academic environments. However, it has had much less success in attracting international scholars. The explanation was that the formal demands for documenting teaching capabilities (e.g. documenting teaching evaluation) kept potential applicants from applying. The department has recruited a few highly qualified scholars from abroad but would welcome more applicants.

2.4 Academic culture
The department has undergone internationalization and professionalization since the 1990s, illustrated by a shift towards publishing in international top journals, regular attendance at international conferences, and the ability to attract EU funding. The change has been particularly impressive with respect to the publishing profile. This has affected all parts of the department but some groups have moved ahead of others. The department encourages and supports a number of social events. There are also signs of an individualised academic culture – possibly a consequence of a broad department with very different sub-disciplines. On the positive side, groups with a lot of capacity have built strong and vibrant research environments and have been able to attract the resources they need and apply them to producing excellent research. On the negative side, as pointed out by the department itself, there is a less strong collective and cohesive identity. In the following we identify some of the consequences:

- Attendance at research seminars (which used to be the central forum for research discussion, particularly when the department was smaller) and at the so-called sub-seminars (research area-based) appears to be shrinking. An explanation may be that faculty has become more specialized and that researchers seek comments on their papers in other – e.g. international – fora.

- Openness and accessibility of the senior staff are not perceived in the same way by PhDs/non-tenured staff and management. Approaching senior staff, e.g. for comments on an application, is not just something non-tenured staff do; they may be afraid to impose on busy senior staff or they simply do not know who to approach. The same goes for approaching senior staff outside one’s immediate network for comments on research papers and publishing strategies.

- In some respects information was not shared between the different layers of the department. A couple of examples: The non-tenured staff expressed some uncertainty about the requirements for getting a tenured position; there appeared to be confusion about the requirements for PhD dissertations to be accepted. In some cases, the supervisors recommended a go,
while the pre-assessment committee was hesitant or outright negative. Generally, PhDs described a situation where they risked having to navigate between conflicting advice from their supervisors and other internal evaluators with little guidance on how to tackle this.

2.5 PhD recruitment and training

The department has a high quality PhD program, i.e. PhDs publish internationally, attend international conferences, and make genuine contributions to their research fields. However, there seems to be some lack of strategic guidance of PhDs, both with respect to their research strategies and their career planning. PhDs are hired based on their CV, grades, and master thesis. They may indicate their research interests, but they are not required to submit a research proposal. The department has discussed this issue and decided that it is sufficient to submit the information mentioned above since research proposals are rarely pursued. After admission, PhD students choose a project and are matched with a supervisor. This policy has resulted in very diverse projects, some of them on the edge of the department’s existing projects. Some saw this as an advantage, because it spurs renewal, while others saw it as a problem because of too much variety in topics. Little research is done in the first year because PhD students were still closing in on their subject and taking courses.

Some PhDs seemed to be “falling between chairs”. In particular, it is unfortunate that PhDs receive conflicting advice from their supervisors and other peers or are not properly matched with a supervisor in the first place. Moreover, PhDs might have to spend too much time learning how to navigate in this situation.

2.6 Support for young researchers

The strong research groups and vibrant research environment help younger scholars learn the tricks of the trade and become connected to peers within the department and in international networks. It also gives them good prospects for finding qualified co-authors. Moreover, there seems to be a strong norm that junior researchers are allowed to pursue independent research even if they are part of particular research projects. Likewise, PhDs were strongly encouraged to publish research without having supervisors as co-authors. This allows junior scholars to develop distinct profiles and increase their market value by demonstrating an ability to publish alone. It was generally accepted that it takes many attempts to reach the best journals and that one should not be discouraged by rejects. Occasionally, seniors present work in progress in the sub-seminars to demonstrate that research needs to be developed by gathering comments from peers. However, guidance for junior scholars about how to develop research that is publishable in top journals and how to develop good research applications seems to be too limited. The problem is that juniors scholars – whether at the PhD or post-PhD
stage – may be isolated if they are not placed in some of the vibrant networks. A recently accepted mentorship program for young researchers has apparently not been sufficiently implemented.

2.7 Gender issues
The academic leadership devoted a lot of attention to the need to create equal opportunities in general and to encourage female scholars to apply for tenure and professorships. However, here appears to be a significant gender gap in hiring.

3. Summary
3.1 Strengths
• The department has a very strong research output and consciously works to improve this. Output has been significantly strengthened in recent years, and a new publication culture seems to have been created, partly via the examples of successful researchers.
• The department houses a number of impressive research groups, which have been very successful in attracting external funding, including from the EU.
• The ability to establish successful research groups creates in-house role models and strong peer pressure to do internationally recognized research.
• The departmental commitment is generally strong. There is a good social atmosphere and a general wish to stay at the department. Commitment to the combination of political science and development studies is strong.
• The formal governance structure is inclusive and allows broad participation in many departmental issues. The open and candid leadership seems ready to solicit advice from below. There is explicit recognition of the need to encourage women’s promotion to e.g. professorships.

3.2 Weaknesses
• It seems relatively easy to free ride by not attending seminars and sub-seminars and by not participating actively in commenting on grant applications.
• PhD recruitment is non-strategic in that PhDs apply on their general competences, not on a research proposal that can be matched against supervisor capacity.
• There is room for more strategic management with respect to hiring new employees. The Head of Department has relatively little influence on these issues. Recruitment possibilities seem somewhat inflexible.
• While the department has internationalized successfully with respect to its research, it has been less successful with respect to international recruitment.
A lot of tacit knowledge is not readily available to junior scholars. For instance, PhDs lacked strategic advice on which research fields to enter and where to publish. Junior scholars lacked advice on how to develop grant applications and joining research groups. It was not always clear to them what was needed to achieve a permanent position and whether this was a genuine possibility in their case. Much seemed to rely on information passed on via informal networks.

There was some indication of different expectations to different scholars based on their research field. The ability to master quantitative methods seemed to carry some priority. This risks creating double standards in the sense that it is accepted that some environments do less high-profile research than others.

3.3 Recommendations

- The academic leadership could help foster stronger norms for collegiality, including attendance at seminars and sub-seminars and accessibility of seniors. For instance, it could be clearly signaled to new employees and senior employees that they are expected to contribute to the seminar culture and become involved in career coaching and mentoring of junior scholars. The yearly performance appraisal with senior employees is one vehicle for this.

- More formal structures could be created to support junior researchers in applying for funding (e.g. by matching them with seniors with experience in attracting funding and/or experience from research councils). A person could be appointed to be in charge of this, with the understanding that senior researcher have an open door policy if juniors are directed to them by this person.

- We suggest that applicants for the PhD program submit project proposals with their applications to make it easier to assess their research competences, to ensure supervisor competence and to place PhD students in a research environment or group. PhD students would have to spend less time finding a good subject after they commence their studies, even if all projects change.

- We suggest more regular calls for junior researcher positions; not necessarily more positions as this might not be possible, but it would be an advantage if junior researchers could plan ahead based on knowledge about when new positions are posted (say, annually or biennially). More strategic career counselling at the PhD and post-PhD stages. This would also be an opportunity to discuss career opportunities elsewhere. Invite alumni or people working in the public sector, private consultancies or international
organizations to give a talk on such issues. Make a brochure or homepage about these issues.

- Management could communicate more explicitly what is needed to achieve a tenured position and a professorship. This would not only ensure that those qualified actually apply but potentially also make it clear to some scholars that they have to plan for a future elsewhere.
- More academic leadership to signal that different kinds of research are accepted in top journals. It is important that peer pressure to publish internationally affects all scholars equally.
- Formulate a gender mainstreaming policy.

4. Reflections on the similarities and differences between evaluation units within the panel – what to learn from each other?

The units assessed by Panel 5 are quite different; they include two departments, one institute and two centres. We identified issues related to all units. Among the most important are:

- The Swedish university system is tough for young researchers because it can be very difficult to obtain a tenured position. The units should do their utmost to help and support young researchers’ careers.
- Almost no resources were devoted to advising students who may not want to pursue an academic career.
- Clearer signals about the units’ publication strategy would provide a stronger guide for young researchers. We encountered several examples of how a “publication culture” can change relatively fast if the right signals are sent and the right incentives are in place.
- It is important that tacit knowledge on different aspects of the life of the units is shared – particularly with newcomers.
- Directors feel restrained by national as well as university-specific regulations for recruitment. We encountered a number of critical comments about UU’s administration regarding: 1) a reimbursement system that forces researchers to spend time doing things that administrative personnel could do at a lower cost; 2) inflexible IT-solutions and support to those who require more than standard solutions, 3) inadequate assistance attracting and administering external funding, 4) many documents only exist in Swedish, 5) a wish for more service to and a more welcoming culture towards staff from abroad. We are not able to assess these potential problems, but we recommend that the university’s leadership assesses their substance.
1. Introductory remarks

The panel evaluated five units in two Faculties: the Departments of History, History of Science & Ideas, Literature and Philosophy (Arts & Humanities Faculty), and the Department of Theology (which is also a Faculty). With the exception of Theology, which was reviewed during a full day, meetings with each unit were scheduled either over a morning or over an afternoon session. The panel chair circulated working minutes of the day’s meetings to the panel prior to the next day of interviews.

The panel typically focused its questions on the following six core issues: 1) What does excellence look like in your discipline(s) and if you could do one thing to achieve that, what would you do?; 2) Discuss the unit’s intellectual research community and leadership to develop research excellence; 3) Strategic internationalization, partnerships and research funding beyond the block grant; 4) In the context of promoting excellence, whom do you wish to share and engage with the research produced in your department, and what are the best ways of doing so? 5) Securing future research excellence through cross-, co-, and interdisciplinary engagements; 6 How well calculated are the career pathways and criteria for progression/merit awards (including salary) in your department calculated to ensure research excellence? Additional topics were raised and discussed where data from the surveys and/or self-assessment document indicated this was appropriate.
Department of History

1. Observations and analysis

The Department has a longstanding reputation in early modern History, and is now very eager to expand beyond this established area of excellence in research through the appointment of a Professor of Modern or Contemporary History. The Department would benefit from using its seminar to explore ways of community-building and self-definition other than chronological period. When discussions pushed beyond period, they often exposed interesting commonalities that were not evident when defining staff by their time-period or nation/region of study: methodology, pedagogy, digital humanities, material culture, etc. The History Department is aware of the need to work actively to increase the international profile of its research: it has succeeded in appointing a Professorial member of staff from outside the Nordic nations, and is eager to increase the visibility of its research outputs by publishing more of them in English. In common with other units reviewed by the panel, however, European (as opposed to Swedish) funding did not figure prominently in the Department’s research plans. The staff engage in many impact and public engagement activities—not just for Swedish publics, which is commendable. Greater visibility could usefully be given to these activities on the Departmental website, which requires improvement.

More broadly, there is an obvious tension between frequently expressed praise by staff for the Department being ‘open’, non-hierarchical, and a place of freedom, on the one hand, and the equally frequently expressed desire for more coordination, cooperation and strategic planning. Greater clarity is needed in addressing how the Department will navigate between these visions of excellent research, and who will take responsibility for so doing.

2. Summary

2.1 Strengths

- The Department’s proportion of female staff at professorial level was highly commendable.
- The Department’s staff have secured a number of external grants with international profile, which are attracting staff and students to Uppsala from outside Sweden, and developing profile in new areas such as digital humanities.
• The research programme of the Hugo Valentin Centre, recently integrated into the Department, is vibrant and well-calculated to enhance interdisciplinary collaboration.

2.2 Weaknesses

• Whilst the panel accepts that the appointment of a Professor of Modern or Contemporary History would enhance the Department’s research environment, the case made for this appointment was not articulated as convincingly as might have been the case (see below).
• The panel perceived that leadership in the Department currently falls on too few shoulders, and that developing a more robust framework for sharing leadership across the senior ranks would be advantageous.
• Greater attention should be given to the medium- and long-term career development of permanent academic staff in the Department.

2.3 Recommendations

• In developing the case for the Professor of Modern or Contemporary History, the Department should be encouraged to think thematically (rather than only chronologically) and to focus on building connections—for example, horizontally to the Hugo Valentin Centre, back in time to the early modernists, and outwards transnationally.
• The Department should consider appointing a Director of Research from among its Professors to assist with the development of its research plans and environment.
• To further enhance its international profile, the Department is encouraged to bid strategically for European funding, reducing its reliance on Swedish funding bodies.
• The Department appears to make active use of Uppsala’s rich cultural resources (including archives and museums) for undergraduate teaching. In contrast, their use in research and postgraduate training appeared to be less well developed, and deserves to be enhanced.
Department of History of Science and Ideas

1. Introductory remarks
The panel evaluated five units in two Faculties: the Departments of History, History of Science & Ideas, Literature and Philosophy (Arts & Humanities Faculty), and the Department of Theology (which is also a Faculty). With the exception of Theology, which was reviewed during a full day, meetings with each unit were scheduled either over a morning or over an afternoon session. The panel chair circulated working minutes of the day’s meetings to the panel prior to the next day of interviews.

The panel typically focused its questions on the following six core issues: 1) What does excellence look like in your discipline(s) and if you could do one thing to achieve that, what would you do?; 2) Discuss the unit’s intellectual research community and leadership to develop research excellence; 3) Strategic internationalization, partnerships and research funding beyond the block grant; 4) In the context of promoting excellence, whom do you wish to share and engage with the research produced in your department, and what are the best ways of doing so? 5) Securing future research excellence through cross-, co-, and interdisciplinary engagements; 6) How well calculated are the career pathways and criteria for progression/merit awards (including salary) in your department calculated to ensure research excellence? Additional topics were raised and discussed where data from the surveys and/or self-assessment document indicated this was appropriate.

2. Observations and analysis
The Department had clearly articulated goals and appeared to be critically reflexive and self-aware. The History of Knowledge is one field in which they would like to expand; Medical Humanities is another. They already have ongoing collaborations at teaching level with Engineering and Medicine, and would like to develop these further. A key challenge is to hire more staff at the entry level for tenured posts (Senior Lecturer is ‘the new normal’ in this respect). The Department perceives that they are spread very thin, in part because they are excellent, and staff are drawn away on grants and administrative roles at UU and on expert boards. Joint appointments would potentially be a valuable mechanism for expanding their staff numbers and developing new areas of excellence. Historically, changes in the Department’s profile have tended to come from ‘below’. In the past it had been difficult to develop a specific profile because of the
tendency to simply to advertise with an emphasis on appointing the best individuals. In the past 5 years or so, however, they had given greater attention to attempting to create critical mass. They do not yet however have well-developed mechanisms for doing so, and this may impede rapid realisation of their ambitions.

3. Summary

3.1 Strengths

- The Department’s staff have been successful in garnering substantial external grant income across an impressive range of topics.
- The Department’s engagement with Medical Humanities is an innovative and valuable addition to its research environment, and would be enhanced by greater support at Faculty or Domain or University level for Medical Humanities.
- The Department strongly encourages PhD students to spend time studying abroad, although this encouragement tends to occur at the level of the individual supervisor. All staff publish in at least two languages, some in 3 languages, and they do not need incentives or additional help to do so.

3.2 Weaknesses

- As the Department is aware, gender diversity is a particular problem, and has been for an extended period.
- The Department is very reliant upon Swedish funding bodies for its research, with little attention to European funding.
- Postgraduate training at the level of the individual student/supervisor appeared to be strong, but cross-departmental mentoring and training was less well-developed.

3.3 Recommendations

- With regard to improving the Department’s gender profile, they need to think especially carefully about how decisions they make about recruitment fields impact upon gender: if they appoint in a succession of fields with few women researchers, their gender profile will not improve. Rather than deploiring this historic problem, they need to devise specific mechanisms for addressing and rectifying it.
- To secure European funding, the Department needs to think strategically about which programme(s) they should apply for and why.
- More structured mentoring at all levels below Professor would be advantageous, but especially so at PhD level, and especially now, given that they are recruiting 5 new PhD students to start in the autumn of 2017.
Department of Literature

1. Observations and analysis
The department has developed its areas of research focus in an organic ‘bottom up’ manner. Senior staff were aware of the need to keep these areas of focus under review, but it was not clear what mechanisms were in place for so doing. This issue is of considerable importance given the expected retirement in the next few years of several senior staff. It will be essential for the department actively to review its research areas before making new appointments, rather than simply appointing into existing fields of research as they fall vacant. Building on new initiatives already underway to engage in international collaborations—whether focused on teaching or research—will also enhance the research environment. The Self Evaluation Document and discussion expressed concerns that not all members of the department were physically in the department several days a week. If this is a concern, the panel suggests that the Department should consider alternative mechanisms to mandatory attendance. One option would be to give PhDs and Researchers ‘ownership’ of the seminar for a year, charging them with identifying and responding to speakers, and with connecting the seminars to the other disciplines with which their work is in dialogue.

2. Summary
2.1 Strengths
• The methodologies, topics and approaches of their PhD students and post-docs were wonderfully varied and vibrant, and this generation articulated a strong commitment to strengthening Literature and Rhetoric for future generations.
• Some staff are developing important international collaborations, for example with researchers in South Africa and Ghana and at the College de France.
• Research by staff in the department engages with diverse non-academic audiences.
2.2 Weaknesses

- The strong preponderance of Uppsala trained postgraduate students and staff in the department reduces its diversity and international reach. It needs actively to develop and implement mechanisms for reducing this localism.

- It was not clear to the assessment panel that the areas of staff research expertise in the department were calculated to optimise interdisciplinary trends in literary studies.

- The panel was concerned that the language used to identify its core research areas (for example, ‘Sociology of Literature’) are not current internationally, and thus that their use may detract from the department’s efforts to collaborate internationally.

- The number of PhD students in the department has been falling, thereby diminishing the research environment. PhD students expressed concerns about the consequent lack of critical mass.

2.3 Recommendations

- The department needs to encourage longer and more sustained international engagements (for example, students/post-docs studying abroad for longer periods of time, most sustained international collaborations).

- The department needs to branch out very significantly in hiring academic staff, operating in ‘permanent search mode’ and selecting new staff trained outside of Uppsala.

- The department needs to enhance its engagement with interdisciplinary research, both by creating more interdisciplinary seminars and by creating more interdisciplinary engagements within Uppsala University.

- PhD numbers should likely be increased, but in the event that this can be accomplished it will be essential to mentor these students actively and to recognise that academic careers—far from being normative—will be the exception. Greater thought needs to be given to the purpose of training Humanities PhDs, beyond academic needs.

- The department needs to engage in leadership succession planning.
Department of Philosophy

1. Observations and analysis
The Department’s staff and postgraduate students displayed high levels of morale and a strong commitment to excellence. The Seminars appeared to be very successful in enhancing intellectual and scholarly dialogue, and the Department has articulated high standards of publication. New areas of focus (such as Aesthetics) are developing, and staff appeared to the panel to be appropriately sensitive to the ways in which Philosophy is changing internationally as a discipline and at the discipline’s boundaries. Many (although by no means all) academics internationally believe that there will be more interdisciplinary work in 10 years’ time and that this will be of benefit both to the discipline and to the wider world. Re the UU mission statement, the panel perceived that the department members do see themselves as contributing to “betterment of the world” and that its members are envisioning interdisciplinarity as part of philosophy in the future.

2. Summary
2.1 Strengths
• The Department has been proactive and successful in recruiting internationally, and have not been defeated by the alleged difficulty of appointing non-Swedish language speakers to positions below the level of Professor. This appears to have paid a rapid dividend in the form of innovations in mentoring best practice, for example in the recent creation of a PhD Placement officer.
• With regard to Diversity, they were unusual among the Departments with whom we spoke in having concrete plans for interventions orientated toward change.
• They appear to have increased internationalism significantly and to have been able to navigate the ‘problem’ of publication in English with relative ease and confidence.
2.2 Weaknesses

- Career mentoring for staff below the level of Professor (including Researchers on fixed-term contracts) should also be discussed and prioritised.
- Career Mentoring for PhD students clearly occurs, but appears largely to be under the direction of individual supervisors. A more coordinated, collaborative and systematic approach would likely enhance this individualistic approach—it would not supplant but rather augment the efforts of supervisors. The new Placement service was an excellent example in this context.

2.3 Recommendations

- The Department has enjoyed considerable success in garnering external research funding. It should consider whether some attention to appropriate EU funding would enhance this further. If EU funding is not ‘Philosophy Friendly’, they may wish to consider initiating and/or joining applications that lie at the borders between disciplines, piggy-backing on applications that draw from disciplines that fit more easily within the EU frameworks.
- The Department could be more strategic in articulating its goals: a more robustly developed statement of plans for attaining or enhancing excellence may more effectively convince external audiences of the Department’s very considerable strengths.
- See also the comments below in the Concluding reflections.
Department of Theology

1. Observations and analysis
The panel was very impressed by the spirit with which the Faculty/Department of Theology engaged with the review process, which occurs in the midst of its own ongoing process of restructuring. The reduction of the number of research areas or disciplines within Theology currently being undertaken appears to be both necessary and appropriate; indeed the panel considered that further deduction might prove valuable, and encourage greater collaboration across the unit as a whole. The research centres initiated by Theology appeared to be offering both staff and postgraduate students with rich opportunities to engage in interdisciplinary and international research.

2. Summary
2.1 Strengths
• The panel was very impressed indeed with the collegiality of the faculty/department, and the extent to which this spirit of collegiality animated its forward-planning for substantial changes in its organisation.
• The faculty/department provided some of the very best examples we saw of sustained and imaginative inter-and cross-disciplinary thinking and action.
• The department’s direct engagement with issues of ethnic and racial diversity was highly commendable. Its leadership in establishing a Centre devoted to the study of Racism, from a multidisciplinary perspective, was important in itself and also of especial value at Uppsala given its high degree of racial and ethnic homogeneity (in terms of both staff and students).
• The Research Centre model itself appeared to provide a useful model for other departments at Uppsala to think with, allowing for more sustained excellent research than individual collaborations or the ‘nodes’.
• The department demonstrated excellent leadership planning.
2.2 Weaknesses

- Whereas the processes being used for the 2020 initiative appears to be well-thought through, their content needs to have considerably more definition. This was especially the case with regard to the intellectual content of 2020.

- The Department should think more carefully about how it is defining and deploying ‘discipline’. Are there 11, or 9 or 5 ‘disciplines’ in the Faculty? The use of ‘discipline’ in this context did not make sense to 5 of the 6 panelists (that is, it was not legible to any of the panelists without training in Theology). Given the desire to engage in interdisciplinary research, clarifying this point would be of value to the unit.

- Theology’s research centres clearly provide very strong bases of interdisciplinary research, but their medium- to long-term funding poses a considerable challenge. The Faculty is alive to the need to secure a medium- to long-term financial base for its two Research Centres. Greater clarity is needed about how these two funding stream will be identified, differentiated and secured.

2.3 Recommendations

- The Faculty has ‘paused’ recruitment while it redefines its organisation and goals. Whilst it is commendable that they have not rushed to fill these appointment, they need to use this ‘pause’ much more strategically, for example by inviting in visiting Professors as experts who could advise them, and/or inviting in potential candidates as visiting fellows.

- Clarification of the intellectual agenda and content of the 2020 initiative should be a priority for the Faculty/Department.
Concluding reflections on the similarities and differences between evaluation units within the panel – what to learn from each other?

The evidence within each of the units of shared commitment to academic governance was impressive, and clearly contributes both to high levels of staff morale and strong allegiance to the institution and to individual departments. Ownership of academic programmes by academics was a key source of research environment excellence at Uppsala.

All of the units need to take very seriously the need to diversify their academic personnel, in terms of institutional origin, national origin and race/ethnicity. The very strong predominance of Uppsala-educated academic staff was a striking feature of the departmental profiles, one that distinguished them from the leading departments of top international universities. This matter deserves to receive systematic attention and action. The absence of ethnic diversity in departments was perceived by the panel to be a liability. Diversity breeds excellence. The two units that appeared to be thinking and acting most proactively in this context were Philosophy and Theology.

All units would benefit from considering themselves as being in ‘permanent search mode’, rather than waiting for appointments to arise. They should not abdicate responsibility for identifying and securing excellent candidates (especially international candidates and candidates from diverse ethnic backgrounds) to a combination of advertising internationally and the operation of the invisible hand of the market. To enable Departments do so successfully, University policies that impede relatively rapid appointments will also need to be addressed as a matter of some urgency.

In the absence of the types of tenure and promotion frameworks common elsewhere, there is considerable need to ensure that departmental structures work to enhance career development over time, rather than leaving this development to the individual.

Some units emphasised the obstacles to publishing their research in English, and thus to circulating their findings to international audiences. Others (most notably History of Science and Philosophy) appeared to have founds effective means of overcoming these obstacles, both at postgraduate and at postdoctoral level.

All of the units were reluctant to apply for European (as opposed to Swedish) external grant income, notwithstanding all acknowledged that the University provided good administrative support for applications. Lack of knowledge about specific schemes (for example, Marie Slodowska Curie Fellowships) was common. Greater investment in European funding opportunities would enhance the
units’ international research profile and the training of its early career postgraduate and postdoctoral researchers.

The quality and framework of support for PhD students appeared to be excellent, with high morale among the PhD community and innovative doctoral research being undertaken in all the units. However, some units that were reviewed appeared to be reluctant actively to encourage PhD students to spend significant periods away from Uppsala. The importance of international travel and research collaboration for developing international research profiles deserves to be highlighted more systematically and more prominently.

The panel strongly encourages Uppsala to increase the number of PhD students being trained in the departments under review. The small size of the PhD cohorts was judged to be a limitation to excellence. This increase in PhD numbers should be undertaken with the understanding that not all graduate students will end up in academia. Training that is designed to reflect the many non-academic careers that Humanities PhDs can pursue should be offered in the departments (or at faculty level) more systematically. PhDs can pursue many rewarding careers in other sectors of the economy; they also have much to offer those other sectors. Having more PhD students would enliven the departments and ultimately benefit other career branches as well.

There is a clear need to increase concrete opportunities and vehicles for inter-, co-, and cross-disciplinary research and graduate instruction at Uppsala. Options that the panel considered included joint-appointments of academic staff (50/50 split between two departments; the US model) or a 20/80 system to bring in a non-Uppsala prof for a shorter period of time (as is done in some UK universities). Team-taught graduate seminars for two or more departments is another possible mechanism in this context.

The development of Digital Humanities provision (at Faculty level) would be advantageous for the research environments of the Humanities units as a whole.
1. Introduction and General Observations

The evaluation panel is expected to address the questions of whether the University’s research environments function so as to provide good preconditions for high-quality research and if they are characterised by processes that drive quality and renewal. The aim of the exercise is to “generate an increased awareness of aspects of the research environment that should be actively maintained and aspects that should be further developed or changed”. It is anticipated that the research evaluation will give the University’s research environments an opportunity to further develop their systematic work on quality assurance and enhancement and their capacity for renewal. It is further expected to contribute to increased knowledge about the strengths and weaknesses of the University’s research environments, derived in part from the analysis and reflection involved in the self-evaluation, and in part from feedback and recommendations from external peers.

As critical friends the panels are asked to “analyse preconditions and processes for good quality and strategic renewal of research”. The task is framed essentially as a question about the research environment provided by the university. Before we indicate the way we have taken up the task at the two units, we want to make some introductory remarks and general observations.

We would like to express our humility in approaching this task, and express some reluctance about attempting to give advice based on our activities as part of the research evaluation Q&R17. It is one thing to assess the quality of the output of research environments based on traditional and familiar methods of peer review. To assess the elements of environment and culture based on a short visit is quite another matter. We are concerned that there are aspects both of the formal and informal structures that we may overlook and misunderstand. We are also sure that the members of these Faculties are much better acquainted with their workplaces than we can be from our visits and from reading the material that we have been given.
More substantively, we feel it is important to note that research performed in an academic context brings with it an extra dimension. Research can be and is carried out very well outside the university, but research in an academic context is crucially related to the distinctive nature of the university as a particular milieu of collective and public study where research and education are intrinsically related. This was confirmed by our discussions with researchers from both faculties. Education – and, by extension, the university – is understood not simply as the training of (scientific) professionals and transmitting of knowledge but as the arena for producing knowledge and exposing it to a public. University lectures and seminars are not interrupting or disrupting research activities but are part of their intensification and their dissemination. They gather people as students around an issue and give that issue (e.g. law, text) the power to activate thinking. To put it differently, how to enhance academic research is precisely a question of the art of gathering people as students around an issue and of giving that issue the power to make them ‘think’ collectively and publicly. These forms of public and collective study, which in a way complicate and slow down research (that is through making it public and inviting a public) constitute the very heart of the university and a source of renewal.

Therefore we should take care that the way the evaluation of the research environment is framed does not strengthen a tendency present in the way the learning policy of the EU materializes in the European Higher Education Area and the European Research area, separating research and education and centered around the independent, personalized learner (following his or her individual learning trajectory, accumulating credits) and the innovative, creative researcher (looking for the most productive, facilitating environment guaranteeing fast results with ‘impact’) who have ‘emancipated themselves’ from the university. These figures ask what the university can offer them, and not what they could do for the university. Concern for the academic research environment must be concern for the university as a milieu of collective and public study, crucially including a strong relation between research and education.

From our encounters in the two faculties, there are indications that this relation is still very present and that it sustains research that addresses societal issues without reducing it to pure instrumentalism.

It is explicitly mentioned that the encounter with students (at different levels) is stimulating thinking, producing research questions, offering opportunities to experiment and test ideas. Further, that cooperating with colleagues in an education program can create conditions for collaborative research (leading also to joint research projects). Various kinds of seminars seem to play a crucial role: the higher seminars (across research groups and at different levels), the seminars with research groups (including doctoral students), the seminars with students at different levels, and the mixed seminars with students, colleagues and people from
outside (professionals, people affected by the issue, practitioners). These create conditions that avoid purely instrumental relations, and that maintain a certain independence and objectivity.

Given this orientation towards our task, we do not feel that we can frame the issue in favour of more or less research or more or less education, as such a construction would affect the very central place of the interdependence of education and research that constitutes the heart of university research.

We see our task as to “analyse preconditions and processes for good quality and strategic renewal of research”. As we see it this entails assessment of the strength of the research environment as compared to its potential. Ideally this would entail a detailed assessment of the research environment as it is today, together with an identification of the potential for improvement. Given the material and time that the panel has had, this is not possible. We therefore limit ourselves to some basic questions that we have pursued in our interviews, and to pointing to some obvious factors that we have uncovered where more systematic work by the department may lead to an improvement of the research environment. We see this in line with our general instructions that are to “give the University’s research environments an opportunity to further develop their systematic work on quality assurance and enhancement and their capacity for renewal”.

In our view a good research environment is an environment that is supportive and encouraging and able to ensure collective learning. This requires a degree of leadership in order to organize tasks that can be undertaken as common tasks, such as supporting individual researchers in applying for external funds. Helping young researchers in their planning for future careers, and obtaining funds for the ones that the department wishes to recruit should also be seen as a collective task. A good research environment also includes a staff with a high proportion of members who see their colleagues as important partners in research and who encourage collective projects in their pursuit of scientific excellence.

Creating the best preconditions for research requires coordinated activity. Academic leadership must be exercised on the basis of thorough familiarity with, and enthusiasm for, research and education, founded on the core values of academia: the critical quest for truth, academic freedom and social relevance. The management must enjoy the legitimacy and trust that follow from its origin in, and accountability to, the university community. Development of strategies and policies and decisions that affect allocation of resources must be impartial and transparent and based on participation from affected units and persons.

Experience from or competence in leadership should be a factor in appointments at the university. Researchers who will lead their own projects or collaborative efforts, will also benefit from such training. It is important to widen the employees’ opportunities to acquire such competence.
The basic questions that we have pursued are:
1. What is good research?
2. What is a good research environment?
3. What is collaboration on research?
4. How do you define research leadership?
5. How do you see the relationship between research and society?
6. What are the relationships between didactics, pedagogics and sociology?

We have based our observations on the material provided, that is:

- Results from an online survey focusing on the research environment, addressed to research active staff (incl. PhD students)
- Results from a bibliometric analysis
- A sheet with basic data (facts and figures regarding each evaluation units personnel, economy etc)
- A self-evaluation provided by the evaluation unit (a description of academic culture, networks and collaborations, recruitment, leadership, infrastructure, funding, publication etc.)

In addition, we have carried out interviews with representatives from the research environments over the three days of May 9–11. We have also had conversations with the deans and heads of departments of the two faculties, and informal discussions with doctoral students and young researchers of the Faculty of Law. The panel notes that the deans and heads of departments participated in the interviews with the researchers when we met with researchers in groups where the deans and heads of departments participate with their own research. This may have shaped the discussions the panel had with these groups.
Faculty of Law

1. Observations and analysis
The Faculty of Law is one of six Faculties within the Domain of Humanities and Social Sciences at Uppsala University. The Faculty includes one Department, the Department of Law, and a small number of centres and institutes. In total over 200 people work at the Department of Law, of which over 100 are scholars and teachers. In addition, there are about 60 doctoral students and other co-workers who all operate from centrally located premises.

Legal research at the Faculty of Law in Uppsala is conducted within 15 fields of research and nine private law subfields. The professors of the different areas have general academic responsibilities for their areas. The faculty has, however, abandoned the old system of having appointed chairs with leadership over a given field and with approximately 50% of their position devoted to research. This means that the teaching load is more or less evenly distributed among all members of tenured staff (professors 30 % and senior lecturers 20 %) as a starting point. Exceptions to this are when a person has secured external funds for research, and in the use of temporary "program professors" by the faculty, where a professor is given more research time over a period of time in order to build up a research field.

The research is currently in a very expansive and creative phase. Over the last few years new scholars have been recruited and more areas of research have been developed and strengthened. The law faculty has strong potential to become an even stronger environment of excellent research. It has a staff of highly motivated researchers including many who have achieved their positions relatively recently. There seems to be considerable diversity across the faculty in attitudes to the research environment of the faculty, and about how to benefit from it. The panel noted that the groups it talked to expressed different views about collaboration in research and the utility of more coordinated research strategies at the level of research groups. Some of the groups seemed quite successful in securing external funds through more coordinated efforts.

Research aims of the Department
The research aims of the Department of Law expressed in its Goals and Strategies document (December 2016, p.4 of the self-evaluation report), are to pursue research that supports 'capabilities in all central fields of Law in order to meet legal challenges following societal developments, as well as to provide the necessary in-depth knowledge for research-based education. Our goal is to uphold the highest
national standard, to be internationally competitive, and to ensure basic educational training on a scientific basis.

These aims were reflected in the self-evaluation document and in the discussions with representatives of the different research fields to a greater or lesser extent. There are many different areas of legal research, with differing cultures and practices, however they are united in the emphasis that they put on the interdependence of teaching and research. Our informants tell us that good legal research informs and sustains teaching: teaching provides opportunities for trying out research ideas.

The faculty, and many of the researches we spoke to emphasize the central role of external collaboration in legal research, and how this facilitates conducting research relevant for the society. The researchers at the Department are to a large extent involved in the legislative procedures in Sweden, and to some extent in the EU and other international organisations. Such involvement is primarily conducted by answering consultation requests from the Government Offices of Sweden (Regeringskansliet) on draft legislative bills, being involved as experts in public inquiries (Statens offentliga utredningar, SOU), and proceeding legislative drafts.

Beyond this shared definition, there were differences of emphasis from the researchers we spoke to coming from different fields. Some (jurisprudence, constitutional law, administrative law) defined good research in relation to its role in scrutinising and informing legislation and legislative procedures in Sweden and (to some extent) beyond; the service function of legal research is stressed by these researchers, who refer to their role in ensuring coherence, codification and the rule of law through the training of practitioners and their continuing engagement with the Swedish legal community. Others took a rather broader view of good legal research as public service, as a resource for society, maintaining democracy, responding to societal problems and shaping society through expertise, in the context of accelerating social change, technological change, Europeanisation and globalisation. Such responses tended also to promote theoretical and methodological diversity, collaboration and interdisciplinarity, and sometimes also drew attention to the need to involve and engage different actors/stakeholders, reflecting increased social diversity.

Some responses (Private Law) focused on the procedures available for the measurement and scrutiny of quality as a way of identifying good legal research (i.e. peer review) and stressed impact on peers as an indicator of quality. There was, therefore, a range of definitions of ‘good’ legal research, from those that referenced conventional, established indicators of quality (not specific to law), to those that saw good quality primarily in the contribution of research to the legal profession and law’s traditional role in society, to those stressing new social challenges and interdisciplinarity.
Perhaps good legal research can meet all these criteria, but perhaps they are somewhat in tension with one another in their different emphases on tradition and change – raising the question of whether a discussion of priorities or relationships would be productive. The emphasis on the practical role of legal research and the close connections to legislative and judicial work is perhaps more pronounced in Uppsala than in other legal faculties in Scandinavia. This could be seen as defining legal scholarship in a somewhat less autonomous way than that which characterizes legal research emerging in other institutions. A discussion of this self-understanding within the faculty could be warranted. The self-evaluation indicates that the Faculty is aware of this.

The self-evaluation from the faculty underlines collaboration with society as one of two factors (the other being the Law Programme) with strong influence on the research environment. While recognizing the research relevance of this distinctive tradition of participating in, for example, legislative processes, Government consultations and expert commissions, those involved could consider the possibility of adding value to these activities by channelling some of the results into seminars and academic publications. This would contribute to the open discussion of ideas and arguments which is one of the hallmarks of academic research. In this way, the activities might also inspire new research projects and new forms of collaboration.

**Academic leadership**

The main body responsible for academic leadership in the faculty is the Faculty Board and its Research Committee. The Research Committee is a standing committee with a general task of supporting research and postgraduate education. The Research Committee is also mandated to decide upon questions such as admission of new doctoral students, appointing supervisors and scholarships. The Research Committee prepares research-related matters for the Faculty Board, for example enactment or revisions of the General Study Plan for Postgraduate Education.

Day-to-day research leadership is decentralised. Professors in the different areas have general academic responsibilities for their areas, but each research group organizes its work as it sees fit. The Department has chosen not to appoint one of the professors within a group to specific responsibility to lead the research groups. Where there is no professor within a group, the question will be resolved on a case-by-case basis.

This decentralised and informal structure is a consequence of a chosen strategy to foster a bottom-up approach, leaving much room for the individual researchers and research groups to structure their work in the manner they consider suitable. One of the explanations given during the interviews for the preference for this
decentralized model is to be found in the department’s history with a limited number of chairs held by “extremely influential and dominating individuals”.

The organization of academic leadership thus seems to have gone from one extreme to the other. From the self-evaluation report and the interviews, we learned that this solution is in many ways an appreciated model but that it does not come without challenges and certain weaknesses. The move away from the appointment of chairs was generally welcomed. There were references to the possibility of adopting time-limited responsibilities such as the development of particular areas of research as an alternative to the old chair-system, as a way of securing clearer lines of responsibility.

The professors have a general academic responsibility of their research areas but the more precise definition of this responsibility is fairly vague. What further adds to the challenges is that some research areas have several professors while others have none. As pointed out in the self-evaluation, this could lead to uncertainty when deciding who should front the research area and take responsibility for different tasks such as higher seminars, submitting applications for research grants etc. Although a number of researchers, according to the survey, consider themselves to have some formal duties with overall responsibility for leading other colleagues’ research, the picture of this decentralized academic leadership is somewhat diverse.

We learned from the interviews that there seems to be a shared understanding of what constitutes the core of good academic leadership on a more general level, e.g. to identify research of relevance to society (including the academic society), to create a good research environment, to inspire the researchers in the group, to initiate and promote collaborations within and outside the research group, to attract funding etc. However, we also learned that there is a somewhat “blurred” picture of academic leadership in the department.

The faculty points to this in the self-evaluation when it states that “since research areas are not coordinated with the structure of professors (which in turn at least partly follows from the abandonment of chairs), it is not self-evident who should front the research area and take responsibility for activities such as higher seminars. This lack of clearly appointed leadership could result in uncoordinated activities, or even (and worse) lack of activities altogether.” We agree with this assessment.

As shown by the survey the perception of senior researchers as taking responsibility for ensuring that the collective research environment develops as well as possible is mixed. There is a call for a more clear and transparent leadership e.g. when it comes to the distribution of resources and recruitment. Furthermore, there were also signs of distress regarding insufficient follow up on the performance of individual researchers to ensure that everyone contributes in a fair and equal way to the research output of the department.
One of the potential challenges that may emerge in such a highly decentralised system is that individuals may assume leadership roles that may not be to the benefit or agreement of all. It was suggested that the least powerful in such a situation, namely doctoral students, may feel vulnerable in such a setting. It would seem wise for the department to adopt a light touch approach to formulating the designation of leadership roles in the development of research environments.

An issue that needs to be attended to is clarification of the responsibilities of the senior researchers when it comes to career planning for their junior colleagues. Young researchers without tenure positions would benefit from a more structured support in considering and planning their future within or outside the department.

In the self-evaluation, it is mentioned that the department has considered different ways to promote and facilitate good academic leadership. One such initiative could be to develop a form of time-limited responsibilities for professors, which would include clearly stated responsibilities to lead the work within a research group. During the interviews, several other examples were also mentioned, such as a pilot project aiming at ensuring the quality of research applications. A senior professor with comprehensive experience of reviewing applications to the Swedish Research Council will scrutinize drafts for applications for research projects and give advice on how the proposals could be improved.

**Research Environment**

In order to foster a good research environment and an academic culture, the Department arranges two annual events where research issues are discussed with all relevant Department staff, a Research Day for all (doctoral students, post docs and senior staff) and Supervisor Collegium, for current and potential supervisors. On these occasions, academic culture at the higher seminars is a recurrent topic. In the last two years the Research Day has been devoted to research methods and strategies; empirical studies and ethical aspects in legal research (2016), critical legal studies, law and language: “the linguistic turn” (2017). The aim is to inspire and learn from each other and to discuss advantages and disadvantages with different approaches to legal research. Aside from this, the academic seminar is the most important arena for intellectual interaction and constitutes the basis for academic dialogue which is necessary for quality in research.

The research environment reflects what appears to be a conception of research development and support as an individual or small group activity. In many respects this appears to function very well. The survey suggested that 72 percent of the researchers find the opportunity to conduct research in their main research environment to be very good or good (section 3.6, question 35). This, however, means that almost 30 percent of the respondents do not agree that they have good opportunities to conduct research. This may be an indication of the...
The message that is expressed in the self-evaluation, and which was repeated to us several times, that the research activities of the faculty are heavily under-funded with high teaching obligations distributed among the staff.

The conversations held with members of the Law Faculty largely support the view expressed in Q 3.1.c of the survey, namely that the conception that the individual researcher decides what research questions to pursue is commonly accepted. Certainly there was little or no reference to a desire for systematic approaches to research support and quality management. However there was variation within responses to this matter, for example one group felt that there should be small research decision making groups with good leadership whilst recognising that the department is very diverse. However, most groups felt content with the current situation.

There was a general feeling that the small size of research groupings was an inevitable reflection of the wide range of activities within the Faculty. There was evidence of the emergence of interdisciplinary research environments. There was a general view that most research environment boundaries were sufficiently permeable to allow for creative development as and when appropriate. However, the relatively recent fluctuation in predicted numbers of students was seen as an unhelpful factor in the development of research environments.

Internal collaboration among researchers takes several forms at the Faculty of Law. There were a large number of references to the value of seminars as a crucial feature of the research environments that supported and maintained them. There was a slight lack of clarity as to the extent to which all were open to participation from all members of the department.

Some groups of researchers have developed informal but regular and structured collaboration including routines, meetings and group seminars. Some of these groups also participate in research projects with other faculties (for example migration law and the religion impact programme).

This kind of structured collaboration may benefit research activities and the research environment by being transparent and open, not least to new members of the faculty and it secures continuity, an organized discussion of new ideas, awareness of opportunities for external funding and the possible co-operation with groups outside the faculty.

De-centralized and ‘bottom-up’ research planning has been highlighted in the self-evaluation from the Faculty. The structured collaboration just described could be regarded as a prerequisite for successful de-centralized research.

Young researchers and recruitment
The faculty has approximately 60 doctoral students and one post doc. In addition, six people are employed as researchers. In the past years, there have been just over five PhD disputations annually at the faculty. The average net time to
complete a thesis is 5.14 years. The doctoral students regularly teach and perform administrative tasks up to one year, which is included in the 5.14 years net time.

Doctoral students are recruited in two ways; either through a public annual recruitment round for a Faculty-funded post, or if the candidate has been granted external funding. Externally funded doctoral students may either be employed by the Department or admitted with other financial resources (such as a scholarship or the doctoral candidate’s own funding). The number of externally funded doctoral students has risen in recent years, which has enabled the Department to admit 58 doctoral students yearly. Due to economic reasons, only two doctoral students per year have been accepted in 2015 and 2016, and, potentially, in 2017. This is not enough in the long term to cover the need for sustainability within the research groups at the Department, considering all the different research groups.

The department offers doctoral education in 15 research topics and nine private law subfields. For the Doctor of Laws degree the thesis work comprises 180 ECTS. In addition courses and seminars are included which amount to a total of 60 ECTS, consisting of an introductory course of 15 ECTS, two complementary courses for a total of 15 ECTS, a literature course on the educational topic of 15 ECTS and topic seminars of 15 ECTS.

In general, the doctoral students experience the faculty as welcome and say that they are well taken care of. The administrative functions work well for the doctoral students. There seems, however, to be little awareness at the faculty about the need for career planning and preparation of the doctoral students for their careers after completion of their thesis. Securing funds for continued research seems to be more a responsibility for the individual researcher than for the research community. This is also evident from the fact that some researchers who have secured partial funding of a research position feel that they in practice have to find activities to fill up their position on their own initiative. The experiences of the young researchers differ in this respect according to the responsibility taken by their supervisors and the research groups that they are connected to. The development of clarity in the possibilities for career trajectories for doctoral graduates and recent lecturer appointees would, however, be welcomed by most members of staff.

Funding and resources
A considerable problem for the Faculty is the lack of proportion between the funds provided for education and those provided for research. Due to the increasing complexity of the legal system, globalisation, and legalisation of the relations between politics and society, legal research and education is no longer an activity that can be undertaken by a few brilliant individuals working in isolation. Legal research is now a collective endavour, and legal teaching requires the teaching
of skills and practices in addition to knowledge of the law. This is the result of drastic changes in society during the decades since the 1980’s.

Almost everyone we talked to felt that research block grants were too small and that the standard 20% research allowance was too little. It was further suggested many professors find it difficult to manage all administrative tasks connected to research within the allotted time.

The evaluation report and many of the researchers pointed out that researchers are increasingly doing traditional administrative tasks, such as filling out forms, completing economic reports, updating one’s web page, making practical arrangements for conferences and research meetings, engaging in public relations etc. The Department has competent administrative staff but some of the functions have to large extent recently been centralised at the University. This has brought about considerably more work for the researchers, as the personal contact with the administrators has been lost.

There was also a general feeling that the number of doctoral students should be increased. As mentioned in selfevaluation report “A constant regrowth of doctoral students is crucial to the quality and renewal of the research environment at the department, without which the environment would rapidly decline.”

Most researchers seemed to feel that despite resource and time constraints, they reasonably happy that the funding situation was stable enough to allow them to develop a long term view of their research intentions:

1.1 Summary and recommendations

Research in the faculty is expansive and creative. Over the last few years new scholars have been recruited and more areas of research have been developed and strengthened. The law faculty has great potential to become an even stronger environment of excellent research. It has a staff of highly motivated researchers, many of whom have achieved their positions relatively recently. There seems to be quite a diversity across the faculty in the attitude to how to benefit from and to the research environment of the faculty.

The research is structured around the educational programme for law. The Panel has noted that this is under review, and that the implications for research is one of the factors that is taken into account. This could provide opportunities to build new relationships in the research, as was demonstrated in the interview with researchers in tax, company and finance law.

The panel noted that the groups it talked to expressed different views regarding the attitude to collaboration in research and the utility of more coordinated research strategies at the level of research groups. Some of the groups seemed quite successful in securing external funds through more coordinated efforts.

The culture seems very individualised and the faculty might consider moving into a more collective approach to their research.
The faculty should consider having a more structured approach to the career planning of doctoral students and young researchers. They should also consider more formalised systems of support and peer review of preparation of research proposals and applications for funding, and more structured forms of collaboration in general.
Faculty of Educational Sciences

1. Observations and analysis

The Faculty of Education sciences has one department and three separate units organised directly within the faculty. The department employs some two hundred teachers, researchers, and administrators in a broad spectrum of fields in educational sciences. Research in the department is divided into three disciplines, each responsible for doctoral subjects: curriculum studies, education, and sociology of education. Besides study programmes in these subjects, the department also offers teacher education programs (in cooperation with many other departments at Uppsala University), study programmes in childhood and adolescence studies, educational leadership and special education. The department is in charge of the Masters Programme in Educational Science, the International Masters Programme in Sociology of Education and the Masters Programme in Educational Leadership. It has extensive educational involvement in several other programmes at the first and second levels (bachelor, master), such as the Bachelor Programme in Behavioural Sciences and The Human Resources Programme.

The discipline of education has three chair professors and one promoted professor. Curriculum Studies has one chair professor and two promoted professors. Sociology of Education has one chair professor. In each discipline, there are also senior lecturers, post docs and doctoral students who conduct research.

The department is home to several research environments, for example the Research Unit for Studies in Educational Policy and Educational Philosophy (STEP), Studies in Language Practices (STOLP), Studies of Meaning-making in Educational Discourses (SMED), Uppsala Studies of History and Education (SHED), and the Sociology of Education Workgroup. It is also responsible for two national graduate schools.

Curriculum (Didaktik)

The interview with the group from Curriculum Studies confirmed the impression conveyed by the self-evaluation of a group that is homogenous in their views on research regarding both purpose and goals. Research is seen by the group as relating closely to the education of teachers, not least by ‘giving teachers a language’ – tools for scholarly reflection on their professional work. The group underlined the importance of combining academic and practical relevance, picking up new ideas and adhering to international standards of research quality.

Curriculum Studies seems to be well organized when it comes to developing research projects, applying for external funding, and establishing co-operation.
with other faculties as well as other universities in Sweden and abroad. The level of external funding is considered satisfactory. Research results are disseminated in publications as well as in workshops and seminars and in the education of teachers. The existence of a research environment with internal discussions and collaboration was confirmed by the doctoral students (who were seen from the three disciplines together), as the students felt well taken care of and fully included in research activities.

One overarching problem is the balancing of teaching and research. The group stressed the fact that external research money was not available for permanent staff members to a sufficient degree, as it is difficult to leave teaching obligations to other persons for short periods. More research by permanent staff members requires long-term planning that is not possible based on external funding, which is normally limited to short periods.

The panel observes that the self-evaluation and the interviews strongly point to the need for more generous block grants. The Education Faculty has to respond to changes in government policy – in particular, an expansion of numbers in teacher education. This may unbalance the relationship between teaching (education) and research. Yet the need for resources for research is pressing, as teacher education needs a strong base in research to inform a profession that faces challenges to its authority, including the massive growth of information, societal change and increased risk and uncertainty.

In addition, Curriculum Studies (like Education) finds the process of distributing the block grants within the department lacking in transparency and in participation by representatives of each discipline.

The panel does not have sufficient information to give recommendations regarding the formal processes of distribution of grants. It seems, however, that the issue of reconciling teaching responsibilities with time for research should be discussed further at some level. Further, if there is a widespread conviction that distribution processes are not legitimate, this could in itself turn out to be detrimental to the research environment in the long run and should be dealt with in one way or the other.

**Education (Pedagogik)**

Education has three main research groups: Studies in Childhood, Learning and Identities as Interactive Practices (CLIP), Pedagogics and Special Needs (PS) (established as recently as 2015) and Studies in Educational Policy and Educational Philosophy (STEP). There are three chair professors and one promoted professor in Education. We met representatives of all three groups together.

It is clear that there is a considerable amount of research and research-related activity in Education: colleagues reported on considerable funded research project activity, contributing to the building of a research platform to make their
work more visible nationally and internationally. They also emphasised the fre-
quency of seminars, monthly meetings of the Collegium, and the leading role of
the Chair Professors in supporting research. We were told about the importance
of collaboration within the Faculty, the wider university and beyond Uppsala.
Reference was also made to the openness of the research culture, and the possi-
bility of trying out new directions.

The large range of activity and the variety of research grouped under the
heading ‘Education’ presents a considerable challenge in developing a strong and
focused research culture that connects to and sustains professional formation.
Of course, research on education may embrace a wide variety of topics, includ-
ing knowledge of formal and informal processes by which people are formed
and changed in different social, cultural and institutional contexts, such as pre-
school, school, family, leisure-time, working life and higher education. This agen-
da is very wide in scope, and would require a very substantial programme of
long-term and planned research to be achieved. It also, perhaps, underplays the
relationship with professional formation, and thus may make productive relation-
ships between teaching and research more difficult to sustain. The variety of
research topics that may be pursued under the heading ‘education’ may some-
times obscure or inhibit a clear research agenda, and this seemed to us to be a
possibility, especially as the absence of reference to conceptual and methodolog-
ical development was noticeable, and contributed to concern that the research
activity is rather unfocused.

The success in achieving external funding is noted, but there is work to be
done, we feel, in developing a sharper research identity and a more explicit intel-
lectual project, that establishes more clearly what Uppsala’s Education research
is, how it builds knowledge, and how that knowledge is translated into profes-
sional practice.

Sociology of education
This is a strong research group creating a very supportive research environment
for its members. It has a strong disciplinary identity related to sociology and
more particularly to a specific theoretical tradition in sociology combined with a
broad empirical methodological scope. It seems to offer a stimulating intellectual
context and to have sufficient critical mass and adequate organizational arrange-
ments (seminars, formal and informal meeting opportunities) to allow for the
critical discussion and support of the individual research work as well as for the
elaboration of joint projects (including preparation of applications) and joint pub-
llications (relative to topics and projects). The group has well established contacts
with other research groups in sociology inside Uppsala university, but also more
broadly and more internationally (e.g. Science-Po in Paris). There is clear research
leadership from the head. It is striking that the group seems to find rather easily
a balance between their research and teaching engagements, which is more of a concern in other groups.

We want to identify some possible tensions that could arise. One follows from the fairly strong identification with the discipline of sociology rather than with the field of education, education being considered rather as the field of application. However, the group expresses a clear attachment to education and it might be that they should be enabled to participate more in the teaching programs of the faculty. Another tension that could arise is between a strong disciplinary identity, which on the one hand clearly offers a coherent and fruitful context but could, on the other hand, somewhat conflict with the current need for cross- and transdisciplinary collaboration emphasized also by the university but also called for more broadly.

In this context the international master program that has been set up could offer a place where such concerns could be addressed. Internationalization is understood not just as travelling or inviting international scholars but as constituting a group of international students, and the group has identified the issue of internationalization itself as an object of study. This offers the possibility of engaging with different perspectives on a same object of study and in this sense could also contribute to a critical exposition of the group’s own theoretical and methodological choices and assumptions. It might also be possible to make connections for parts of this program with other masters programs within the faculty (e.g. opening up some courses, some seminars).

As with the other research groups, this one would also profit from more clarity and strategic planning at the faculty/department level concerning the availability and use of block grants and concerning careers for researchers.

Young researchers and recruitment
The department currently has 32 doctoral students. The allocation of resources for recruiting new doctoral students is decided by the head of the department while it is the professors and the collegiate bodies that decide the subject profile for their research projects.

In the self-evaluation the need for a larger group of doctoral students is strongly emphasized from the department as well as from the different research areas. The importance of a sustainable “critical mass” of doctoral students was also pointed out to us by the doctoral students themselves as an important factor for securing a more organized training in the form of courses on theory and methodology. (This research school is not governed by the EDU, consequently, it does not result in more doctoral students at the department) Another argument put forward by the department is the need for future senior lecturers and professors.

Our general impression is that the integration of the doctoral students into the scientific community at large as well as into the specific research groups
functions well. During the interviews they gave several examples of how well they were taken care of from the moment they were recruited until the end of their doctoral studies. The feeling of being an important part of the research environment was stressed, offering them a multitude of different opportunities to discuss their research and receive feedback. The possibilities to co-write and co-publish with their supervisors and other senior researchers from both within the group and from outside is also much appreciated. It is however somewhat surprising that there seems to be no common courses in theory and methodology. Each doctoral student more or less designs his or her own set of courses.

Research students were generally very positive about the Faculty research environment. A good relationship with a supervisor is highly valued particularly when this is located within a strong research group. Students spoke of the importance of support in finding a place within the intellectual spaces that the research environment affords. This appears to be more likely to happen when the PhD studentship is attached to a project. Students also spoke of importance of feeling valued and placed in a setting where it is ‘safe’ to ask questions. They understand that they are seen as a valuable part of the research environment.

Doctoral post graduation career support is expected partly as a consequence of having belonged to a group and its networks. Many students are encouraged by supervisors to think about career plans and act strategically throughout the course of their studies. The extent of this kind of support depends on the degree of involvement with a supervisor’s research and that of the group in which they are placed. All students are encouraged to be independent but those who are not engaged in research that is shared by others in the Faculty feel generally supported but have to be rather more proactive than those who are more central to collective research priorities.

There is no systematic programme of career advice. This absence is not perceived as a problem. It is slightly surprising that there are departmental differences in the extent to which doctoral students are required to follow specific courses.

As far as career planning is concerned the doctoral students are expected to have a planned path at an early stage of their doctoral studies which could continuously be discussed with their supervisors. There seems to be relatively little anxiety regarding their opportunities for future research work. However, a more structured form of offering support from the department would probably be beneficial to them.

The doctoral students are encouraged to go abroad but there is room for some improvement when it comes to support for such mobility.
The centres
The Swedish International Center on Education for Sustainable Development, SWEDESD, the Centre for professional development and internationalisation in schools, FBA, and the Centre for educational management, RUT, are externally financed centres located in the faculty education.

SWEDESD describes itself as a “well-established research and development environment that works for Agenda 2030 and within the UNESCO Global Action Programme (GAP) on Education for Sustainable Development (ESD)”, and the vision is to be “strategic international and national competence center for knowledge, learning and education for sustainable development.” The centre has been active and successful in building national and international networks with actors from other universities, developing collaboration within Uppsala University, as well as developing collaboration with non-academic organisations. SWEDESD has the ambition to become “the world’s largest” competence centre for education in sustainable development. In the self-evaluation not much information is given concerning perceived weaknesses in the research organisation. It is however emphasized that SWEDESD is all too dependent on external financing, and that there is a need for base funding for leadership, research leadership and administration. This was also an issue that was discussed during the interview, during which the director expressed a wish that SWEDESD was taken into consideration when faculty funds are allocated.

FBA has a government mandate to enhance internationalisation in Swedish schools by giving courses, seminars and by publishing popularized research directed toward school teachers. It is stated in the self-evaluation that FBA should not be considered a traditional research environment since a majority of its staff consists of junior lectures, and that the research related to FBA is conducted outside the centre. However, FBA has the ambition to develop more “mission specific research” an ambition that is hindered by the lack of funding.

RUT has a mandate from the National Agency of Education to give courses in educational leadership. Beside this core task RUT has initiated several development projects in collaboration with the Uppsala region’s school boards. In the self-evaluation the vision for the future is conduct its own research in close connection to school leaders participating in the program. In the reflective analysis the imbalance between education and research is seen as a future challenge, and investments have been to strengthen the research base of the centre. However, it is pointed out that in the long term it is important that the department’s programs and the employees of RUT are included in the ongoing research.

Representatives of all the three units express the need for more continuity in funding in order to further develop the research environment. However, since such a measure means re-prioritization of faculty funds, we do not consider we have enough knowledge about the needs of the faculty to make such a recom-
mendation. The representatives of both FBA and RUT stated in the interview that it would be beneficial for these environments if they were integrated into the department of education. They believed that such an organisational change would increase their ability to develop the research environments as well as lead to more efficient utilization of existing resources. We believe that the faculty should investigate this issue more closely.

2. Summary and recommendations

There were many similarities and some marked differences between groups as represented in the views expressed by members of the groups we met.

Overall, the self evaluation report suggested that there are general concerns about what might be termed ‘vertical’ relationships. It was stated that around 30 % of respondents have problems with reaching their nearest superior and that only 45 % of the respondents feel that their nearest superior gives positive feedback on good performances. In the self evaluation report it was also suggested that there is a rough and sometimes detrimental competition between disciplines and research groups. This suggests that there are some cultural or relational difficulties that perhaps should be addressed.

Common themes emerged in conversations concerning the need for long term strategic planning and the enrichment of the research environment through the full incorporation of doctoral students and postdoctoral researchers. It was also generally recognised that there is a need for improvement in ways of inducting new members of staff into the collaborative research practices of the department. Whilst there were similarities such as these and concerns about the size of the block grant, the research environments in different sections of the Faculty appear to be quite different. There were some general matters of difference that were raised as concerns with different levels of importance in the different groups.

The degree, form and intensity of communication and collegial support appears to vary across groups. On the one hand there was a strong representation that there was a need for greater transparency and enhanced systems of communication. Although there were clearly active and vibrant collaborative practices, at the same time there were significant concerns that were referenced to the ways in which priorities are established and funding discussed and allocated. It was argued that there is a need for more strategic input from some departments to the faculty level and better communication between local managers and research leaders.

On the other hand we were given strong accounts of action that had been taken to nurture a supportive academic culture in which leadership was viewed as the creation of community. In this context there are movements towards the development of a research platform which spans research groups with the aim
of facilitating cross group research. It was clear that in a setting where a strong disciplinary base had been developed it acted as an attractor for recruiting new staff. There was also a desire to widen the disciplinary base of this group through the introduction of scholars from different traditions to act as visiting scholars. It was argued that such a move would enhance the theoretical and methodological basis of the research that was carried out in this group. In this environment there had been conscious moves to develop a creative setting with no strict boundaries between activities. It was stated that this had been and remained a collective effort with a strong team spirit. Collective seminars are regarded as sites for the development of research ideas. Doctoral students were fully integrated in these events. Projects are regarded as the base for critical support for publication although it was recognised that there was more to be done in this respect. Distributed responsibility for project procurement was seen as an effective means of enhancing the quality of proposals.

Another group stated that courses provide the platform for collaborative support in settings where patterns of collaboration are more local and networks of collaboration are smaller.

There appears to be very good practice in the co-authoring of papers with academics within the University as well as with academics who work in other Universities which belong to national and international research networks supported by Uppsala.

Seminars of all forms are highly valued by research students and staff alike although finding time for attendance can be challenging. An interest was expressed in the development of more collaborative seminar programmes in which staff showcase and discuss their work.

Social spaces, such as the coffee room, where informal research conversations can take place, are regarded by all as important features of the research environment.

3. Reflections on the similarities and differences between evaluation units within the panel – what to learn from each other?

First, we would like to express our concerns with the task we have been given in the KoF17. To assess the elements of environment and culture based on a short visit is near on impossible. Ideally this would entail a detailed assessment of the research environment as it is today, together with an identification of the potential for improvement. We are concerned that there are aspects both of the formal and informal structures that we may overlook and misunderstand. We are also sure that the members of these Faculties are much better acquainted with their workplaces than we can be from our visits and from reading the material that we
have been given. We have not found it appropriate for us to present statements on strengths and weaknesses as indicated in the template.

As to the substance of our evaluation, we find it notable that both law and educational sciences are disciplines that provide the formation of important professional groups in society. This creates a close interdependence between teaching and research, which contributes both to how the quality of research is defined and to how research questions are generated.

A striking similarity between the two units of consideration is the profound underfunding of their research activities. There are a large number of students, and most of the funding of the departments is allocated to their teaching activities. If the university wants to secure these disciplines as strong research disciplines with a possibility of long-term strategic planning, it should consider allocating larger block grants to research at these departments.

There also seems to be common concerns regarding the flow of communication between different groups and between the researchers and the department and faculty leadership. Lack of clear leadership, lines of communication and routines for inclusion leads to a certain lack of transparency.

A general impression across both faculties is the way doctoral students are valued in the research environment. In both cases the environment seemed welcoming and helpful. At both faculties there was, however, a lack of organized systems of career planning and advice for young researchers. In both cases, this seems to be dependent on individual supervisors and research groups. In our opinion it is a responsibility of the university to ensure that doctoral students, post docs and young researchers have clear and realistic expectations about future possibilities both within and outside of academia, and are offered assistance in career planning, and courses that provide them with the necessary skills to pursue their individual careers, be at Uppsala or at other places. This is something that should not be left to the individual faculties, but should be addressed from the level of the vice-chancellor.
1. Introductory remarks

Within this report, we describe the evaluation by Panel 8 of the Department of Information Technology. Prior to the Department interviews the panel met to consider and synthesize the questions independently raised by the different panel members and to ensure that key areas of assessment are covered in a uniform manner.

The Department structured its interview sessions with the panel in a similar order to the sections within the Self-Evaluation report. The introduction by the Head of Department detailed the overall status and position of the Department within the University and the internal structure of the Department (as shown in figure 1). The Department currently has an annual turnover in 2016 of 263 MSEK (30% teaching: 70% research) with approximately 290 staff of which 125 are academic staff & 110 are PhD students. The Department teaches approximately 1000 full time equivalent students.

The Department is subdivided into divisions, which encapsulate similar activities within a single management and teaching unit. There are five Divisions, which between them host seven research programs. Alongside these divisions are three research centres and the hosting of three components of national activities. The Department has also been developing cross divisional research activities through a new activity, arenas, which are vehicles to develop a particular collaborative activity to the point where it may compete for external funding. An existing activity on Computing Education Research, UpCERG, is a similar activity that has already achieved a considerable scale and which is outside the regular research program structure, since its members belong to different research programs.
The management of the Department has been devolved in a number of areas, both in terms of day to day departmental operations and longer term co-ordination and planning as shown in figure 2.

The rest of the formal sessions were led by the departmental Head of Research, with additional attendees depending on their relevance to that evaluation area, with each of these described in the table below. Throughout the two days we did not meet any official administrative staff.
<table>
<thead>
<tr>
<th>Evaluation Area</th>
<th>Participants and Role</th>
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| **Introduction, Initiatives and Strategy**           | Head of Department: Michael Thuné  
  Head of Research: Gunilla Kreiss  
  Research area representatives:  
  Optimization: Di Yuan  
  BioMed IT: Robin Strand  
  Machine Learning: Thomas Schöö  
  Social Robotics: Ginevra Castellano  
  Computational Systems Biology: Andreas Hellander  
  Energy efficiency in communication and networks: Christian Rohner  
  Formal analysis of software: Philipp Rümmer  |
| **Recruitment**                                     | Head of Department: Michael Thuné  
  Head of Research: Gunilla Kreiss  
  Experience of the recruitment process: Thomas Schön, Lars-Henrik Eriksson, Stefan Pålsson, Joachim Parrow, Sverker Holmgren  |
| **Research Leadership**                             | Head of Research: Gunilla Kreiss  
  Program professors: Sverker Holmgren, Bengt Jonsson, Alexander Medvedev, Ingela Nyström, Joachim Parrow, Per Gunningberg  
  Director of PhD studies: Wang Yi  
  PhD subject responsible professor: Carolina Wählby (computerized image analysis)  
  Outside research program: Anna Eckerdal  |
| **Academic Culture**                                | Head of Research: Gunilla Kreiss  
  Program professors: Sverker Holmgren, Bengt Jonsson, Alexander Medvedev, Ingela Nyström, Joachim Parrow, Per Gunningberg  
  Arena coordinator: Robin Strand,  
  Topical seminar series: Philipp Rümmer  
  Gender equality work: Åsa Cajander  |
| **Funding**                                          | Head of Department: Michael Thuné  
  Head of Research: Gunilla Kreiss  
  Heads of Divisions: Lina von Sydow, Lars-Henrik Eriksson, Arnold Pears, Bengt Carlsson, Ingela Nyström  
  Program professors: Bengt Jonsson, Per Gunningberg  |
| **Cross Border Collaboration and Internationalization** | Head of Research: Gunilla Kreiss  
  Leading collaborative activity leaders: Erik Hagersten, Bengt Carlsson, Carolina Wählby, Stefan Engblom, Maya Neytcheva,  
  eSSENCE coordinator: Sverker Holmgren  
  non-academic coordinator: Kjell Osborn  |
| **Career Structure and Mobility**                   | Head of Research: Gunilla Kreiss  
  Heads of divisions: Lina von Sydow, Bengt Carlsson, Ingela Nyström, Lars-Henrik Eriksson, Arnold Pears  
  Head of Education: Aletta Nylén  |
| **Research-Teaching and Feedback/Evaluation**        | Head of Research: Gunilla Kreiss  
  Ethics research/PhD course: Iordanis Kavathatzopoulous  
  Computer Education Research/Head of Education: Aletta Nylén  
  Topical project courses: Matteo Magnani, Maya Neytcheva  
  Work environment survey: Michael Thuné  
  “Individual employee dialog”: Lina von Sydow, Arnold Pears  |
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<th>Evaluation Area</th>
<th>Participants and Role</th>
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<tr>
<td>Infrastructure and</td>
<td>IT Infrastructure:</td>
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<tr>
<td>Publication</td>
<td>– at the department: Henrik Hedlund</td>
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<td>– at the faculty: Sverker Holmgren</td>
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<td></td>
<td>Administrative systems: Åsa Cajander</td>
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<td>Uppmax: Elisabeth Larsson</td>
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<td>PhD Students</td>
<td>Maike Paetzel</td>
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<td></td>
<td>Simon Sticko</td>
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<td>Anke Stüber</td>
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<td>Anne Peters</td>
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<td>Andreas Svensson</td>
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<td>Associate Senior</td>
<td>Maxime Bombrun,</td>
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<td>Lecturers and Postdocs</td>
<td>Mikael Laaksoharju,</td>
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<td>Doghonay Arjmand,</td>
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<td>Dave Zachariah,</td>
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<td>Mohamed Faouzi Atig,</td>
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<td>Jonathan Bull,</td>
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<td>Sophia Knight</td>
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Each of the specific interviews was started with introductions from those present and then a single line describing the summary of each section in the self-evaluation by the Department in each area. The panel then questioned based on input developed from the self-evaluation, base data, bibliometric data and survey results.

2. Observations and analysis

There were several overall themes that arose during our meetings with the Department of Information Technology and after we discuss them we will relate to the themes in the self-evaluation.

Issues above the Department level:

- **Structure**: We are concerned by the number of levels in the academic hierarchy. The purpose of the Section is not obvious, especially where it represents multiple separate departments. One of the effects of the hierarchy within the Department is that departmental management is weakened by having a substantial percentage of funding going directly to entities below it. We do not see the benefit of either incomes for teaching going to the Division or for research going to the Research Programs. We saw numerous examples where the Department was weaker than the Divisions.

- **Accountancy Culture**: The separation of teaching money and research money and the accounting process of allocating teaching and research activities seems detrimental for several reasons:
1. It removes flexibility within the Department to allocate resources,  
2. It puts substantial stress on the academics about what their work will be year by year,  
3. It is a very time consuming administrative task for academics who should be providing leadership rather than doing calculations,  
4. It is instrumental to academics losing faith in the credibility of their leaders, because of the necessity of creating an official view that all academics are exactly 100% occupied.

- **Employment Support:** The combination of national law and unnecessarily complex university procedures mean that the employment process takes such a long time that Uppsala is losing talent to other institutions.
- **Interdisciplinary Research Support:** The University has only limited mechanisms to facilitate the introduction of new interdisciplinary research areas.
- **Titles for Academics:** In an international arena it is confusing to have such titles as *Associate Senior Lecturer*. When listing academic positions in English, consider using the American titles (Assistant, Associate and full Professors).
- **Open Access:** Consider establishing policies on open access, open data, open software and ensure clear, easy linkage to these outputs thereby making all research outputs more visible and thereby increasing impact.
- **Visibility of Academics:** Consider whether all staff members have a publicly accessible ORCID, Scopus, Google Scholar or similar research profile with links to these on department personnel homepages.
- **Reviews of Funded Areas:** Which program areas should be funded and at what level of funding, should be reviewed on frequent basis.
- **Quality of Data:** The data provided by the university was inconsistent with the data that the Department held. There needs to be a single source of truth.

**Issues at the Department level:**

- **Self-evaluation:** The Department does not have a structured method to assess the quality of its research. This will require the collection and analysis of data. The analysis should be on the granularity of the individual. In addition, the Department should make sure the overall data are collected and analysed. These self-evaluations should be used to foster a department wide culture of excellence.
- **Personal Development Review:** The Department lacks an effective process for formal staff annual review process. The Department should start by devising a list of criteria for the reviews. It should ensure that it is clear
this process is for development not performance management. This should include an upwards or 360-degree review component.

- **Department leadership:** The senior academics spend significant time on operational management rather than providing academic leadership. To shift to academic leadership will require the appointment of senior professional administrators to do many of tasks that are currently undertaken by the senior academics.

- **Consider the structure:** The Department should consider a major re-organisation, removing the Division structure entirely, having both teaching and institutional research income entering directly at the department level, and having the structural unit under the departmental level being the research program. This would also allow for teaching management to be done at the departmental rather than divisional level.

Themes in the Self-Evaluation:

**Evaluation unit’s aims:** The aims are to be in the forefront in research and education within a creative environment. The emphasis is on renewal, moving forward, contributing to interdisciplinary research. The panel would like the aims to be more department specific with measurable criteria; otherwise it is impossible to judge whether the Department meets its aims.

**Strategies and vision:** The Department views strategy as choosing the next research areas to foster. Every second year the strategy day looks at research and identifies areas that straddle the divisions. The Department supports research in these new areas by providing spark funding for a year and Arenas as a collaboration mechanism. The panel was very positive about the activity of supporting new cross disciplinary areas and the process to arrive at them. The panel suggests the Department consider undertaking strategy research days on a yearly basis. The concerns of the panel include that strategy and vision is focussed only on expansion. For instance, it does not include which areas to close down or deciding what is good and what should be improved. The Department should also consider creating a mechanism to continue cross division activities that are past the start-up phase, such as UpCERG.

**Recruitment strategies:** The Department’s policy is to primarily hire at entry level tenure track, which works well. A search group identifies needs (teaching and research) and resources. Most people offered positions arrive which the panel consider may be evidence that the Department is not aiming high enough. There is a supportive program that ensures new hires virtually all get through the hurdle of Senior Lectureship. This includes courses, a lighter teaching load, mentor-
ing, and some research funding. The difficulties in attracting women to Computing academic positions is well known and the Department showed that its new gender actions policies are having positive results. There are several procedures that the Department could implement that might raise its profile internationally, leading to improving the quality of applicants. These include improving the website to make the hierarchy of academics accessible in fewer clicks, having some of the positions advertised on the American job cycle, and advertising on the Computing Research Association website.

Research leadership: Research leadership is done by Professors running Research Programs within the Divisions. Both the Department and the Divisions have a subdivision of the management into Head, Research, and Teaching (sometimes an individual holds two roles). The Head roles spend significant time on operational management rather than providing academic leadership. From the panel’s viewpoint we believe that Heads should be academic leaders. To shift to academic leadership will require the appointment of senior professional administrators to do many of the tasks that are currently undertaken by the Heads. Given the fluid nature of Computing research topics it is not clear that a strong (that is they hold the great majority of the Department’s budget) divisional structure is best suited to running the research. The Department should consider implementing a flatter structure.

Academic culture: There is a strong culture of academic freedom, management consensus, and general contentment. However, there is no culture of self-evaluation. The Department does not collect data, nor does it have a policy of what data should be collected or how it should be judged. The panel was surprised at this lack of interest in either qualitative or quantitative analysis as it goes against all the pressures of international higher education. The panel was told that the Swedish government has a concern to show that university research has value. The Department needs to be proactive, to have a chance of choosing the metrics. This is a factor that is also applicable at several levels above the department within the university hierarchy.

There are established informal methods of celebrating success and achievement such as gatherings including cake when, for example, there have been 10 papers published within a division. There did not appear to be anything similar occurring regularly at a departmental level. The panel consider that having some form of regular gathering where responsible authors or investigators describe their new grant success or publication. This would encourage an atmosphere of celebrating success across the whole department.

There is no culture of sabbaticals, but there is space for academic visitors. There is an agreement that travel and visiting is good and that people should real-
ly do more than they do. The PhD students told the panel of administrative bottlenecks in doing internships which the academics were unaware of. Current academic workload planning seems to be time consuming and counterproductive. The panel recommends finding a less ‘bookkeeping’ approach to work allocation.

**Infrastructure:** The department is forced (or choses in some cases) to expose administrative computer systems to academics. These can be difficult for them to us as they do not have exposure on a regular enough basis to become familiar users. This would be less of/not a problem if the department invested in a more professional administrative support. This would lead to academics having a smaller interface to centralised computer systems. There are specific concerns about the expenses system and its effectiveness. There is a concern that computer support for research may be centralised and will also be not fit for purpose.

**Research funding:** Funding for research is divided approximately equally between the block grant and external funding. The process for agreeing the distribution of the block grant is managed by the divisions and hence current program responsible professors have considerable influence on the distribution of the grant. There was talk of PhD students being always funded on soft money and the panel could not tell whether this was just a bookkeeping exercise or whether tenured academics without external funding would find it impossible to engage PhD students. The funding levels for the different Research Programs was quite unbalanced, but we did not understand what the repercussions of the disparity could be.

**Cross border collaboration:** There are very good mechanisms and examples of collaboration with other academics within the department, but it is harder to create these collaboration within the university itself. The university has only limited collaborative structures and could do with more. The Centre for Interdisciplinary Mathematics provides money for PhD students, co-funded by departments and there could be more such centres. The university could also encourage the collaboration by influencing the funding bodies to support interdisciplinary collaboration.

**Outreach:** Faculty provides a yearly outreach event SciFest. The Department would benefit with improving the visibility of successes and other news, including on their website as well as making sure local news becomes University news through engagement with the central media and communications section. An example of best practice is the annual report published by the Visual Interaction and Information Division which could be well replicated at the department level.
Publication: There is a belief amongst the academics that they all know what the top venues are for their research and that they aim for these. However, on examination in detail the publications of several academics, it is not obvious that they are all correct. The Department should, for each research area, determine the best venues and place (via a review system) greater emphasis on publishing in such venues. In our international environment, it is important that publications be easily accessible. The Department should establish policies on open access, open data, open software and ensure clear, easy linkage to these outputs thereby making all research outputs more visible thereby increasing impact.

Career structure and mobility: All new academic hires at Associate Senior Lecturer know that they have four years to meet the criteria for a permanent post, and there is support for both teaching and research. Divisions have grant writing workshops, which are well received, to pass on the information from the successful as to what to do. The department should ensure that all submitted grant applications are collected to ensure best practice is captured. There are good courses run by the university. It depends on the division whether there are any interviews with academics about career development. Juniors like the environment and feel supported. The recently introduced career development programme is considered good. There should be a university wide support system for post docs including for those not considering a long term academic career.

Feedback and evaluation: Although there are several informal opportunities for feedback this is no means pervasive and there are many members of staff who have no one who gives guidance. The department lacks a uniform process for formal annual personal development review of all staff performance. The department should start by devising a list of criteria for the reviews. We encourage the implementation of this activity in the strongest of terms.

Research-teaching linkages: There are many examples of research influencing teaching. These include ethics, the topical project courses, individual projects that are research focussed, and content in advanced courses.

Collaboration and Internationalisation: There is a problem for people coming from outside of the EU dealing with official bureaucracy, though it is not immediately clear if the university can specifically ameliorate this issue. Migration paperwork takes about six months and the university should work with government to decrease the time, as it may lead to losing talent. Also at the end of PhD studies the overseas student goes into limbo (no travel, no healthcare). The panel hopes the University will take on a duty of care. It is also difficult for overseas PhD students to either travel to conferences or go on academic visits due to visa
restrictions. The University should consider providing specific support for this kind of travel. The Department lacks an easily locatable web presence for attracting industrial research opportunities. The panels suggestion is that a gateway is available on the departments website that explicitly offers industrial research opportunities together with a follow through mechanism. It should be front and centre within the department website.

3. Summary

3.1 Strengths

- Consensus decision-making.
- Academic freedom.
- Comfortable environment.
- Arenas and cross-division research.
- Attraction of good post-doctoral staff thanks to the good research reputation (of the best researchers).
- Approach to gender equality: especially with respect to recruitment, but not exclusively.
- Training: for juniors, grant training (workshop for grant writing: “grant club”), new structured career development training.
- Startup research money: lower teaching given to junior new staff.

3.2 Weaknesses

- Weaknesses above the Department level:
  - The university has a complicated structure with many layers: disciplinary domain, faculty, section, department, division, research program.
  - The enforced clear separation between funds for teaching and research reduces academic freedom with little benefit.
  - A lack of structure to promote inter-disciplinary research.
  - The mandated internal recruitment process takes too long and makes the process hard.
  - There is no consistent translation for every position name (e.g. biträdande universitetslektor) in English and important documents are not translated which could hinder integration of international arrivals.
  - The process to get the residence permit for non-EU people is very long; could it be delegated to the university? Sweden is losing talent because of this.
  - There are inconsistencies between university and departmentally held base information.
• Weaknesses at the department level:
  – A separate budget that goes directly to divisions reduces the strategic possibilities of the department, weakens the department relative to the divisions.
  – There should be a clearly understood aim across all of the department that striving for excellence with all activities is the clear priority.
  – There is a lack of written and agreed departmental strategy document which should contain the aim, vision, methods for assessment of quality.
  – Senior academic staff are spending too much time on administrative tasks.
  – There is little incentive to have PhD students get a broader exposure to outside culture (companies, other universities, abroad).
  – The Department must make it easy for the PhD students to obtain this broader exposure, letting them know it is easy / put some pressure so that they benefit of it, currently there are needless hurdles.
  – There is a non-uniformity of supervision: post-docs on block grant funding lack formally appointed mentors.
  – There is no uniform availability of data: regarding staff (numbers and distribution among categories) and of grants (number and sources of external grants).
  – The departments Webpage needs to be kept updated and should provide with very few clicks from the homepage lists of permanent academic staff (by type).

3.3 Recommendations
• Recommendations above the department level:
  – Review the organisational structure.
  – Remove the clear separation between funds for teaching and research as it reduces academic freedom with little benefit.
  – Work towards predictable research and teaching time for academic staff,
  – Create opportunity that facilitates inter-disciplinary research in a sustainable way inside a faculty, and across faculties, examples are eSSENCE, CIM and UPCERG.
  – Internal recruitment process takes too long and makes the process hard: find possibilities to speed up the process, Sweden is losing talent because immigration process takes so long.
  – Choose and implement a means by which all research outputs are easily accessible outside the specific academic community, e.g. ORCID, Google Scholar etc.
• Recommendations at the department level:
  – Develop a vision and define tools to assess quality, including collecting data.
  – Review the distribution of finances (divisions/research programs are too strong relative to the department).
  – Celebrate successes on a regular basis, e.g. a monthly meeting, with presentations of new large grants, or very good papers by their PI/1st author etc. to encourage the culture of excellence.
  – Decrease the amount of time academic staff spend on administrative tasks.
  – Get an operational manager so that academic staff can provide academic leadership instead.
  – Provide incentive to have PhD get a broader exposure to outside culture (companies, other universities, abroad).
  – Simplify the process for the PhD students and let them know it is easy and put some pressure so that they benefit of it.
  – Managers should be expected to carry out formal yearly (or periodic with reasonable period) personal development review with all staff.

4. Reflections on the similarities and differences between evaluation units within the panel – what to learn from each other?

4.1 Similarities
• The academic culture in both departments includes consensus-based decision-making, academic freedom, certainty to get tenure (comfortable place to work, less stress for junior people) and some celebration of successes (via cakes and coffee).
• Both departments are successful in attracting good people (PhD or post-doc) by the reputation of their respective department’s outstanding researchers.
• The complicated structure of the university (disciplinary domains, faculties, sections, departments, division, research programs) causes unnecessary difficulties within the departments.
• The lengthy recruitment process, prolonged by University procedures, creates disadvantages without benefits to both departments.
• The labelling of income to the departments as teaching or research, with the requirement that this split is faithfully honoured leads to difficulties for both departments.
Both departments would benefit from diversifying their source of research income. In particular, the reliance on a few sources (VR and Wallenberg) is not optimal for ensuring steady funding. Although both departments have external funding coming from companies, this is an area that could be expanded. The panel does not think that either department puts sufficient effort into staff applying for ERC grants.

Neither department has a properly structured policy for extended international visits by their PhD students.

Both departments have a high proportion of international staff.

Both departments provide good opportunities for training early career researchers such as running grant writing workshops.

There are systematic annual reviews for PhD students in both departments.

Regarding the new Ångstrom building, both departments view it as a financial threat.

### 4.2 Differences

- There are substantial differences in the way the Heads of Department carry out their duties.

- In the Department of Mathematics, the faculty provided funding is controlled by the department (and thus the department is strong) whereas in the Department of Information Technology funding arrives at the research programs (research funding). Providing the funding below the department level weakens the importance of the department.

- In the Department of Information Technology, senior academic staff have significant administrative roles whereas in the Department of Mathematics these tasks are undertaken by professional administrators.

- The Department of Information Technology has a mechanism for encouraging cross-disciplinary research. The existence of this mechanism (arenas) has helped cross-disciplinary topics to emerge.

- Regarding gender issues, the Department of Information Technology implements a well-defined policy whereas in the Department of Mathematics reliance is put on personal contacts only (and is thus less sustainable).

- The Department of Mathematics runs systematic annual development reviews for staff at all levels.
1. Introductory remarks
Within this report, we describe the evaluation by Panel 8 of the Department of Mathematics. Prior to the department interviews, the panel met to consider and synthesize the questions independently raised by the different panel members and to ensure that key areas of assessment are covered in a more uniform manner.

The Department structured its interview sessions with the panel with the aim that the panel meets the different categories of employees, and the most important structural bodies in the department. The introduction by the Head of Department detailed the overall status and position of the department within the University and the internal structure of the Department. The Department currently has an annual turnover in 2016 of 102 MSEK (36 MSEK teaching, 35 MSEK research, 31 MSEK external) with approximately 110 staff of which 91 are academic staff including 35 PhD students. The department teaches approximately 620 full time equivalent students.

The research is organized in three Research Programs denoted Algebra and Geometry, Analysis and Probability, and Applied Mathematics and Statistics. The Programs are not strict entities, but rather flexible units, and, in particular, do not have separate budgets. It is, for example, possible for a member of one program to have a PhD student from another program. This flexibility gives the Department enough freedom to make strategic decisions. The Department has been very successful in securing external funding, which now accounts for approximately 33% of the budget. This amounts to a considerable increase over the last decade; it has invigorated the Department, enabling the hiring of many new PhD students and postdocs, and it has given the Department excellent and competitive working conditions.

In addition, the Department hosts the Center for Interdisciplinary Mathematics, which offers co-funding of truly interdisciplinary research involving mathematics. Until recently, this included only research within Uppsala University; however CIM has now included industrially funded projects. The Department has also started a new initiative in industrial mathematics with the aim to secure funds to ensure a sustainable source of funding for PhD students and postdocs in this area.

The Department has an Advisory Board, comprised of heads of the research programs as well as the Head of Department, and the Studierektor. The Advisory Board, although not a formal part of the governance structure of the Department, has a considerable influence on the decisions in the Department. The Depart-
Department has a PhD program with two subprograms, one in Mathematics and the other in Applied Mathematics and Statistics.

The panel interviewed members of the Advisory Board as well as members of the Department Board. Separate interviews were made with administrative staff, PhD students, as well as with junior researchers (see Table below). It was noted that the self-evaluation report did not refer to the survey or comment on the collected bibliometric data. However, the department provided their own bibliometric data based on the most used database in mathematics. The Panel was given the impression of a very well-functioning department with strong and dedicated leadership, and with excellent, collegiate working conditions. In particular, the able administrative staff made it possible for the Head of Department to focus on strategic decisions.

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<td>Head of Algebra and Geometry: <strong>Tobias Ekholm</strong></td>
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<td>Head of Applied Mathematics and Statistics: <strong>Erik Ekström</strong></td>
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<td>Deputy Head of Department and Director of PhD studies: <strong>Volodymyr Mazorchuk</strong></td>
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<td>Director of Undergraduate Studies: <strong>Inger Sigstam</strong></td>
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<td>PhD Student Representative: <strong>Dan Strängberg</strong></td>
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<td>Administrative Staff</td>
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<td><strong>Maksim Maydanskiy</strong></td>
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<td>Closing meeting</td>
<td>Head of Department: <strong>Warwick Tucker</strong></td>
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2. Observations and analysis

There were several overall themes that arose during our meetings with the Department of Mathematics, and after we discuss them we will relate to the themes in the self-evaluation.

Issues above the Department level:

- **Structure:** The panel is concerned by the number of levels in the academic hierarchy. The purpose of the Section is not obvious, especially where it represents multiple separate departments.

- **Accountancy Culture:** The separation of teaching money and research money and the accounting process of allocating teaching and research activities seems detrimental for several reasons:
  1. It removes flexibility within the Department to allocate resources,
  2. It puts substantial stress on the academics about what their work will be year by year,
  3. It is a very time consuming administrative task for academics who should be providing leadership rather than doing calculations,
  4. It is instrumental to academics losing faith in the credibility of their leaders, because of the necessity of creating an official view that all academics are exactly 100% occupied.

- **Employment Support:** The combination of national law and unnecessarily complex university procedures mean that the employment process takes such a long time that Uppsala University is losing talent to other institutions.

- **Interdisciplinary Research Support:** The University has only limited mechanisms to facilitate the introduction of new interdisciplinary research areas.

- **Titles for Academics:** In an international arena it is confusing to have such titles as *Associate Senior Lecturer*. When listing academic positions in English, use of American titles (Assistant, Associate and full Professors) would be beneficial.

- **Open Access:** The absence of policies on open access, open data and open software will hinder the ability to secure external funding from some providers. Clear and easy linkage to such outputs would make all research outputs more visible and this would increase impact.

- **Visibility of Academics:** A consistent policy about whether all staff members should have a publicly accessible ORCID, Scopus, Google Scholar or similar research profile, with links to these on department personnel homepages, is absent.
• **Reviews of Funded Areas**: Which program areas should be funded, and at what level of funding, should be reviewed on frequent basis.

• **Quality of Data**: The data provided by the University was inconsistent with the data that the Department held. There needs to be a single source of truth.

The strategic aim for the Department is to continue to provide excellent, competitive working conditions for the active researchers with the aim to become the best Nordic department of mathematics. Providing ample research time, and generous funding are key here. Hiring young mathematicians of the highest international standards is the most important strategic mechanism.

**Recruitment**: Hiring is one of the most important strategic matters. However, the panel found the current procedure intrinsically flawed. The main decisions are made by bodies without appropriate disciplinary competence. Furthermore, the Head of Department does not have sufficient influence on the process. The process is also too time-consuming, resulting in the loss of the best candidates.

The numbers of female members of the Department is still low, but clearly improving among PhD students and associate senior lecturers. This is in part due to the practice of encouraging potential female candidates to apply.

**Leadership**: The Head of Department is clearly the research leader. There has been a recent rearrangement of research programs which has worked effectively.

The decision-making process at the Departments of Mathematics is as follows: The Advisory Board considers strategic decisions, and prepares a proposal. Then, the whole department discusses the proposals of the Advisory Board. Finally, the Department Board makes the decision. Most decisions are consensus based.

**Academic culture**: Activities at the Department of Mathematics are directed at creating excellence, by providing working conditions and an atmosphere which supports high quality research. All research groups at the Department run regular research seminars. In addition, the Department organizes a monthly general colloquium. This exposes PhD students to several branches of modern mathematical research.

Hiring of PhD students is done in a collegial manner. There is a common course package for PhD students. The director of PhD studies runs a seminar for the graduate students, where the PhD students discuss topics of common interest and develop their presentation skills by making shorter presentations of their own work.

The amanuenses come in contact with PhD students and academic staff during their teaching interaction, this gives them an understanding of research op-
opportunities within the Department. In addition, the department hosts a Mathematical Summer Camp for undergraduates.

**Infrastructure:** The Department has a very effective administrative unit. The administrative personnel are organized according to their function, e.g., economy, HR, student issues, and have a clear understanding of their roles and duties. This enables the Head of Department and research responsible professors to exercise academic leadership without being encumbered by routine operational tasks.

There appears to be a lack of understanding of policy decisions made at the level of the University.

The department is worried that the expected increase in rent due to the planned expansion of the Ångström Building will put severe pressure on their budget. The panel recommends that measures are taken to address this.

The Department website is supported by central IT, while the Department of Information Technology provides IT support to the Department of Mathematics on a part time basis. The panel felt the Department would benefit from local IT being strengthened, and Central IT should operate in a more responsive manner. There is room for improvement on the website, e.g. easily accessible lists of employees at the Department according to position.

**Funding:** The Department’s funding for education, research, and external grants are roughly equal. Support from external grants has grown from virtually nothing 10 years ago to over 30 MSEK in the last year. This has enabled the Department to increase the number of PhD and postdoc positions. The panel considers the fact that the Department has control of the block grant received from the faculty to be of great importance, allowing strategic decision-making and flexibility. However, the panel strongly believes that the strict separation between education and research funding is detrimental to Department’s ability to act strategically by imposing unnecessary constraints.

**Collaboration:** The Department has an extensive international network of collaborators. It hosts a significant number of international scholars, some of whom provide courses for PhD students. To maintain existing collaborations, and to initiate new ones, the department grants most internal applications for funding of travel to conferences and to other universities. Also, several seminar series are run within the department to facilitate collaborations with other universities. The department is also flexible when it comes to concentration of teaching duties and departmental duties to enable longer research visits for staff.

The members of the Department collaborate with many other departments of Uppsala University. Here the Center of Interdisciplinary Mathematics (CIM)
plays an important role. CIM coordinates and co-funds interdisciplinary research involving mathematics within Uppsala University and with industry. The panel regards this as important to the development of interdisciplinary research within the University. A recent success for the Department is the new external industrial research activity established with Combient AB. This is an example of beneficial diversification of funding streams.

**Publication:** The Department has a strong publication history through all segments (from PhD to professor) though there is no publicly accessible single source. Within the Department, there is an annual monitoring process into which the year’s research output feeds. In the international environment, it is important that publications be easily accessible. The Department should establish policies on open access, open data, open software and ensure clear, easy linkage to these outputs thereby making all research outputs more visible, thus increasing impact. It was felt within the Department that there is not a strong need for a formal research evaluation mechanism due to the Department’s strong processes of self-evaluation, which feeds into annual appraisal including mechanisms for salary increases.

**Career structure and mobility:** It is clear for all new academic hires at Associate Senior Lecturer that they have four years to meet the university criteria for a permanent post, and there is significant support within the Department for development in both teaching and research. An example of this is a recent hire who received central support for both a postdoc and PhD student to work with her. The Department holds grant writing workshops to ensure new department members are well prepared as they are expected to apply for VR grants and, in some cases, ERC awards. These training opportunities are well received, passing on best practice. They collect both successful and unsuccessful past applications to act as guides. There are also good courses run by the University. Junior researchers like the environment and feel supported. It is possible for PhD students to spend extended periods of time at other institutions internationally, and funding is provided. Nevertheless, many PhD students do not take advantage of this opportunity, and the panel recommends that the value of this should be emphasised more.

**Feedback and evaluation:** All members of the department are subject to annual evaluations, their goal being both to maintain levels of performance and possible recruitment to academic positions in the case of postdocs or researchers. These evaluations are done in conjunction with the process of annual salary revision, and provide an opportunity for all members of the department to give and receive feedback. The research programs have various forms of discussion forums
(sometimes strategic workshops, sometimes simply a collective coffee meeting) where the program professors collect information. This is reported at the meetings with the Advisory Board. On a more popular note, the department always celebrates (with cake and coffee) anyone who receives a grant or prize.

To maintain progression of departmental PhD students, the Head of Department and the three research responsible professors meet annually to discuss the progress of each PhD student in a process which first requires an annual plan to be completed between the student and supervisor, after which feedback is given.

To maintain visibility beyond the mathematical community the department should consider whether all staff members should have a publicly accessible ORCID, Google Scholar or similar research profile.

**Research-teaching linkage:** Overall the Department has a policy whereby all members of the department perform teaching from the newest PhD student to the Head of Department, and through this, research within the Department influences teaching. The Department explained that the hierarchical nature of mathematics makes it very difficult to introduce undergraduates to research topics in lectures.

### 3. Summary

#### 3.1 Strengths

- Consensus-based decision making.
- Academic freedom.
- Happy working atmosphere.
- Ability to attract excellent young people.
- Annual review: not only for PhD students, but for every member of the staff.
- Separation of academic leadership and administrative duties, enabling the Head of Department to concentrate on strategic issues.
- There is a culture of high expectations that is made clear to everybody.
- The department members have won an impressive number of awards.
- There are incentives to apply for VR grants.
3.2 Weaknesses

- Weaknesses above the Department level:
  - The university has a complicated structure with many layers: disciplinary domains, faculties, sections, departments, divisions, and research programs.
  - The clear separation between funding for teaching and research reduces academic freedom with no benefit.
  - The hiring process ignores departmental expertise and needs.
  - The central IT support is not responsive enough.
  - The web pages do not showcase the department sufficiently well, and are difficult to navigate.
  - The planned new Ångström Building with expected higher rent is a matter of serious concern.

- Weaknesses at the department level:
  - There is a lack of awareness of the Department’s strategy document.
  - There is an apparent lack of interest in standardized evaluation processes.
  - There is a lack of interest in ensuring that publications are easily visible outside the mathematical community.
  - There is insufficient encouragement to apply for ERC grants.
  - There is a lack of incentives for PhD students to spend extended periods of time at another institution.

3.3 Recommendations

- Review the organisational structure of Uppsala University.
- Remove the clear separation between funds for teaching and research.
- Improve the internal recruitment process by shortening the total duration of the process.
- The internal recruitment process should respect the expertise of the department.
- The Department should ensure that it engages with the outcomes of KoF17.
- Choose and implement a means by which all research outputs are easily accessible outside the mathematics community, e.g., ORCID or google scholar.
4. Reflections on the similarities and differences between evaluation units within the panel – what to learn from each other?

4.1 Similarities

• The academic culture in both departments includes consensus-based decision-making, academic freedom, certainty to get tenure (comfortable place to work, less stress for junior staff) and some celebration of successes (via cakes and coffee).

• Both departments are successful in attracting good people (PhD or post-docs) by the reputation of their respective department’s outstanding researchers.

• The complicated structure of the University (disciplinary domains, faculties, sections, departments, divisions, research programs) causes unnecessary difficulties within the departments.

• The lengthy recruitment process, prolonged by University procedures, creates disadvantages without benefits to either department.

• The labelling of income to the departments as teaching or research, with the requirement that this split is faithfully honoured leads to difficulties for both departments.

• Both departments would benefit from diversifying their source of research income; in particular, the reliance on a few sources (VR and Wallenberg) is not optimal for ensuring steady funding. Although both departments have external funding coming from companies, this is an area that could be expanded. The panel does not think that either department puts sufficient effort into maximising ERC grants.

• Neither department has a properly structured policy for international extended visits by their PhD students.

• Both departments have a high proportion of international staff.

• Both departments provide good opportunities for training early career researchers such as running grant writing workshops.

• There are systematic annual reviews for PhD students in both departments.

• Both of the departments are partners within the Centre for Interdisciplinary Mathematics.

• Regarding the new Ångström building, both departments view it as a financial threat.
4.2 Differences

- There are substantial differences in the way the Heads of Department carry out their duties.

- In the Department of Mathematics, the faculty provided funding is controlled by the department (and thus the department is strong) whereas in the Department of Information Technology funding arrives at the research programs (research funding) and the divisions (teaching funding). Providing the funding below the department level weakens the importance of the department.

- In the Department of Information Technology, senior academic staff have significant administrative roles whereas in the Department of Mathematics these tasks are undertaken by professional administrators.

- The Department of Information Technology has an internally created mechanism for encouraging cross-disciplinary research. The existence of this mechanism (arenas) has helped cross-disciplinary topics to emerge.

- Regarding gender issues, the Department of Information Technology implements a well-defined policy whereas in the Department of Mathematics reliance is put on personal contacts (and thus is less sustainable).

- The Department of Mathematics runs systematic annual development reviews for staff at all levels.
1. Introductory remarks

The panel* is charged to evaluate the Department of Physics and Astronomy.

We appreciated the significant effort made by the Department of Physics and Astronomy in providing a very thoughtful and open self-reflection. Many of the issues raised in the self-reflection are challenges that we face in our institutions as well. Hence, many of the recommendations made in this panel report are also goals that we are aspiring to for our own institutions.

Finally, the panel wants to thank Dr. Gålannerd for his tireless effort throughout the week, making sure we had all the information we needed, getting us to the right place at the right time, and sharing with us his expert knowledge of the university system.

2. Observations and analysis

Themed in the self-evaluation

The evaluation unit’s aims, strategies and vision, recruitment strategies, research leadership, academic culture, infrastructure, research funding, cross border collaboration and outreach, publication, career structure and mobility, feedback and evaluation, research-teaching linkages, and internationalisation. In some cases, there are additional themes: research involving Campus Gotland, faculty/domain specific question(s) and/or other matters raised by the evaluation unit. Please, refer to the self-evaluation for further operationalisation of the themes.

The quality of research in the Department of Physics and Astronomy is very high and world-leading in several areas. The research programs play significant

* Panel 9 consisted of: Chair: Chi-Chang Kao (Stanford University/SLAC, USA); Researcher on research: Pat O’Connor (University of Limerick, Ireland); Panelists: Jørgen Christensen-Dalsgaard (Aarhus Universität, Denmark), Peter Hansen (Niels Bohr Institute, Denmark), Björn Jonson (Chalmers, Sweden), Petra Rudolf (University of Groningen, Netherlands), Arkady Tseytlin (Imperial College, London, UK); Local guide: Björn Gålannerd.
roles in many large scale international projects and facilities, including MAX IV, ESS, LHC, ESO, ESA, SNIC, FAIR, JET, ILL, ICECUBE.

The department has a staff of around 360, an annual budget 370M SEK, and is organized into 12 divisions, of which three do not contain independent research programs. The funding of the department is healthy and growing, but dependent significantly on external funding, 57% in 2016. The environment of the Ångström building is very conducive to collaborations within the department and university.

The department is very self-reflective and has identified areas that need improvement in the KoF17 process, including organizational structure, transparency of management, gender imbalance, communication, etc. Improvements have been made in many of the areas. It is also clear that the chair of the department understands the pros and cons of its long history and is trying to introduce changes to the department on many fronts.

The following summarizes our observations and analysis in the following major areas at the department level.

**Gender imbalance**

- Roughly four fifths of those at professorial and senior lecturer level in the department are men. This pattern reflects and perpetuates male dominated structures, culture, processes and procedures. Such a lack of diversity has been shown to have an impact on science and on research innovation. Gender inequality is highlighted in several of the self-evaluations and is recognized by the management of the department. However, there does not seem to be a systematic approach to address the problem. For example, some common practices, such as unconscious bias training, have not been implemented. In addition, there are opportunities to improve the situation to the benefit of the department, such as leadership development for women including mentoring, as well as the identification of gender targets at professorial, senior lecturer and associate senior lecturer levels and the linking of appointments at these levels to such targets.

- There is tension between the content of the *Action Plan for Equal Opportunities: Faculty for Science and Technology* (2016) and the widespread perception by faculty that any initiative which addresses the under-representation of women is illegal. The legislation clearly states that ‘measures that contribute to efforts to promote equality’ are acceptable (Discrimination Act, 2014: 958, section 9). This needs to be reinforced by HOD in the context of the Faculty’s Action Plan for Equal Opportunities (2016).
Attract and retain the best

- A career path for junior researchers is an issue identified by the department. It is clearly recognized by the department that attracting and retaining the best talent is essential, and there are many good examples such as providing better incentives to attract and retain best talent, assisting in career options and development, and increasing the availability of associate senior lecturer positions.

- The limited nature of opportunities for accessing an academic career is illustrated by the fact that in a department of over 360 people, there are only five positions at the assistant senior lecturer level. This is not helpful in terms of retaining excellent early career people.

- Tenure track faculty positions seem to be an unresolved issue. Apparently, there has not been a single case of someone being denied tenure. Without a “true” tenure track system, the department loses one of the most important renewal mechanisms.

- The department could be more creative in appointments. For example, solving the 'two-body problem' with dual career opportunities.

Organizational issues

- The departmental structure is complex. The chair is considering realigning the existing structure to promote more collaboration.

- At the university level, the current organizational structure involving faculty, department and programs is confusing. There seems to be a difference in opinion on whether the programs are directly controlled by the faculty or by the department board.

- Joint appointments between departments is a good idea. However, there is no formal mechanism for joint appointments to expand these opportunities.

- The centralized administrative burden (involving travel, procurement etc) is a serious issue. It clearly has negatively impacted the productivity of the research program.

- With the size and complexity of the department, it is essential to increase the administrative support at the local level.

- The new internal communication initiative is a good idea. It should help create more transparency in the department. However, it is important to think about what messages are being communicated and develop a metrics to measure the effectiveness of the communication.
Enhance the impact of the department

- The department has an excellent history of contributing to the local economy with start-ups (for example Scienta Omicron). Engagement with the regional government should be considered to promote further entrepreneurial activities and foster the relationship with local industry.
- The department needs to be present in committees at the national level and science policy is done in Swedish; therefore, the increasing internationalization of the staff calls for Swedish language training for the non-native speakers.
- The appointment of a communication officer is applauded. The department needs to intensify activities for outreach to a broader public, and stimulate students to study or pursue an academic study or PhD in Uppsala. The main focus hereby is on PR activities (press releases, YouTube videos etc.), but it also includes visiting high schools and local and national festivals to enhance the visibility of its research lines and interactions with possible academic and non-academic partners.
- Broadening the student body to include more international students would be advantageous. In particular, attracting non-EU students as a mechanism to increase funding as well as increasing the diversity of the department. However, it requires investment of resources based on experiences of other similar institutions in Europe.

Research investment and environment

- The new initiative to create a strategic fund is a very good step. It allows the department to get into new high risk research areas, and create opportunities to promote diversity.
- Funding for research infrastructure, in particular instrumentation, is a concern. External funding is now the majority, but the national funding strategies for infrastructure seems to have changed dramatically over the last few years. This is a real concern because two of the key strengths of the department are its technical staff and the development of instruments beyond state of the art. The same goes for funding for access to national computer facilities, which is of vital importance to the work of the theoretical groups.
- Teaching staff are allowed to buy-out teaching. This might negatively impact the linkage between research and education.
- Department level seminar/colloquium would be a good incentive to help promote a more intellectually stimulating environment.
• Department holds a “strategy retreat” twice a year to deal with organizational issues, teaching and infrastructures. It is a forum for discussion and consensus-making rather than a forum for decision-making.

Situation of the PhD students in the department
PhD students experience the research environment as stimulating and are fully conscious of the high quality of the research projects in which they are involved. They appreciate the possibility to change their supervisor and/or project in case of problems. They are very satisfied with their employment conditions and social benefits such as maternity/parental leave. However, they are not part of a university wide or faculty broad graduate school. While the divisions are very thorough in their international recruitment procedures, there is no institutional body to provide administrative support, to establish and enforce transparent and uniform rules for training and quality assurance, to set up and maintain a high-quality training environment, as well as to actively encourage student empowerment. Particular consequences of this are the following:

• The degree of definition of the PhD project, supervision plan and training activities are not uniform for all candidates. Back-up plans for possible instrument failure or other shortcomings in feasibility are not routinely provided.

• Progress interviews and monitoring events (project presentation at the beginning, licentiate, pre-defence presentation before finalizing dissertation) exist, but their implementation is not enforced at the institutional level, and patterns vary between divisions.

• There are large differences between divisions concerning compensation for teaching tasks; this holds not only for tutorials or lab classes but also for supervision of Bachelors and Masters projects.

• There is a lack of transparency on how the assignment of teaching tasks is organized.

• Few soft skills training or career orientation activities are organized.

• There are differences between divisions in funding for participation in conferences and training activities elsewhere.

• There is no organized help for new foreign PhD students regarding bureaucratic requirements in finding accommodations, how to open a bank account, and deal with insurance companies, etc.
2.1 Observation and Analysis for Subunits

**Theoretical Physics**

This is a dynamic division with a high international research profile in quantum field theory, string theory and mathematical physics. The division is undergoing a period of rapid expansion with several recent junior faculty hired, one tenure-track hire starting in 2017, and two new tenure-track positions advertised. The level of applicants for faculty positions is very competitive. There is a core of excellent young researchers and a critical mass to create a stimulating scientific environment.

The division has an excellent record of attracting substantial outside funding (ERC, KAW and several VR grants). An important strength is the close collaboration with Nordic Institute of Theoretical Physics (Nordita) in Stockholm through a number of joint appointments and common scientific activities (seminars and conferences). There is also a joint grant and joint appointment with the Mathematics Department.

Observations:

- Joint appointments (both with Nordita and Math) need a more formal template at the university level.
- There is potential to create a center of excellence (or a research institute affiliated with Nordita). That would raise the status of the division, would help increase visibility and attract good Masters and PhD students.
- With several recent and future hires at professorial and postdoctoral level the division is in need of more office space and the help of the department is required.
- There is an opportunity to create a stronger link between the formal theory division and the particle theory group in the high-energy physics division. Fostering connections with Beyond the Standard Model particle phenomenology is a potentially important direction.
- The record of outreach is impressive and should be further supported and encouraged.

**Subatomic Physics**

The panel was given a clear presentation about the activities in the two divisions: High Energy Physics (HEP) and Nuclear Physics (NP). In general the research activities in the two divisions were found to be very well focused, well-chosen and of excellent quality.

The HEP division focuses on two main experimental activities: the ATLAS and the IceCube experiment and comprises an activity in particle physics phenomenology. A recent addition is an ARIANNA R&D activity. Within the
ATLAS experiment the group takes major responsibility for the LHC high luminosity upgrade, leading the Scandinavian contribution to the construction of the endcap strip part of the new silicon tracker. Data analysis focuses on the search for additional Higgs bosons. In the IceCube experiment interest is focused on neutrinos of astrophysical origin (first observed in 2013).

The NP division has made a strategic decision to focus on experimental and theoretical investigations in the field of hadron physics, while the experimental group’s focus is on preparing the PANDA experiment at the future FAIR facility, where pilot experiments are expected to start in 2023, and on data-analysis from running experiments KLOE2 and BES III.

Observations:

• The HEP group is facing three professorial retirements in key positions in the physics program in the near future and one past professorial retirement. This puts each of the three HEP activities at risk of becoming under-critical, but also presents an opportunity for making strategic plans that allow for consolidation and renewal of the program as well as a chance to address the diversity issues. There are also larger national strategic issues to be considered in this connection.

• Similarly the program professor for NP is facing retirement soon, which again represents an opportunity to review and renew the activities in hadron physics.

• It is urgent that these upcoming retirements be addressed (especially for experimental particle physics and for astro-particle physics). The department has already taken some actions to deal with the situation, in particular by actively attracting excellent researchers that bring with them very distinguished grants (VR consolidator etc).

• The HEP and NP divisions were formerly one division. Reuniting the two again could be considered, and thereby harvest an administrative “dividend” as well deepening the synergy and collaboration that is already happening, particularly in the areas of instrumentation and theory. In general, financing new initiatives aiming at research renewal could be helped by re-organizing the department into larger units.

• Broad communication among colleagues is of great importance. It is naturally most intense at the division-level where it seems to foster a strong identification of the employees with their division. E-meetings could be used more often to allow “travelers” to participate.

• Some financial concerns were expressed. Expense to rent office spaces is going to increase with the expansion of the Ångström lab. The problem is worse for teaching space. Infrastructural funding is also a concern. While
the Ångström mechanical workshop is a fantastic asset for the department, funding for larger infrastructure has ceased and earmarked infrastructural funds at the university level have not succeeded in reaching the activities needed for sufficient infrastructure.

*Astronomy and Space Physics*

The Astronomy and Space Physics division carries out excellent research on a broad range of topics in observational and theoretical astrophysics. It has extensive collaborations with the Swedish Institute of Space Physics (IRF), which is affiliated with the division and where at the moment 7 of the 14 current PhD students are employed. This division is formally divided into three separate research groups: observational astrophysics, theoretical astrophysics and space and plasma physics, each led by a professor. There is very strong collaboration among the groups with special emphasis on the collaboration between observations and theory. The division is making major contributions to the development of instruments for international observational facilities, particularly at the VLT, and to the development and use of satellite instrumentation. The theoretical group includes a strong effort on the relevant atomic physics, and on large-scale hydrodynamical numerical simulations.

Observations:

- There is good synergy with IRF, including research and instrument development.
- The valuable interactions with the rest of the department include teaching, condensed matter theory, surface science and others.
- There seems to be some ambivalence within the division concerning a new combined department structure.
- The recruitment process for new academic staff was criticized: it lasted up to one and a half years and led to losing strong candidates.
- Gender issues are recognized. Some progress has been made in PhD recruitment utilizing personal relationships to recruit female candidates. Mentorship and leadership training have also been helpful.
- This division could use more resources to help the recruitment.
- Local (departmental) support has been insufficient in connection with large externally funded infrastructural projects.
- At present external funding is not available to cover infrastructure and computing needs.
- Outreach to a broad audience based on scientific fascination is very successful.
FREIA division for accelerator and instrumentation research and development
The Facility for Research Instrumentation and Accelerator Development (FREIA) is an ambitious new activity started in 2013 with the purpose of designing, developing and testing components for new accelerators, and supporting deliveries from Swedish industry to accelerator centers, in particular the ESS. The research is centered around super conducting RF cavities and RF power generation and distribution, but it also comprises developments for hadron therapy, cyclotrons for medical isotope production, laser heating and acceleration of charged particle beams, and other subjects.

The center at present 25 staff with about 1/3 recruited from the former National Uppsala Accelerator Laboratory, a few from the UU staff, and the rest recruited internationally.

FREIA is funded by contracts with ESS and other accelerator centers, by grants from the Wallenberg Foundation, EU and other funding agencies and support from Uppsala University. The present funding horizon reaches until 2020.

Observations:
• FREIA builds on the experience on accelerator developments collected over half a century in Uppsala.
• It operates as a research laboratory. The results are published in refereed journals and there is a vibrant academic activity at the laboratory, including training, teaching, scientific seminars etc.
• The facility has no base funding as all existing funding is “soft money”. Base funding would be possible if the FREIA lab was promoted to a national infrastructure as in the case of the Tandem Laboratory. The work carried out at FREIA is not especially linked to activities at UU but is directed towards accelerator centers such as ESS, XFEL and CERN.
• While the panel acknowledges the great scientific importance and the industrial perspectives in accelerator R&D, it is not completely clear to the panel what the future demand will be for the particular services that FREIA can offer, and how these services would complement the big European actors on the accelerator scene, like the DESY, Saclay, PSI, Frascati and Rutherford laboratories.
• The department has made changes which remove the regulations that prevented FREIA from supervising PhDs. The program would likely benefit from marshalling support from local business and regional government in view of the value for local companies to maintain competence in the area.
• A better defined long term vision for the activity is needed, especially a plan for the future scientific leadership of the lab.
Applied Nuclear Physics
The presentation and discussion of the Applied Nuclear Physics division (ANP) was preceded by a visit to the Tandem Laboratory@UU, which is a national infrastructure for ion-beam material analysis. This unit, albeit not part of the present complicated structure of the ANP, was excellently presented by its future leader. The Panel members were very impressed by the enthusiasm and clear driving force that permeated the presentation. The presentation of the entire division that followed was, however, to some extent less stimulating.

Observations:

• The program has been successful in expanding the size of the group from about 10 to its present 47 employers.
• Like most of the groups interviewed, the applied nuclear physics group raised the issue of insufficient administrative support. This group has a special challenge stemming from the diversity of its external funding sources which creates an acute need for a financial controller.
• The organizational structure seems too complex for the size of division. A renewal of the whole structure and its leadership is an urgent strategic action.
• It would be most useful if an associate senior lecturer position could be opened.
• The lack of gender diversity is seen as due to the fact that the nuclear industry is heavily male dominated. The management of the division is aware of the problem, but there are no actions proposed.
• Collaboration with engineering divisions should be increased and the possibilities for regrouping the ANP, NP and HEP divisions along new dividing lines should be thought through carefully, taking into account the special status of the Tandem and FREIA labs.
• Interdisciplinary research was mentioned often, but it is not clear how much progress on this can be made within the current structure. The University should look into it more to understand the obstacles and perhaps provide incentives.
• Some PhD students suffered from stress. The division is a mix of four very different parts so that students don’t necessarily have the same experiences. Joint supervision of PhD students, supervisor meetings, and regular discussions with the PhD students are tools that are being actively used within the division to mitigate the problems.
• The Panel also noticed a certain lack of understanding of the importance of outreach. The excellent Tandem facility and its energy related research
activities conducted there by the ion physics group within ANP is certainly a good starting point for stimulating laboratory visits.

- The Panel sees the weakness of the division arising from the complicated structure of its organization, which seems to be counter-productive. One possible scenario would be to split it in two; one part around the Tandem activity, with the fission and fusion activities merged into a joint energy-related activity with its present international network.

Molecular and Condensed Matter Physics
With its 50 employees this division is one of the largest in the Department because it has emerged from a fusion of the research groups: Electron Spectroscopy, Molecular and Surface Physics, Surface Physics and Soft X-ray Physics. The quality and quantity of the research output of the division is excellent. The division can be considered best practice for formulating a common vision around the research focus, organization of the groups around research themes (X-ray based methodology, molecules and liquids and functional materials), and installing an efficient communication structure, which also ensures the involvement of all in strategic discussions. The division occupies a very special position in the development, maintenance and use of large scale infrastructure at national and international large scale facilities (MAX IV in Lund, HZB/Bessy in Berlin, the European XFEL, the Center for Free Electron Laser Science (CFEL) in Hamburg and the Linac Coherent Light Source (LCLS) in Stanford) which, apart from producing excellent science, have enormously contributed to the international visibility of Uppsala University.

Observations:
- The increased size and new structure of the division allows for more flexibility and for a new faculty position.
- There is a high success in attracting external grants, 60% of the total budget of the division.
- There is a multi-pronged external funding strategy, which is able to respond to new trends such as the focus on application-motivated research.
- There is not enough experience in the division with EU projects so far.
- Several important instrumentation development projects, in-house as well as synchrotron and FEL facility based, depend crucially on the high quality Ångström Workshop.
- There is insufficient local funding to maintain and develop new instrumentation. This issue needs to be addressed at the university level.
• There is good interaction with other divisions, namely materials physics and materials theory.

• An enhanced visitor’s program could further develop the overall environment, increase collaborations and address the gender issue in terms of offering role models at senior level.

• Annual performance interviews, although voluntary, are conducted on a reasonably broad scale. This should be more systematic and include a systematic talent review as well as long term career planning. Formal joint appointment with other departments (for example for biophysics research with biology or energy related materials research with engineering) would be useful for access to students and other resources.

• The number of PhD students per senior staff member is rather low and hence there is ample supervision capacity for more doctoral candidates. Effort should be directed to attract PhD students with their own fellowships. Providing opportunities to the students to work with partner institutions/large scale facilities may attract additional students.

Materials Theory
This is a large division with an excellent research profile and a diverse and large core of young researchers. An important part of the activity is the development of new theoretical methods and computational techniques to study the properties of various materials. Research covers a wide range of active topics (electronic structures, transport properties, atomistic spin-dynamics, ultra-fast magnetisation dynamics, quantum entanglement, graphene and 2D materials, etc). The emphasis is on basic science and multi-disciplinary, interdisciplinary science and applied science.

Overall the quality of the research output is very high and there is ample evidence of success in grant applications. The hiring strategy is good, with an emphasis on young researchers that can successfully apply for ERC starting and consolidator grants, KAW-fellows grants, etc to establish their research activities within the division. There is evidence of a good research atmosphere in the division.

Observations:

• Gender statistics are better than in most of the other divisions within the department. The leadership of the division is very important in achieving this.

• There is a good effort to increase the number of foreign Master students within the Materials Theory Program.
• There is a very diverse PhD student body, with efforts to attract international students.
• Access to national computing infrastructure has become a very serious and urgent problem – university help with SNIC funding is required.
• It was suggested that it would be useful to have clearer priority setting within the department and at faculty level: Perhaps rethinking the structure and authority of the department board. There were complaints about faculty funding being channelled to the research programs/divisions through the department board rather than directly to the program professor. The roles of division head and program professor need to be clarified and made uniform at the level of the department. The current situation is perceived as unclear on how strategic decisions about strengthening existing activities and going into new directions are made.
• The distribution of the block-grant from the department/faculty needs to be reorganized and used more dynamically to allow for renewal and adapted to a changing research landscape, taking into account the performance and size of divisions.
• Collaboration with Nordita could be strengthened. Interactions with the formal theory division could be increased, perhaps to include some joint appointments.
• Outreach activities take place but are not organized within the division or department.

**Materials Physics**
This division produces an excellent research output with publications in top journals. It optimally profits from the fact that materials research is an important component of current research roadmaps at the national and international level. The division has a “vertical” chain, going from making the sample, characterizing it, to neutron and X-ray scattering for magnetism. The team has optimally responded to emphasis on applied research with a new activity on the utilisation of additive manufacturing of both soft and hard matter. It plays an important role in the Swedish participation in the European Spallation Source (ESS).

Observations:
• There is strong interaction with industry – and it is a good model for others on how to combine basic research with application. The science program is broad (hydrogen in metals, soft matter, magnetic materials) and builds on the strength in magnetism.
• The division provides the expertise to maintain the local infrastructure and supports Sweden’s first neutron reflectometer SuperADAM, located at ILL in Grenoble, France.
• The division receives visiting scientists and visiting students.
• It has handled the problem of infrastructure funding with a “loan” from the university and used part of the faculty funding as buffer to ensure employment of researchers.
• The division gives outreach a high priority and could serve as best practice for others.
• Performance review interviews are new. The management needs to pay special attention to ensure they are implemented properly.

3. Summary

3.1 Strengths

• The quality of the research is exemplary.
• The department is unique in combining theory and experiment as well as in the development and utilization of both national and international facilities.
• There are not that many other physics departments in Europe which have as many world-leading research programs.
• The department’s ability to obtain external funding from a variety of sources is excellent.
• The experimental facilities and infrastructure are outstanding.
• The openness of the department management to changes and renewal is very encouraging.
• The connections to Nordita and other international collaborations are excellent.
• The quality of junior researchers is very impressive.
• The inclusive culture and strong identification within the divisions is crucial.
• The enthusiasm and commitment of staff to their disciplines are contagious.
• The existence of 2 MSEK in the department to promote equality and the existence of an EO committee.
3.2 Weaknesses

- Uneven awareness of gender issues and their implications, and failure to learn from the best practices internally and internationally.
- The composition and gender profile of the department board is unsatisfactory
- Lack of a proper tenure track system.
- Excessive delays in making strategic decisions related to faculty retirement.
- Faculty hiring procedures are too complicated and slow, and the Faculty hiring board inadequately represents the hiring department.
- The role of the department board is not strategic.
- Excessive and intertwined layers of structure involving division, department, section dean, and Faculty Dean in the decision making.
- Inefficiency in the centralized service particularly involving IT, procurement, and travel and limited routine administrative support.
- Lack of community building effort, such as colloquia, at the department level.
- Uneven appreciation of the value of outreach.
- Teaching organization is fragmented.
- Lack of awareness of the connection between both undergraduate and graduate student numbers and the wider regional and national economic context.
- Administration procedures, teaching duties, quality of life and research conditions vary widely for PhD students in different divisions. The situation is even worse for international students.
- Researchers are a very important part of the department. They seem to be frustrated about their (lack of) career perspective.
3.3 Recommendations

Overall, the department’s research is of very high quality. The panel feels that with all the retirements in the coming years, the department has a tremendous opportunity for renewal and addressing the diversity issue (and especially gender given the fact that roughly four fifths of those at professorial and senior lecturer positions are men).

To the Department Head

- Rethink the organizational structure inside the department to align exciting programs so as to create critical mass and flexibility in adapting to future scientific opportunities.
- Consider appointing an external national and international advisory board.
- Redesign the appointment procedures to the Departmental Board to ensure that the profile of the voting members is gender balanced; and ensure that this balance also exists on all decision-making bodies concerned with finances and hiring/promotion.
- Clarify the department head’s role and that of the Departmental Board in defining the strategy and the re-allocation of research program funding.
- Be more proactive in promoting the connection of the department’s research to the local, regional and national economy.
- Make sure that hiring gives preference to attracting the best young researchers with starting ERC, KAW and similar grants.
- Establish rigorous career development programs for junior researchers and staff, including mentoring, leadership development courses, grants application training and support.
- Clarify roles of program professors in a context where several programs can be in one division.
- Ensure that the process of assignment and the term of division directors and program professors is more clearly defined, time limited and transparent.
- Simplify the structure of non-tenured positions, clearly designing career paths with the corresponding possibilities for acquiring additional competences such as the “Excellent Teacher” qualification.
- Establish effective administrative support within the department.
- Do not support excessive teaching buy-out.
- Require participation in unconscious bias training by the Department Board, Division Heads and Programme Leaders and all those involved in decisions concerning resources or hiring/promotion boards.
• Ensure that the Faculty including the Equal Opportunity Committee are fully briefed on the Faculty’s *Action Plan for Equal Opportunities*” (2016) and the appropriateness of measures that promote equality, so that they can use their resources to facilitate the achievement of the employment and decision making goals in that document.
• Strengthen support for EU grant applications.
• Consider expanding the PhD student population and its international profile and in particular attracting self-financed students.
• Develop succession plan for leadership positions within the department.

We invite the department head to look at the specific comments and recommendations made in the observations/analysis section and to take appropriate action.

*To the Dean of Faculty*

• Implement the Action Plan for Equal Opportunities: Faculty of Science and Engineering (2016); including increasing the proportion of women in decision making and at various employment levels.
• Identify targets at Faculty level for the proportion of women at professorial, senior lecturer and associate lecturer level, and link them to appointments at these levels.
• Establish a formal mechanism for joint appointments (within UU and with outside institutions like Nordita) to encourage interdisciplinary research.
• Streamline the faculty recruitment processes, and include more domain expertise in the panels.
• Consider the establishment of a graduate school that takes care of administrative procedures, oversees teaching duties, quality of life and research conditions and progress, as well as providing soft skills and career development experiences.
• Implement unconscious bias training for all those on hiring/promotion boards and other boards dealing with the allocation of human or financial resources at Faculty level.

We also suggest that a thorough evaluation of teaching at all levels needs to be undertaken, although it is not within the scope of this review.
To the Vice Chancellor

- Establish a true tenure track system with appropriate criteria for ‘up or out’.
- Direct part of the VR infrastructure funding into a special fund in support of activities such as the use of supercomputer facilities, workshops and instrumentations development.
- Establish a strategic investment fund to seed new and interdisciplinary directions.
- Tackle gender inequality in the context of implementing the University’s current obligations to develop a plan for gender mainstreaming to influence Faculty’s efforts needs to be prioritised and operationalised. In addition, provide legal advices to the departments to clarify confusion caused by recent court decisions.

4. Reflections on the similarities and differences between evaluation units within the panel – what to learn from each other?

- Materials Theory division is an exemplar of best practice of the gender area.
- The Materials Theory division has large number of externally funded students.
- The Molecular and Condensed matter division is an example of strategic planning for the future.
- Theoretical Physics is an example of good hiring practices and establishing strong links with other institutes and departments through joint appointments.
- The Materials Physics division is an exemplar in combining basic research with the recent emphasis on application orientation.
1. Introductory remarks

This report summarises the evaluation of the Department of Engineering Sciences in the Faculty of Science and Engineering. The department has presented 8 sub-units with research activity, in the form of divisions, each having its own research program. The department has delivered one joint self-evaluation report for all sub-units (divisions). The panel report has therefore been written as one report for the whole department.

<table>
<thead>
<tr>
<th>Evaluation unit</th>
<th>Sub-units (Divisions)</th>
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<td>Department of Engineering Sciences</td>
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<td>Solid State Electronics</td>
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<td>Industrial Engineering &amp; Management (incl. Quality Sciences/Gotland)</td>
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<td>Nanotechnology and Functional Materials</td>
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<td>Applied Materials Science; Division of Microsystems Technology</td>
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<td>Applied Mechanics (incl. Structural Engineering)</td>
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<td>Signals and Systems</td>
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The panel met with representatives of the department in different configurations

- The prefect of the department and the Leaders of the divisions
- The leaders of the divisions together, without the prefect
- Representatives of the top level permanent scientific staff
- Representatives of the intermediate level scientific staff
- Doctorate students (two meetings, one with primarily Swedish students, and one with foreign students)

The report was written with contributions from all panel members, and edited by the panel chairman. Deborah Greaves completed the language review.

The report is written using the same template as was used by the evaluation units for their self-evaluation reports.
2. Observations and analysis

2.1 Aims, strategies and vision

Observations

**Institutional strategy and strategy at lower levels.**

The panel observes that the institutional strategy expresses the high ambitions that one would expect from a research university of high standing such as UU. This covers world leading research, recruitment of the best researchers, first class education, and the quest for quality in all activities. It also covers linking to society, and calls for all parts of the university to engage with society.

The faculty strategy builds on the institutional strategy with specific considerations for science and engineering.

The panel observes that there is one element missing in the institutional strategy:

The objective to mobilise competencies across the rich disciplinary range at UU to address broad societal challenges that call for a multidisciplinary discourse for their understanding and solutions is missing.

The panel considers that the lack of this objective is a limitation on the capability of UU to mobilise its comprehensive range of competencies for this purpose. We will return to this point later in the report.

**Aims, strategy and vision of the Department of Engineering Sciences**

The panel observes that a paragraph on this topic is missing from the self-evaluation report. The presentation given to the panel by the department head/prefect also did not address it.

The panel chairman looked into the Swedish documentation of the department, and found the document "Aims and strategies of the Faculty of Science and Technology", which is a complement to the institution level "Aims and strategies of Uppsala University".

The department level seems to have more of an administrative support function rather than acting as an integrated academic community with a concerted academic agenda.

However, in the presentation of the research activities by each division, the research strategies are implicitly visible.

The Department of Engineering Sciences has two major research fields, materials and systems.

The following research fields are listed:

- Surface and thin film technology
- Micro- and nanotechnology
- Renewable energy
• Signal processing
• Smart electronics
• Electronic biosensors

Within the presentations both from the department head and the division heads, there were numerous examples of the application of these research fields. Thus, we interpret the situation such that the research strategy for the department is a compilation of the prioritisations in the research programs of the divisions.

The very high share of external funding of the research activities, which quite often requires some level of co-funding from the department budget, leaves the department with limited ability to pursue its own strategic agenda. The divisions’ research agenda is to a large extent created by the chase for funding to support a staff of researchers that are highly dependent on the external money flowing in.

The lack of a clearly expressed department research strategy and vision is a lost opportunity to create a clear identity for the department. The lack of strategic power (including a funding opportunity for common department initiatives) also leads to reduced capability to create larger joint research initiatives.

This point will be elaborated upon later in the report.

2.2 Recruitment strategies – Observations and analysis

Main themes:
• Importance of recruitments generally recognised
• How is tenure track system interpreted, implemented, and used in practice. Division heads, postdocs. Differs between divisions.
• Announcement of positions
• Active search and direct recruitment
• Internationalization – gender issues
• When recruiting both research and teaching needs were said to be considered. Differs between divisions.
• Influence of “salary caps” etc “personnummer”

Observations
From the presentations given by and discussions with the different divisions, it was clear that all of them regarded recruitment as an essential strategic means to achieve the set research goals. Since the duration of positions range from 2 years (PostDocs), 4–5 years (PhD student positions), several years (research associates), to “permanent” positions (tenure track and externally recruited professors) the selection of successful candidates has a long-term impact on the divisions’ re-
search for a significant period of time. Consequently, substantial work must very often be invested in the recruitment process for a positive outcome. This was fully recognized by the department prefect as well as by the division leaders and one said that a lot of effort was put into this. In general, the panel also got the impression that there is general understanding to utilize the “tenure track” system of Uppsala University in the intended way, even if (minor) deviations exist. However, some postdocs and senior researchers expressed that the career paths were not clear to them. It seems that the implementation of the system has not completely settled yet, but good progress has been made.

In the search of candidates, different methods were used: traditional announcement in different media and fora, personal contacts, etc. Due to time limitations, i.e. urgent need of a researcher for a project, the search sometimes had to be reduced. It was expressed that an active search, i.e. contacting colleagues and approaching tentative candidates, was the most effective way, but requires more work and effort.

It was noticed that one was always aiming for the best candidate for the position, regardless of gender and nationality, which fact is reflected in the actual gender and nationality distribution of the department, even if it is not true when going down to the division level. It should be noted that the department was awarded the university’s Equal Opportunities Award a few years back. Another observation was that (at least) one division also engaged retired researchers in their work.

When evaluating candidates not only research qualifications and skills must be considered, but also teaching skills must be taken into account, since many positions are financed by both research and teaching funds. This is particularly true for the “tenure track” positions, i.e. associate senior lecturer and senior lecturer, where also teaching is evaluated for the promotion to the next level. The ability to raise funding is a criterion also used in the assessment of candidates.

By several units, the “salary cap” was said to be an impediment in the recruitment of candidates. Even if the unit had the money available to finance the position HR (Human Resources) put a limit to the salary that could be offered. It was said that competing universities could offer salaries that are up to 20% higher and that good candidates had accepted offers from there instead.

Analysis
The strategic role of recruitment is clearly understood by the department and its divisions. Sufficient time and effort are put into recruitment. The current structure of positions, including the “tenure track system”, is deemed to be adequate, but some fine tuning might be needed. More flexible salary structure is requested.
2.3 Leadership
a. Department level

Observations, reflections and analysis

The self-evaluation report describes the decentralised leadership model, where the divisions and their leaders run their research groups. The report quotes an attempt some years ago, to reserve money at the department level to promote cross-division collaboration. This was obviously given up, but the reason for this was not explained. The panel may surmise that the situation where each division has to chase its own funding to keep its researchers employed, neither encourages setting aside such funding, nor creates a good climate for cross-division or cross-department cooperation. The report also states that “the division heads are overburdened with a variety of tasks”, indicating a lack of administrative support at that level.

The leadership model allows for short decision paths, and good ability to quickly respond to external opportunities, allowing opportunities to be exploited when they arise. This is a virtue of necessity in an organisation that is so strongly driven by external funding.

It allows individual scientists to be active in the pursuit of their research interests. The results of the Department show that there are many who succeed in creating world class research under this leadership model. The continued success rests on being able to recruit top scientists to the institution.

There is, however, a significant risk that many in the scientific staff are captured in the short-term race for funding. Statements during the interviews pointed to that in some of the groups, the situation was burdensome.

The model entails a risk of creating fragmentation and subcritical groups. Groups that do not have very strong individual scientists to lead them are particularly at risk. The large variation between groups can be seen as evidence for this to a certain extent, even though several of the groups with lower research activity were in that situation for historical reasons, and worked to improve.

It was interesting to observe that there were divisions that felt that they had too little teaching work. This is unusual to find in such a strong research university as UU. The Panel interprets this in a way that the division leaders lack at their disposal the possibility of balancing the total work portfolio between teaching and research through shifting between the two. We see this is a consequence of the following:

• A strong activity bias towards research in the university can create an over-capacity of researchers when funding opportunities shrink in a field.
• The Swedish university funding model separates funding of education and research, so that money cannot be moved between the two areas.
• The university controls the education funding in a way that the division leaders have limited influence over the teaching their division is providing.

The positive side of this situation is that the teaching overload that is not infrequent in other universities is avoided. The challenge for the leadership is then to dimension the capacity of the research staff to the external market, and most of all to create research initiatives with long term perspectives that can provide long duration projects with stable employment, and high quality research.

In this respect, the fragmentation into relatively small research groups, and lacking mechanisms and incentives to create cross departmental projects is a weakness.

b. Faculty/disciplinary domain/university level

The self-evaluation report expressed that the leadership at these levels is less visible, and appears to be of less interest to most employees.

Some mention positively cross-departmental initiatives at faculty level (such as Upptech).

The panel also heard several critical remarks about what was perceived as unfair distribution of base funding of research (actually not quite understanding how this is decided, and how it could be influenced).

The panel perceives that there is a lack of connectivity between the institutional strategy and faculty strategy on the one hand, and what is going on at department and division level at the other.

The faculty strategy plan appears as a complement to the institutional strategy document (“Mål och strategier för Uppsala Universitet”). The institutional strategy is generic, calling for quality and the values and deliveries of an academically strong university. The faculty extension does not add much specificity that would serve as direction for its departments/divisions.

The panel received a description of the budgeting process for how the faculty board arrived at the distribution of block funding for 59 research projects to the division level, 9 of which to divisions in the Department of Engineering Sciences.

The panel’s perception is that this has more the character of every division fighting for their own share, than a faculty board actively creating a well-balanced research agenda for science and technology. We have respect for the possibility that this may be an unfair assertion on our hand, since we were not introduced to the finer detail of the process. It seems to be strongly related to the past history of the university.

The panel is, however, fairly certain in its assessment that a well-balanced and harmonised overall research strategy is not possible to design by deciding on 59 separate pieces of its total research portfolio. This causes not only fragmenta-
tion of the base funding, but forces everyone to hunt for external funds without planned coordination.

The question is of course, is such a strategy needed, or can a bottom up compilation of initiatives from the department level suffice to develop a strong university for the future? The research output from many groups in the department is strong, so the model is clearly able to create high quality research.

The panel is of the opinion that it may be possible to create even more high quality and high impact research by having a unifying umbrella that can serve to integrate and strengthen the individual research projects. In particular, if UU wants to be able to be a strong actor in creating large cross cutting research initiatives, and have an impact in research into broad societal challenges, such an approach should be taken.

We will discuss this further in the concluding section of the report.

2.4 Academic culture

The self-evaluation report paints a diverse picture of how the different divisions go about creating their academic culture. There is no evidence of a common “Department of Engineering Sciences way” of doing this. The tool of appraisal interviews between staff members and their superiors seemed not to be used consistently across the divisions. The panel recommends that it should be, since it would be a structured way to follow up staff members, and assist the individuals in their career development.

There are more comments on this subject in section 2.11 on Feedback and evaluation.

Best practices

The panel also asked for examples of best practice examples in the divisions, that they thought might be of use to others to adopt and learn from.

The panel observed all divisions had such examples, either from asking direct questions, or observing indirectly through the presentations we were given.

The following list includes many of those but is not complete. The items on the list have not been attributed to specific divisions or given in any particular order, but are given as examples, with advice to run department seminars to enable sharing of best practice and experience exchange.

- Recruitment procedures
- Seminars and workshops
- Teaching systematic collection of merits to CVs
- Fixed supervision discussions on progress
- Added value with emeritus support
- Multidisciplinary share of the knowledge within the department
• PhD day
• Continuous career planning system
• Whole organization is well aware of IPR system in Uppsala
• Good leadership
• Transparent information system
• Gender balance planning
• Open atmosphere and good colleagues
• Several different kinds of duties
• Supervisor committees
• Research coaching and gender bias training
• Literature clubs
• Initiate new education courses

Recommendations

• Divisions should share these practices and find smooth, low level administrative ways create efficient procedures.

2.5 Infrastructure (including administrative support)

Observations, reflections and analysis

The largest infrastructure within the Department of Engineering Sciences is the Ångström Microstructure Laboratory (MSL). It is a facility for micro-/nanofabrication (primarily silicon based processing) and characterization (primarily electron microscopy). Integrated with the open access facility there are user specific areas, where different research groups/divisions have rented space for their various kinds of equipment. MSL is being operated as a user facility having technicians taking care of the equipment while researchers use the facility. The staff of the MSL introduce new people and help them with processing or analysis. The utilization of the MSL is, as far as the panel concluded, based on a user fee model with an access fee and an hourly cost per machine. The User Specific part, allowing different research groups to place their equipment into the cleanroom, the panel did not discuss in detail. Further, MSL is a part of MyFab, the association of the four cleanrooms in Sweden. Within Myfab they have a common system for bookings, they organize knowledge transfer between one other and users at one facility can work at another facility.

From the discussions, the panel draw the conclusions that within the Department of Engineering Sciences the divisions of Solid State Electronics, Microsystems Technology, Applied Materials Science and Nanotechnology & Functional Materials, are the main users of the MSL. There seems to be an open atmosphere where people from various groups and projects help each other. The panel got
the impression that some of the groups that rent cleanroom space for their own equipment would have liked to move the responsibility for the machines to the laboratory, and thereby getting support for maintenance and upgrade costs. Implicitly this would mean a lowering of the costs for a specific division since they would continue to be the main user.

The panel did not in detail discuss the operation of MSL but got the impression that parts of the laboratory were not used to their full extent.

An additional comment is the possibility to introduce a “sharing economy” concept within the university by development of an app that will allow resources, both HR and equipment, to be shared efficiently and easily between faculties, departments etc. Concepts from match-making, Uber and AirBnB can be utilized as inspiration for such a development paving the way for the university sector to move into the digital economy.

Strengths
MSL is a key asset for the university and a part of the national research infrastructure MyFab. It is an impressive facility.

Weaknesses
• None specific.

Recommendations
• The development of a sharing economy inspired digital tool that will enable the effective sharing of lab facilities and knowledge inside the university.

2.6 Research Centres
Observations, reflections and analysis
Establishment of research centres is a tool by which cross-cutting initiatives can be organized. Cross-cutting initiatives are central to several points that the panel make herein. There are several such centers at UU, and the panel found it appropriate to provide some remarks on them.

The University has a strong articulation of being a bottom-up governed university. Hence, strategic programming and setting goals at the university level becomes difficult. The initialization of new cross-disciplinary research programs addressing large societal challenges, that a full university has a much more solid foundation to realize than a smaller or more thematic university, is likely to be hindered by the strong bottom-up culture.

The panel concluded from the discussions with the divisions that the Strategic Plan for the university was seen as being a compilation made of inputs from the many groups at the university and therefore it was of low relevance for the operations at the department level. Hence, strategic programmes being suggested
at university level seem not to be well appreciated internally. However, the panel was accidentally exposed to a good example of an initiative that was catalyzed at the University level (by the former Rector Bo Sundquist) being the MSc program in Sociotechnical Systems Engineering, that must be concluded to have been a strategic decision that has turned into an excellent program and is of large societal relevance of today.

After discussions with the division, the panel concluded that the participation by the research groups in the larger national research projects, such as the 10 SFOs, were not strong with a few exceptions. This seems primarily to be a consequence of that they were not involved in the writing during the application phase. Further, the panel noted that some were involved in the KICs while others were not. When it comes to the internal MedTech, some reflected that they have not been engaged in the process of forming it.

Strengths

- The MedTech program is timely based on the development in society, especially related to the immersion of technology in society today and tomorrow that will produce significant transformations in the way we produce, consume, communicate and live.
- A full university has a strong foundation to compound knowledge in cross-disciplinary research programmes with strong societal relevance.

Weaknesses

- The strong culture of Uppsala as a bottom-up university hinders the exploitation of a university goal-oriented and strategic leadership.
- The seemingly low engagement at the research group level in the large research programs and strategic initiatives limits the public appreciation of the university engagement in societal matters.

Recommendations

- The panel recommends the continuation of planning for large research programs. The panel recommends the need for university goals being defined at the university level that must be supported by strategic measures.
2.7 Funding

The impression created from the section of the self-evaluation report on this subject is that there is considerable frustration with the method by which the block funding from the faculty level is allocated to the divisions. However, the specifics about this are not described, so the panel cannot not make an assessment on whether the distribution is unfair compared to other units according to certain judgement factors, or whether it is frustration of the fact that the outcome is less funding than is asked for and needed. Since the block grant for most divisions does not by far cover the fixed costs for salaries and supporting infrastructure, there will have to be co-funding between internal and external sources for all the important cost elements of the department.

The result of this seems to be that there is in practice no, or very little, money available for researcher-driven initiatives for new projects.

External funding in general is sought from all sources available. Based on the observed activity, this has quite some success, since the activity is high.

The lack of funding of innovative research to get the result to the market is pointed at. The panel observes that funding the bridge over the so-called “valley of death” to a technology at TRL level that can be taken over by private capital is a common problem for all institutions working with this type of research. From a presentation of the innovation ecosystem at Uppsala, it seems that this university is better off than most. It is usual that such activities of this type can be funded by university block funding.

Strengths

• Competitive applications, and high quality and high productivity is fostered

Weaknesses

• Vulnerability of the research activity, and of doctoral education, when a PhD candidate is not fully funded from the start of his or her studies.
• Danger of short term perspective of research
• Loss of strategic capability

Recommendations

• Adapt the capacity of the research staff to the long-term funding market for the field, and to the co-funding capability provided through the available block funding from the university to avoid chasing short-term funding to keep the research staff occupied.
• Increase ability to create large and long-term research initiatives through cooperation internally and externally.
2.8 Cross border collaboration including interdisciplinary collaboration

a. Collaboration and networks with other universities

The self-evaluation report presents an impressively long list of collaborating universities. They are formed ad hoc through personal interactions that the staff has with colleagues around the world. The panel recognises the described ad hoc process as a common way for such networks to develop, and encourage that his type of relation building is to be exploited also in the future.

It is common that many universities do not enter into cooperation agreements on research at the institutional level, but at lower levels in the organisation. The panel believes that deeper and lasting relations can be established at the department of division level when a common research agenda can be found between institutions. This would create the basis for instance for fruitful researcher and student exchange. Such agreements can also pave the way for less “red tape” work in organising exchange of researchers and students. Such agreements would be valuable assets for international exposure and new impulses for doctorate and postdoc candidates.

**Recommendations**

If strategic cooperation agreements with external institutions are not already used at department and division level, they should be considered, in order to create deep and broader cooperation and such benefits as exchange agreements for young researchers.

b. Collaboration with other parts of Uppsala University

The self-evaluation report states that these types of relations exist to a large extent. They occur through:

- Personal interactions between colleagues because of mutual research interests.
- Use of shared research facilities/infrastructures, and joint enterprises, often created through exploitation of external funding opportunities.

There are differing opinions among the divisions about how well opportunities for “cross-relations” are discovered and utilized.

This leads the panel to believe that except for those contacts that are triggered by external (funding) opportunities, the establishment of cross-relations happens more by chance and personal contacts than by design and institutional strategy. The panel thinks that this may lead to an under-exploitation of the opportunities that the university has to take the lead in larger research initiatives cutting across several scientific fields and disciplines.
Recommendations
In order to strengthen the ability to exploit the combination of the diverse competencies of the institution, try to use strategic focus areas based on either scientific excellence in important scientific fields, or societal needs that can attract funding. The focus areas could be identified in a bottom up process to create ownership among the scientific staff. When they are in place, they should be coordinated at the appropriate organisational level in the institution, and some incentive mechanisms to stimulate initiatives should be put in place.

c. External collaboration and outreach
The self-evaluation report lists a large number of industrial and public cooperation partners. A number of the national partners are spin out companies from the university.

The track record is impressive, even though the depth of involvement with the partners on the list cannot be assessed based on the available information.

The panel report addresses the innovation activities in a separate section.

Outreach in general seems to be well developed. However, it was noted that the outreach activities can sometimes be a burden on the scientific staff and may create an overload through the external attention that is created. Nevertheless, no university can afford not to create this type of positive attention.

Recommendations
The support for outreach should be strengthened so as to ensure optimal positive effect of such activities. How this is best done must be decided by the university. The panel may suggest a support function at the faculty level that can support departments and divisions in the handling of the outreach activities.

2.9 Publication
a. Analysis of bibliometric data*

The report of the Q&R17 self-evaluation of the Department of Engineering Sciences include a bibliometric analysis based on the national Norwegian model for research performance as well as the number of papers published at WoK (fractional counting) for the period 2007–2015.

The Department of Engineering Sciences presents an average of 24% of their publications on level 2 and 34% of the papers published at WoS.

On the division level it is observed a large discrepancy between divisions in terms of number of publications indexed to level 2, ranging from 14% to 40%.

* The data of the division of Microsystems technology were not separated from Applied Material Science, and they could not be assessed separately
When examining the total number of publications using the fractional counting it is also observed a substantial difference between the divisions, ranging from 120 to 600 mainly due to the different size of each division. If we normalize the values by number of staff, the divisions are performing in a similar way except two divisions: Solid State Physics (above average) and Industrial Engineering and Management (below average).

The self-evaluation report mentions that during 2007–2015, the department increased its journal paper publication on average 9% per year with a similar trend in conference papers.

From the analysis it is possible to observe that the field of “physics and materials science” is dominant with a share near 50%.

b. Publication strategy
The self-evaluation report displayed varying publication strategies across the divisions.

Aspects such as journals vs conferences, quality emphasis vs quantity emphasis, visibility in wide reaching channels vs visibility in strictly discipline based channels are to some extent looked upon differently.

Some of the people that were interviewed explained that a conference paper often is the precursor for a journal paper, and that conferences papers are important for scientists to build international networks.

The panel is clear in its opinion that peer reviewed journals should be the preferred publication strategy to establish a reputation for high quality research. Those journals that are ranked highly for their peer review and quality control system should be preferred. Citations are often used as a measure of impact, and high impact journals are commonly associated with high citations. It should, however, be noted that it is not necessarily a safe assumption that a high impact journal is providing high citation rates for any given publication. This consideration should be part of the strategy of selecting publication channels.

The panel observes that the ongoing political discussion on Open Access/Open Science was neither reflected in the self-evaluation report, nor visible to any extent in the discussion that the panel conducted with the staff and leaders. Some mentioned that they were afraid of high costs in using the “gold open access” route. The panel will point out that there are several ways of achieving open access, not only “gold” journals. The subject of Open Access is an important political issue, since the academic society is in a development that threatens wide access to publicly funded research and open scientific discourse because of the rapidly rising cost of publication and access to scientific results. It is important that a university like Uppsala is conscious of this, and acts to support efforts to take control over this situation.
Recommendations

- In order to increase the visibility in the academic society as well as the quality of the research performed it is advised to increase the number of publications in journals, and less in conference proceedings if the choice is one or the other. The journals preferred should be those with a reputation to have a good peer review and quality control system, and provide good probability to be cited in the subject field of the paper.

- The department (and the university as a whole) should engage in supporting the ongoing international initiatives that have as their objective to take control over the soaring costs of scientific publishing, and enabling wide access to publicly funded research.

2.10 Career structure and mobility

There are several comments in section 2.11 that are also addressing aspects of this question.

Here we include a couple of additional observations and recommendations.

The panel observed some aspects of the structure of positions and promotion paths of the university that could be detrimental to the career building of young scientists to qualify for top positions in a university. Young scientists hired in researcher positions do not get the opportunity to teach, which is necessary to qualify for combined teaching and research positions. In order to get into a track that provides this possibility, the staff member needs to transition into a track starting with a position as assistant senior lecturer. See discussion of this in the section on Recruitment.

It was indicated that a significant number of the current full professor had obtained their position through internal promotion, rather than by applying in open competition directly for a top position. This is an advantage for young people building their careers in the institution, but it can also represent a risk to the university’s ability to recruit top scientists in the “open market”.

With the large number of researchers compared to those that are involved in teaching, it is clear that only a limited number of them can be taken into the “tenure track”.

Thus, some kind of merit creating recognition for teaching should be created for researchers that contribute to teaching through assistance to the regular teaching professors.

The panel observed that international mobility was highly valued by the department. At the same time, we heard several statements during the interviews where the interviewees pointed out that it was not so easy to implement. Particularly young females with families pointed to the challenge of doing this, given the constraints under which two career families are living. Some suggested that less
burdensome types of mobility than extended stays abroad could also be useful to provide new impulses to researchers.

For the panel members, this is a familiar problem, and it requires a firm and supportive policy from the university’s side to stimulate mobility to take place.

**Recommendations**

- Provide a strong support system for researchers that want to gain international experience through research stays in foreign institutions.
- Provide early career counselling for young scientists that need to decide on whether to go for a career as combined research and teaching staff in academia, and assist them in making a career plan that leads to fulfilment of their objective.

2.11 **Feedback and evaluation**

The previous two KoF exercises involved evaluation of the research quality; and resulted in some grading of research, reward and punishment through redistribution of block research funding.

The aim of the current process of Quality and Renewal is for self-evaluation leading to an assessment of the current processes for engendering excellent research and their effectiveness. It is essential that the research staff engage with this process for the benefit of the exercise to be realised. It is also recommended that the process is used as model for ongoing self-evaluation and renewal.

Evaluation of the research outcomes by most divisions is by assessment of the number of published research papers, numbers of PhD and Licentiate dissertations and research funds secured. Some divisions also included lists of spin-out companies.

Feedback for individual researchers on their performance is mixed. As with most elements, there appears to be no formal department-level process, but rather this is done autonomously by the individual divisions and, as a result, there is some variation in the approach taken. Although some divisions would like all funding allocation to be done competitively based on research outcomes, block grant allocation is opaque and does not encourage open competition between divisions.

Professional development reviews at professor level are not mentioned in the self-evaluation.

**PhDs**

The process for evaluation and feedback of PhD students is generally well understood, with annual progress meetings attended by the supervisory team to discuss progress and rectify where necessary. Stage gate progress checks are applied at 50% and 80% points of the PhD study period. The research plan is established
as a legally binding document and annual progress report is checked at department level each year, but the PhD Study Programme Director is not necessarily present in the review meeting, unless specifically requested. PhD students would like more interaction with the PhD Study Programme Director so that they have someone they can discuss the research progress with who is independent of the supervisory team. This would provide a more effective safety valve and help to ensure that any problems are nipped in the bud before becoming critical.

Most PhDs report research group meetings and seminars for the division as research support structures. Some PhD students commented that career development is lacking; and in some cases, there is a perceived difference between career progression opportunities for men and women because of the predominantly male environment and use of *ad hoc* arrangements. If there is no formal structure, then this can disadvantage women and other minority groups. It was suggested by one of the personnel in the discussion with the PhD-students that PhD students should be credited for all their contributions; both teaching and research.

In an example of good practice, two of the divisions run semester-wise supervisor fora for quality improvement of PhD supervision. Some also promote half time seminars for PhDs to motivate and rectify progress if necessary and suggest that more check points are needed in the progress reporting for PhDs.

*Lecturers and researchers*

Some concern was reported about the uncertainty and lack of clarity around career progression and availability of permanent contracts was expressed by those at lecturer and researcher level. This is partly due to the different models for funding of positions and the combination of faculty and external funding, and that permanent employment is only ‘as long as the money lasts’.

There is a close link between teaching and research and teaching appears to bring some job security, but it is not clear how new courses are established or how the business case for establishing or closing a division relates to the taught programmes. This can appear as a battle for teaching with some divisions requesting more teaching (although others report too much), and a concern that there is not enough teaching for all tenure track positions.

Career planning discussions at the level of lecturers and researchers appears to be patchy; this is reported for some divisions as an opportunity for feedback, corresponding to that of the study plan, but not mentioned in others; it is voluntary with no formal process. There is a mentoring programme, but only for early career researchers and does not appear to be available throughout the career. The formal route for staff evaluation and feedback is through promotion applications, *ad hoc* feedback is given informally on applications for grants and promotions by colleagues and peers.
As often found in engineering, there is gender imbalance in each of the divisions and this is most striking at senior levels and there are very few female professors within the department. Many of the divisions consider that they do not take gender into account when recruiting and that they focus exclusively on quality. Some divisions mentioned the difficulty in recruiting females because of the lack of female applicants, though it was noted that in one division, six recent research appointments made are all female. One aspect of tackling the gender imbalance in engineering is to encourage more girls to take up engineering, the other is to encourage female students and researchers to progress with a career in engineering. Career planning, progression and promotion is likely to be more effective for minority groups in a structured environment with clear and transparent rather than *ad hoc* arrangements. Career breaks and caring responsibilities should be considered in recruitment and promotion processes for both male and female applicants. The What’s Upp? initiative for sharing research highlights in an inclusive environment was recognised by the Panel as good practice.

**Strengths seen in some divisions**
- Strong research culture
- Excellent research outputs
- Supportive environment

**Weaknesses seen in some divisions**
- Lack of collaboration and cooperation between divisions
- Differences between divisions in terms of size, teaching-research balance and research leadership

**Recommendations**
- Generally, a formal process for evaluation and feedback at all levels (including professors) is recommended, together with an informal mentoring scheme for all.
- Career paths should be more clearly defined in terms of support and expectations. In particular, clarification of the tenure track and other career routes is needed.
- The Department PhD Study Programme Director should be involved in the annual progress check for PhD students so that they have someone they can discuss the research progress with but who is independent of the supervisory team.
- The panel suggested a department level newsletter, which could be used to celebrate success and build cohesion between divisions.
• The panel suggested that the development of commissioned education, for example by industry, could be explored as an additional income stream and to provide teaching experience for researchers and lecturers.

• The reflective analysis carried out by all divisions, including research culture and gender bias should be discussed at the department away day.

• Promote sharing of best practice between divisions.

2.12 Receiving and supervising PhD students
Two interview sessions with the PhD students highlighted the following issues. In general, they were very motivated and target-oriented knowing their research and study plans and tasks. They also appreciated help of supervisors, colleagues and group members.

In some divisions within Engineering Sciences, increase of close and planned supervision was desired. This includes also long-term career planning, vision of the future opportunities, chances and motivation.

The fixed development discussion system would be suitable tool for these needs. Connections to society and related industry would be also highly appreciated. Some students would also like to have closer connection with their supervisors, and additional “follow-up group” in the case of hindered progress, misunderstanding or contradictions.

There is some extra help the foreign students would need to make them easier to concentrate on their study and research tasks.

In seems that the masters’ level student have, e.g., an “introduction day” and other support to integrate themselves to the Swedish society, but these actions are almost totally missing from PhD students coming from other countries.

All students appreciate the open atmosphere, good colleagues and administration, and several different kinds of duties in their research group. Also, all PhD students interviewed were aware of the IPR system in Sweden and their power to effect on their own future.

Recommendations
• Ensure that foreign doctorate students are given the necessary support to be integrated well into the Swedish society and into the university environment.

2.13 Research-teaching linkages
It was emphasized several times during the discussions that the teaching performed is research oriented.

Many of the divisions within Engineering Sciences are however asking for an opportunity to provide more courses – especially basic ones – on their research areas, finding them useful for the student’s future tasks. This would improve
their visibility, opportunity to find talented PhD students and researchers, and also would reinforce young researchers’ opportunities to have contact to masters’ level students and gain teaching experience. In some cases, the divisions also find that the teaching portfolio is not flexible enough and should be more related to their expertise in research.

The PhD students are looking for more interaction between divisions within the department (in some cases) and within the faculty, such as through seminars. They would also like have the opportunity to supervise students officially. Otherwise they find teaching very research oriented, valuable and rewarding. This includes learning to use research equipment, sharing their knowledge and experience as well as understanding demands of their current position. PhDs in some divisions are able to arrange practical exercises within the courses for their students.

Within the divisions, teaching loading is not even. Working together to achieve more efficient teaching with courses attracting more students could be created and would avoid overlapping at the same time. Teaching could be thus optimized by strategic planning at the department level. It was also observed that some courses are arranged by other faculties and vice versa. The faculty should provide oversight to ensure that courses are taught by the most appropriate academics.

**Recommendations**

- It would be beneficial to the whole staff if all levels could collect supervising merits.
- More cooperative planning of courses (also with other faculties) and related practical exercises would provide wider teaching opportunities.

### 2.14 Internationalisation

The self-evaluation report depicts a situation where internationalisation must be said to be innate in the organisation, in terms of staff composition, and international relations with universities and other external cooperation partners. The track record of the university demonstrates that Uppsala University is an attractive institution for researchers from all over the world. This creates a strong position from which to act on the international scene.

The only area where the panel could spot a challenge is with extended research visits abroad by the research staff, particularly the younger staff that are in the process of establishing a family. This was mentioned under the chapter dealing with mobility.

The panel does not see a reason to recommend a particular change of policy or approach on internationalisation per se for the institution.
2.15 Innovation system

*Observation and analysis*

The innovation ecosystem in and around UU is functioning very well indeed and is recognized internationally. It is also well known among the researchers within UU, including among the international PhD students. The results are impressive in terms of growing startup companies and cooperation with industry and society.

The innovation support system, including the holding company, reports direct to the Vice Chancellor which is very good. There are many other cooperating functions as e.g. STUNS, the incubators, Uppsala Bio etc. These functions are well aware of one another. This means that there is “no wrong door” for those who ask for help and support. The number of actors here could seem to be too many and a little messy but this is not important because the function of the innovation ecosystem is clearly effective and that is what is important.

There are also a number of well-known and scientifically high ranked professors engaged in the innovation ecosystem mainly by taking patents and starting companies. They are very good role models for other researchers and PhD students.

*Recommendations*

Uppsala University should be proud over its innovation ecosystem in a national and international comparison. However we suggest some ideas to be considered that might improve the innovation ecosystem even further.

- Develop courses for PhD student in innovation implementation and innovation studies that might be open also for ordinary students at Uppsala University.
- Investigate if some of the endowment funds can be used also for investments in Uppsala University startups.
- Invite researchers and developers from companies and society to apply for external funding thru Uppsala University from agencies like VINNOVA where the money received goes to Uppsala University researchers to support and to hire, for a temporary project position within the university, developers and researchers from companies and society.
- Consider to make Uppsala innovation ecosystem more visible and well-known. Maybe STUNS could take responsibility for this. (STUNS – Innovation support in the Uppsala region by interplay between universities, business and public sector.)
2.16 Research at Campus Gotland
The department has limited activity on Campus Gotland. The self-evaluation report describes three divisions with some activity on this campus. The panel has limited insight into the activities at this campus.

The situation, as we perceive it, calls for a strategy to exploit the opportunities that are presented based on the geographical locale, and on the region’s needs for competence. It seems that there might be opportunities to create field stations at this location. This can also create opportunities for research groups at the Uppsala Campus. It is not recommended to try to create a “mini-Uppsala” moulded on the classical academic university model.

Recommendations
Build the relationship between the two campuses on local strength and interest at Gotland, and link up with relevant research groups in UU to create mutual benefits at the two sites.

3. Summary
Based on the overall impression the panel has after the visit, we choose to present first two overall sections in the summary, one on organisation, and one on the role and position of engineering in the university.

3.1 The overall organization and strategy of Uppsala University
The panel finds the organizational structure of the university quite complex, with domain/faculty, section, department and division. For Engineering Sciences, the section coincides with department, thus simplifying the situation somewhat. It seems that the department level has mostly an administrative function, the operational units being the divisions.

We have observed a system that allocates almost all base funding for research from the domain/faculty level directly down to a large number of research programs. We think that this reduces the strategic ability of the institution to mobilise its total scientific capability in the service of society.

The model creates fragmentation – direct funding to 59 relatively small research programs from the faculty level of Science and Engineering does not facilitate full utilisation of the opportunities of a comprehensive university. The risk of creating “silos” is significant, particularly if the total funding is meagre, and very limited funding is set aside for cross-cutting initiatives.

A modern university is expected to contribute to solving societal challenges. Such problems are complex and interlinked, and are not solved by single disciplines. Uppsala University covers a very wide range of scientific disciplines.
Even though there are centres cutting across departments and faculties, the vision and the mission to mobilize the very wide scientific base of the university to take a proactive stance in addressing complex societal challenges is missing for the overall university strategy. The panel believes that this is reducing the capability of UU to deliver even more value to society.

The university also needs to adapt to a rapidly changing world, and to rapidly changing scientific fields. From time to time it also needs to concentrate effort in certain fields to create excellence and breakthroughs.

For all of these purposes a strategic capability is required both at the university level and at the faculty level. It is recognized that this is a challenge in a university with such a strong “bottom-up” culture as Uppsala. The panel recommends that such a mechanism should be put in place at the institutional level, as well as at the faculty level. The department level should also be given the mandate to design is research program structure, rather than the faculty level deciding on the research agenda down to division level.

3.2 The position of Engineering Science and Engineering at large at Uppsala University

The panel has seen a scientifically strong Department of Engineering Sciences. We have been informed that there are significant technological activities in other departments. We have also observed that the external recognition of engineering as a scientific field at Uppsala, is less than that enjoyed by the large engineering institutions in Sweden. To a certain degree, this influences the self-esteem of the engineering groups at Uppsala. The panel’s advice is to do something about this, because we think that Uppsala can create even more value to society by developing engineering drawing upon UU’s strengths.

The panel believes that this can be done by creating an engineering profile that differentiates UU from other actors in the field. A unique possibility seems to be to use the strong science disciplines as a basis to deliver different engineering competence profiles.

This profile must be branded to the outside community. The UppTech initiative is good in this respect. The panel perceives this as a showcasing initiative, which is very useful. It should be complemented with initiatives which create organizational change to foster and give content to the brand. To succeed in this, the character of engineering must be recognized, and its characteristics nurtured. It is important that the Engineering Science field gets the opportunity to develop its unique characteristics.

- Engineering is based on a different scientific paradigm than basic science.
- Science is about breaking new knowledge.
- Engineering is about synthesizing knowledge, often from different fields, into solutions to needs in society.
The panel was made aware that the question of Engineering as a separate faculty has been a subject for discussion in the university for some time.

The panel will not provide a clear recommendation on this, since there is a double objective here:

- On the one hand, a distinctive Uppsala brand of technology is needed – this should call for a separate entity at faculty level.
- On the other hand, this brand should build on the strong scientific base of the university, requiring close links to the science departments. This may call for an integration like the one that exists today.
- The important thing is for the university to recognise the objective, and build the internal structures that promote it.

### 3.3 Strengths

- The strategic role of recruitment is clearly understood.
- Leadership model in most of the areas.
- High level scientific output and strong research culture.
- Whole organization is well aware about IPR system in Uppsala.
- Strong research infrastructure.
- The Ångström Microstructure Laboratory is a key asset for the university and a part of the national research infrastructure MyFab.
- The MedTech program is timely based on the development in society.
- A full university has a strong foundation to compound knowledge in cross-disciplinary research programmes with strong societal relevance.
- Competitive applications, and high quality and high productivity is fostered.
- Strong research culture.
- Excellent research outputs.
- Supportive environment.

### 3.4 Weaknesses

- Different career paths are not clear to all staff members.
- Strong bottom-up hinders some activities like joint research initiatives.
- There is no evidence of a common “Department of Engineering Sciences way” of doing.
- The strong culture of Uppsala as a bottom-up university hinders the exploitation of a university goal-oriented and strategic leadership.
The seemingly low engagement at the research group level in the large research programs and strategic initiatives limits the public appreciation of the university engagement in societal matters.

Vulnerability of the research activity, and of doctoral education, when a PhD candidate is not fully funded from the start of his or her studies.

Danger of short term perspective of research.

Loss of strategic capability.

Lack of collaboration and cooperation between divisions.

Differences between divisions in terms of size, teaching-research balance and research leadership.

### 3.5 Recommendations

**Overall recommendations for the field of engineering within Uppsala University**

- Create an “Uppsala Engineering” profile for the whole university which differentiates it from other engineering institutions, and capitalises on the strengths of Uppsala. It should be communicated well to young people seeking education, and to employers of candidates from Uppsala.

- Create a distinct profile for the Department of Engineering Sciences within this profile, and hallmark this identity to the external world.

- Simplify the organisational structure to make it more efficient, and create stronger strategic capability at the intermediate level.

- Organise a faculty and department structure that underpins the profile, and helps establish its position in the market for education and research in Sweden.

- In order to strengthen the ability to exploit the combination of the diverse competencies of the institution, try to use strategic focus areas based on either scientific excellence in important scientific fields, or societal needs that can attract funding. The focus areas could be identified in a bottom up process to create ownership among the scientific staff. When they are in place, they should be coordinated at the appropriate organisational level in the institution, and some incentive mechanisms to stimulate initiatives should be put in place.

**Funding and research capacity**

- Continue planning for large research programs.

- Avoid fragmentation and increase the ability to create large and long-term research initiatives through cooperation internally and externally.

- Reconsider the fragmented way that research program funding is done.
• Adapt the capacity of the research staff to the long-term funding market for the field, and to the co-funding capability provided through the available block funding from the university to avoid chasing short-term funding to keep the research staff occupied.

Recruitment and development of staff

• Generally, a formal process for evaluation and feedback at all levels (including professors) is recommended, together with an informal mentoring scheme for all.
• Career paths should be more clearly defined in terms of support and expectations. In particular, clarification of the tenure track and other career routes is needed.
• Provide early career counselling for young scientists that need to decide on whether to go for a career as combined research and teaching staff in academia, and assist them in making a career plan that leads to fulfilment of their objective.
• Provide a strong support system for researchers that want to gain international experience through research stays in foreign institutions.
• The “salary cap” should be solved to enable hiring of high level scientists.

Research infrastructure – The Ångström Microstructure Laboratory

• The development of a sharing economy inspired digital tool that will enable the effective sharing of lab facilities and knowledge inside the university.

Doctoral education

• The Department PhD Study Programme Director should be involved in the annual progress check for PhD students so that they have someone they can discuss the research progress with but who is independent of the supervisory team.
• Ensure that foreign doctorate students are given the necessary support to be integrated well into the Swedish society and into the university environment.

Innovation system

• Consider to make Uppsala innovation ecosystem more visible and well-known. Maybe STUNS could take responsibility for this. (STUNS – Innovation support in the Uppsala region by interplay between universities, business and public sector.)
• Develop courses for PhD students in innovation implementation and innovation studies that might be open also for ordinary students at UU.
• Investigate if some of the endowment funds can be used also for investments in UU startups.
• Invite researchers and developers from companies and society to apply for external funding through UU from agencies like VINNOVA where the money received goes to UU researchers to support and hire for a temporary project position developers and researchers from companies and society.

**Scientific publishing**

• Increase the number of publications in journals, and less in conference proceedings if the choice is one or the other.
• The department (and the university as a whole) should engage in supporting the ongoing international initiatives that have as their objective to take control over the soaring costs of scientific publishing, and enabling wide access to publicly funded research.

**Internal communication and external outreach**

• The reflective analysis carried out by all divisions, including research culture and gender bias should be discussed at the department away day.
• The panel suggested a department level newsletter, which could be used to celebrate success and build cohesion between divisions.
• Many groups have several best practices, promote the sharing of such practices between divisions.
• The support for outreach should be strengthened so as to ensure optimal positive effect of such activities. How this is best done must be decided by the university. The panel may suggest a support function at the faculty level that can support departments and divisions in the handling of the outreach activities.

**Educational aspects**

• The panel suggested that the development of commissioned education, for example by industry, could be explored as an additional income stream and to provide teaching experience for researchers and lecturers.
• It would be beneficial to the whole staff if all levels could collect supervising merits based on the work that they do in support of the education activities.
• More cooperative planning of courses (also with other faculties) and related practical exercises would provide wider teaching opportunities.
On the relation to Campus Gotland

- Build the relationship between the two campuses on local strength and interest at Gotland, and link up with relevant research groups in UU to create mutual benefits at the two sites.
1. Introductory remarks

The panel reviewed the two departments Chemistry – Ångström and Chemistry-BMC. The former is divided into Part A with three research programs: biomimetic chemistry, physical chemistry, and theoretical chemistry, and Part B with three research programs: inorganic chemistry, polymer chemistry, and structural chemistry. Chemistry – BMC comprises three research programs: analytical chemistry, biochemistry and organic chemistry.

The panel members prepared the physical site visits by carefully reviewing the self-evaluations and corresponding survey results. The site visits were prepared by internal discussion, mainly based on the distributed material but also based on strategies conveyed by the UU and faculty leadership during the initial sessions. The panel met with the department management, senior faculty members (program professors), junior faculty members (lecturers, assistant professors, externally funded researchers), and post docs and Ph.D. students, respectively, over three days.

The panel was not asked to assess the quality of the research performance per se, but rather to give advice as “critical friends” on the culture and processes in the units that are in operation to sustain and propel the science towards excellence. The panel members wish to express their sincere gratitude to the units for the material prepared pertaining to the evaluated units. The panel would also like to thank the evaluated units for their very useful self-evaluations based on their reflections arising from the university’s employee survey, as well as for their engagement in the discussions with the evaluation panel. All participants in the discussions were fully engaged and they were conducted in an open atmosphere, clearly indicating that there is a positive attitude towards feedback.
Below is some data concerning the two departments (2016):

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<thead>
<tr>
<th></th>
<th>BMC</th>
<th>Ångström</th>
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<tbody>
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<td>Total no. of scientific and support staff</td>
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</tr>
<tr>
<td>No. of professors</td>
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<td>No. of senior lecturers/assoc. professors</td>
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<td>14</td>
</tr>
<tr>
<td>No. of researchers, post-docs</td>
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<td>No. of Research Fellows</td>
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<td>No. of PhD students</td>
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<tr>
<td>Internal income (FFF+general resource+performance resource+PhD education)(kSEK)</td>
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2. Observations and analysis by sections

Section: Chemistry – Ångström A (with some overlap with section B)

The self-evaluation report was very insightful, reflecting both strengths and weaknesses. The panel was impressed by the scientific excellence, the cohesion and the informal collegial culture underpinned by the competent and visionary academic leadership of the program professors. The section is characterised by a positive atmosphere, a culture of scientific excellence, and a strong focus on facilitating innovative research and actively pursuing external funding opportunities. There is a strong team spirit in the section. Overall, the research infrastructure at the section is excellent, and the collegiate spirit in the section facilitates, and triggers, extensive sharing of the infrastructure. Strategic infrastructure funds have helped the research programs in maintaining state-of-the-art laboratories that are made available to the entire section.

The current situation in the department is very favorable. It is a good time to think about new future directions and to make a long-term strategic plan. This is the only way to ensure success in the long term. The panel notes that in the past such plans resulted in the erection of the Ångström building 20 years ago, and the successful recruitment to the Ångström Building of some of the best solar fuel researchers in Sweden.

Aims, strategies and vision. The panel noted that there are no clearly-stated strategies or a vision, either on the departmental level or on the level of the section. Instead, strategic decisions take place to a large extent in informal discussions
within and among the different research programs, and an explicit point was made that there was no written strategy. Decisions on the future strategic directions of the research programs are made by the individual research programs, occasionally as a joint strategic effort between two or more research programs. The lack of a departmental/section long-term strategy makes it difficult for the panel to grasp how the goal of the department to maintain or increase its international standing will be realized.

The research programs in physical chemistry and biomimetics have strong inter-program collaborations and share a common strategic vision, building on their complementarities. There are no formal strategic procedures. Short-term strategic discussions appear to be an integral part of the activities in the two research programs. This serves the research programs well, but the lack of transparency in these strategic procedures unavoidably creates the risk that the strategic goals are not communicated to all levels of the research programs.

A particular issue is the theoretical chemistry group which seems to be too small for viability and needs to develop clear plans that balances an independent scientific profile and the need to secure funding, for instance through collaborative, external grants. Their research program also needs to define a scientific vision and strategy. Their current goals appear largely to be based on selected topics rather than a larger scientific vision or goal.

**Recruitment strategy.** The section has a strong national and international standing and is able to recruit and retain excellent researchers at all levels, although career paths are somewhat unclear. This “fuzziness” creates uncertainty for some staff members, in particular assistant professors and researchers at the intermediate levels. During the recruitment process, the extensive collegiality within the groups leads the selection committees to place a strong focus on how a candidate will “fit” into the existing academic culture. In the past, search committees have been able to identify excellent potential candidates for top-level and tenure-track positions. This is commendable, but the panel is concerned that the actual number of applicants for highly attractive top-level positions was very low.

The department does not appear to have a clear, long-term plan for recruiting to intermediate-level, permanent positions, except for the fact that ERC grantees are put on a tenure-track position, which is a positive feature. Overall though, researchers seem to be hired to address immediate needs in research, with unclear career plans for them. The collegiality in the research programs though helps to ensure a sense of job security by informal processes identifying research, teaching and administrative needs that can be filled by these researchers.

**Research leadership.** Research leadership is exercised to a very large extent by the research program professors. The leadership role of the program professors,
relative to the other professors in the research programs, is not clearly defined and it varies among the research programs. In all cases, the form adopted by each research program supports the ambition to perform excellent research and a strong sense of collegiality and healthy competition and support among members of a research program as well as between research programs. On the more negative side, the differences between the research programs and the informal nature of the decision-making processes make it difficult for intermediate-level faculty to be involved in strategic decisions and to influence them. This results in a sense of uncertainty. Also, it does not sufficiently capture the visions of the next generation of scientists. The collegial atmosphere seems to counterbalance this to some extent.

**Academic culture.** The academic culture is sound and it embraces the competitive nature of external funding and the fact that resources must be pooled to ensure continuity as a means of ensuring future competitiveness. This academic culture permeates the entire department, and younger researchers embrace this culture, inspired by the professors. There are differences in the academic culture among the research programs, but these are small compared to the differences in academic culture between the two departments (BMC and Ångström).

The large fraction of external funding vs internal funds in the section budget has created a situation that appears to have promoted a strong focus on research. Nevertheless, most research staff are involved in teaching to some extent. Even for positions that are considered primarily as teaching positions, the pressure to secure external funding is high, and scientific recognition is perceived as coming only from research activities. To some extent, the section gives the impression of a research institute with some, mostly PhD level, teaching activities. Looking into the future, the section should be very careful not to slide into a “research hotel” mode, where it is the competitive funds and not innovative ideas shared in a vivid teaching environment that drive the development of the section.

The panel has the impression that the section is engaged in integrating research into their curriculum, building on the research advances in the different research programs. On the PhD level, students are given necessary training and are given hands-on access to the advanced equipment of the department. This provides an excellent and unique research training that will give an important competitive advantage to the graduated PhD students.

**Career structure.** Career development discussions and appraisal interviews are not formalized and do not appear to be an integrated part of the activities of the department. Young researchers acknowledged that they benefit from the strong informal support of their mentors. They receive career advice when requested, yet it appears these discussions largely focus on career perspectives within the
department. The Swedish tenure-track system is a fairly new construction, and although the guidelines are clear when it comes to the evaluation criteria, the evaluation process itself seems to be poorly understood. This creates uncertainty, in part due to the lack of a historical precedent for structured career planning and guidance.

Currently, there are two career tracks, and the boundary between the two seems unclear and fuzzy. Researchers seem to reach a dead end receiving almost no support for long-term career planning and feedback and no clear understanding on what the department/research programs expect from the individual researchers. Although researchers sense a strong pressure to secure external funding for their own salary, this is somewhat counterbalanced by trust in the individual research groups' collective responsibility for creating stability.

**Section: Chemistry – Ångström B (with some overlap with section A)**

The self-evaluation report was of a high standard and reflected both strengths and weaknesses. The panel was impressed by the scientific excellence, the cohesion, and informal collegial culture underpinned by the competent and visionary academic leadership of the program professors. The Ångström laboratory provides a world-class infrastructure with state-of-the-art facilities readily accessible to all Ångström scientists. The department has managed to adapt to a highly competitive funding situation by managing the complex funding schemes and the expectations of scientists at all levels. Altogether, this results in high quality scientific output and excellent training of young researchers.

**Aims, strategies and vision.** All three research programs articulated clear visions for future development and also presented what needs to be accomplished in order to allow the research programs to develop towards the visions. The panel notes that this section has a strong and successful history of collaborations with a rather large and varied set of enterprises. According to the research program professors, remaining a leading research environment requires identification of who the “peers” are and what makes their own milieu unique. The level of ambition of these successful programs at UU should be “world-leading”, possibly in niche areas, rather than their own less ambitious statement of being “leading” at the national level.

**Recruitment strategy.** The recruitment of competent co-workers is probably the most important task for an academic institution with ambitious aspirations, as pointed out in the self-evaluation report. The panel is pleased to learn that there is a faculty appointment committee which conducts sound and professional faculty recruitments. However, the panel observed some frustration among the junior researchers, emanating from their perceived job insecurity and several expressed
the view that they target “tenure track” – positions but also commented on the fact that the tenure system is not transparent. More long-term planning could help to reduce job insecurity and lead to a better understanding of the academic career system as a whole, for the benefit of individual researchers.

Although the expectations for job positions appear transparent and adequate both at the PhD student level and at the senior professor level, it seems to be less transparent in between these levels. The panel is concerned about the individual careers of young researchers that may be employed in positions that are regarded as a “dead end” without proper career guidance and with a consequent lack of risk appetite for pursuing truly innovative ideas. This is particularly relevant for the “researchers” who are not on a tenure-track path and who are also in several instances engaged in teaching to an extent that goes beyond their formal job description and funding arrangements.

Research leadership. The program professor is basically responsible for research leadership. The formal role of the program professor in relation to other professors is not entirely clear and also perceived to vary between the research programs. The different research programs support excellent research ambitions, a strong collegial environment, and healthy competition. The informal decision-making processes make it difficult to influence decisions and processes, which may create uncertainty and a sense of lack of inclusion.

Publication strategy. Previous evaluations (KoF11) increased the awareness of having a publication strategy targeted towards publications in top-level journals to enhance the scientific reputation of Ångström B internationally. The research programs have taken active measures to increase the impact of their publications. All staff testified to this and there is a widespread strive to publish in as highly ranked journals as possible, preferably in the top 25% journals. The panel felt that more effort should be put into publishing in the very top journals, which is warranted by the scale of scientific excellence in several areas of activity. Most likely, the effort has not yet fully paid off in terms of bibliometrics since there is a time lag between publications and citations.

Career structure. The unit employs a large number of young scientists in various job categories. Common to all categories is a lack of clearly written career paths and outlook. The steps along the tenure-track positions are defined to some extent and understood by the researchers. However, the position of the “researchers” seems precarious since it depends on the availability of external research funds, even if researchers have attained the so-called “permanent job status”. This position does not lead to tenure, and the exact rules for obtaining tenure are not
given explicitly to the researchers, nor the long-term ambitions of the research programs for the individual researchers. It is commendable that the units create space for the researchers to pursue their own research ideas, although this often comes with an expectation to secure external funding for these activities. There exists no blueprint as to the shares of research, teaching and administration in a researcher position. Researchers stated that they feel under enormous pressure due to this situation, which hampers their productivity. Sometimes, researcher positions are transferred to permanent position.

**Section: Chemistry – Ångström A and B**

There appears to be little strategic leadership at the departmental level. Departmental-level funding is largely used to support new faculty and common infrastructure supporting a strategic direction. The department may consider whether this funding could be used for start-up packages to facilitate the introduction of new research directions. At the faculty level, strategic initiatives can be initiated, but the panel has very little information on the processes that lead to such faculty-level strategic initiatives. It is clear that these are driven by bottom-up processes that require substantial coordination across research programs and departments.

There is a collegial structure in terms of funding and sharing of resources. However, there is a lack of transparency on how funding in research programs are distributed. The Head of Department (HOD) acknowledges the dilemma of the strategic freedom provided to the research programs through large direct funding, which provides considerable strategic opportunities at this level, and the lack of strategic funding at the department level and partially at the faculty level.

As stated both in the self-evaluation reports and during the site visits, there is no written departmental-level strategy. This is a deliberate decision. The panel agrees that for these departments, strategies should be formulated bottom-up. The HOD has full responsibility for the economic situation of the department, staff and working environment, but a very limited influence over research strategies and long-term activities. The current informal and collegial environment constitutes a breeding ground for science of high quality. Yet, there may be circumstances in the future that may require radical or bold changes which may be difficult to execute within this informal and collegial framework. The panel does not call for any immediate action but wants to raise awareness about this issue.

**Cross border collaboration and outreach.** There is no overarching strategy on how to build networks or establish collaboration, as stated in the self-evaluation. However, it is evident from both the self-evaluation and the site visit that collaborations with academic and industrial partners are vivid and very beneficial. The panel has identified the development of new research directions across depart-
mental and faculty boundaries as a potential severe limitation. In a time where cross-disciplinary research is becoming immensely important, such organizational boundaries may be detrimental.

**Recruitment strategy – gender.** In particular, the gender balance is uneven across the scientific ladder and firm and significant and measurable actions are required to change this situation.

**Feedback and evaluation.** All research programs are evaluated against indicators on an annual basis by the Faculty of Science and Technology. The outcome is communicated to the HOD who should then deal with this further. The panel is under the impression that the outcome of the yearly evaluation is not reflected in the amount of FFF allocated to each research program. In particular, there seem to be no formal procedures in place for feedback on scientific performance through for instance appraisal meetings. Everybody the panel met during the site visit said that colleagues generously give advice on how to improve project applications if they are asked.

**Research-teaching linkages.** There are no formal research-teaching linkages but it was stated both in the self-evaluation and during the site visit that there are close connections. Some master courses attract few students and may then be offered as research projects. Many of the researchers are active as evaluators and/or examiners in different degree projects. Apparently, there is an overcapacity of teachers, which explains why professors, sometimes, give up teaching in favour of the younger research assistants to allow them to secure a sufficiently broad teaching portfolio as part of their experience, enhancing their career development and “CV”. The panel wants to emphasize the importance of having professors involved in teaching.

**Internationalisation.** As one of the five strategic goals of UU, the department has entirely absorbed this goal. The research milieu as a whole is very international with students and staff from various parts of the world. PhD students often spend time in laboratories other than their own or participate in summer schools as part of their PhD training. Based on recommendations from KoF11, the department has become more aware of this, and faculty members are now more actively seeking international collaborations. Consequently, faculty members are frequently invited to give keynote lectures at conferences and the participation in the EU Horizon 2020 programs has increased. The department has also organized several international conferences to increase the international visibility of Chemistry - Ångström.
Other observations. Procurement, reimbursement and refurbishment were brought up as critical activities, both in the self-evaluation and during the visit. The unanimous message is that the response times from the relevant university administration are far too long. The unit is heavily dependent on competitive infrastructure and with processes being too slow there will be unnecessary standstills and in the long run an obvious risk that competitiveness is reduced.

3. Summary
3.1 Strengths
Chemistry – Ångström

- The panel was impressed by the strong projection of science excellence based on an unusual cohesion and collegiality-based culture transcending all groups. This culture was underpinned by competent and visionary academic leadership by the senior professors and clearly appreciated by the younger faculty, researchers and research students.
- The department has adapted to a highly competitive funding situation by managing the complex funding schemes in a way that maximizes short-to medium-term efficiency in terms of science output and PhD education while absorbing a major part of the risk in the collegium.
- The Ångström building provides a unique and impressive infrastructure with state-of-the-art facilities for world class research in chemistry and across disciplines, sustained by an efficient culture of sharing equipment.
- Taken together the endeavor results in high quality scientific output and an excellent training of young researchers as measured on an international scale.

3.2 Weaknesses
Chemistry – Ångström

- The gender balance seemed fine at Ph.D. and post doc level while the senior professor level is dominated by males.
- The organization and academic leadership on the Department, Section and Faculty level with its historically-based structure and complex funding schemes was difficult to understand, and the panel is concerned with its ability to react to rapid change, and mend internal problems efficiently.
- The career system seems transparent and adequate at the Ph.D. level and at the senior professor level. In between it is quite opaque with no clear career pathway or guidance. The panel is concerned about the individual careers of young researchers that may be on a track with only a “dead end” without
proper career guidance and with underlying consequent (but quite understandable) lack of risk appetite for pursuing truly innovative new ideas

- The theoretical chemistry program is quite separate from other activities and does not attempt to integrate or develop common interests, despite the potential for synergies with some of other research programmes at the department.

### 3.3 Recommendations

**Chemistry – Ångström (A and B)**

- **Improve career path.** The current formal career paths at the junior faculty/scientist level need to be clarified with a clear separation between the “Tenure Track” path leading to a professorship at UU, and the equally prestigious track that prepares young researchers to leave UU and pursue careers elsewhere. The panel recommends a completely abandoning the “forskarassistent” (assistant professor without tenure-track) and replacing it with a combination of post-doc (2 years) and a researcher position (2 years), with an evaluation in between. This path should prepare young scientists to achieve a successful career outside UU. Such a clearly articulated position would lead to as prestigious a career track as the tenure track. The panel strongly suggests the establishment of a formalized mentoring/feedback/appraisal system for all scientists in the early stages of their career.

- **Prepare for change and inspire innovation.** The department has a high level of scientific stature but attention has to be paid to maintain this level and to develop it further. The current informal structure may make it difficult for the department to respond to radical changes if need be. Means to further trigger innovative thinking among the young scientist should be promoted and rewarded in a transparent manner.

- **Gender.** The gender balance at all permanent positions needs immediate attention. The recruitment process should be improved so as to reach the largest possible pool of competent and well-qualified applicants of both genders. The department should have as a goal a minimum fraction of female applicants in all calls. Failure to achieve this should result in a new call.

- **International visibility.** Maintain, and possibly increase, the awareness regarding the importance of publishing in high-impact journals. Continue to organize international conferences. The international visibility should be promoted by a strategic approach that includes an ambition to publish in higher-level journals. A formal alumni network should be established with a focus on those who left the department and became successful elsewhere.
and in this way acting as champions for the department and as role models for students and young scientists at the department.

- Consider the future of the currently separate theoretical chemistry program and examine ways of either integrating it into existing programs within the department, or group all computational activities in a joint research programme in theoretical and computational chemistry.

4. Reflections on the similarities and differences between evaluation units within the panel – what to learn from each other?

The overall impression of the panel is that the current organizational structure and formal procedures of chemistry at UU are largely a result of historical developments at UU, partly through mergers, partly through restructurings, partly via new units established some time ago. Most conspicuous is the fact that there are two dedicated chemistry departments, in addition to various other chemistry research groups in other UU units (medicine, biology). That history matters in terms of current organizational structure and formal procedures is not surprising. Yet, the UU leadership should consider if the current situation is the best possible to achieve its general teaching and research goals as a university in the future. In other words, while history has shaped the current situation, the UU leadership would be best advised to consider an organizational structure and formal procedures that makes chemistry at the forefront internationally for the next ten to twenty years.

The need to reconsider current organizational practices is obvious for Chemistry – BMC, this department needs a “recrystallization plan”. Yet, the panel would not like to convey the overall impression that at Chemistry – Ångström everything is optimal, and that at Chemistry – BMC everything needs to be reshaped. Rather, we identified some more general challenges that need to be addressed soon in order to keep chemistry at UU internationally competitive in the near future.

First, both chemistry departments have to address the important question whether or not it suffices to leave scientific leadership to be based solely on the research program level. In the panel’s view, the scientific potential of junior faculty members is currently not adequately utilized. One obstacle in utilizing this scientific potential is the unclear career structure and the fact that permanent faculty positions are distributed to a considerable degree in the context of a collegial and highly informal academic culture. There is no clear tenure-track mechanism in place, and several junior faculty members might be trapped in the “researcher” position. Therefore, scientific leadership needs to be established at the junior faculty level: this would require UU to provide more scientific freedom.
with both clear evaluation criteria and suitable timeframes for scientific performance and career advancement steps.

Second, the panel finds that both in Chemistry – Ångström and Chemistry-BMC, the strategic formulation of research goals and visions at the department/faculty level is not fully developed. We do not recommend that the HOD/faculty dictates in detail what individual professors or research programs should do and do not. Rather, we recommend that the UU leadership reconsiders whether the head of faculty or the HOD are predominantly administrative and support positions (as today), or whether one of these positions should be endowed with the capability to develop broader research strategies and visions that guide faculty members’ perceptions and performance identities. Both historical and sociological research on universities and non-university research organizations has provided ample empirical evidence that scientific leadership providing research visions and broadly formulated strategies (in addition to individual faculty members’ research plans and projections) are conducive to scientific performance and an academic culture of excellence.

Third, Chemistry – Ångström and Chemistry – BMC have quite different funding portfolios: the former has more than 50 percent of its entire budget funded via external research grants, whereas the latter has fewer external grant monies and thus relies more on internal statutory funding. The panel was under the impression that more effort could be made at Chemistry – BMC to attract external grants. Yet, at the same time, the panel had concerns that having more than 50 percent of the entire departmental budget from external sources could possibly jeopardize efforts to develop a viable internal long-term research strategy, and at the same time, weaken the crucial link between research and teaching functions. Therefore, the panel advises the UU leadership to consider the funding portfolio as an important variable in the long-term developments of its chemistry departments. This variable should be regularly reviewed and departments should actively reflect whether their current funding portfolio is “healthy” and provides enough manoeuvring space for the renewal of their research programs.

Fourth, it could be considered to establish “research professor” positions to allow for rotation among faculty members, thus providing more time and dedication for developing new and/or renewing existing research programs. If such “research professor” positions are established, they should not be used as faculty positions permanently linked with particular persons, but as temporary (some years) entitlement to devote more time to strategically rethinking and ultimately the renewal of research programs. Competition for such positions should be guided by scientific merit, and gender and young scientists should be given particular attention when allotting these positions among faculty members.
5. Observations and analysis by departments

**Department: Chemistry – BMC**

The self-evaluation report was good and reflected both strengths and weaknesses of the department. The department made a number of short presentations and provided documentation that was given in addition to the self-assessment and other documents previously circulated to the panel. This new documentation covered, for example, outlines of the scientific agenda of the three programs. There was ample opportunity for questions and discussions with the HOD and both senior and junior staff. No separate meeting had been arranged with the PhD students alone.

**Department structure and funding.** Individual research teams are typically small. There is an extensive instrumentation infrastructure for mass spectrometry, surface plasmon resonance, preparation of crystals, high-field NMR and cryo-electron microscopy. The department has a relatively small percentage of external funding. (In addition, the department has a long-term debt of, currently, 10M SEK - this was larger in the past but the Faculty of Science and Technology has reduced its size). No breakdown to individual groups is available, but it was stated that the financial pressure is different for different groups in the department.

**Aims, strategies and vision.** The BMC vision for the future is that it will perform nationally leading and internationally well-recognized research. The recruitment strategy and aim is to hire only well-established individuals, albeit at more junior levels. There is currently an active recruitment process for three senior lecturers, and several more are expected in the near future, as several retirements are anticipated. Future vacancies pointed out by the self-assessment documentation highlight biochemistry and organic chemistry, with three professors retiring.

Departmental strategic aims for quality and renewal included: excellent quality, high relevance, stable funding. These aims are timely and relevant but also very general statements with little direct focus on the departmental situation. The panel thus identified a need to focus, to be clear on where BMC is going and to be bold. There appeared to be a positive response to this and to essentially work more as a focussed collective in a smaller number of areas.

**Research strategy**

*Analytical chemistry* presented their future strategy: It highlighted several retirements, the need to focus, staff reductions, the aim to reduce and focus the research areas from 8 to 6, reduce instrument costs, decrease the premises, and to decrease overhead costs. Some clinical collaborations were apparent, but the program appear to be doing a high proportion of routine diagnostic work. The program was very influenced by the program professor. It has too many research
themes, some of which are very disparate and most are below critical mass to be internationally competitive. This program could sit quite happily within biology or the medical school in order to promote more collaborations and ensure more focus.

**Biochemistry** are actively working towards a more coherent future strategy. They have “a good research culture” and have some seminars, which need to be “to be freshened up.” Altogether this group seems to be actively working with the challenges at hand.

**Organic chemistry’s** future strategy envisages 4 groups, with major changes underway to realize this strategy. A new professor will join in August. He has very good credentials and his expertise is highly appropriate to fit in with existing and future research activities. He is expected to interact well with other groups on campus. One staff member currently has a good collaboration with Chemistry – Ångström. The program members acknowledged that there is an urgent need for change.

**Academic culture at the Department as a whole**

Issues that soon became apparent during the discussions were: The medium and long-term viability of the programs, challenges in student recruitment, and few real interactions with the mainstream of Uppsala chemistry. Based on the data reported in the self-evaluation BMC seems to have declining research performance (publications, funding), subcritical group size, too high scientific diversity, and some duplication of chemistry laboratory infrastructure. Teaching is directed to biology and medical students as well as chemistry, of which there are 25 plus 65 chemical engineering and 45 master students. The School of Pharmacy is located in the same building, but linkages with this appear to be few outside biochemistry. In addition, the discussion revealed that tradition appears to play a significant role in the departmental culture and may be hindering change and renewal. Some parts of BMC have moved to the Ångström department, which is “fine”, but there is a clear resentment towards such moves. The idea of merging all chemistry activities into a single chemistry department is not welcomed by the HOD, since it would be “too big”. Group movements are discussed and the consensus is that the move has to be favourable for the department as a whole, and also favourable for Ångström and the section of Chemistry.

The culture is in dire need of focus and improvement, and morale boosted. There is currently no physical area for casual get-together (coffee/lunch room). The groups are physically scattered in various parts of the large building. Do they need a new structure? It is vital to involve wholeheartedly the younger gener-
ation of BMC scientists in the development of the department strategy for the future. The HOD acknowledges challenges arising from faculty members who are resistant to change, and stressed how difficult it is to implement changes. The panel insisted on the need to move ahead despite the difficulties perceived to be associated with some of the faculty, and to provide tangible support for change.

**Research leadership.** The tradition is for the HOD to deal with most issues, although it was not clear exactly how the relationships work between the research programs and the HOD. It was stated that “discussions are open” and that there is “agreement on goals, but not always on the means to achieve them.” The department appeared to be more organised into a single structure with subdivisions, than the Ångström departments. The panel was consistently given the impression that the HOD provided extremely strong leadership. She felt that trust has been established with the staff.

A weaknesses also in part stem from the small size of the BMC department and in part from the financial pressures on it. Seminar programs are not adequate in 2 out of 3 programs. Considerable instrumentation costs appear to be an issue in all programs. Links with other parts of UU appear to be very topic-dependent but not systematically developed. For example, the biochemistry program has strong links with medicinal chemistry within the School of Pharmacy, but very few links to the other UU chemistry department. Internally, there is a history of research programs not talking to each other. The HOD has tried to bring research programs together, and sees this as an ongoing, long-term process. Not everyone goes along with this, and the “culture” of the department is averse to change, perhaps because of a reaction to the recent mergers and staff turnover.

**Financial situation.** BMC allocates FFF to programs, and aims to cover its deficit over the next few years. In 2017, some funding earmarked for new young researchers was approved by the department board. Future 3-year projections show a deficit, in particular in view of the current expenditure incurred by the analytical chemistry group. It was stated that this is due to the high cost of courses given to a small number of students and the extensive laboratory instrumentation. Research is also accumulating large deficits. Therefore, the future financial sustainability of analytical chemistry is not clear. It does receive some external income for its diagnostic work, but it is not clear if this even covers the costs. The Department should consider whether this routine work is appropriate for providing the research department with a broad palette of different experimental techniques and equipment. Getting Swedish research council funding in the analytical area was said to be challenging.
Career structure. The session with young researchers, either on their own funding or on someone else’s funding, was very informative, with a very clear presentation. This highlighted weaknesses: Lack of research focus, isolation from each other in different buildings on different floors, very compartmentalised, a culture of negativity, residues of old conflicts, lack of ambition, lack of curiosity. On the positive side, it was mentioned that there is now an increasing awareness by the seniors that support is needed, especially for career development. Broad and complementary skill sets within the department were acknowledged. Some linkage with attendance at seminar system with the Ångström department, half of this group see complementarity and direct relevance in the research conducted in Angstrom. Altogether the young researchers are an impressive group, a real asset to BMC and UU.

6. Summary

6.1 Strengths

Chemistry – BMC

• The Department hosts a cohort of enthusiastic and passionate junior researchers with a strong wish and drive to excel and with an active support from senior researchers

• A large infrastructure in analytical chemistry is the basis of a long tradition in this area. In the organic chemistry programme a recently hired professor will soon arrive at UU and build up a new group. This is supported by the Department with new faculty positions and a large investment in a 500 and 600 MHz NMR. The biochemistry group recently welcomed a new lecturer trained at the Karolinska Institute. A number of retirements over the last years have occurred, paving the way for new ideas and possibly new hirings.

• The leadership of the Department has worked systematically to balance and stabilize the economy, to install transparent decision-making procedures, and to initiate discussions about the future direction of the Department. Instruments such as hiring procedures, external funding, internationalization and investments in infrastructure have been properly identified as important means to develop the future direction of the Department.
6.2 Weaknesses

Chemistry – BMC

- The panel noted that the research areas were not focused on common themes and that there is little attempt to develop an overall scientific vision expressing the aspirations of the entire department.

- A serious debt has historically been build up at the department and despite recent adjustments of this debt by the Faculty, the department is still struggling to generate new funding while dealing with the remaining part of the debt. Struggles with attracting external funding in a period with a “change of guard” do not help to solve this problem, which reflects in a negative way on the entire atmosphere of the department.

6.3 Recommendations

Chemistry – BMC

- Make a three-year “recrystallization” plan and consider a new department name that articulates the joint scientific goals and aspirations of the entire department, as well as removing the external confusion caused by two chemistry departments at the faculty of science at UU. Make the plan concrete with milestones for every 6-month period. These could include goals for EU grants - individual as well as collaborative challenge-driven. Start international workshops and make Chemistry – BMC the node for a new international development. Exploit the ideas of the junior researchers by involving them in a serious way for example by letting them head a scientific strategy group responsible for developing the future scientific themes to be pursued in the department. Create an international advisory board to get inspirations and authoritative external feedback.

- Work together in larger research groups and regroup around focused research areas. Sharing success and distributing risk can release a lot of extra resources. Create traditions and more opportunities to meet and inspire each other.

- Academic leadership at all levels – from formal organizational and administrative aspects to generating bold scientific visions and plans - will be a key for success. Make sure that these different roles are distributed in an optimal way and negotiate a firm mandate to those given the responsibility to lead the way. Create trust and enthusiasm. Seek approval and support for the plan at higher university levels.
7. Reflections on the similarities and differences between evaluation units within the panel – what to learn from each other?

The overall impression of the panel is that the current organizational structure and formal procedures of chemistry at the faculty of science at UU are largely a result of historical developments at UU, partly through mergers, partly through restructurings, partly via new units established some time ago. Most conspicuous is the fact that there are two dedicated chemistry departments, in addition to various other chemistry research groups in other UU units (medicine, biology). That history matters in terms of current organizational structure and formal procedures is not surprising. Yet, the UU leadership should consider if the current situation is the best possible to achieve its general teaching and research goals as a university in the future. In other words, while history has shaped the current situation, the UU leadership would be best advised to consider an organizational structure and formal procedures that makes chemistry at the forefront internationally for the next ten to twenty years.

The need to reconsider current organizational practices is obvious for Chemistry – BMC, this department is suggested to come up with a “recrystallization plan”.

We also identified some more general challenges that need to be addressed soon in order to keep chemistry at UU internationally competitive in the near future.

First, both chemistry departments have to address the important question whether or not it suffices to leave scientific leadership to be based solely on the research program level. In the panel’s view, the scientific potential of junior faculty members is currently not adequately utilized. One obstacle in utilizing this scientific potential is the unclear career structure and the fact that permanent faculty positions are distributed to a considerable degree in the context of a collegial and highly informal academic culture. There is no clear tenure-track mechanism in place, and several junior faculty members might be trapped in the “researcher” position. Therefore, scientific leadership needs to be established at the junior faculty level: this would require UU to provide more scientific freedom with both clear evaluation criteria and suitable timeframes for scientific performance and career advancement steps.

Second, the panel finds that both in Chemistry – Ångström and Chemistry – BMC, the strategic formulation of research goals and visions at the department/faculty level is not fully developed. We do not recommend that the HOD/faculty dictates in detail what individual professors or research programs should do and not do. Rather, we recommend that the UU leadership reconsiders whether the head of faculty or the HOD are predominantly administrative and support po-
sitions (as today), or whether one of these positions should be endowed with the capability to develop broader research strategies and visions that guide faculty members’ perceptions and performance identities. Both historical and sociological research on universities and non-university research organizations has provided ample empirical evidence that scientific leadership providing research visions and broadly formulated strategies (in addition to individual faculty members’ research plans and projections) are conducive to scientific performance and an academic culture of excellence.

Third, Chemistry – Ångström and Chemistry – BMC have quite different funding portfolios: the former has more than 50 percent of its entire budget funded via external research grants, whereas the latter has fewer external grants and thus relies more on internal statutory funding. The panel was under the impression that more effort could be made at Chemistry – BMC to attract external grants. Yet, at the same time, the panel had concerns that having more than 50 percent of the entire departmental budget from external sources could possibly jeopardize efforts to develop a viable internal long-term research strategy, and at the same time, weaken the crucial link between research and teaching functions. Therefore, the panel advises the UU leadership to consider the funding portfolio as an important variable in the long-term developments of its chemistry departments. This variable should be regularly reviewed and departments should actively reflect whether their current funding portfolio is “healthy” and provides enough manoeuvring space for the renewal of their research programs.

Fourth, it could be considered to establish “research professor” positions to allow for rotation among faculty members, thus providing more time and dedication for developing new and/or renewing existing research programs. If such “research professor” positions are established, they should not be used as faculty positions permanently linked with particular persons, but as temporary (some years) entitlement to devote more time to strategically rethinking and ultimately the renewal of research programs. Competition for such positions should be guided by scientific merit, and gender and young scientists should be given particular attention when allotting these positions among faculty members.
At the beginning, we would like to recall that this evaluation is not intended as an evaluation of the science performed. The panel*, however, was impressed by the high-level of the scientific achievements, the personal commitments and dedication of the scientists interviewed. Excellent and remarkable research can be performed under various organizational systems. However, some structural hierarchy and organization are more conducive to creativity and innovation in research and teaching. Besides, nowadays science, the scientific environments and the scientists are evolving very fast with global competition and emulation. The recommendations below are made with the aims of suggesting possible structural, organizational and evolutionary changes to promote and ease scientific research and teaching in an already world re-known University.

1. High-level recommendations – valid for all departments

**Governance**

The panel members gained the impression that the university exhibits a strong top-down hierarchical structure and compartmentalization of faculties, sections, departments, programs and research groups. Rules governing the decision-making processes between ranks of the hierarchy differ or remain vague, especially between the department and faculty levels. This seems to constrain collaboration across disciplinary and institutional boundaries, affect the allocation of resources, negatively influence recruitment procedures, and hamper communication.

Furthermore, one should consider opportunities to form an even stronger biology unit, for example by merging departments (and programs), which would allow the section to work more strategically – from recruitments to doctoral training and effective outreach. In addition, it may reduce potential conflicts around teaching, doctoral training, moving of funds, and the use of core infrastructure.

* Panel members: Klement Tockner (Chair), Elena Conti, Jeanine Olsen, Mart Saarma, Britt-Marie Sjöberg, Sverker Sörlin, Joan Strassmann, Eric Westhof.
Scientific Advisory Board: The establishment of an international scientific advisory board (SAB) is highly recommended at the biology section. The SAB should support a continuous quality development by providing a critical and reflective outside view. Members of the SAB should give general advice on strategy and recruitment direction.

Allocation of funding
The faculty must review its funding and recruitment strategies. At present it is considered inflexible. The criteria used for the allocation of funding and the recruitment of high-profile researchers must be further developed or adapted with the goal of excellence in research, teaching, and development of the next generation of biologists.

Transparency in funding allocation: The current block system funding is rigid and therefore prevents the synergisms necessary for top science, especially when inter- and cross-disciplinary collaborations are essential in order to address grand challenge questions for society. A key issue of concern for the departments, as strongly expressed during the site visit, as well as of the university as a whole, is the disproportionately low level of block funding, which considerably limits long-term strategic planning. In addition, it is considered a serious disadvantage in attracting internationally leading researchers who expect substantial start-up packages and technical support.

The panel would like to encourage the university and the faculty to establish more transparent procedures, and to ensure that department members participate in the establishment of clear standard and procedures at all levels. Furthermore, there is a discrepancy of internal vs. external resource allocation among programs. This is a dilemma that grows in proportion to success in acquiring external funding – and certainly there cannot be any linear reward system to those who earn many grants – but it needs to be addressed nonetheless.

A problem seems to be that prestigious external grants require matching funds. These should come from the top levels so they do not detract from the funds available for excellent research that is not externally funded. The departments and programs will best foster excellence if they can welcome external funds without having their matching requirements hurt other research projects.

It would help if there was also a university-wide funding pot to help new programs (e.g., human evolution and plant science) and university-wide funding opportunities for new equipment. We strongly recommend the university to consider such a funding mechanism. Governmental strategic funding is primarily used to establish specific core infrastructure, like SciLifeLab, which supports collaboration within the university as well as nationally and internationally.
Research

Research-teaching links: The IBG – the Biology Education Center – is a cross-cutting “program” at the Biology Section, which coordinates the teaching activities across Departments in a highly professional way. This is an excellent approach to undergraduate education and allows for synergy and not inadvertent overlap among the departments. Since younger scientists, graduate students, postdoctoral fellows, and researchers are likely to move on to positions that require some teaching, it is important that opportunities to teach be made for these people in a clear and systematic way. New teachers should receive mentoring and advice so they understand how to balance teaching and research and apply effective pedagogical approaches.

Outreach activities: It is highly recommended that a science-society interface strategy is further developed and implemented. Outreach activities should be better coordinated and further strengthened; at present it is ad hoc and lacks vision and articulated goals. All faculty members should be encouraged, and supported, to engage in various transfer activities (e.g., public outreach, research-industry interactions, and linkages to governmental and non-governmental organizations).

Teaching

Teaching is undervalued, which is reflected in an unequal allocation of resources between research and education/teaching. Attitudes and perceived responsibilities towards teaching differ across programs and departments. It is difficult to establish new courses, due to zero-sum funding issues, which also extends across programs and departments. There is an unequal distribution of teaching opportunities and requirements between departments and among the different employment groups (doctoral, postdoctoral, junior and senior researchers).

The panel strongly recommends the establishment of a graduate school in biology in order to offer a structured graduate program. Indeed, there seems to be no uniformity in terms of curriculum. Students we talked to struggled to figure out what to take and did not always even know what was offered. Furthermore the uneven requirements among departments and programs should be made consistent. The integration of research and teaching must be considered to be a very high priority. At present, teaching is undervalued, and many people – in particular early-career scientists – are not involved in teaching activities. At the same time the number of undergraduate students is considered to be low for the size of the biology section.

We are surprised that these strong research departments are not allowed to build more new and cross-cutting teaching programs and to take on more students. They have the capacity, and more undergraduate funding would also stabilize the economy of these highly grant dependent units.
Personnel
The successful recruitment of excellent staff is fundamental for the long-term success of the departments and therefore of the entire university. Hiring decisions of new faculty (tenure-track and higher) need to involve the departments. The current practice of selecting a new faculty member by an independent faculty appointed committee, that may or may not include a biologist, is likely to lead to a suboptimal hire. A revised system to reconnect the process is needed. The decision process for recruiting should be changed so that a board of the section biology actively participates in the final decision. Members of other departments or faculties (as well as members of a future scientific advisory board) are asked to assist in order to guarantee to the university authorities the validity and fairness of the process.

The panel got the strong impression that there exists a “structural demography” challenge. The balance between tenure-track and non-tenure track positions should be altered towards an increase in tenure-track positions. Indeed, the lack of clear career paths, including exit paths, and paths into jobs in industry, the environment, and other forms of teaching creates stress and frustration for the young researchers.

The tenure-track system, implemented a few years ago, is an excellent way forward for young researchers. However, transparent and fair guidelines and a scientific strategy on hiring and promoting researchers need to be developed – both at the faculty and at the university level. The parallel non-tenure track positions (so-called soft-money permanent positions) need to be restricted to clearly temporary positions, perhaps fewer than five years, or re-thought thoroughly with adjustable evolution rules.

At the same time the balance between doctoral and postdoctoral researchers is shifting towards postdocs. Excellent mentoring and coaching support is required – which is not installed at all departments yet – to prepare them for careers inside and outside of academia.

Early-career scientists need more experience and leadership in project management. Lack of career prospects represents a key negative point. Early-career scientists contribute high quality work, but get no coaching on how to move forward as well as no systematic training about how to run a lab. They also experience a lack of teaching opportunities, and are actively discouraged from teaching in some groups. They currently need to propose and design new courses to gain any teaching experience.
Other

Campus Gotland: Campus Gotland is considered both an opportunity and a burden for the departments. The development of a distinct teaching and research profile is required, which complements the activities at the main campus in Uppsala and therefore creates adequate synergies. Most critically, central funds must be allocated to facilitate the development of the campus and the fruitful interaction with the departments of the biology section.

Plant biology program: A coherent plant biology program at the biology section – from molecular biology to ecology – will create certain synergies across the departments. However, it is critical that the money follows the research groups when people move to other programs, or even to other departments. Indeed, the transfer of financial and human resources across departmental borders remains a challenge and should be facilitated in order to increase cross-sectorial permeability.

A recent issue of misconduct shocked the section. Consequently, the section has initiated bold activities to improve academic culture, transparency and reproducibility of data and results. Actions to improve scientific integrity are required at both the department and the university level (including information on open data and laboratory protocols). Courses on ethics and good scientific conduct must be considered integral parts of each education program. Furthermore, the departments need to be supported in developing and maintaining an advanced infrastructure to store, curate, and share data. This is ultimately a responsibility of the president of the university and should be born out in practice on the faculty and department levels.

Administrative support, specifically for international guests and researchers, should be improved. This ranges from the basics of the way the Swedish system works, opening bank accounts, finding apartments, dealing with taxes, and where to go for assistance of all kinds.

Language is considered to be a barrier, in particular for foreign doctoral candidates and early-career scientists, and this constrains or restricts participation in board meetings. Documents and especially minutes of important meetings should be made available in English too. At the same time, there exist numerous opportunities to learn Swedish. These opportunities should be better communicated and exploited. Overall it seemed that there was a lot of tension around the issue of language. There was misinformation as to what legally had to be in Swedish and what did not. The readiness of Swedes to switch to Swedish even when non-Swedish speakers were present was something some complained about. Clearly this is a sensitive topic that is probably best managed with care to include all the stakeholders. The ideal of everyone learning Swedish is not going to be met, so the desire of people to speak their own language in their own coun-
try has to be balanced with the desire to do the best science and be inclusive. Open communication on this topic will help.

Additional remarks
The online survey was of limited value in identifying strengths and weaknesses at the level of departments and programs. The key reasons for this were that answers of all staff groups (e.g. doctoral candidates, technicians, researchers, professors) were lumped, and no written comments were included.

A future meeting like this should allow for more one-on-one time between individual committee members and members of the groups we are evaluating. People are simply less likely to say important but controversial things to a whole group. Even a half hour coffee with each group before the formal meetings could help.
Department of Organismal Biology

1. Introductory remarks
The department of organismal biology (IOB) was formed in 2011 and includes five/six programs: comparative physiology, environmental toxicology, evolution & development, human evolution (new), physiological botany and systematic biology. Physiological botany is located at the campus of the Swedish University of Agricultural Sciences (SLU). The latter is the smallest program, including only six employees.

According to the self-report, IOB covers a diverse research portfolio in developmental and evolutionary science, including early vertebrate evolution, animal physiology, neurobiology, toxicology and development, systematic biology, mycology, plant physiology and development, and immune reactions of invertebrates; among other themes. It houses an experimental zebrafish platform (GEZ, genomic engineering zebrafish), an ancient DNA facility (which just started) and is part of the national SciLifeLab facility.

In 2015, the total annual revenue of the Department amounted to 87.9 Million SEK. In total, 116 employees were working at the Department, of which 11 were professors, 11 associate and senior lecturers, 32 researchers, 9 postdocs, 31 doctoral candidates (excluding stipends) and 22 other staff (including one senior researcher). Between 2011 and 2015 an average of 4.6 doctoral candidates (net study time: 4.5 yrs, 57% females) and 1.8 licentiate candidates (net study time: 2.7 yrs, 88% females) per year completed their degrees.

With the addition of the human evolution group (in total 25 researchers all levels), the total funding for the Department has increased from 2014 to 2016 by 25% (including teaching funding); funding for research even increased by 43%.

2. Summary
2.1 Strengths
- The department is led by a dedicated head, inspiring confidence in fairness and transparency. For example, a departmental newsletter, a seminar series on frontiers in organismal biology and language courses are all considered important components of a vivid department. At the same time the programs are highly diverse with respect to number of people, size of block grants or number of doctoral candidates.
• The department is very successful in applying for external grants (2016-2017: 54 MSEK), including two active ERC grants, two Wallenberg Academic Fellowships and a large Wallenberg project.
• The human evolution program is an important addition to IOB and can be considered a role model on how cross-institutional activities may be stimulated.
• The previous KOFs improved internal communication and collaboration, and supported the restructuring of the department. This process is, however, still has a long way to go.
• Doctoral candidates and early-career researchers appreciate the excellent research environment at IOB. General guidelines for the doctoral program have been developed and are already in place. There are some very strong scientists at the department and several others of international top quality.
• The IOB is the most gender equal department when it comes to professors (and other academic staff).

2.2 Weaknesses
• There still seems to be a lack of transparency in resource allocation and decision making, although major progress has been made during the past years, specifically in IOB (roles and procedures have been developed and are discussed in academic staff meetings). It is considered a general issue at all institutional levels (i.e. university, faculty, section, and department), creating frustrations at all levels.
• IOB needs a further improved better joint self-image, including a common vision, a distinct mission and a joint strategic plan; although major progress has been made during the past years (e.g. a strategy group has been implemented). Programs still operate in isolation from each other. Therefore, the impressive potential of the department is not yet used in the most effective way.
• Doctoral candidates and early-career scientists expressed strong wishes to better connect and integrate within programs, across programs and across departments.
• The lack of full access to animal care facilities substantially constrains research activities due to ineffective, higher administrative agreements that need to be resolved.
• The department does not yet exploit its capacity to better reach out to the general public and other stakeholders (e.g., industry, government).
• Its strategic thinking is underdeveloped.
2.3 Recommendations

- IOB needs a more flexible internal structure that facilitates cross-cutting collaboration. The programs, as presented, are too separate ("history rules"), which impedes social and scientific interactions – despite major efforts by the present head of the department to improve the current situation.

- IOB should open a new dialogue for budget allocation, jointly with the faculty, which may reduce compartmentalization. For example, the formation of new programs such as the human evolution program should be facilitated, including the required redistribution of resources ("money follows research approach").

- There is a need to improve outreach activities (i.e. science-society interface). There is a great opportunity to develop a coherent strategy to better interact with the public, industry and governmental organizations. Members of IOB are already active, and successful, in communicating science to society. However, a coherent strategy should be put into place.

- The department would do well to introduce arenas for common strategic thinking and to enhance the level of self-reflexivity in the organization. This is also a useful element in the training of PhD students and postdocs.

- Teaching loads, course selections/availability and rules about teaching loads must be more transparent and uniform across teachers. Particularly early-career scientists must be encouraged and allowed to teach. Likewise, senior staff should not be allowed to buy off their teaching on a structural basis. The unit should in general teach more students.

- The duration of the doctoral work and the age of graduates at degree completion should be considered an issue of concern.

- Full access to the animal facility must be allowed because the current situation is untenable for a number of researchers due to high access fees.

- Human Evolution should be established as an independent and cross-cutting program, including archaeology and geology.
1. Introductory remarks

The Department of Ecology and Genetics consists of four programs (limnology, plant ecology and evolution, animal ecology, evolutionary biology) and the field station at Lake Erken. Based on the self-report, the department conducts research at the intersection between ecology, evolution, and genomics.

The interactions among organisms are studied in an evolutionary perspective, in which genomics has gained an increasing role in these studies. New techniques have enabled studies not only of individual genes, but the whole genome of many species. Research at the department successfully combines and integrates basic research with conservation biology, field studies with experimental studies under controlled conditions, and theoretical research. Ironically, there remain substantial gaps in community and ecosystem ecology.

In 2015, the total annual revenue of the Department amounted to 215.8 Million SEK. In total, 184 employees were working at the Department, of which 21 are professors, 10 senior lecturers, 30 researchers, 25 postdocs (incl. 8 fellows), 64 doctoral candidates and 34 other staff (including one senior researcher). Between 2011 and 2015 an average of 11.8 doctoral candidates (net study time: 4.4 yrs, 54% females) and 0.8 licentiate candidates (net study time: 3.5 yrs, 50% females) per year completed their degrees.

2. Observations and analysis (see also above for IOB)

With the recruitment of an administrative head (in 2016), a coherent administration has been established. The heads of the programs form the steering group, which seems to operate in a highly professional and collegial manner.

Lake Erken forms an important node of the national network of field stations (SITES) funded by the Swedish Research Council. At the same time, Lake Erken belongs to one of the few global sites with multi-decadal monitoring of environmental and biological data.

Therefore, an extension of the network by another eight years is highly recommended. At the same time, monitoring protocols should be developed and improved in order to increase and maintain the quality of the collected data.

Campus Gotland: three associate professors (plant and fish ecologists) are based at Gotland focusing on the Baltic Sea. An outreach program, called Blue Centre, has been initiated, a postdoc recruited, and teaching activities reorganized to focus on environmental science.
3. Summary

3.1 Strengths

- The department is managed very professionally, both administratively and scientifically. There are joint efforts to develop and advance a unified research program.

- It is a highly international department, with about 65% of the personnel being foreigners (from 35 countries). The research performance of the department is considered very good to excellent. Indeed, research experience at IEG is considered a key strength when applying for positions nationally and especially internationally.

- The department is very successful in applying for prestigious external grants, with a reported acceptance rate well above the average value. Six ERC grants, two Wallenberg projects and one Wallenberg Academy Fellows, 35 Swedish Research Council projects and 12 Formas projects are placed at the department.

- The doctoral and early-career scientists appreciate a scientifically stimulating and international research environment as well as a collegial atmosphere at the department. They receive strong support to attend international conferences and workshops.

- SciLifeLab is an important infrastructure for IEG too.

- Highly visible outreach activities are in part already in place and can be used as a model for further activities within the department (e.g. Lake Erken, monitoring of Scandinavian carnivores).

3.2 Weaknesses

- The individual programs differ widely with respect to leadership, transparency, and structure. Programs are disconnected. Some seem very well and equitably managed while others were referred to as “autocratic kingdoms”. Therefore, the efforts of the department towards a coherent research strategy and cross-cutting activities are not yet fully exploited (but see above).

- Doctoral and early-career scientists are insufficiently involved in the decision-making processes at the department and within the individual programs. Furthermore, there is a lack in communication and collaboration within programs, the department and the section, and therefore strong efforts will be required to improve the actual situation.

- Supervision and the role of doctoral committees are often considered to be pro-forma. The frequency of doctoral committees meetings varies widely, and they are often initiated by candidates. There is no uniformity in terms
of the PhD curriculum. Communication about requirements and course choices differ within and among programs (which is not specific for IEG).

- The technical support needs improvement because it limits training of new researchers on how to use new instruments and maintain quality in laboratory work, including lab notebooks, troubleshooting, and basic scientific actions.

- In some programs, efforts towards outreach are not sufficiently encouraged, albeit major opportunities for communicating and transferring research outputs to outside communities are in place.

3.3 Recommendations

- Retirements in plant ecology and evolution offer unique opportunities to further strengthen the profile of the entire department. However, more influence must be given to the department in the selection processes of new hires.

- The panel members strongly support the development of a unified plant science program, which integrates various programs and research groups across departments.

- Leadership differs widely among programs. The panel strongly supports the intention of the department head to develop a common denominator on how the department works. For example, a rotation mode in department leadership and also of the program chairs is highly endorsed.

- Opportunities for better integration and communication across programs (and departments) need to be exploited and further developed. A departmental newsletter in English is considered a simple measure to improve intra-departmental communication. Furthermore, a departmental day may offer an excellent opportunity to meet across programs.

- Campus Gotland (since 2013): It remains a challenge to establish a sustainable research environment at a satellite unit. Central funds from the university are required to develop it as a unique and valuable “field station”, and as a priority unit for UU, not just for biology. Current environmental challenges (e.g. the construction of Nordstream pipeline close to the campus) should be tackled.

- Sabbatical stays (outgoing, incoming) should be encouraged (in each department) and fully supported.

- Mentoring and career planning (inside and outside of academia), including how to raise and manage funds, should be strengthened.
• Postdoctoral fellows should be allowed to participate in the decision-making boards, as far as is reasonably possible (this is partly valid for the other departments too); thus the language of board meetings should be accessible to all participants, many of whom are foreigners who will stay in Sweden for a limited period of time; having such meetings in English would foster participation.

• The long term vision and rationale with external collaboration should be further developed. Efforts towards outreach activities are not very well supported or encouraged in some programs. A strategy on a common science-society interface should be developed (for the department and the section). Short credit-earning courses for graduate students on how to deal with the press and the public should be offered.

• An intra-university fund supporting the replacement and upgrading of old and outdated equipment and machines should be established.
Department of Cell and Molecular Biology

1. Introductory remarks
The Department of Cell and Molecular Biology (ICM) focuses, according to the self-evaluation report, on the intersection between biology and other disciplines, including chemistry, medicine, physics, computer science and mathematics – with a key basis in biology. Research strengths are in molecular evolution, biophysics, interdisciplinary ribosome work, RNA biology, (computational) structural biology and infection biology. ICM has a particularly strong focus on microbial experimental systems.

In 2015, the total annual revenue of the Department amounted to 221.3 Million SEK. In total, 219 employees were working at the Department, of which 16 were professors, 8 senior lecturers (incl. associate lecturers), 71 researchers (plus 5 seniors), 8 postdocs, 70 doctoral candidates and 41 other staff (including one senior researcher). Between 2011 and 2015 an average of 9.6 doctoral candidates (net study time: 4.6 yrs, 38% females) and 1.6 licentiate candidates (net study time: 3.8 yrs, 63 % females) per year finished their work.

2. Observations and analysis (see also above for IOB and IEG)
ICM is internationally well-known and mostly leading in interdisciplinary life science as, for example, underpinned by the successful application for ERC grants (5 starting, one consolidator, one advanced grant) or two major interdisciplinary projects funded through the VR-NT research environment grants (out of seven grants funded for the entire country).

During the past years, ICM has experienced a strong change, partly through the recruitment of excellent people, partly due to the restructuring of the department. The department has a clear vision aimed at remaining a world-class research institution in its core domains. The department has a strict strategy in recruitment and promotion. It has implemented the new tenure-track system, better than the other departments of the section, but the tenure decision process for assistant professors remains an unsolved problem.

The self-evaluation report clearly reflects the overall strategy and the research directions of the department. The department experiences strong leadership, including a distinct participatory and transparent decision-making process.
3. Results

3.1 Strengths

- The department consists of several high-profile group leaders (which is also the case in the other departments), distributed in six programs with complementary expertise and competences: computational biology and bioinformatics, microbiology, molecular and structural biology, molecular biophysics, molecular systems biology and molecular evolution.
- ICM has excellent leadership with a collegial and democratic organizational management.
- The department is highly international, mainly as a consequence of its high research performance.
- Besides the ERC grants the department has attracted 4 very prestigious Wallenberg Academy Fellowships that provide long-term funding for the most promising young researchers. Overall, the department is highly successful in attracting research funding from competitive sources.
- An attractive building, including functional spaces, facilitates collaboration and communication within the department.

3.2 Weaknesses

- Lack of an integrated graduate or doctoral school with common rules of good practice, lecture courses on science in general and career paths, common seminars for all PhD students from different disciplines.
- The attractiveness of the scientific environment and grant success has led to an excess of intermediate-level researchers without a chance for the limited number of permanent positions or even a tenure-track perspective.
- ERC financial reporting is extremely complex which exposes administrative weaknesses.
- Too much history presides in some decisional pipelines, especially with regard to teaching loads and courses.
- Difficulties to obtain new equipment.

3.3 Recommendations

- No specific recommendations apart from the high level recommendations given at the beginning of the document.
- Postdoctoral fellows should be allowed to participate in the decision-making boards, as far as is reasonably possible; thus the language of board meetings should be accessible to all participants, many of whom are foreigners and who will stay in Sweden for a limited period of time; having such meetings in English would foster participation.
• An intra-university fund supporting the replacement and upgrading of old and outdated equipment and machines should be established.
• Build a PhD School in Biology associating the three biology departments.
• Install an International Scientific Advisory Board for advice in recruitment and strategy.
• Develop a clear tenure-track procedure and scientific strategy for selection of successful young scientists.
• Change the decision process for recruiting new members so that a board of biology professors decides on the choices. Members of other departments or faculties might be asked to assist in order to guarantee to the University authorities the validity and fairness of the process.
1. Introductory remarks

The panel reviewed a single Department, Earth Sciences, which comprises 5 research programmes, 2 units and several Centres. Two of the research programmes are rather large (Air, Water and Landscape Sciences, LUVAL; Geophysics), two considerably smaller (Mineralogy, Petrology, Tectonics; Paleobiology), and one relatively new (Natural Resources and Sustainable Development, NRHU). The two units are Wind Energy Campus Gotland (Wind) and Uppsala Centre for Sustainable Development (CSD). The Department is also leading or active in a number of sub-units/centres, such as the Centre for Natural Disaster in Science (CNDS), the Swedish National Seismic Network (SNSN), STandUP for energy, and European raw materials-related programmes (Knowledge and Innovation Community, KIC; European Innovation & Technology, EIT). In response to KoF11 recommendations, the Department implemented six well-chosen strategic cross-disciplinary research themes. Since KoF11 it has increased activities or participated in the development of several new initiatives that focus on societal issues; e.g., Wind, CSD, CNDS, STandUP, and KIC, and is involved in the leadership of both the CNDS and STandUP national programmes. The Department is thus very diverse. Besides differences in size, some programmes have strong industrial and/or societal relevance, while others concentrate much more on basic research. This diversity is effectively accommodated in the same structure, and there is no ‘one size fits all’ attitude. The down side is that this diversity, and the strong emphasis on ‘bottom-up’ processes and organisation, makes leadership and management challenging in some respects.

The Panel interviewed a wide range of Department personnel: the Prefekt and five Research Group leaders (separately); the Section Dean who introduced the various units, centres and networks within the Department; principal proponents who described these units; the Research Secretary from the Geological Survey of Sweden (SGU); the Research in Education coordinator and director of the student-driven education group Center for Environment and Development Studies (CEMUS); several researchers responsible for infrastructure and networks; the PhD studies Director and a self-selected group of PhD students; the former Dean
who reported on internal university survey results; the Department’s leadership group; and a self-selected panel of early-career researchers. More than half of the three days spent in the Department was devoted to question-and-answer sessions that followed the prepared introductory remarks for each topic, which the panel found very helpful. The panel also had a tour of some of the infrastructure supporting the Department’s research.

2. Observations and analysis

2.1 Aims, strategies and vision

The convoluted structure of the Department was first described in the self-evaluation document and, to the relief of the panel, explained more fully during the presentations and discussions in the course of the site visit. The panel felt that, particularly in the document and to a lesser extent in the discussions, the aims of the Department were not well articulated and the measures to be taken to achieve them rarely were enunciated. The self-evaluation consisted of facts, such as the approximate number of staff and students in each research programme, but little context, and negligible strategy and goals. The description was more of a set of research programmes that constitute the Department, rather than the Department as an entity in itself. During the presentations, however, the Department was able to identify weaknesses and areas in need of strengthening, and thereby went well beyond the self-evaluation report. Strategies for the future and identification of important areas for further development were presented in these sessions, and these are strongly endorsed by the Panel – particularly those aimed at bringing the Department together and improving its visibility.

2.2 Recruitment, progression and promotion strategy

Each programme has a 5-year plan in which recruitment and promotion are major factors. On the basis of proposals from the Programmes, the Department Board determines which Professor and Lecturer positions to request from Faculty. To ensure continuity and progression planning, new appointments to a group are proposed a few years before a Professor retires. Part of the rationale for recruitment can be to avoid sub-critical research group sizes, but at the same time to widen the scope of the Department. A significant number of positions are funded by external grants. Some positions are advertised as a competition. Some are initially funded externally and then become the Department’s responsibility. Some are filled by a member of staff that the Department has identified that it wishes to hire onto the permanent staff. This last method of recruitment demonstrates a commitment to career progression of staff. However, it involves a tightly written job description to reduce the number of qualified candidates that can apply and is therefore not a fully open and transparent process.
The panel noted favourably that staff and PhD student positions are widely advertised internationally. Each PhD advertisement attracts at least 10 viable applicants, demonstrating the attractiveness of the Department as a place to study for a PhD. Search committees are formed to seek and encourage applications for permanent posts from under-represented groups, which the panel commends. The percentage of female staff has shown some increase, but still needs improvement in the highest categories. The Department did not have statistics on the percentage of women applicants, so it is not known whether women are more likely to be short-listed and eventually appointed than men. A positive feature is the large number of staff that received their highest degree in universities other than Uppsala, or even outside Sweden (approximately 45% of current appointments). This gives the Department a very international character and illustrates both the attractiveness of the Department and its openness to the global academic community. Many PhD students are also recruited from overseas. Approximately 50% of Professors achieved the position by internal promotion and 50% by recruitment from outside the Department; this seems to reflect a healthy balance. The panel understands the procedure for recruitment is under review, and that the new proposals will reduce the representation of the Department in the vote on the candidates. Staff expressed disquiet that their influence on the person appointed may be reduced. It was also noted that procedures have changed every 3 years in the recent past, but without any evaluation of the previous system.

The routes to promotion are very complicated, some achieving this by being entitled to apply for a higher grade and others by being appointed to a post at a higher level. There is probably little the Department or even the University can do to simplify this. The panel was not provided with statistics about when those entitled to apply actually did so, and whether this differed by gender. Similarly, it is difficult to determine whether there are any patterns in those achieving promotion by appointment. It would be helpful if the University could establish a method of collecting useful statistics on promotions, and ensure these are reviewed regularly. At Department level, staff are offered an annual personal development and performance review, which can include discussions about promotion and salary. Several well-qualified women within the Department have benefitted from University schemes for developing their careers, including the current Section Dean.

2.3 Research leadership

Very little information was provided in the self-evaluation survey and presentations concerning leadership goals. Each programme head provided information on their programme, but little on leadership style or policy. Obvious goals such as average research income or numbers of PhD students per member of staff, and obtaining funds to maintain, upgrade and replace equipment, were not stated.
The panel noted that the programme leaders had very different personalities and this influenced the effectiveness with which they presented their programme. Two had previously been Prefekts and therefore were well able to provide a coherent vision. Some sub-units are so small that there is virtually no choice about who leads. Some groups emphasised their coherence, others their breadth. The panel was not able in all cases to judge the quality of leadership.

2.4 Academic culture

Some programmes concentrate on basic research, which has traditionally been funded by block grants and national funds (mainly from the Swedish Research Council, VR). A number of programmes or sub-units appear to regard applied/strategic research as less ‘noble’, unjustifiably in the view of the panel because it depends critically on the underpinning, core science at which the Department excels. This attitude is contrary to current ideas that at least a portion of public funding for scientific research should go towards solving problems of relevance to modern society. In contrast, other programmes have a strong focus on economic and social interests and have profited from this approach.

In many programmes there was evidence of some complacency. The Department commented that it has historically had a higher success rate in obtaining VR funds compared to other Swedish Earth Sciences departments, which may have contributed to this passive satisfaction. There is too much reliance on university and national sources of funding and some reluctance to seek support from high-risk/high gain programmes. The culture of a single researcher seeking funding for his/her individual project remains prevalent amongst large sections of the Department. Such applications are relatively straightforward to put together and, if successful, require relatively little reporting. This type of funding system allows an individual researcher to build up a research group around him/herself, and also means they are more easily identifiable for prestigious awards, thereby enhancing their careers. The panel was pleased to learn that there is informal peer review system of research funding applications within the Department, an example of a mutually supportive culture. However, as noted below, success rates for VR applications have decreased significantly, and therefore this cannot be a long-term strategy. The panel believes that the Department is well regarded internationally and has an excellent publication record, indicating that the research environment is good. This being the case, more ambitious and adventurous exploration for funding should be undertaken; and, given the status of the Department, such initiatives are likely to be fruitful. Many of these funding opportunities will be heavily dependent on forming research partnerships, both with cognate groups and individuals in other institutions, and across disciplines. Department leadership can have a role in encouraging staff to invest in forming the necessary partnerships. The current practice of assigning staff time only to
either teaching or research is not conducive to this networking, offering no way to recognise or reward the effort involved and therefore an implicit strong disincentive. The panel believes this system is no longer fit for purpose. A more sophisticated model that responds to the way many academics work these days is required. A revised system should acknowledge the time spent on forming networks long before any funding is obtained, encourage interaction with industry to explore the possibility of addressing societally-relevant problems, and also incorporate outreach activities.

Some lack of academic and social interaction was noted at all levels by the Department and the panel. PhD students in particular often felt adequately supported, but isolated within their immediate research group. Infrequent (but several times per year) and irregularly programmed Department seminars typically attract an audience of 15–60 in a Department of over 200. Some researchers appear interested in research only within their speciality which weakens the common identity of the Department and challenges its leadership when in competition with other university Departments with a longer common history and culture. However, weekly seminars as established in the LUVAL group have proven very successful and could act as an example for other groups. Recently initiated weekly newsletters, bi-annual social poster seminars, and a dedicated communications officer will help in time. Informal ‘Friday tea time’ presentations by first-year PhD students of their thesis research to their fellow students have proven academically and socially stimulating at other universities.

2.5 Infrastructure
The Department is highly dependent on a wide range of instruments and research facilities such as seismic field arrays, analytical instruments, and meteorological field stations. The Department operates local, national and international facilities in the Geocentrum and also uses facilities in other centres on the campus and elsewhere in Sweden/Europe. It makes limited use of outside contractors. Campus Gotland has provided a new opportunity, especially in the LUVAL and NRHU research programmes. Some new equipment acquired since KoF11 and funded by non-VR sources (e.g. electron microprobe) has greatly enhanced the Department’s capabilities. The panel understands that this allows the Department to negotiate access to infrastructure at other locations (e.g. Nordsim in Stockholm).

Some programmes use facilities in other Departments on the campus; others choose not to, for credible operational reasons. Samples for routine analysis are sent out to other Universities or commercial groups, but this does not allow for the development of specialized techniques. Some internal facilities are free for researchers in the Department; others are accessible at discounted rates. It would assist in Departmental cohesion if policies on charging applied Department-wide,
rather than the current situation whereby a facility is free to someone in one programme but chargeable for someone in a different one. This complicates the funding regime, especially for PhD students. As in universities worldwide, funding long-term technical support is difficult. Some programmes depend on university and national funding for infrastructure support, perhaps too heavily. Other programmes have wider funding bases, including using commercial contracts to enhance their infrastructure base or obtaining funding from other sources. The Department perceives that research funding does not go to the Department in proportion to its research contribution and ‘status’. It also worries about problems of both capital to buy equipment and funds for running costs, and possible changes in future VR funding which complicates long-term planning.

2.6 Research funding
Despite some grumbling by Department members, the panel thinks the level of funding was adequate, although it did note that there was the capacity to have more PhD students, with rather low average numbers per academic staff member. Efforts to obtain funding seem somewhat unambitious and largely reactive to the panel, being focused on local and national sources. A more concerted effort should be made to increase the contribution from external sources. Some research group leaders have been very entrepreneurial and secured funding from diverse sources. Support from the Wallenberg Foundation for the electron microprobe provides a good example. Commercial contracts should also be pursued, especially as they can provide ‘real world’ experience for PhD students.

More generally, funding from international sources; e.g., at the European level, should be sought more aggressively and proactively. Attempts to obtain H2020 funds should continue, and possibilities in programme areas promoting research in the Grand Challenges should be further explored. Researchers in the Department have tried, largely unsuccessfully, to obtain ERC funds. However, we heard of one unsuccessful ERC application that was then turned into a successful VR application indicating a learning effect in terms of research planning and the writing of applications. ‘Flagship’ funds such as ERC would indicate a good research environment and would add prestige to the Department. The University seems to have ample office support for such applications. Given the research quality of the Department, a practical goal might be to match internal, external national (VR), and international funding in order to provide three equal pillars of research funding. Given the increased emphasis of national governments on more societally relevant research, we would expect the Department to be in a good position to utilise this trend and to be able to diversify its sources of funding. Many European programmes exist specifically to support this type of research and should be explored vigorously.
Support from industry was not always evident in groups where, for the topic areas, it should be obtainable, especially if the Department kept better track of its alumni. Such support would also enable the Department to demonstrate to government the relevance of its research and training, if challenged in the future. The panel was pleased to learn that work has begun on contacting alumni and putting an alumni programme in place.

For the most part, internal funds such as FFF and funds for PhD fellowships are passed on formulaically to programmes. This model leaves little opportunity for new initiatives and strategic leadership at Department level. The Department could consider a system for more internal competition for these funds in order to encourage new initiatives and high quality research.

2.7 Cross-border collaboration and outreach

The meaning of ‘cross-border’ is unclear. The panel recognized two possible interpretations: collaboration (i) between disciplines, and (ii) with other Universities and organisations. Both options represent important sources of new ideas and initiatives. The background material and the presentations indicated an extensive set of collaborations but it was not always clear what was meant and often the nature and depth of collaboration were not articulated clearly. This applied particularly to collaboration with industry. Still, there were good examples of collaboration in the area of wind energy (STandUP) and a number of networks (EIT). Some programmes included little multidisciplinary research but others e.g. palaeobiology show good interaction with biology and have diverse funding sources.

With regard to collaboration with SGU, the Department provides a highly skilled workforce upon which SGU and industry depend. Some collaborative opportunities with the Uppsala SGU office exist in water quality research, including the Department’s support of an Adjunct Professor from SGU, as well as some co-teaching and co-supervision of PhD and Masters students. Unfortunately, funds to support student field work have declined from previous levels. SGU has participated in joint submission of H2020 proposals together with the Department, and both groups are involved in Knowledge and Innovation Community (KIC) projects. The SGU representative emphasized the potential and the need for more collaboration.

Very impressive outreach was demonstrated to the panel, with numerous examples of best practice. Notable examples include the role of the geophysics programme as a major source of information on seismic events for Swedish media, the initiatives to promote the geosciences to schools, municipal authorities and the general public, and CEMUS. The Department also devotes considerable resources to education for sustainable development.
2.8 Publications
The panel’s information concerning publications is based on the self-evaluation and bibliometric data reports. The Department has an increasing number of publications and papers in top-ranked journals. In the panel’s meetings with PhD students and early career researchers they stated that they aspired to publish in such journals, again indicating the Department’s culture which encourages them to aim high. This is intrinsically positive, but it also seems to reflect the Department’s focus on basic and not ‘applied’ research, as was emphasised to us during the interviews. In principle, we do not see a contradiction between the two and note that both can provide inspiration and enhance progress in science.

Several programs and centres (e.g. CSD, CEMUS) recently recruited social scientists to add multidisciplinary perspectives to their research programmes. This has led to concern that the performance of their programmes would seem diminished because of the publication patterns of social scientists who publish much less in international journals than do natural scientists. To encourage cross-disciplinary collaboration the Faculty needs to recognise that the publishing culture in the social sciences is different from that in the natural sciences. The panel emphasises that performance evaluation should not be done in a mechanistic manner and instead a variety of performance indicators should be used.

The bibliometric data for the Q&R17 exercise provided some information on the publication structures of Departments and one important measure of their citation performance; i.e., the share of publications that were amongst the most highly cited publications. The purpose was to give background information. However, the data do not illuminate the relative publication structures or performance of different departments because it was neither field-normalised nor related to any similar units elsewhere. In addition, the report on bibliometrics provides little detail on how the share of highly-cited publications had been estimated. Publication structures and citation densities differ widely by field, and even between neighbouring fields, depending on many factors including their size and stage of development. Even though the purpose of this exercise was not to evaluate performance, the use of more advanced methods would have been a useful addition to all the background information that was available for the panels.

3. Career structure and mobility
Careers within the Department and mobility are closely related to promotion and progression as well as the delicate balance between retention of core expertise versus renewal by infusion of ‘new blood’. The Department has a very reasonable annual 9% staff turnover. Although this is low compared to 40% in some hightech companies, lower turnover is typical in universities where staff typically take regular sabbaticals to renew themselves. The panel noted an odd statement
in the self-evaluation document about staff being able to organise their own sabbaticals but failing to do so. It was stated that some staff feel they cannot take sabbaticals because of the burden of management and other obligations – perhaps indicating small, potentially sub-critical, units. Alternatively, is this part of a general complacency? A valuable tool to introduce new research directions would be for prominent scientists from universities or research institutions in other countries to take sabbaticals (visits of 2–6 months) at Uppsala. The self-evaluation did not comment on whether the Department has been a popular place for people to take sabbaticals. The panel found it rather surprising that they do not appear to have more international visitors, both short- and long-term.

3.9 Feedback and evaluation
According to the survey results, women at all career levels do not feel as well supported as men. The Department should consider the reasons behind this observation and what could be done to improve the situation. The evaluation material did not include documented performance indicators (perhaps to prevent the panel from making judgments on performance, as recommended in KoF17 ground rules), but would have appreciated these as important background material. As noted above, the overall bibliometric data that were offered to us were in a form that revealed little of the relative publication performance in the respective fields and specialities.

The fact that sub-unit leaders offer personal development meetings for the staff once a year seems to be a positive management practice, though the panel was left with the impression that it can be routine. However, the early career researchers and PhD students that the panel met felt that they were well-supported in their career development. The panel did not get a clear picture of the extent to which performance is evaluated in the Department nor of the methods used. Do formal annual appraisals occur, for example? That the leaders and other personnel are trained in appraisal and personnel management is important, though the practice was not explained to the panel during the visit. Another question of interest, not fully clear to the panel, concerns how staff apply for promotion: for instance, who takes the initiative?

3.10 Internationalisation
Within the Department 45% of its researchers were foreign born. This suggests a clear recruitment strategy, although many post-PhD researchers apparently came to Uppsala as students and then progressed within the system. Co-authorship of publications and joint proposals with international co-workers demonstrates a high level of international collaboration and a will to enhance the internationalisation. However, statements in the self-evaluation document are generally
vague; some ideas were presented, but the document lacked a coherent strategy to achieve greater international stature and recognition.

At the level of individual scientists, the panel suggests that staff should be encouraged to take opportunities to deliver keynote addresses at major international meetings, and to participate in committees of international associations and other groups. In so doing, they will be able to promote their science area and their university and they can network and have a greater international ‘presence’. As noted above, there was not strong evidence for sabbatical visits, either by overseas academics or Department staff taking sabbaticals in highly rated institutions in other countries. However, within CEMUS, the Zennström Visiting Professorship brings an international leader to the Department – such initiatives are to be applauded.

The panel urges the Department to be more ambitious. They have a good set of programmes and strong research performance and they should do more to promote their strengths both at a university level and internationally. They should not be over-reliant on current university funding sources and structure and should also prepare for tougher times (including more targeted funding) ahead. The infrastructure of research groups is currently of international standard, but this may be difficult to maintain because of the cost and the possibility of reduced national funding in the future. These groups recognise the threat the reduction in VR success rates represent.

The panel endorses the very good ideas on the slide ‘Plans’ in the final presentation by the Section Dean, and hopes the Department will develop a strategy to implement them. With respect to Faculty politics: having a seat at the table is not sufficient – the Department needs to promote itself aggressively as a coherent whole and as visionary at an international level. This is particularly important as the Department is not sited in the Ångström Laboratory, a major focus of Faculty activity. On the other hand, it benefits from close proximity to Biology, which has strong collaborations with the palaeobiology programme, and SGU. The panel advises the Faculty to investigate the ‘Stanford method’ of team-teaching across Departmental boundaries, forming new interdisciplinary degrees, as a platform for encouraging and strengthening research links.

3.11 PhD students
The Department typically has 12–15 applicants for each position advertised. The panel notes favourably that, wherever possible, new staff get a PhD student. Successful students, of whom a commendable 40% are female, are well equipped and do high quality research. They have the ambition to publish in the highest impact journals, i.e. they demonstrate great research ethos, indicative of an excellent research culture. Those interviewed by the panel recognise the value of having a later-year ‘buddy’ and appreciate the proposal-writing workshops offered
by the Department. Career guidance is informal, which has both advantages and
disadvantages. The guidance concentrates on careers in academia, with those in-
terested in alternative careers less well provided for. Students would like a clear,
current, single source of information on courses offered both in the Department
and throughout the University.

Some students expressed frustration that they are required to do a licentiate examination, for which they can see little point unless they intend a career in industry.

The risk assessment and mitigation procedures for PhD students undertaking
fieldwork need improvement. Risk assessments are not routinely carried out, and
in fact it was suggested to the panel that this only happens if it is required by
the place where the fieldwork takes place, e.g. a mine. The panel recommends a
review of health and safety processes and procedures for fieldwork, covering at
a minimum first aid, risk assessment and avoidance. Perhaps this should not be
just for PhD students, remembering the maxim ‘If you think health and safety is
expensive, try having an accident’.

The panel noted that students from abroad were less well informed of the
funding and travel opportunities than the students from Sweden. Effort is needed
to improve the overall information circulation to all students irrespective of their
place of origin and their proficiency in Swedish.

As commented on previously, the Department is easily able to accommodate
more PhD students and numbers are limited by funding available. The panel
notes that PhD students are expensive since they are regarded as staff, but are less
productive than post-doctoral researchers who cost only slightly more. Nonethe-
less, all efforts to secure funding for PhD students should be explored, including
international networks such as Marie Curie.

3.12 Early career researchers
The Department has a healthy number of high calibre early career researchers. They indicated to the panel that they would appreciate better mentoring by
more senior, successful researchers. They generally indicated that they common-
ly apply for research grants, but are unaccustomed to and somewhat frustrated
by the relatively low success rates experienced to date. The success rate for VR
grants has dropped from 30 to 15% in recent years, a figure that nonetheless
remains good compared with many other national funding agencies. In addition,
with centralization and expansion of university administration in 2014, overhead
rates charged on grants have increased. The panel understood that this was from
9 to 13%, and that the changes were made to grants already underway, resulting
in considerable difficulty in re-profiling how the grant is spent while achieving
the stated objectives. The panel recommends that overhead rates are fixed once
a new grant starts.
3.13 **Campus Gotland**
The addition of the Gotland campus was welcomed by the Department. It helped cement existing working relations, and integration is going well, especially within the NRHU and LUVAL groups, although the number of researchers is currently deemed sub-critical. The collaboration between Wind and LUVAL was well established before the merger. Campus Gotland currently has 18–20 BSc students. The interdisciplinary Blue Centre represents a promising way forward.

3.14 **Geological Survey of Sweden (SGU)**
The relationship between the Department and SGU is very complicated. Both parties agree that linkages are important. However, the panel understand that minerals assessment and exploration, one key activity of SGU, is undertaken primarily in Luleå where the SGU regional office collaborates closely with the Luleå Technical University (LTU). Because neither SGU nor LTU have many geophysicists, the Geophysicists in the Department collaborate usefully with SGU on national research projects. The Panel noted a disconnect between what we were told by the SGU Research Secretary and by an industrial PhD student, who does her research at SGU. Clearly some logistical and cultural challenges complicate cooperation between the Department and the Survey (e.g. comments about differing security requirements). Comments by Early Career Researchers indicate that many would eagerly take up employment with SGU. The Department and SGU have successfully collaborated on the H2020 and KIC programmes, for example.

3.15 **Center for Sustainable Development (CSD)**
The Panel welcomed the interaction described between geoscientists and social scientists. The Department and the Faculty promotion committees will need to recognise the very different cultures of the social sciences (an emphasis on teaching, outreach and publications in books) and the natural sciences (emphasis on international journal papers).
4. Summary

4.1 Strengths

- Subject areas are based on fundamental science but many also have strong societal relevance
- Bottom-up approach motivates individual researchers
- Good breadth of research subjects, with new programmes such as NRHU and CG introduced since KoF11
- Particularly with the additions from Gotland campus, social sciences have become important
- Good adaptation to significant changes associated with amalgamation in the 1990s and more recent reorganization and additions
- Good infrastructure; positive developments (e.g. rock physics, mobile sensors)
- PhD students and early career researchers demonstrate great research ethos, indicative of excellent research culture
- Ambitious publication culture
- Identification of a need for better communication within the Department; measures to improve the situation already reaping results
- Excellent outreach
- Good research-teaching linkages
- Promising start to the Blue Centre at Gotland

4.2 Weaknesses

- Insufficient promotion of departmental strengths – lack of an ‘aggressive’ Department policy
- Poor articulation of aims and goals at the Departmental level; lack of an action and implementation plan
- Regular performance reviews do not appear to be mandatory or associated with agreed objectives and targets
- Lack of systematic follow-up of careers of former students
- Presence in European programmes is not commensurate with status and quality of research (lack of sufficient team building)
- Limited interaction with industry in many programmes
- Dependence on bottom-up approach hinders strategic planning from Department leadership with limited scope for innovation
- Departmental forces insufficiently marshalled to exert influence at Faculty level on big projects
4.3 Recommendations
The panel recommends the following actions:

- Better definition of department goals, development of clear, department-wide plans; aggressive implementation of these goals (overcome your ‘Nordic reserve’; relax emphasis on bottom-up approach where necessary)
- Implementation and wide promotion of the ‘Plan’ presented by Section Dean within ‘Strategies for the Future’
- Every encouragement is provided to support efforts and imaginative solutions enabling the excellent infrastructure the Department has, or has access to, to be maintained and expanded
- Encouragement of submission of high-risk competitive proposals (e.g. H2020; ERC); implementation of support structure to facilitate preparation of these proposals
- Encouragement of more participation in university, national and international administrative and planning organisations
- Explore how to develop further and facilitate better interaction with industry and with SGU
- Put together multidisciplinary teams able to tackle big science questions, especially around issues of societal and economic relevance
- Extend examples of good practice promoting sense of community – e.g. Monday lunchtime LUVAL information-sharing/seminar event
- Explore formal multi-department undergraduate majors with the anticipation that joint research will follow (e.g. Stanford University’s Human-Biology and Computer Science joint majors)
- At Faculty level, assess the impact of structural changes that have taken place
- Establish a more nuanced workload model that recognizes valuable academic activity beyond teaching and research
1. Introductory remarks

This report describes the assessment of research quality and renewal conducted at three departments at Uppsala University, Faculty of Pharmacy (KoF17): Department of Medicinal Chemistry, Department of Pharmaceutical Biosciences, and Department of Pharmacy. The external assessment is based on the instructions “Quality and Renewal (Q&R17) at Uppsala University – instructions for evaluation panel, 15–19 May 2017”.

The panel appreciates the fact that the Uppsala University strategy 2016–2020 has a strong focus on Life and Health, which includes Science for Life Laboratory, the Life Science Cluster and EIT Health which are initiatives that are fully aligned with the activities of the Faculty of Pharmacy. This gives an excellent starting point for the continuation the high-level research activities and further development of the Faculty of Pharmacy as part of the overall strategic direction of Uppsala University. Currently, the University strategy uses the term Pharmaceutical Development and gives the impression that there would be a strong focus on applied research and product development rather than emphasis on basic research disciplines and fundamental research in the Pharmaceutical Sciences.

The panel finds the overall research quality of the three departments very good and acknowledges the Faculty of Pharmacy as an internationally leading and highly renowned pharmaceutical academic institution. The scientific output of the departments is high in terms of both the number of publications and their impact. The departments harbor a good range of infrastructures and core facilities. The panel judges the department’s relevance to and interaction with society as good and they provide scientific expertise to major societal questions related to health issues in general.

This report contains recommendations on how to maintain and further improve the processes for securing viability and research quality and renewal. The
interviews were mainly based on the self-evaluation report including bibliometric data from the department and covering the following themes.

- Recruitment
- Leadership
- Academic culture
- Infrastructure
- Funding
- Collaboration (cross border and interdisciplinarity)
- Publications (bibliometric analysis)
- Career structure and mobility
- Also, other issues including (i) how research integrity is secured, (ii) equality issues, and (iii) the physical and psychosocial work environment.

The committee met and interviewed:

- Heads, and Deputy Heads of department
- Senior research group leaders (2–3 from each department)
- Senior lecturers (2–3 from each department)
- Post-doc’s and young researchers (2–3 from each department)
- Ph.D. students (2–3 from each department)

The board of Uppsala University has appointed as members of the panel:

- Sven Frökjaer (chair). Professor in pharmaceutics, University of Copenhagen.
- Linda Pololi. Senior scientist, Brandeis University, Boston.
- Meindert Danhof. Professor in pharmacology. Leiden University.
- Niklas Sandler. Professor in pharmaceutical technology. Åbo Akademi.
- Anna Tsantili-Kakoulidou. Professor in pharmaceutical chemistry. University of Athens.
- Shirley Price. Professor in toxicopathology. University of Surrey. (absent at the site visit)
- Katarina Nordqvist. Associate Professor and Senior lecturer in medical innovation, Karolinska Institute, Stockholm.

* The head of departments selected the persons to be interviewed.
1. Background

The Department of Medicinal Chemistry is divided into four divisions, which differ in size and in research orientations. The four Divisions are: Analytical Pharmaceutical Chemistry, Pharmacognosy, Organic Pharmaceutical Chemistry and Molecular Imaging. The Department also houses three platforms: the Science for Life Laboratory Drug Discovery and Development (SciLifeLab DDD) facility for Medicinal Chemistry – Lead Identification, The Preclinical PET/MRI platform (PPP) and ENABLE for research and education in pharmaceutical chemistry and medical imaging. The department is presently looking into a possible reorganization removing the Divisions and exchanging them for Research groups.

The overall goal of the Department is to develop chemistry and methodologies for early drug discovery and development, and to develop the Department as a leading institution for research and education in pharmaceutical chemistry and medical imaging. The aim is to produce and communicate research of highest international standard within the broad field of medicinal chemistry, comprising analytical chemistry, computer aided drug design, molecular imaging, medicinal/organic chemistry, and pharmacognosy.

The five main positions of formal responsibility in the department are the head (presently Curt Pettersson), the director of graduate studies (Anders Backlund) and directors of undergraduate and master’s studies (Anja Sandström, Ulrika Rosenström, Christina Wedén and Curt Pettersson).

At present the Board of the Medicinal Chemistry has the following members:

- Curt Pettersson, chairman and head of Department
- Sandra Bratt, technical/administrative
- Birgitta Hellsing, technical/administrative, deputy
- Mats Larhed, teacher representative
- Ulf Goransson, teacher representative
- Anja Sandstrom, teacher representative
- Jakob Haglof, teacher representative, deputy
- Jonas Rydfjord, graduate student representative
- Rebecka Isaksson, graduate student representative, deputy
- Anna Joo, undergraduate student representative
- Tobias Haugmo, undergraduate student representative, deputy
2. Observations and analysis

Although the department is an outstanding, high quality institution, we observed that the self-evaluation report was written in a critical way, recognizing mainly problems in department organization and recruitment. This expresses a definite wish for further improvement and optimization of performance.

The organization of the department was maintained since 1993, with divisions based on the old departments that merged in that time. A new organization is proposed with 4 blocks: research groups instead of divisions (it is already the case in the two other departments of the faculty); platforms; education and administration. The research strategy is to combine and apply expertise in chemistry biology and medicine. New research areas are proposed such as the development of biomarker discovery, metabolomics, chemical probes for diagnosis and therapy, biologics.

The new organization will permit to be more efficient, especially in terms of administrative tasks to better equilibrate the financial resources and it will promote interaction between the research groups.

The panel suggests that the department should be encouraged to perform this re-organization and harmonize with the other two departments.

2.1 Recruitment

The recruitment of new research leaders should be tailored to new prioritized research direction(s).

The panel emphasizes that new faculty positions should be developed in an open discussion in the department and in consultation with an external advisory board. A standard approach/procedure for recruitment of faculty seems not to be in place. We note a propensity for internal recruitment and promotion. Standard procedures should include gender balanced search committees with international representation. In the final selection, a representation of male and female candidates should be included.

Currently the process of appointment of academic staff is much too slow and should be expedited. Implementation of a pre-selection of top candidates could contribute to solving this problem.

The recruitment of senior teachers by external procedure according to the guidelines of the Uppsala University, despite certain advantages, may end in a final selection of candidates out of control from the department, thus it did not enable the employment of a new senior lecturer in the Department of Medicinal Chemistry, in the area of biologics as expected.

There are current recruitments in the department in the area of analytical pharmaceutical chemistry, radiopharmaceutical chemistry and organic pharmaceutical chemistry. The recruitment of a professor and a Senior lecturer in Analytical Pharmaceutical Chemistry is under way. Their appointment in the
department would strengthen the research area of metabolomics, which is under development.

The panel recommends the development and implementation of a “tenure track” supervision and evaluation program for young promising faculty members.

2.2 Leadership

As stated in KoF11, the review panel similarly proposes two options for consideration: “realignment of research groups in a more coherent manner, to support the mission of the three current departments” or “the Faculty may consider it advantageous to eliminate all department boundaries to foster higher level and multidisciplinary research outcomes”.

In fact, the self-evaluation report of the Department of Medicinal Chemistry also recognized the abundance of small (scattered) research groups, which can affect the economy and the success of the department. In the proposed re-organization, it is a goal to reduce the number of such small research groups permitting a better visibility of the department and strengthening future research funding, in agreement with the previous KoF11 statement.

The panel recommends that part of the funding should be kept by the Head of the department to start or to develop new research and teaching activities. The channel between the Head of the department down to the senior lecturers, post-docs, PhD students should be strengthened to optimize collaboration between research groups and create a follow up in regard to the performance of the department.

The department should take advantage of the high quality platforms to establish more systematically external contracts which would be of benefit in terms of both research and co-funding. One possibility would be to organize life-long learning or intensive short courses on these platforms, which would promote relationships for further collaborations with industry and SMEs and increase the external financing.

A major concern is that the research groups within the department function and work more or less in isolation from each other. This results in barriers to cross-research collaboration at both the intellectual and practical levels. The isolation also fails to provide any personal support for the leaders of the independent research groups, and is a barrier to potential collaboration and the formation of a learning community for the more junior people. This sub-optimal “silo” arrangement could be dealt with by a more strategic plan to organize and structure the working of the department as a whole preventing the development toward a “hotel for research groups”. The research groups typically have very strong leaders, with great influence within their respective research domains. However, in many cases there is limited interaction between the group leaders. There appear to be no formal senior faculty meetings to allow discussion on strategic direction, al-
though strategic issues are regularly discussed at the Faculty level (Farmaceutiska kommittén). There is limited discussion on research in the board meeting.

The department needs strategic direction, with identification of priorities (that would take into consideration the wishes of the current faculty members) and resources allocated accordingly. The sustainability of excellence and relevance in research is dependent on such a structure. The current structure presents barriers to collaboration and interdisciplinary work. All levels of leadership appeared to be isolated and without a strong peer group with whom to think, be encouraged and be supported. Although there was mention of the need to set up structures for collaboration across research groups, effective strategies for this were not articulated.

It would appear that the head of the department is not sufficiently facilitated by and receives very little support from higher levels in the organization. Also, there are very few incentives to become head of the department and to reshape the organizational structure. The panel recommends developing career incentives to chair a department. Heads of departments should find rewards in the opportunity to build or mold a department, and its directions and priorities, in terms of what is most meaningful. The panel did hear this aspiration from more junior faculty members.

The panel also noticed that a substantial time for the Head of the department was allocated to administrative duties. The administrative procedures should be evaluated to find more efficient processes and a recommendation is to invest in administrative support/management. This would increase the time for the Head to focus on academic leadership and strategic development of the department.

The review panel believes there is a need for increased attention to and prioritization of time devoted to the human needs of faculty members and students, to cross-cultural issues, and to the opportunity for cross-research groups, intra-departmental and inter-departmental collaboration through structured meetings and a facilitated process. Developing a process to ensure face to face time between people within the department should result in relationship formation and more collaborative approaches to change.

The panel recommends that the department should convene an external advisory board.

2.3 Academic culture

The panel explored various aspects of the academic culture in the department. The atmosphere and research environment were in general perceived as collegial.

Within the department as a whole there is a positive attitude towards research ethics and scientific conduct. There are obligatory courses in research conduct for PhD students and their supervisors, which is highly commended. However, the introduction of electronic notebooks, and procedures for data-management and
reporting have not yet been fully implemented. These initiatives are crucial for securing the quality of research.

There are deep concerns about the ever increasing teaching load and the consequent imbalance between teaching and research at several levels of the organization. Moreover, there appears to be an imbalance in the teaching load between research groups and between individual faculty members, which is perceived by many as unfair. In particular the early career academic staff reported teaching responsibilities that impaired their research activities, whereas some senior professors participate minimally in the teaching. The panel recommends that the head of the department ensures that faculty members assume responsibility for their teaching duties and that there is an equitable distribution of teaching. The panel suggests the senior professor to take a larger responsibility, to support junior faculty to get time to make a scientific career.

We perceived a marked difference in vitality between the senior leadership at the departmental level and the early career faculty members. Some senior faculty members appeared less enthusiastic about their professional roles and responsibilities, whereas the young faculty expressed dedication and eagerness for their research and their educational tasks.

Departmental leadership felt highly supported by the Dean. However, the departmental leadership expressed low confidence in their ability to succeed optimally in their leadership role, whereas research group leaders seemed satisfied in their roles, and some of the younger researchers expressed high degrees of confidence.

Some doctoral students perceived a low level of departmental support, apart from their relationship with their individual supervisors. The panel noted a lack of positive relationships between departmental leaders, which contributes to their sense of isolation. In contrast, we perceived positive and supportive relationships among senior lecturers, postdocs and PhD students.

Doctoral students reported seeking scientific discourse within and across the departments, but felt discouraged that these efforts were not supported at the departmental level. Some doctoral students appeared to feel “lonely”. To help address the widespread sense of isolation, we strongly recommend the implementation of structures and processes to support relationship formation among individuals at all levels in the department. The review panel believes that there is a need for increased attention to and prioritization of time devoted to the human needs of faculty members and students. Developing a process to ensure face to face time between people within the department should result in relationship formation and more collaborative approach to science and to change.

One strategy to support this priority would be the introduction of mentoring for all levels of academic staff. This could be introduced in a peer group format or through one-to-one mentoring. The peer group mentoring may be more reliably
successful. The review panel observed no evidence of adequate mentoring at any level.

Difficulties was expressed in hiring pharmacy students for PhD positions. This issue should be addressed by the department to identify the potential reasons: environment for PhD students, visibility of the department within the Faculty, educational skills of the students, curriculum etc.

The panel recognizes the participation of PhD students in international scientific events, which contributes to the quality and visibility of the department worldwide.

More efficient channels should be created so that information reaches all faculty members, PhD students and post-docs in regard to the facilities available in the department and the platforms, since it seems that not all members are aware.

There was a disparity in the responses of female and male respondents on the Q&R survey. Female responses are generally less positive in terms of career guidance, perception of a stimulating environment, and aspirations for gender equity. In the department of Medicinal Chemistry there is striking paucity of female professors. However, senior lecturers, a position with high educational activities, are mostly women. Although senior researchers perceived younger women scientists "fearful" about taking professional risks, the review panel was very impressed by the determination and vitality of the younger female scientists across the departments. There was no female representation at the department chair or deputy department chair levels. In the interviews there was consensus about the benefits of women in leadership roles. The panel recommends that more attention is paid to appointing women to senior and leadership positions. It is recognized that the department puts effort to invite prominent female researchers in the organized seminars.

The panel recommends training in reflecting on and managing cross-cultural issues (and potential discrimination) as the diversity of the students and faculty increases.

2.4 Infrastructure
The Department of Medicinal Chemistry is very well equipped while it possesses well equipped platforms. Several researchers and technicians are associated to these platforms. The great advantage is that members of the department can have access to the equipment and benefit from the experience and skills of the researchers and technicians. The department should further optimize ‘core’ services of the platforms as already mentioned above (see leadership).

In addition, due to its strong collaborations, the department has access to expensive equipment through adjunct members in industry and national institutions.
The IT structure and support at the level of Department and Faculty is perceived as insufficient.

2.5 Funding
Compared to international standards, the departments are relatively well funded. Nevertheless, several interviewees expressed concerns with regard to funding due to increasing difficulties in obtaining grants (research councils and industry). Numerous interviewees indicated that their funding situation jeopardizes a long-term perspective in research.

The only direct source of income from the university appears to be the block grants to professors with an “assignment”. Apart from a small overhead, these funds are directly channeled to the principal investigator in each research group.

There appears to be little or no funding strategy at the departmental level. At present no budget has been allocated to support the development of new research directions at the departmental level, as part of strategic initiatives. Reducing of the number of small research groups in the Department of Medicinal Chemistry, as suggested, would permit to create a centralization strategy for external funding of the department. In addition, the review panel recommends that a significant portion of the block grants from the university be reserved to fund junior researchers and for bridge funding. Such a strategy has been suggested also from the part of the Department in the self-evaluation report and could be realized by the implementation of a reference team of successful senior researchers for supporting junior researchers.

2.6 Collaboration
A lot of collaborations exist with other departments from Uppsala University, other Universities and industry nationally and internationally allowing an interdisciplinary expertise. There is an excellent network established by the department.

We observed a certain lack of planning to organize and structure the working of the department as a whole rather than as a “hotel for research groups”. The department needs strategic direction, with identification of priorities (that would take into consideration the wishes of the current faculty members) and resources allocated accordingly. The sustainability of excellence and relevance in research is dependent on such a structure. The current structure presents barriers to collaboration and interdisciplinary work.

Through the organizational structure of the department in several more or less autonomous research groups, there is the risk of fragmentation. The opportunities for joint research projects and the application of joint grant applications are not fully exploited.
However it should be mentioned that collaboration between the research groups inside the department has to be strengthened, although we noted a positive tendency towards this direction, partly through the housing of shared equipment. The new organization of the department may also contribute to better interdepartmental collaboration.

In the effort to increase collaboration, it is overly optimistic to assume that organizing “research days” twice per year would solve the problem of fragmentation in research. Two simple and straightforward activities to enhance scientific collaboration would be the organization of regularly scheduled faculty days with focus on research topics and similarly, project review days.

2.7 Publications (bibliometric analysis)

The reviewers noticed that the department has a stable record of high impact scientific publications in leading international journals and in the average of the faculty.

The panel recommends adopting publication strategy for optimization of publication towards success in acquisition of research grants and international rankings.

In order to increase the societal impact, it is suggested to develop a publication strategy in relation to popularization of research supported by communication experts at the university or the domain level.

2.8 Career structure and mobility

There is a need for attention to individual personal and professional guidance for department faculty, especially at the mid-career and senior level. Consideration of factors that contribute to faculty vitality, thereby supporting their best work, is recommended. (Vitality is predicted by relationship formation, sense of belonging, perceptions of institutional support, values alignment and work-life integration).

The panel recognizes the education of PhD students as an investment in the creation of a new generation of scientists, and as such a deliverable, in addition to scientific publications.

By nature, the study for the PhD degree is highly individualized. As a result students typically work in a one-to-one relationship with their daily supervisor. This complicates the monitoring of the progress and the transparency of the evaluation. To overcome these limitations, the review panel recommends the implementation of a formal supervision and evaluation program for PhD students.

Analogous to the formalized supervision and evaluation program for PhD students, a similar program should be developed for postdocs.

The panel recommends the establishment of a career path for junior faculty members with clear objective criteria for tenure and promotion. The career paths
for researchers into a pedagogical *versus* a research direction are unclear. When hiring a researcher for 70% teaching or more, it should also be stressed that these persons go into a pedagogic career path, with the option to make some research but with few possibilities to make a scientific career unless they can get substantial funding.

It is alarming that the vast majority of the senior academic staff does not engage in annual performance and development interviews. The panel recommends the immediate implementation of a process to provide feedback to enhance performance as well as an annual appraisal for all academic staff.

Despite the numerous collaborations and the excellent network established by the Department the mobility of the academic staff to work to other environments is rather low. In the context of “Quality & Renewal” the panel recommends that the department and the Faculty develop a strategy that encourages mobility and internationalization at all levels of academic staff.

### 3. Summary

#### 3.1 Strengths

- Faculty of Pharmacy is an internationally leading and highly renowned pharmaceutical academic institution
- Faculty of Pharmacy covers the important disciplines from drug target identification to drug usage
- Faculty of Pharmacy is an integrated part of full-scale university offering possibilities for highly interdisciplinary research addressing the most challenging questions in pharmaceutical sciences
- Faculty of Pharmacy has a long-standing tradition for collaboration with external stakeholders including the pharmacy sector and the pharmaceutical and biotech industry
- Faculty of Pharmacy is successful partnering in major national and international research consortia
- Faculty of Pharmacy has in general a state-of-the-art infrastructure
- The academic culture and research environment has a good overall collegial atmosphere

#### 3.2 Weaknesses

- The organization of the Faculty of Pharmacy as well as the departmental level is sub-optimal for taking major strategic initiatives
- The organizational structure only gives the Dean a limited formal influence
• The internal collaboration and interaction between the three departments and the research groups/divisions is limited
• Recruitment talent at a senior level from abroad seems limited
• The time to recruit academic staff at the senior level is too long and may reduce recruitment potential
• The academic staff has significant teaching obligations which are distributed unequal between individuals and different staff categories
• The distribution of block grants leaves little opportunity for strategic initiatives
• Lack of personal and professional mentoring of the academic staff
• Inadequate attention to gender equity

3.3 Recommendations
• Change the organizational structure so that Heads of Department report directly to the Dean
• Initiate a strategic planning process to identify and prioritize future research foci
• Establish a process to ensure an excellent and sustainable research environment
• Enhance the performance of the different research groups/research areas across the departments by re-organizing the departmental structure and merging departments/different research groups/research areas to harvest research synergies
• Implement tenure track system for faculty with clear tenure and promotion criteria
• Shorten recruitment process for senior academic staff
• Establish a formal process to secure gender equity
• Faculty of Pharmacy to implement a formal career mentoring system for junior and senior academic staff
• Heads of Department to secure financial resources for more long-term strategic initiatives
• Departments and the Faculty of Pharmacy to further develop platforms for collaboration and cross fertilization in research
• Implement a clear process to follow up on the progress of changes that the department and or faculty decides to initiate
4. Reflections on the similarities and differences between evaluation units within the panel – what to learn from each other?

The three departments at the Faculty of Pharmacy are organized and managed in a rather similar manner and facing the same overall challenges regarding both research quality and research renewal. These challenges seem to be dealt with in more or less the same way.
Department of Pharmaceutical Biosciences

1. Background

The Department of Pharmaceutical Biosciences is organized in the following research groups (some of them with subgroups):

- Drug Safety and Toxicity (led by professor Eva Brittebo)
- Medical Mass Spectrometry (led by professor Per Andrén)
- Molecular Neuropharmacology (led by professor Robert Fredriksson)
  - Biochemical Pharmacology (led by senior professor Ernst Oliw)
- Neuropharmacology and Biological Research on Addiction (led by professor Ingrid Nylander)
  - Neuropharmacology, Addiction and Behaviour (led by professor Ingrid Nylander)
  - Biological Research on Drug Dependence (led by professor Mathias Hallberg)
  - Molecular Neuropsychopharmacology (led by senior professor Georgy Bakalkin)
  - Pharmaceutical Bioinformatics (led by senior lecturer Ola Spjuth)
- Pharmaceutical Cell Biology (led by professor Ola Söderberg)
  - Steroid Biochemistry (led by senior lecturer Maria Norlin)
- Pharmacometrics (led by professor Mats Karlsson)
- Translational Pharmacokinetics/Pharmacodynamics (led by professor Margareta Hammarlund Udenaes)

The Head of the Department is professor Björn Hellman. Deputy Head is professor Mats Karlsson. The most important decisions are taken by the Board which, like the Head, is re-elected every third year.

At present the Board of the Pharmaceutical Biosciences has the following members:

- Björn Hellman, professor, chairman and head of department
- Mats Karlsson professor, deputy head and teacher representative
- Margareta Hammarlund-Udenaes, professor, teacher representative, deputy
- Eva Brittebo, professor, teacher representative
- Siv Jönsson, researcher, teacher representative
- Maria Swartling, junior lecturer, teacher representative
• Ola Spjuth, senior lecturer, teacher representative
• Maria Kjellsson, senior lecturer, teacher representative, deputy
• Marina Rönn gren, administrative coordinator, technical/administrative representative
• Magnus Efverström, technician, technical/administrative representative
• Karin Tjäder, course administrator, technical/administrative representative, deputy
• Erik Nylander, PhD student, graduate student representative, deputy
• Ida Netterberg, PhD student, graduate student representative
• Emelie De Geer, undergraduate student representative
• Linnea Kosir, undergraduate student representative, deputy
• Martin Grentzelius, economical coordinator, adjunct
• Sigrid Engström, secretary, adjunct

The research areas at the Department of Pharmaceutical Biosciences cover several areas, including research on basic mechanisms of drug action, drug dependency and adverse health effects, as well as studies on pharmacokinetics and pharmacodynamics. In addition, there is also a significant focus on pharmaceutical bioinformatics and proteomics, as well as pharmacometric modelling and simulation used in drug development.

2. Observations and analysis

2.1 Recruitment

The recruitment of new research leaders should be tailored to new prioritized research direction(s). A significant number of senior faculty members will retire in the next few years, allowing strategic decisions on the direction of the research program. This opportunity for transformative change was previously identified in the KoF11 evaluation: “a strategic and major opportunity for renewal will occur in the next future as 7 of 13 professors will retire by 2016”.

The panel emphasizes that new faculty positions should be developed in an open discussion in the department and in consultation with an external advisory board. A standard approach/procedure for recruitment of faculty seems not to be in place. We note a propensity for internal recruitment and promotion. Standard procedures should include gender balanced search committees with international representation. In the final selection, a representation of male and female candidates should be included.

Currently the process of appointment of academic staff is much too slow and should be expedited. Implementation of a preselection of top candidates could contribute to solving this problem.
The panel recommends the development and implementation of a “tenure track” supervision and evaluation program for young promising faculty members. It is noted that the department has recently been responsible for three assistant lectures who will be enrolled in “tenure track” type positions.

2.2 Leadership

In the past, the department was rearranged from divisions into research groups. In the self-evaluation it is mentioned that this has worked reasonably well. The positioning of the research groups in the department does not always seem logical. In this overall structure, a number of smaller subgroups has emerged that are not self-sustainable. As was stated in KoF11, the review panel similarly proposes two options for consideration: “realignment of research groups in a more coherent manner, to support the mission of the three current departments” or “the Faculty may consider it advantageous to eliminate all department boundaries to foster higher level and multidisciplinary research outcomes”.

A major concern is that the research groups within the department function and work more or less in isolation from each other. This results in barriers to cross-research collaboration at both the intellectual and practical levels. The isolation also fails to provide personal support for the leaders of the independent research groups, and is a barrier to potential collaboration and the formation of a learning community for the more junior people. This sub-optimal “silo” arrangement could be dealt with by a more strategic plan to organize and structure the working of the department as a whole preventing the development toward a “hotel for research groups”. The research groups typically have very strong leaders, with great influence within their respective research domains. However, in many cases there is limited interaction between the group leaders. There appear to be no formal senior faculty meetings to allow discussion on strategic direction, although strategic issues are regularly discussed at the Faculty level (Farmaceutiska kommitten). There is limited discussion on research in the board meeting.

The department needs strategic direction, with identification of priorities (that would take into consideration the wishes of the current faculty members) and resources allocated accordingly. The sustainability of excellence and relevance in research is dependent on such a structure. The current structure presents barriers to collaboration and interdisciplinary work. All levels of leadership appeared to be isolated and without a strong peer group with whom to think, be encouraged and be supported. Although there was mention of the need to set up structures for collaboration across research groups, effective strategies for this were not articulated.

It would appear that the head of the department is not sufficiently facilitated by and receives very little support from higher levels in the organization. Also, there are very few incentives to become head of the department and to reshape
the organizational structure. The panel recommends developing career incentives to chair a department. Heads of departments should find rewards in the opportunity to build or mold a department, and its directions and priorities, in terms of what is most meaningful. The panel did hear this aspiration from more junior faculty members.

The panel also noticed that a substantial time for the Head of the department was allocated to administrative duties. The administrative procedures should be evaluated to find more efficient processes and a recommendation is to invest in administrative support/management. This would increase the time for the Head to focus on academic leadership and strategic development of the department.

The review panel believes there is a need for increased attention to and prioritization of time devoted to the human needs of faculty members and students, to cross-cultural issues, and to the opportunity for cross-research groups, intra-departmental and inter-departmental collaboration through structured meetings and a facilitated process. Developing a process to ensure face to face time between people within the department should result in relationship formation and more collaborative approaches to change.

The panel recommends that the department should convene an external advisory board.

2.3 Academic culture

The panel explored various aspects of the academic culture in the department. The atmosphere and research environment were in general perceived as collegial.

Within the department as a whole there is a positive attitude towards research ethics and scientific conduct. There are obligatory courses in research conduct for PhD students and their supervisors, which is highly commended. However, the introduction of electronic notebooks, and procedures for data-management and reporting have not yet been fully implemented. These initiatives are crucial for securing the quality of research.

There are deep concerns about the ever-increasing teaching load and the consequent imbalance between teaching and research at several levels of the organization. Moreover, there appears to be an imbalance in the teaching load between research groups and between individual faculty members, which is perceived by many as unfair. In particular, the early career academic staff reported teaching responsibilities that impaired their research activities, whereas some senior professors participate minimally in the teaching. The panel recommends that the head of the department ensures that faculty members assume responsibility for their teaching duties and that there is an equitable distribution of teaching. The panel suggest the senior professor to take a larger responsibility, to support junior faculty to get time to make a scientific career.
We perceived a marked difference in vitality between the senior leadership at the departmental level and the early career faculty members. Some senior faculty members appeared less enthusiastic about their professional roles and responsibilities, whereas the young faculty expressed dedication and eagerness for their research and their educational tasks.

Departmental leadership felt highly supported by the Dean. However, the departmental leadership expressed low confidence in their ability to succeed optimally in their leadership role, whereas research group leaders seemed satisfied in their roles, and some of the younger researchers expressed high degrees of confidence.

Some doctoral students perceived a low level of departmental support, apart from their relationship with their individual supervisors. The panel noted a lack of positive relationships between departmental leaders, which contributes to their sense of isolation. In contrast we perceived positive and supportive relationships among senior lecturers, postdocs and PhD students.

Research groups, even within the same department, to a high degree seemed to be isolated from each other. There seems to be little communication between research groups across departments. Doctoral students reported seeking scientific discourse within and across the departments, but felt discouraged that these efforts were not supported at the departmental level. Some doctoral students appeared to feel “lonely”. To help address the widespread sense of isolation, we strongly recommend the implementation of structures and processes to support relationship formation among individuals at all levels in the department. The review panel believes that there is a need for increased attention to and prioritization of time devoted to the human needs of faculty members and students. Developing a process to ensure face to face time between people within the department should result in relationship formation and more collaborative approach to science and to change.

One strategy to support this priority would be the introduction of mentoring for all levels of academic staff. This could be introduced in a peer group format or through one-to-one mentoring. The peer group mentoring may be more reliably successful. The review panel observed no evidence of adequate mentoring at any level.

There was a disparity in the responses of female and male respondents on the Q&R survey. Female responses are generally less positive in terms of career guidance, perception of a stimulating environment, and aspirations for gender equity. In the Pharmaceutical Biosciences department, we note equal representation of men and women at the professor level. However only 50% of female survey respondents, reported adequate aspirations for gender equity within the department. In the departments of Pharmacy and Medicinal Chemistry there was striking paucity of female professors. Senior lecturers were mostly women.
Although senior researchers perceived younger women scientists “fearful” about taking professional risks, the review panel were very impressed by the determination and vitality of the younger female scientists across the departments.

There was no female representation at the department chair or deputy department chair levels. In the interviews, there was consensus about the benefits of women in leadership roles. The panel recommends that more attention is paid to appointing women to senior and leadership positions. There was a good balance between women and men at the department, with the possibility of having a woman and a man as head and deputy head of the Department.

The panel recommends training in reflecting on and managing cross-cultural issues (and potential discrimination) as the diversity of the students and faculty increases.

The Head of department had monitored the department environment and culture through an employee survey index in 2014. The panel acknowledges this activity and recommend the leadership to use the results, on an aggregated level, to further develop the department as an excellent and sustainable research environment.

2.4 Infrastructure
The department seems well equipped with state-of-the-art infrastructure. The investment in common equipment and core facilities have had a positive effect on collaborations and should be further developed.

2.5 Funding
Compared to international standards, the departments are relatively well funded. Nevertheless, several interviewees expressed concerns with regard to funding due to increasing difficulties in obtaining grants (research councils and industry). Numerous interviewees indicated that their funding situation jeopardizes a long-term perspective in research.

The only direct source of income from the university appears to be the block grants to professors with an “assignment”. Apart from a small overhead, these funds are directly channeled to the principal investigator in each research group.

There appears to be little or no funding strategy at the departmental level. At present no budget has been allocated to support the development of new research directions at the departmental level, as part of strategic initiatives. In addition to funding this need, the review panel recommends that a significant portion of the block grants from the university be reserved to fund junior researchers and for bridge funding.
2.6 Collaboration
A lot of collaborations exist with other departments from Uppsala University, other Universities and industry nationally and internationally allowing an interdisciplinary expertise. There is an excellent network established by the department.

We observed a certain lack of planning to organize and structure the working of the department as a whole rather than as a “hotel for research groups”. The department needs strategic direction, with identification of priorities (that would take into consideration the wishes of the current faculty members) and resources allocated accordingly. The sustainability of excellence and relevance in research is dependent on such a structure. The current structure presents barriers to collaboration and interdisciplinary work.

Through the organizational structure of the department in several more or less autonomous research groups, there is the risk of fragmentation. The opportunities for joint research projects and the application of joint grant applications are not fully exploited.

We noted a positive tendency towards increasing collaboration between the groups, partly through the housing of shared equipment. In recent years, the departments have been successful in the acquisition of a number of high profile infrastructures.

In the effort to increase collaboration, it is overly optimistic to assume that organizing “research days” twice per year would solve the problem of fragmentation in research. Two simple and straightforward activities to enhance scientific collaboration would be the organization of regularly scheduled faculty days with focus on research topics and similarly, project review days.

2.7 Publications (bibliometric analysis)
The reviewers noticed that the department has a stable record of high impact scientific publications in leading international journals.

The panel recommends adopting publication strategy for optimization of publication towards success in acquisition of research grants and international rankings.

In order to increase the societal impact, it is suggested to develop a publication strategy in relation to popularization of research supported by communication experts at the university or the domain level.

2.8 Career structure and mobility
There is a need for attention to individual personal and professional guidance for department faculty, especially at the mid-career and senior level. Consideration of factors that contribute to faculty vitality, thereby supporting their best work, is recommended. (Vitality is predicted by relationship formation, sense of
belonging, perceptions of institutional support, values alignment and work-life integration).

The panel recognizes the education of PhD students as an investment in the creation of a new generation of scientists, and as such a deliverable, in addition to scientific publications.

By nature, the study for the PhD degree is highly individualized. As a result, students typically work in a one-to-one relationship with their daily supervisor. This complicates the monitoring of the progress and the transparency of the evaluation. To overcome these limitations, the review panel recommends the implementation of a formal supervision and evaluation program for PhD students.

Analogous to the formalized supervision and evaluation program for PhD students, a similar program should be developed for postdocs.

The panel recommends the establishment of a career path for junior faculty members with clear objective criteria for tenure and promotion. The career paths for researchers into a pedagogical versus a research direction are unclear. When hiring a researcher for 70% teaching or more, it should also be stressed that these persons go into a pedagogic career path, with the option to make some research but with few possibilities to make a scientific career unless they can get substantial funding.

It is alarming that the vast majority of the senior academic staff does not engage in annual performance and development interviews. The panel recommends the immediate implementation of a process to provide feedback to enhance performance as well as an annual appraisal for all academic staff.

In the context of "Quality & Renewal" the panel recommends that the Faculty develops a strategy that encourages mobility and internationalization at all levels of academic staff.

3. Summary
3.1 Strengths

- Faculty of Pharmacy is an internationally leading and highly renowned pharmaceutical academic institution
- Faculty of Pharmacy covers the important disciplines from drug target identification to drug usage
- Faculty of Pharmacy is an integrated part of full-scale university offering possibilities for highly interdisciplinary research addressing the most challenging questions in pharmaceutical sciences
- Faculty of Pharmacy has a long-standing tradition for collaboration with external stakeholders including the pharmacy sector and the pharmaceutical and biotech industry
• Faculty of Pharmacy is successful partnering in major national and international research consortia
• Faculty of Pharmacy has in general a state-of-the-art infrastructure
• The academic culture and research environment was perceived as permissive with a good overall collegial atmosphere

3.2 Weaknesses
• The organization of the Faculty of Pharmacy as well as the departmental level is sub-optimal for taking major strategic initiatives
• The organizational structure gives the Dean limited authority
• The internal collaboration and interaction between the three departments and the research groups/divisions is limited
• Recruitment of talent at a senior level from abroad seems limited
• The time to recruit academic staff at the senior level is too long and reduces the recruitment potential
• The academic staff has significant teaching obligations that are distributed unequally between individuals and different staff categories
• The present distribution of block grants leaves little opportunity for strategic initiatives
• Lack of personal and professional mentoring of the academic staff
• Inadequate attention to gender equity

3.3 Recommendations
• Change the organizational structure so that Heads of Department report directly to the Dean
• Initiate a strategic planning process to identify and prioritize future research foci
• Establish a process to ensure an excellent and sustainable research environment
• Enhance the performance of the different research groups/research areas across the departments by re-organizing the departmental structure and merging departments/different research groups/research areas to harvest research synergies
• Implement tenure track system for faculty with clear tenure and promotion criteria
• Shorten recruitment process for senior academic staff
• Establish a formal process to secure gender equity
• Faculty of Pharmacy to implement a formal career mentoring system for junior and senior academic staff
• Heads of Department to secure financial resources for more long-term strategic initiatives
• Departments and the Faculty of Pharmacy to further develop platforms for collaboration and cross fertilization in research
• Implement a clear process to follow up on the progress of changes that the department and or faculty decides to initiate

4. Reflections on the similarities and differences between evaluation units within the panel – what to learn from each other?

The three departments at the Faculty of Pharmacy are organized and managed in a rather similar manner and facing the same overall challenges regarding both research quality and research renewal. These challenges seem to be dealt with in more or less the same way.
Department of Pharmacy

1. Background

The aspiration of the Department of Pharmacy is “to contribute to improved healthcare delivering original research that can be translated into better medicines that can be used more effectively”. The statement itself indicates a strive for timely research where new thinking (constant renewal) and new solutions for better treatments are needed.

The research performed at the department is centered around three different aspects of pharmaceutical products, i.e.
1. Drug optimization
2. Drug delivery and pharmaceutical formulation
3. Rational drug usage

Within this overall frame, research is performed by six research groups:

- Biopharmaceutics studies the interaction between drugs and biological processes, e.g., membrane transport and metabolism, and develops new concept formulations for drug delivery.
- Drug Delivery studies absorption, distribution, transport, and metabolism, as well as drug delivery, and develops new in vitro and computer models for predictions of ADMET properties of drugs.
- Pharmacy Practice and Policy focuses on societal aspects of pharmaceuticals and pharmacists, e.g., patient safety, the role of pharmacists, and communication issues related to the use of drugs. (currently focus on teaching)
- Pharmaceutical Physical Chemistry develops design principles for pharmaceutically relevant systems at a molecular and colloidal scale.
- Pharmaceutics studies pharmaceutical formulation and manufacturing.
- Pharmacoepidemiology and Pharmacoeconomics studies the causes and effects (clinical as well as social and economic) of the use of pharmaceuticals from a population perspective.
2. Observations and analysis

Initially it has to be stated that the Department of Pharmacy is a highly recognized group in pharmaceutical sciences. The self-evaluation report covers the KoF17 topics in a clear and descriptive manner. However, the panel found that the report could have been more comprehensive with a more thorough reflection on strengths and weaknesses. The response rate for the Research environment questionnaire among staff was very good (79%). The overall response in the survey indicates that the Department of Pharmacy most of the scores are around average. However, the panel noticed that regarding discussion climate and collegial climate, academic leadership scored lower.

Organization:

- Head of department Erik Björk
- Deputy Head of department Per Artursson

Department board:

- Erik Björk, chairman
- Göran Alderborn, teacher representative
- Per Hansson, teacher representative
- Christel Bergström, teacher representative
- Josefina Nordström, teacher representative
- Richard Svensson, representative for technical/administrative personnel
- Johanna Eriksson, graduate student representative
- Lina Nyström, graduate student representative
- Karin Ademar, student representative
- Per Artursson, teacher representative, deputy
- Denny Mahlin, teacher representative, deputy
- Johan Gräsjö, representative for technical/administrative personnel, deputy
- Jonas Rudén, graduate student representative, deputy
- Heléne Lyngå, secretary
- Pernilla Larsson, secretary, deputy

Director of graduate studies:

- Göran Frenning

Directors of undergraduate studies:

- Charlotta Alvarmo, Magnus Bergström, Kerstin Bingefors, Josefina Nordström
Below we describe the challenges/topics/issues that were discussed during the interviews – mainly based on the self-evaluation including bibliometric data from the department.

2.1 Recruitment
The recruitment of new research leaders should be tailored to new prioritized research direction(s). When senior faculty members will retire this will allow for strategic decisions on the direction of the research program. This opportunity for transformative change was previously identified in the KoF11 evaluation: “a strategic and major opportunity for renewal”.

The panel emphasizes that new faculty positions should be developed in an open discussion in the department and in consultation with an external advisory board. A standard approach/procedure for recruitment of faculty seems not to be in place. We note a propensity for internal recruitment and promotion. Standard procedures should include gender balanced search committees with international representation. In the final selection, a representation of male and female candidates should be included.

Currently the process of appointment of academic staff is much too slow and should be expedited. Implementation of a preselection of top candidates could contribute to solving this problem.

The panel recommends the development and implementation of a “tenure track” supervision and evaluation program for young promising faculty members.

The Department has identified that both teaching and research expertise are important assessment criteria in the recruitment of staff as the department is strongly involved in both teaching and research. For research scientists and PhD students recruitments are based predominantly on scientific merits.

As the ambition is to attract as skilful and promising personnel as possible, the department uses announcing, scouting through its networks and information towards our students as the main recruitment tools. It is somewhat unclear how directed the scouting is and how much effort it is put to this. In line with the general recommendations to attract best talent internationally, the department might benefit from more efforts in using international channels and directed scouting/networks to attract staff from other environments to enhance renewal of the research.

The department indicates that in longer perspective a change from where and what background recruitments are made. The tendency has been moving to more diverse scientific backgrounds and competencies in recruitments, which has been the aim at the department for the research to evolve. Proactive recruitment ideas regarding involving a larger amount of adjunct professors from industry to be used as a resource was mentioned by the Head as a possibility. The panel values these efforts as good endeavour of renewal of research.
However, to further improve strategic thinking and planning the department could be more focussed in setting specific strategic long term goals on what types scientific background-balance is sought for and what percentage of international senior staff (and how many international adjunct professors) it envisages to have by e.g. 2025 to support the internationalisation efforts of Uppsala University as a whole.

Specific efforts have to be made to compensate for the gender imbalance on professor levels (0/6 professors are female).

2.2 Leadership
In the past, the department was rearranged from divisions into research groups. In the self-evaluation it is mentioned that this has worked reasonably well. The positioning of the research groups in the department does not always seem logical. In this overall structure, a number of smaller subgroups has emerged that are not self-sustainable. As was stated in KoF11, the review panel similarly proposes two options for consideration: “realignment of research groups in a more coherent manner, to support the mission of the three current departments” or “the Faculty may consider it advantageous to eliminate all department boundaries to foster higher level and multidisciplinary research outcomes”.

A major concern is that the research groups within the department function and work more or less in isolation from each other. This results in barriers to cross-research collaboration at both the intellectual and practical levels. The isolation also fails to provide any personal support for the leaders of the independent research groups, and is a barrier to potential collaboration and the formation of a learning community for the more junior people. This sub-optimal “siloh” arrangement could be dealt with by a more strategic plan to organize and structure the working of the department as a whole preventing the development toward a “hotel for research groups”. The research groups typically have very strong leaders, with great influence within their respective research domains. However, in many cases there is limited interaction between the group leaders. There appear to be no formal senior faculty meetings to allow discussion on strategic direction, although strategic issues are discussed regularly at the Faculty level (Farmaceutiska kommittén). There is limited discussion on research in the board meeting.

The department needs strategic direction, with identification of priorities (that would take into consideration the wishes of the current faculty members) and resources allocated accordingly. The sustainability of excellence and relevance in research is dependent on such a structure. The current structure presents barriers to collaboration and interdisciplinary work. All levels of leadership appeared to be isolated and without a strong peer group with whom to think, be encouraged and be supported. Although there was mention of the need to set
up structures for collaboration across research groups, effective strategies for this were not articulated.

It would appear that the head of the department is not sufficiently facilitated by and receives very little support from higher levels in the organization. Also, there are very few incentives to become head of the department and to reshape the organizational structure. The panel recommends developing career incentives to chair a department. Heads of departments should find rewards in the opportunity to build or mold a department, and its directions and priorities, in terms of what is most meaningful. The panel did hear this aspiration from more junior faculty members.

The panel also noticed that a substantial time for the Head of the department was allocated to administrative duties. The administrative procedures should be evaluated to find more efficient processes and a recommendation is to invest in administrative support/management. This would increase the time for the Head to focus on academic leadership and strategic development of the department.

The review panel believes there is a need for increased attention to and prioritization of time devoted to the human needs of faculty members and students, to cross-cultural issues, and to the opportunity for cross-research groups, intra-departmental and inter-departmental collaboration through structured meetings and a facilitated process. Developing a process to ensure face to face time between people within the department should result in relationship formation and more collaborative approaches to change.

The panel recommends that the department should convene an external advisory board.

The Head of the department and the department board lead the department. In the board all major financial decisions are taken, e.g. recruitments, since the board has the overall financial responsibility of the department. The board discusses the different research proposals depending on how they fit in the research structure at the department. Group leaders are basically directing the direction of research. The panel would welcome a clearer common strategic long term vision and reservation of funding, e.g. from the block funding for long term strategic research related investments.

The panel highly appreciates that there seem to be a collegial discussion culture among senior researchers/teachers both at a department level and in the different research groups. As stated in the self-evaluation report this can be utilized to a greater extent in order to be stronger when applying for different grants when larger groups/diverse competences are needed.

The panel appreciates the initiation of strategic investments to focus on pharmaco-economics and pharmacoepidemiology and the initiative of the integrated thinking around drug usage as well as considerations on focusing and strengthening the competence in biologicals.
The panel didn’t see the clear strategy for the department to make use of large European infrastructures that could offer unique possibilities in materials sciences and pharmaceutics (e.g. MAX IV and ESS).

2.3 Academic culture
The panel explored various aspects of the academic culture in the department. The atmosphere and research environment were in general perceived as collegial.

Within the department as a whole, there is a positive attitude towards research ethics and scientific conduct. There are obligatory courses in research conduct for PhD students and their supervisors, which is highly commended. However, the introduction of electronic notebooks and procedures for data-management and reporting have not yet been fully implemented. These initiatives are crucial for securing the quality of research.

There are deep concerns about the ever increasing teaching load and the consequent imbalance between teaching and research at several levels of the organization. Moreover, there appears to be an imbalance in the teaching load between research groups and between individual faculty members, which is perceived by many as unfair. In particular, the early career academic staff reported teaching responsibilities that impaired their research activities, whereas some senior professors participate minimally in the teaching. The panel recommends that the Head of the department ensure that faculty members assume responsibility for their teaching duties and that there is an equitable distribution of teaching. The panel suggest the senior professor to take a larger responsibility, to support junior faculty to get time to make a scientific career.

We perceived a marked difference in vitality between the senior leadership at the departmental level and the early career faculty members. Some senior faculty members appeared less enthusiastic about their professional roles and responsibilities, whereas the young faculty expressed dedication and eagerness for their research and their educational tasks.

Departmental leadership felt highly supported by the Dean. However, the departmental leadership expressed low confidence in their ability to succeed optimally in their leadership role, whereas research group leaders seemed satisfied in their roles, and some of the younger researchers expressed high degrees of confidence.

Some doctoral students perceived a low level of departmental support, apart from their relationship with their individual supervisors. The panel noted a lack of positive relationships between departmental leaders, which contributes to their sense of isolation. In contrast, we perceived positive and supportive relationships among senior lecturers, postdocs and PhD students.

Research groups, even within the same department, to a high degree seemed to be isolated from each other. There seems to be little communication between
research groups across departments. Doctoral students reported seeking scientific discourse within and across the departments, but felt discouraged that these efforts were not supported at the departmental level. Some doctoral students appeared to feel “lonely”. To help address the widespread sense of isolation, we strongly recommend the implementation of structures and processes to support relationship formation among individuals at all levels in the department. The review panel believes that there is a need for increased attention to and prioritization of time devoted to the human needs of faculty members and students. Developing a process to ensure face to face time between people within the department should result in relationship formation and more collaborative approach to science and to change.

One strategy to support this priority would be the introduction of mentoring for all levels of academic staff. This could be introduced in a peer group format or through one-to-one mentoring. The peer group mentoring may be more reliably successful. The review panel observed no evidence of adequate mentoring at any level.

There was a disparity in the responses of female and male respondents on the Q&R survey. Female responses are generally less positive in terms of career guidance, perception of a stimulating environment, and aspirations for gender equity. When comparing the three departments we noted that the Pharmaceutical Biosciences department has equal representation of men and women at the professor level. However, both in the departments of Pharmacy and Medicinal Chemistry there was striking paucity of female professors. Senior lecturers were mostly women. Although senior researchers perceived younger women scientists "fearful" about taking professional risks, the review panel were very impressed by the determination and vitality of the younger female scientists across the departments.

There was no female representation at the department chair or deputy department chair levels. In the interviews, there was consensus about the benefits of women in leadership roles. The panel recommends that more attention is paid to appointing women to senior and leadership positions. There was a good balance between women and men at the department, with the possibility of having a woman and a man as head and deputy head of the Department.

The panel recommends training in reflecting on and managing cross-cultural issues (and potential discrimination) as the diversity of the students and faculty increases.

As explained in the self-evaluation report the overall academic research culture at the Department of Pharmacy emerges from the concept of academic freedom, i.e. research problems are formulated and research projects are developed and disseminated based on academic freedom. It means that the key actors in the development of the research programme of the department are the prin-
principal scientists that have their freedom to conduct research within the overall research theme of their faculty research assignments. The groups of the department are formed and work based on these research assignments. The panel was made aware of the fact that over time, the collaboration between the research groups of the department has increased. This is a positive direction for renewal and should be further developed to create increased openness in the academic culture at the department. Platforms and best concepts should be developed engaging academic staff on all levels to increase collaboration between groups, the awareness of research activities and overall departmental strategies.

Lack of information is expressed by the personnel of the department. Methods for clearer communication about decisions should be looked over and improved if possible.

2.4 Infrastructure
The Department of Pharmacy seems well equipped with state-of-the-art infrastructure. The investment in common equipment and core facilities have had a positive effect on collaborations and should be further developed.

2.5 Funding
Compared to international standards, the departments are relatively well funded. Nevertheless, several interviewees expressed concerns with regard to funding due to increasing difficulties in obtaining grants (research councils and industry). Numerous interviewees indicated that their funding situation jeopardizes a long-term perspective in research.

The only direct source of income from the university appears to be the block grants to professors with an “assignment”. Apart from a small overhead, these funds are directly channeled to the principal investigator in each research group. There appears to be little or no funding strategy at the departmental level. At present, no budget has been allocated to support the development of new research directions at the departmental level, as part of strategic initiatives. In addition to funding this need, the review panel recommends that a significant portion of the block grants from the university be reserved to fund junior researchers and for bridge funding.

The self-evaluation highlights that the Department is not satisfied with overall distribution funds with a bias with regard to larger disciplines. It is recommended that performance indicators should be reconsidered.

2.6 Collaboration
A lot of collaborations exist with other departments from Uppsala University, other Universities and industry nationally and internationally allowing an interdisciplinary expertise. There is an excellent network established by the department.
We observed a certain lack of planning to organize and structure the working of the department as a whole rather than as a “hotel for research groups”. The department needs strategic direction, with identification of priorities (that would take into consideration the wishes of the current faculty members) and resources allocated accordingly. The sustainability of excellence and relevance in research is dependent on such a structure. The current structure presents barriers to collaboration and interdisciplinary work.

Through the organizational structure of the department in several more or less autonomous research groups, there is the risk of fragmentation. The opportunities for joint research projects and the application of joint grant applications are not fully exploited.

We noted a positive tendency towards increasing collaboration between the groups, partly through the housing of shared equipment. In recent years the departments have been successful in the acquisition of a number of high profile infra-structures.

In the effort to increase collaboration, it is overly optimistic to assume that organizing “research days” twice per year would solve the problem of fragmentation in research. Two simple and straightforward activities to enhance scientific collaboration would be the organization of regularly scheduled faculty days with focus on research topics and similarly, project review days.

In the Department of Pharmacy as well as the other two departments, it was mentioned that there was a need to set up structures for collaboration across research groups and departments however, effective strategies for this were not articulated.

2.7 Publications (bibliometric analysis)
The reviewers noticed that the department has a stable record of high impact scientific publications in leading international journals.

The panel recommends adopting publication strategy for optimization of publication towards success in acquisition of research grants and international rankings.

In order to increase the societal impact, it is suggested to develop a publication strategy in relation to popularization of research supported by communication experts at the university or the domain level.

The panel acknowledges the significant increase international co-authorship for the Department of Pharmacy.
2.8 Career structure and mobility

There is a need for attention to individual personal and professional guidance for department faculty, especially at the mid-career and senior level. Consideration of factors that contribute to faculty vitality, thereby supporting their best work, is recommended. (Vitality is predicted by relationship formation, sense of belonging, perceptions of institutional support, values alignment and work-life integration).

The panel recognizes the education of PhD students as an investment in the creation of a new generation of scientists, and as such a deliverable, in addition to scientific publications.

By nature, the study for the PhD degree is highly individualized. As a result students typically work in a one-to-one relationship with their daily supervisor. This complicates the monitoring of the progress and the transparency of the evaluation. To overcome these limitations, the review panel recommends the implementation of a formal supervision and evaluation program for PhD students.

Analogous to the formalized supervision and evaluation program for PhD students, a similar program should be developed for postdocs.

The panel recommends the establishment of a career path for junior faculty members with clear objective criteria for tenure and promotion. The career paths for researchers into a pedagogical versus a research direction are unclear. When hiring a researcher for 70 % teaching or more, it should also be stressed that these persons go into a pedagogic career path, with the option to make some research but with few possibilities to make a scientific career unless they can get substantial funding.

It is alarming that the vast majority of the senior academic staff does not engage in annual performance and development interviews. The panel recommends the immediate implementation of a process to provide feedback to enhance performance as well as an annual appraisal for all academic staff.

In the context of "Quality & Renewal" the panel recommends that the Faculty develops a strategy that encourages mobility and internationalization at all levels of academic staff.
3. Summary

3.1 Strengths

- Faculty of Pharmacy is an internationally leading and highly renowned pharmaceutical academic institution
- Faculty of Pharmacy covers the important disciplines from drug target identification to drug usage
- Faculty of Pharmacy is an integrated part of full-scale university offering possibilities for highly interdisciplinary research addressing the most challenging questions in pharmaceutical sciences
- Faculty of Pharmacy has a long-standing tradition for collaboration with external stakeholders including the pharmacy sector and the pharmaceutical and biotech industry
- Faculty of Pharmacy is successful partnering in major national and international research consortia
- Faculty of Pharmacy has in general a state-of-the-art infrastructure
- The academic culture and research environment was perceived as permissive with a good overall collegial atmosphere

3.2 Weaknesses

- The organization of the Faculty of Pharmacy as well as the departmental level is sub-optimal for taking major strategic initiatives
- The organizational structure gives the Dean limited formal authority
- The internal collaboration and interaction between the three departments and the research groups/divisions is limited
- Recruitment of talent at a senior level from abroad seems limited
- The time to recruit academic staff at the senior level is too long and reduces the recruitment potential
- The academic staff has significant teaching obligations that are distributed unequally between individuals and different staff categories
- The present distribution of block grants leaves little opportunity for strategic initiatives
- Lack of personal and professional mentoring of the academic staff
- Inadequate attention to gender equity
3.3 Recommendations

- Change the organizational structure so that Heads of Department report directly to the Dean
- Initiate a strategic planning process to identify and prioritize future research foci
- Establish a process to ensure an excellent and sustainable research environment
- Enhance the performance of the different research groups/research areas across the departments by re-organizing the departmental structure and merging departments/different research groups/research areas to harvest research synergies
- Implement tenure track system for faculty with clear tenure and promotion criteria
- Shorten recruitment process for senior academic staff
- Establish a formal process to secure gender equity
- Faculty of Pharmacy to implement a formal career mentoring system for junior and senior academic staff
- Heads of Department to secure financial resources for more long-term strategic initiatives
- Departments and the Faculty of Pharmacy to further develop platforms for collaboration and cross-fertilization in research
- Implement a clear process to follow up on the progress of changes that the department and or faculty decides to initiate

4. Reflections on the similarities and differences between evaluation units within the panel – what to learn from each other?

The three departments at the Faculty of Pharmacy are organized and managed in a rather similar manner and face the same overall challenges regarding both research quality and research renewal. These challenges seem to be dealt with in more or less the same way.
5. Appendix 1

2017-05-15

Schedule for the site visits of KoF17 panel 14 during their evaluation of the research environments at the Faculty of Pharmacy, BMC, Uppsala University. Approved by Sven Frökjaer (chair of the panel)

Departments (evaluation units) to be evaluated by Panel 14:

- Department of Pharmaceutical Biosciences: www.farmbio.uu.se. Head: Professor Björn Hellman; bjorn.hellman@farmbio.uu.se. Björn has also been appointed as the contact person among the Heads (mobile: +46 70 167 91 68).
- Department of Pharmacy: www.farmfak.uu.se/farm. Head: Senior lecturer Erik Björk; erik bjork@farmaci.uu.se
- Department of Medicinal Chemistry: www.ilk.uu.se. Head: Professor Curt Pettersson: curt.pettersson@farmkemi.uu.se

Logistics (related to the panels site visits at BMC during week 20):

- Ulrika Huss Melin has been appointed by the central KoF17 committee to help the panel with practical issues. Ulrika will ensure that all transports between the hotel and BMC will work without problems for the panel. Ulrika will also be available during the interviews.
- The Scheele room at BMC has been booked for the panel (whole days). There is a projector for computers available in the Scheele room. The panel members will carry their own laptops with them during the interviews.
- Coffee, cakes and other refreshments will be arranged/provided by the Faculty. Lunches will be served in a separated room at BMC’s restaurant.
- Name badges with full name, last name in clearly visible capital letters for all who appear at panel interviews will be arranged – using different colours for the three different departments.
General schedule during week 20 – focusing on when the panel will meet representatives from the Faculty of Pharmacy:

• **Monday May 15**: The panel will stay at Hotel Gillet the whole day for an Introduction. Heads of department will probably be present at the Welcome reception during the evening.

• **Tuesday May 16**: Panel 14 visits BMC for the first presentations/interviews/discussions.

• **Wednesday May 17**: Panel 14 visits BMC for more thorough interviews about a number of predefined “challenges” related to the research environments.

• **Thursday May 18**: Panel 14 visits BMC a last time for additional interviews/discussions with the three heads of department.

• **Friday May 19**: The panel will stay at Hotel Gillet until the scheduled departure at 14.00. Heads of department (with 2 or 3 additional staff members) will receive feedback from the panel as follows: 8.20–8.50 Department of Medicinal Chemistry, 8.50–9.20 Department of Pharmaceutical Biosciences and 9.20–9.50 Department of Pharmacy.

A more detailed schedule for Tuesday 16/5 – Thursday 18/5, 2017.

Challenges/topics/issues that will be discussed during the interviews – mainly based on the self-evaluation including bibliometric data from the three different departments.

• • Recruitment
• • Leadership
• • Academic culture
• • Infrastructure
• • Funding
• • Collaboration (cross border and interdisciplinary)
• • Publications (bibliometric analysis)
• • Career structure and mobility
• • Also, other issues including (i) how research integrity is secured, (ii) equality issues, and (iii) the physical and psychosocial work environment.
Individuals/groups* the panel will meet and interview:
- Heads, and Deputy Heads of department
- Senior research group leaders (2–3 from each department)
- Senior lecturers (2–3 from each department)
- Post-doc’s and young researchers (2–3 from each department)
- Ph.D. students (2–3 from each department)

*The head of departments will select the persons to be interviewed (the names of those will be presented during the first day at BMC).

Tuesday May 16: Welcoming and presentations of the three different departments
- 9–9.30: The Dean (Göran Alderborn) and Heads (Björn Hellman, Erik Björk & Curt Pettersson) meet the panel for a welcome and short introduction (about BMC, the Scheele room, logistics etc.).
- 9.30–9.45 Panel time and coffee break
- 9.45–11.15: The Head of the Department of Pharmaceutical Biosciences present the Department (its structure, organisation, research groups, economy, teaching etc.), including time for short questions from the panel.
- 11.15–13: Lunch at BMC (panel time)
- 13–14.30 The Head of the Department of Pharmacy presents the department (see above)
- 14.30–14.45: Panel time and coffee break
- 14.45–16.15: The Head of the Department of Medicinal Chemistry presents the department (see above)

Wednesday May 17: Interviews about predefined challenges (see page 2).
- 9–10: The panel interviews the Heads and Deputy Heads
- 10–10.15: Panel time and coffee break
- 10.15–11: The panel interviews research group leaders/professors
- 11–11.15: Panel time
- 11.15–12: The panel interviews senior lecturers
- 12–13.30: Lunch at BMC (panel time)
- 13.30–14.15: The panel interviews post-docs/young researchers
- 14.15–14.30: Panel time and coffee break
- 14.30–15.00: The panel interviews PhD students
• 15–16: The panel interviews a selected panel of researchers from the three
departments about the three different departments publications (based on
the bibliometric analysis).

**Thursday May 18:** Before lunch: Final follow-up interviews about issues raised
during the interviews/discussions Tuesday and Wednesday. After lunch: Internal
panel meeting

- 9.00–09.30: The panel meets the Head of the Department of Pharmaceutical
  Biosciences (Hellman)
- 9.30–10.00: The panel meets the Head of the Department of Pharmacy
  (Björk)
- 10.00–10.30: Panel meets the Head of the Department of Medicinal Chemistry
  (Pettersson)
- 10.30–10.45 Panel time and coffee break
- 10.45–12.15 Internal panel discussions and time for writing a draft report.
- 12.15–13.30 Lunch at BMC (panel time)
- 13.30–17. Internal panel discussions and time for writing a draft report.
  If at BMC: Coffee and refreshments will be provided.

**Friday May 19 (see also the general schedule for the whole week provided by the
“KoF17” administration):** The panel give feedback to the research environments
at Hotell Gillet:

- 8.20 – 8.50: Department of Medicinal Chemistry
- 8.50 – 9.20: Department of Pharmaceutical Biosciences
- 9.20 – 9.50: Department of Pharmacy
Participants

Panel 14:

• Sven Frökjaer (chair). Professor in pharmaceutics, University of Copenhagen.
• Linda Pololi. Senior scientist, Brandeis University, Boston.
• Meindert Danhof. Professor in pharmacology. Leiden University.
• Niklas Sandler. Professor in pharmaceutical technology. Åbo Akademi.
• Anna Tsantili-Kakoulidou. Professor in pharmaceutical chemistry. University of Athens.
• Jean-Luc Veuthey. Professor in pharmaceutical analysis. University of Geneva.
• Shirley Price. Professor in toxicopathology. University of Surrey. (absent at the site visit)
• Katarina Nordqvist. Associate Professor and Senior lecturer in medical innovation, Karolinska Institute, Stockholm.

From the Faculty of Pharmacy:

Heads & Deputy Heads:

• Department of Pharmaceutical Biosciences: Björn Hellman (Head) and Mats Karlsson (Deputy Head).
• Department of Medicinal Chemistry: Curt Pettersson (Head) and Anders Karlén (Deputy Head).
• Department of Pharmacy: Erik Björk (Head) and Per Artursson (Deputy Head).

Professors and research group leaders:

• Department of Pharmaceutical Biosciences: Eva Brittebo, Mats Karlsson and Robert Fredriksson.
• Department of Medicinal Chemistry: Ulf Göransson and Anna Orlova.
• Department of Pharmacy: Hans Lennernäs and Per Hansson.

Senior lecturers:

• Department of Pharmaceutical Biosciences: Maria Kjellsson, Erika Roman and Ola Spjuth.
• Department of Medicinal Chemistry: Anja Sandström and Luke Odell.
• Department of Pharmacy: Christel Bergström and Magnus Bergström.
Post-doc’s and young researchers:
- Department of Pharmaceutical Biosciences: Alfhild Grönblad, Anna Nilsson and Irena Loryean.
- Department of Medicinal Chemistry: Daniel Globisch and Paco Cardenas.
- Department of Pharmacy: Ann-Sofie Persson and Anne Filppula.

PhD students:
- Department of Pharmaceutical Biosciences: Erika Brolin, Emilia Lekholm and Anders Thorstedt.
- Department of Medicinal Chemistry: Alfred Svahn and Karin Steffen.
- Department of Pharmacy: Johanna Eriksson and Andrea Treyer.

To discuss the bibliometric analysis:
- Department of Pharmaceutical Biosciences: Mats Karlsson and Mathias Hallberg.
- Department of Medicinal Chemistry: Anders Backlund and Christian Sköld.
- Department of Pharmacy: Per Artursson and Göran Frenning
1. Introductory remarks

Panel 15* reviewed Department of Medical Cell Biology and Department of Medical Biochemistry and Microbiology. The panel emphasised direct communication with department staff in the work process and thus altered the programme during the site visit to allow maximal time for discussion of questions that arose during the reading of the background material. This procedure has been extraordinary instrumental in unravelling strengths and weaknesses at the department level but has also unexpectedly revealed very general issues at domain, faculty and university level. Therefore, section 4 of the panel rapport is devoted to recommendations for Uppsala University and for the Disciplinary Domain of Medicine and Pharmacy.

2. Observations and analysis

Department of Medical Cell Biology is the second-smallest department in the disciplinary domain, creating an inherent vulnerability to threats of financial or political nature as identified in the included SWOT analysis. The size does, however, also constitute unexplored advantages, since the strong focus on β-cell biology with immediate translational relevance to diabetes enables the department to establish itself as a Centre of Excellence with grant opportunities e.g. from the Novo Nordisk Foundation. Apart from the intimacy and short decision lines related to the limited size, the departmental culture is strongly influenced

* Panel members: Dennis Bamford, University of Helsinki, Finland; Diana Berggren, Umeå University, Sweden; Lars Geschwind, KTH, Sweden; Chris Haley, University of Edinburgh, UK; Thomas Mandrup-Poulsen, University of Copenhagen, Denmark; Helle Prætorius Øhrwald, Aarhus University Denmark.
by its history and charismatic former leaders, in particular Claes Hellerström. This legacy allows a value-based management without focus on formalities in the management structure. A core value is a strong feeling of responsibility for the university as witnessed by the multiple services and honorary offices held by department staff related to university, domain and faculty functions.

The department is facing a generation shift, but fortunately there is a fertile, energetic layer of junior faculty ready to carry the baton forward. The collegiate climate seemed excellent also among the junior staff interviewed, with a high level of enthusiasm and drive towards renewal. The senior level appeared to give the new generation room to unfold potential and talent. The self-evaluation report was a state-of-the-nation description with little self-reflection and self-critique, but this was fully compensated for in the interview session.

2.1 Organisation and management
The following key observations deserve attention:

• The department leadership should unfold the 2016 strategy further, providing concrete and detailed approaches to address the weaknesses and threats described in the SWOT analysis. This is particularly pressing for the funding situation and recruitment/succession challenge.

• Apparently, little attention is paid to professionalised leadership development (courses, coaching and mentoring) for the group management and young PIs. We recommend that a development plan should be agreed and instigated.

• Young PIs should be offered scientific project leadership training. There is a need for dedicated administrative start-up help and tutoring for young PIs but also for more established groups.

• The organogram does not illustrate the actual departmental managerial structure and decision-making structure. This organogram should be reworked so that it unambiguously clarifies roles, responsibilities, delegation and decision levels, and the organisational diagram communicated and included in introductory material handed out to new staff.

2.2 Recruitment
The ongoing generation shift is incorporated as a natural part of the department function. There are currently 15 research groups in the department, which according to the self-evaluation are partly overlapping and with no clear boundaries. We recognise a large dependency on external funding and a great responsibility for the department at PI level, including line management responsibilities, with only a few direct state-funded PI positions. Despite the obvious strengths of the latest recruitments, there is a high degree of internal recruitment even for
positions that were subject to open calls with a high degree of international competition. The gender profile of the department is not balanced and the newest round of recruitment has not changed this.

A particular recruitment problem for the department is to secure PIs responsible for teaching in anatomy. This teaching obligation is currently carried out by external, part time lecturers and student assistants. This arrangement does not ensure development and renewal in teaching and is critical because of the large dissection course and facility. This facility could be explored as a potential revenue for the department by offering it for surgical training courses on fee-for-service basis. We recommend that the department prioritises recruitment of at least one PI with responsibility for teaching gross anatomy. This can either occur through recruitment from an established anatomist from abroad or a younger scientist that yet has to obtain training in teaching anatomy.

- We recommend that the issues regarding external recruitment and gender distribution are dealt with in the search committees for upcoming recruitments. Thus, we recommend that gender is considered in the wording of the call and that the final call is only posed if the search committee can identify strong candidates of both sexes.
- The performance based funding system does not promote external recruitment and we recommend that it be changed (see section 4.2).
- We recommend that a young promising researcher fitting into the departmental research portfolio is recruited into a tenure track (see below), with the special requirement of obtaining the required skills to head the anatomy teaching. This type of tenure track ought to be covered by an extraordinary commitment from the faculty in support of the special teaching tasks of the department.

2.3 Tenure Track

Generally, we recommend that Uppsala University considers introducing a career path inspired by the US tenure track model (see section 4.2). This would comprise a four-year term as assistant professor (biträdande lektor) followed by tenured positions as associate professor (lektor) and (full) professor. Some of the components necessary to create such a track is already in place whereas other parts need to further developed or be more clearly communicated. Tenure track should be accompanied by a compulsory and ambitious career support programme (as unfolded in section 4.2). Such a programme is particularly important for the development of the department’s international recruitment profile.
2.4 PhD students
The department has a substantial body of PhD students including both locally supported students (including a number of MD PhDs) and those from overseas. Of the 27 current students only 4 students have been recruited from outside of Uppsala University. The number of PhD students has been in slow decline over recent years. The department has a dedicated senior member of staff who manages their interactions and oversees aspects such as project discussions and "Brain Pubs". A PhD student is elected as part of the management board of the department. MCB sponsors an annual PhD student science day that PhD students plan and implement among themselves. The reflective analysis indicates that care is taken in selecting the best students when posts are advertised. A recent innovation is the initiation of a cell biology course aimed specifically at post-graduate students: “Advanced course in cell biology” which aims to train students in scientific thinking with especial relevance to research in the department. PhD students are “encouraged and/or required to visit other labs and participate actively in international conferences” and they are generally given the opportunity to teach undergraduate or masters students.

The panel spoke to a few selected students identified by the department. These students were generally very positive about the PhD experience and the training and opportunities offered. However, it appeared that the PhD experience was not uniform across all groups. For example experience in career mentorship varied with at least one student seeking out her own mentors. The students valued the support of the dedicated member of staff and the opportunities offered by the “Brain Pubs” (although acknowledging that these discussions might initially be daunting to a new student). The Brain Pub interactions had on occasion led to collaborations between groups, however, the students would have appreciated greater involvement from more senior researchers in these discussions. Some better support for international students would be appreciated (e.g. scanned Swedish documents that cannot be electronically translated and guidance for rights of students and their families in Sweden). It was also suggested that greater training and support was needed and training should include that for careers outside of research. For those entering science a clear introductory course was felt needed to show them all aspects of day-to-day management within department (often taken for granted by old hands). This would include scientific management courses (which are run occasionally and once offered quickly over-subscribed).

• As detailed below, we recommend that departmental challenges in this area would be best met by the faculty introducing a PhD school with standardised procedures for recruitment, supervision, mentorship, training, progress evaluation etcetera of PhD students.
• Within the PhD School system, the department should set up a PhD Committee to liaise with the PhD School and other departments in the faculty, oversee and ensure the PhD School procedures are followed, and to develop introductory and training modules specific to PhD students working in the departmental scientific domain.

2.5 Research-teaching linkage
The department has the bulk of its education within the medical programme, but it also contribute to other master’s programmes. The department is partly dependent on their income from education within the medical programme and felt threatened by prospects of that their part of the core for the medical programme could be diminished. One senior lecturer had the main responsibility for the undergraduate education.

Some issues the panel has reflected upon:

• Who is performing education? In the self-evaluation was written that “All professors at the Department of Medical Cell Biology teach pre-graduate student programmes/courses, which ensures a continuous link between research and teaching.” At our visit, we were given the information that there were professors that had exclusive deals, which implied that they were excused from participating in education, although they in practise performed some educational function. We sensed that deviation from the principle that everyone should teach creates tension amongst the employees. It is easier to gain a general acceptance for temporary periods with reduced amount of teaching than to state that a given persons is relieved completely form teaching obligations. Teaching was generally very unevenly distributed among the employees. Some complained that they had too much teaching, whereas others, especially young researchers asked for more opportunities to teach. A specifically raised concern was that some professors do not “let go” of their lectures to younger colleagues. However, we found a high willingness to help younger colleagues to improve their educational skills. We were pleased to hear that newly employed staff had less teaching during their start-up period. A more formalised tenure-track for teaching was requested. Time could be allocated for younger persons to participate in lectures and classroom teaching together with more senior educators. Although there was awareness of the skewed workload in teaching there was no systematic distribution of educational tasks.

• How strong were the links between research and teaching? In general we got the impression that a person with PI-competence was responsible for each field of education. However, there was one important exception, namely teaching in anatomy including dissection. As mentioned, there was no sen-
ior lecturer in this very basic subject for medical students and education relayed on three part-time lecturers (adjunkter). The department has actively trying to recruit a teacher but had so far not succeeded. We strongly advocate that the means suggested under recruitment (item 3 in section 2.2) is considered in earnest.

2.6 Funding
The salary expenses are the major expenditure for the department. The tenured positions are covered by department funds but the rest of the positions are financed by external grants obtained by the PIs. In addition to these, minor support is funnelled to research groups from the department covering diverse activities. The overall success in obtaining external funding has been satisfactory but skewed towards younger faculty, which is of serious concern if this situation continues. We recommend that the department considers this situation and makes sure that all permanent PIs has the possibility to be research active to regain their external funding.

3. Summary
We have chosen to include the strengths and weaknesses in the text above and recommendations in bullet points where they are appropriate in connection to the given topic.
Department of Medical Biochemistry and Microbiology

1. Introductory remarks
Panel 15 reviewed Department of Medical Cell Biology and Department of Medical Biochemistry and Microbiology. The panel emphasised direct communication with department staff in the work process and thus altered the programme during the site visit to allow maximal time for discussion of questions that arose during the reading of the background material. This procedure has been extraordinary instrumental in unravelling strengths and weaknesses at the department level but has also unexpectedly revealed very general issues at domain, faculty and university level. Therefore, section 4 of the panel rapport is devoted to recommendations for Uppsala University and for the Disciplinary Domain of Medicine and Pharmacy.

2. Observations and analysis
Department of Medical Biochemistry and Microbiology is a mid-sized department in the faculty, with a large spread in group-size and a dominance of the very large groups in genomics and bacteriology. The department is in transition with a change of department head and the inclusion of approximately 20 staff members from the Ludwig Institute. The Supervisory Board (Prefektråd) composed exclusively of full professors is in principle an advisory body for the department head, but is de facto the decision-making body, without this being evident to the organisation or being formalised in the organisational management structure. The existence of this shadow-leadership reflects the dominating role of strong PIs on department management with less focus on involving junior group leaders in the decision process and may potentially negatively influence department development and communication.

The environment fosters an academic culture where high ambitions and excellence in research are top priorities, but there is also a lack of time and motivation to attend seminars and support other intramural, scientific activities. The department culture is open, competitive and bottom-heavy with large responsibilities at PI level. That being said, the interviews with staff at all levels, together and separately, left the impression of good collegial relations and collaboration and a positive working climate. There are on-going discussions as to whether the groups should be joined in 3 sections led by individual section heads.
The department head elect had very positive visions of developing democracy in management by supporting two-way communication between department board members and the staff they represent, in a flat non-bureaucratic organisational structure.

The self-evaluation report is an excellent summary of the current state of the department with ample and thoughtful self-reflection and self-criticism. The report is a valuable catalogue of constructive suggestions for solutions and renewal but there is a need for prioritisation and a strategy for how funding and other resources are provided for prioritised suggestions. There is a high degree of attention to the risk of inbreeding by self-supplying internal recruitment.

2.1 Organisation and management
In terms of modification of organisation and management, we recommend:

- A gathered vision for the department future should be developed in a bottom-up process.
- To develop and communicate a revised organogram that in a transparent manner reflects the actual delegation of decision power including deputy functions.
- Yearly career development interviews (MUS) with emphasis on development of the various staff members categories and their respective role in the department.
- Undergraduate students are in principle part of the department board although they are perceived not to contribute. This should be reconsidered and motivating incentives including real influence should be offered.
- There is a need for a structured introduction programme for new-comers including pairing of new students and PhD students with daily practical lab supervisors.

2.2 Recruitment/ tenure track
Research groups at IMBIM are subdivided in five thematic units: Biochemistry, Tumour Biology, Functional Genomics, Microbiology and Bacteriology. A main challenge for the department is the current and future succession. The department is, thus, facing a generation shift without clearly defined candidates amongst upcoming scientists in the department. We recommend that this issue is dealt with swiftly via search committees established by the department board with relevant representation for the topic under which the position is posted. The search committee should concentrate on identifying the best candidates of both sexes, particularly when posting positions in genetics or bacteriology. To broaden the fields the call should be open and only posted if the search committee can identify strong candidates of both sexes.
We recommend recruitment into strong tenure track programmes, as described below under section 4.2. This will allow early identification of upcoming researchers that will secure excellence, while limit the investment through more moderate start packages than are required to attract well established scientists into full professorships. The programme should be supported by mentoring programmes in terms of scientific, career and teaching development, where the scientific and teaching mentoring will become a task for the department. In this way the department can be held responsible for the progress of the tenure track candidates. If the department has sufficient means it would be a possibility to make a search committee for directly recruitment into full professorships. This would however, require that considerable funds are mobilised for the search committee to approach attractive candidates.

2.3 PhD students

PhD students are a substantial component of the department and there is the potential for a continued supply of high-quality students from Uppsala University’s Master’s courses. Nonetheless, the majority of PhD students come from outside of Uppsala, many from overseas. Within the department PhD students are represented on the departmental board and contribute to the department in a number of ways including teaching. Students are encouraged to participate in international meetings, where possible visit and work in laboratories abroad and to aim at publish in international reputable journals. Additional training is offered to students including discussion of alternative careers for those who do not wish to continue in research or are not able to do so.

Despite the positives, the department notes that the number of PhD students enrolled annually is in steady decline and the department’s self-evaluation recognises several significant weaknesses in the current system and makes cogent suggestions for improvements in the system. The department argues that the high-cost of PhD students is a factor in the declining numbers, potentially ultimately leading to a lack of Swedish PhD graduates. Furthermore, the recruitment system does not efficiently recognise the best students, a problem exacerbated by the difficulty in engaging candidates for a probationary period prior to offering a PhD position. The department suggests the need for a structured PhD programme combined with faculty created open positions for graduate students that are partly financed from central resources. Panel 15 met with a group of selected PhD students from across the department during its visit. The students gave a very positive report of their experience within the department. Nonetheless, none of the five students was as yet certain that they wished to ultimately aim for PI positions, although most of them would like to remain in academic research.

It was suggested that much of the introductory and training material could be improved. The initial online course was not thought to be of high quality and
the five-week introduction to scientific research was aimed at clinical researchers. The students had taken the initiative to produce their own PhD handbook of basic information. Interaction with their primary supervisors varied in regularity from infrequent to daily and some had post-doctoral scientists or others acting as day-to-day supervisors, which they very much appreciated. The students would have appreciated more structured career mentoring and some would also have appreciated the opportunity to interact more with industry. The students were expected to contribute to undergraduate and masters teaching. This opportunity was generally appreciated and enjoyed, although not by all.

- As detailed below, we recommend that departmental challenges in this area would be best met by the faulty introducing a PhD School with standardised procedures for recruitment, supervision, mentorship, training, progress evaluation etcetera of PhD students.
- Within the PhD School system, the department should set up a PhD Committee to liaise with the PhD School and other departments in the faculty, oversee and ensure the PhD School procedures are followed, and to develop introductory and training modules specific to PhD students working in the departmental scientific domain.

2.4 Research-teaching linkage

The department has the bulk of their education within the medical programme, but there is also undergraduate education in the pharmaceutical programmes and in the biomedical laboratory analyst programme. Further they support other master’s programmes and courses. Income from education within the medical programme is important for the overall economy at the department. In this context, the department raised concern regarding reforms of the medical curriculum and whether this may reduce the department’s teaching obligation and thus, the revenue for the department.

Some issues the panel has reflected upon:

It was clearly stated that as a rule everyone should participate 15% or more of their working hours in education. At our visit, we could confirm what was reported in the self-evaluation that in spite of good intentions, the teaching workload is heavily skewed amongst the researchers. There were some conscious strategies to gradually involve younger employees in teaching, but it was not formalised. Given examples were that PhD students were used in laboratory teaching and post docs in seminars. From the meeting with five PhD-students from the bacteriology section, we were informed that they all took part in teaching, mostly in laboratory exercises. Taking part in education was encouraged and if anyone asked for time to improve his or her teaching skills, it was rewarded. The teachers from IMBIM took part in pedagogic seminars at faculty level and gatherings
concerning pedagogic issues were arranged within the department. It is appreciated that new employees had a reduced amount of teaching hours during their start-up period. As mentioned above and in section 4.2, a formalised mentoring in teaching for the tenure programme is recommended to ensure that a scientist promoted through this programme not only is scientifically excellent but also is fully equipped to provide qualified, research-based teaching in a given area defined by the programme. Although the department itself recognised at the skewed workload in teaching there was no systematic distribution of educational tasks. This is partially caused by the relatively limited teaching requirements for the geneticists in the departmental courses.

The following recommendations should be considered:

- A transparent division of teaching obligations amongst the scientific staff.
- A clear merit-based reward for teaching (maybe an equivalent of an ‘H-factor’ in teaching).
- A rotational system that favours broad knowledge in the given topic allowing a stronger.
- Teaching qualification of the staff, particularly when teaching outside the immediate research topic.
- Strive for teaching material in English for all courses.

2.5 Funding

This department actively use the activity-based award system to continuously monitor and allocate tasks and production. Although the system is reasonably complicated, it is transparent and based on merit. It seemed that the system is appreciated among the employees. However, activity-based award system has serious departmental consequences when a new employee joins the department (as commented on in section 4.3). Since the system only accepts merits obtained at Uppsala University, employment of an external person deprived the department of funds for the upcoming four years. This system can potentially have serious consequences for recruitment, the career of the given scientist and for productivity of the department. The upcoming expansion of the department makes it particularly urgent for the university to deal with this issue. The funding of the department comes largely from external sources and is currently expanding. This expansion is concentrated in few groups, which potentially makes the department financially vulnerable and creates the risk of losing some scientific activities. We recommend that measures are taken to combat this scenario.
3. Summary
We have chosen to include the strengths and weaknesses in the text above and recommendations in bullet points where they are appropriate in connection to the given topic.

4. Reflections on the similarities and differences between evaluation units within the panel – what to learn from each other?
The open discussion with administrative staff and researchers at all levels at the two departments evaluated by Panel 15, we uncovered a number of issues that required attention at university or faculty level. Below we have listed a number of general topics, which should be considered as the main recommendations of the KoF2017 audit.

4.1 Organisation and management
As Sweden’s first university, the university employees naturally take pride in the history of the institution. The university presentation material and website emphasise its extensive scholarly tradition. This gives Uppsala University clear and strong identity, but may also potentially constitute a hindrance to renewal. In the detailed descriptions of the department, there are remnants of a traditional university system that require alignment with current academic globalisation, in particular with regard to promotion, positional structure and in terms of uniform procedures for handling PhD students in a graduate school. There is also room for improvement regarding recruitment and equal opportunities with only 28% female professors.

The Facts and Figures 2017 booklet flags areas of concern. It clearly shows that although the total financial turnover has been constantly increasing since 2012, the number of employees, percentage of external funding, the number of PhD dissertations and number of scientific publications has levelled off since 2015. This potentially indicates stalling efficacy, which is of general concern, because it may suggest that the increasing income is not exchanged for research. Although the recent inauguration of the impressive Segerstedthuset, housing administration offices for university management staff, lends promise to streamlining of a flexible and effective administration, the reviewed units unanimously expressed concerns regarding poor communication and lack of timely support and feedback, warranting systematic audit or even a KoF (quality and renewal of administration) project. The evaluations reports and interviews point to the need for attention to the following issues at the university level:
• The university should look into a more coordinated activity in the region and on renewing the university profile.

• Departments feel burdened by increasing overheads, much of which is not perceived to return to research. The university should strive for transparency with regard to the service functions covered by overhead and focus on preserving generated funding for research purposes.

• Lack of uniform overhead rates between departments create unhealthy competition within the institution for group leaders based on lowest local overheads. The university should limit this by creating a common low overhead rate for all units.

• Increasing square meter cost causes cramming of staff members into inadequate space. University property is a financial resource that could be exploited to buy buildings from Akademiska Hus to lower inappropriately high rents (currently 3600 SEK/m2).

• The university is wealthy with 90 mio. SEK in a special programme (särskilda satsningar). It should be made completely transparent how these funds will be allocated and what criteria should be met to be eligible for this programme.

• The lack of English as official university language hampers recruitment and introduction of international students and their participation in committee work. We recommend that English is made the official communication language at all levels.

• A follow-up on KoF17 in the form of an audit on outcome should be planned.

Disciplinary domain level
The Disciplinary Domain of Medicine and Pharmacy level turns over 1/3 of the total university budget. The domain level was introduced as an administrative superstructure for the six faculties in the humanities and social sciences. The Disciplinary Domain of Medicine and Pharmacy seems to have been established to avoid engulfing of the small faculty of pharmacy by the large medical faculty. The saying among interviewed is that it was established ‘because nobody wants to sleep with an elephant’. Although it is appreciated that pharmacy wishes to preserve its identity it does not justify the introduction of yet another administrative level that prolongs decision and communication lines. That said, there is general acceptance of the structure and there was consensus of appreciating the good communication and support from the domain administration.
Faculty level
The Faculty of Medicine has revenue of ~1.5 billion SEK. The Facts and Figures 2017 booklet shows that the medicine and health area at Uppsala University has not increased its share of Swedish National Research Council Free Project grants over the past 5 year period in contrast to the Humanities and Social Sciences area and in fact has a much lower percentage of success than the two other domains. The reviewed units were generally positive about the administrative and managerial support from the faculty and the mutual communication paths. Some points need attention:

- There is a perception that the faculty could be more proactive in gathering needs for common infrastructure and equipment investments from the departments, in order to submit strong cases for funding from the special university funding programme (särskilda satsningar)
- The provision of SciLifeLab has not made investment in local core facilities superfluous, and a strong need for a half-way animal core house similar to the one established at Stockholm University
- As a result of increased complexity of complying with time-consuming regulatory procedures for animal handling that requires a specialised and constantly updated expertise there was much need of a staff veterinarian at the faculty level to support department researchers

4.2 Tenure track
Uppsala University should consider introducing a career path inspired by the US tenure track systems. This would comprise a four-year term as assistant professor (biträdande lektor) followed by tenured positions as associate professor (lektor) and (full) professor. This should be accompanied by a compulsory and ambitious career support programme. Some of the components necessary to create such a track are already in place whereas other parts need to further developed or be more clearly communicated.

One of the major ideas behind a tenure track is the possibility to earn a permanent position by attaining experience and qualification. This is a clear advantage, compared to other early career positions like forskarassistent, which does not offer this opportunity. Before announcing a tenure track position, a comprehensive plan for the tenure track position should be submitted, focusing not only on the needs and tasks for the first years but also the long-term goals for the given position. The position as assistant professor is four (or preferentially six) years and should include a half-term, formative assessment by a panel. Our suggestion is that this panel could comprise senior professors from the given discipline but also include external stakeholders and potential external employers. The aim of the half-term evaluation is to monitor and assess progress and to make recommendations for the remaining period. The continuing assessment should
prepare both for an academic career and an extramural career. After four years, the candidate is evaluated in relation to the criteria for promotion to associate professor (lektor) with an evaluation committee that at a minimum include two external peer reviewers, where at least one is from abroad. These criteria should be challenging and the candidate should have shown excellence in research and education. Moreover, the candidate must demonstrate a significant contribution to academic service (leadership, supervision, serving on committees and contribution to development). The last promotion to professor is only for the select few with truly excellent curricula vitae in science and teaching after a severe scrutiny in an evaluation committee of a composition currently used to hire full professors. The tenure track programme should, thus, be highly competitive, with ambitious progression goals and clear exit strategies for all levels of promotion. Exit should not be handled as a mere termination but intimately associated with career counselling for extramural careers.

The tenure track programme should be supported economically by faculty, domain or university, which includes a mentor programme separate for tenure track. The mentor programme should entail mentorship in scientific development, career and teaching qualifications. Mentors could be selected from the faculty or other parts of the university, but also from other organisations depending on the candidate’s needs and background. By selecting scientific and teaching mentorship at department level, the success of the tenured candidates can be used as a measure of activity output of the given department. This would in principle increase the focus on selecting the most qualified candidates in the recruitment process.

Economic support is essential to enable the tenure track scientist to use the time optimally from day one. It is clearly a goal that the tenure trackee should be financially independent. Lack of means in the early phases is not consistent with an effective evaluation after two years. Therefore, the programme should have a substantial start package, which should include faculty financed PhD students. This would enable the tenure trackee to initiate the submitted research plan immediately.

In addition to the tenure track, we see a need for a discussion regarding other types of researcher positions within the university structure. Currently, researcher is typically an externally funded position used for various purposes. One category includes highly specialised staff with designated responsibilities for research. They are crucial for research environments and should have more secure working conditions. Amongst the interviewed junior scientific staff, there was a significant proportion that would prefer primarily to do experimental work, without having the responsibility of a group leader. This type of positions is invaluable to larger research groups and there should be an opportunity to be promoted to senior
researcher and thereby permanent position. Such a position could be considered as an exit opportunity from tenure track towards full professor.

Thus, we recommend:

- An ambitious tenure track programme – with clear promotion and exit strategies.
- Clear career paths for scientists that exit the tenure track programme.
- Supporting mentorship programmes for career, scientific and teaching development in the tenure track.
- A parallel career path for researchers into permanent positions as supporting scientist without group leader obligations.
- That tenure track should be supported with a substantial start package, which could include faculty financed PhD students.

4.3 Recruitment

Uppsala University has strong international competitive research environments. Strikingly, however, there is a high degree of local/internal recruitment. Further stimulation and renewal of the research environment require external recruitment. Attraction of highly esteemed international scientists directly into professor positions requires an extensive investment and may on a larger scale drain research support from the existing researchers at the university. Thus, we recommend an effort to recruit upcoming scientists into the aforementioned tenure track programme by mandatory use of search committees at department level that continuously scan the international candidate horizon. A well-supported tenure track programme with open calls will endorse a higher degree of excellence and gender equality in recruitment. To recruit from abroad, the tenure programme is essential because the extended timeframe for employment makes it worthwhile to learn Swedish. Moreover, these positions can be advertised with emphasis on the advantageous Swedish family policy as leverage for younger researchers with families. This should be supplemented with an active, individual help for spouse employment from the university. An imaginative addition would be for the university to use some of its land to build attractive family rental accommodation for incoming international staff – a scheme that could be cost neutral in the medium term. Open calls to this type of position will favour equal opportunity.
We further recommend for university level:

- That the classical tenure track as proposed under section 4.2 is used to increase external recruitment.
- That the activity-based award system for departments is modified to avoid bias against external recruitments.
- That the university should develop a policy for use of search committees (at department level) is used to identify top-qualified candidates before the tenure track position is posted.
- That the position is only posted if the search committee is able to identify competitive candidate of both sexes.
- The recruitment directly into full professorship must be streamlined (current process mean time 345 working days).

We recommend for faculty level:

- That the faculty establishes a common policy for open calls.
- That the faculty establishes support for tenure track programmes.
- That the faculty establishes support for search committee work.
- That English becomes acceptable as teaching language and that all teaching material has an up-dated English version (exceptions may be necessary in education with patients present).
- That tuition for a year will include summer school programmes for international students. This could potentially be ensured through faculty stipends for particularly talented exchange students.

4.4 PhD students – graduate school

*University level*

Sweden has had a high number of PhD students in relative to its population size. PhD students are a valuable asset to the economy as:

- Major drivers of research output.
- Contributors to undergraduate education.
- Foundation of a vibrant research based economy.
- Trained expertise for a technology based society and industry.

An unintended consequence of changes in PhD student support, legal status and other societal change is a gradual reduction in PhD student numbers. This is driven by declining numbers of Swedish students wanting to undertake a PhD and the relative cost of a PhD student compared to a post-doctoral scientist.
There is an urgent need to:

- Set a target for the optimum number of PhD students needed to meet the needs of academia and society.
- Recruit only the best potential PhD students by international posting and external assessment.
- Provide adequate resources and funding for PhD students by regular university stipends.
- Optimise PhD training, research output and the PhD experience by forming a PhD School (see below).
- Effectively train and mentor all PhD students so that they can develop careers appropriate to their skills and ambitions in academia, industry or society.

**Domain/faculty Level**

Currently recruited students are largely either overseas students arriving with their own funds to support PhD training or Swedish students supported with a variety of local funds. Accepting overseas students that bring their own funding carries a risk because it is not possible to effectively assess their suitability prior to their arrival. Local students will have undertaken some training after their undergraduate degree, but there is often only a limited possibility to assess their suitability for a particular project although in some cases they will have undertaken a short project or internship with their intended supervisor. Students appear to be effectively trained and supported, make important contributions to research output and seem generally happy with their lot.

Procedures governing PhD recruitment and training do exist**, however, there is a lack of awareness of these, they do not necessarily cover all aspects of the PhD lifecycle adequately and it is not clear whether the procedures are uniformly implemented and their implementation documented. There is also a risk that students do not understand the requirements when they apply and are made an offer or as they undertake the PhD.

The apparent lack of standard procedures across the faculty introduces the possibility of heterogeneity of standards and variability in the level of training, the quality of the student experience and the value of the student to the research programme and subsequently to society. To optimise the value of PhD training the panel recommends the establishment of a form of PhD School within the faculty to standardise the training of PhD students and ensure that all training exceeds set minimum standards. It would be ideal if the standard programme could incorporate several short rotations in different research groups to allow an

optimum union of students, supervisors and projects. However the panel recognises that this may be difficult to organise for various reasons. In the absence of this, where possible we would support potential students working for a short probationary period within a supervisor’s group in order to ensure suitability and compatibility.

As a minimum the school should develop common faculty criteria for:

- PhD student recruitment.
- Evaluation of the PhD project.
- Procedures for PhD supervision.
- Assessment of PhD progress and progression or exit.
- Examination.

These have to meet faculty-established quality criteria in order for a PhD student to be accepted at any group of the faculty. Each department would establish a small gender balanced Departmental PhD School Committee comprised of PIs to ensure PhD school procedures are met and to develop and document Departmental specific training and procedures including:

- Requirements for course activity and training.
- Establishment of appropriate mentorship procedures.
- Development of PhD-days for the entire faculty.
- Requirements for local journal clubs.
- Formalise mid-point evaluations and examinations and their consequences.
- Formalise requirements for internationalisation and exchange programme.
- Possibilities for probationary periods in the recruitment phase.

Qualifications of potential students would be examined by the Departmental PhD School Committee to ensure both academic and language standards are met. The Committee and Department should be satisfied that the financial provisions for student support are appropriate. Potential students would be interviewed, preferably in person, if not by video link, by a gender balanced panel comprising the potential principal supervisor, a member of the PhD School Committee and the putative second supervisor.
4.5 Funding
One crucial issue at university/faculty level is the lack of well-organised graduate student system where both the organisation and needed competitive funding are accessible for the student. Currently the only source for this activity is the external funding obtained by the PI. The duration of the faculty co-funding could be from one to four years depending on the status of the PhD project meaning that this instrument is available annually through a competitive process where both the student and the PI are evaluated. If the PI finances the salary this has also to give the PI power in the selection process, although within the guidelines established by the PhD School. This system would be of a great opportunity in particular for younger PIs. Only one funding per group can simultaneously be running, as the number of available grants will, most probably, be limited, however, the competition will be fierce, guaranteeing the quality.
Department of Neuroscience
Department of Surgical Sciences

1. Introductory remarks
The Department of Neuroscience and The Department of Surgical Sciences were both set up in 1998. For the purposes of this evaluation exercise, the two departments were further subdivided into subunits. The panel was asked to focus on how well the processes that drive research quality and renewal function in the research environments. Before the site visit, the panelists were provided with the department’s evaluations, bibliometric analysis, survey results as well as background data. The panel visited Uppsala between May 15 and 19, 2017.

2. Observations and analysis
The Department of Neuroscience is a successful and well established department that was set up in 1998. It is a complex department that combines preclinical and clinical specialties and is one of the most diverse in the University. It has continued to perform extremely well and overall its research remains at an internationally high standard. What did become clear in the evaluation was the need for reorganisation and the development of a new strategy. The four original thematic areas that has served the department well for several years – neuronal networks and plasticity, neural basis of body weight control, neurotrauma, and genetics and clinical neuroscience – are no longer as appropriate as new research areas have developed, and the new unit of speech and language pathology and physiotherapy has become established. The administrative structure has struggled to adjust to the changes and also needs reform.

The research environment is stimulating but also challenging. The two highly successful and well-developed units of functional pharmacology and developmental neuroscience attract high-quality researchers who are keen to expand the
new technologies that have been developed, and there is much scope for such ex-
pansion across the department and within the University Hospital. There is also
enthusiasm for research within the new units of speech and language pathology
and physiotherapy, but the staff there are starting from a much lower research
base. Getting an equal partnership is going to be difficult without reform, and
there is a danger that the new units might just be regarded as fodder for other
researchers. This has the potential to lead to dissatisfaction and resentment and
must not be allowed to happen. The scope for productive interaction with psy-
chiatry and speech and language units is very great and needs to be exploited
together.

There are many PhD students and most of their feedback is positive. None-
theless, there is considerable variation of experience and many students would
welcome more interaction with colleagues doing apparently unrelated work, but
which, when looked at more closely, is productive and relevant to their own en-
deavours.

In further development the University Hospital also needs to be more closely
involved in integrating preclinical and clinical research activities. At present
it could be said to provide passive rather than active encouragement, and if it
was more proactive it could act as a valuable synthesiser of all research as well
as being aware continuously of the importance of public benefit. It is therefore
important for the University Hospital to be involved in the development of the
overall strategy set out below.

2.1 Strategy statement
We recommend that a Strategy Committee should be set up as soon as possible to
determine a clear, unifying strategy for the long-term future of the Department.
This committee should have representation from all elements in the department,
including PhD students and junior researchers, and the representatives should be
chosen in such a way that nobody involved in research within the Department
could perceive the representation as not including their views. The number of
members should not exceed 10, with each of the sub-groups 1–5 represented. We
consider that a University Hospital representative with prime hospital responsi-
bilities should also be a member of this Committee.

The chair of the Committee could be chosen but we feel would be best per-
formed by the current head of department (Finn Hallböök), with the Deputy
Head (Lisa Ekselius) assisting. We also advise that an external facilitator with
acknowledged experience in the field, possibly outside the University, is needed
to assist in achieving decisions. The facilitator should have the confidence of the
Chair and Vice-Chair before being appointed.
Time Scale: The Committee should report, within one year of its operation, decisions on the following:
1. a clear uniform strategy presenting a few broad research priorities of the Department,
2. a set of principles for funding to support the strategy, including the possibility of a portion of central funds being made available as bridging funds to enable researchers to carry out and complete work that is central to the strategy,
3. for all elements of the strategy to include preclinical and clinical elements,
4. a policy to facilitate collaboration across the Department that promotes awareness, transparency, understanding and clarity,
5. central arrangements of quality control of supervision for research students and junior researchers in all units within the department,
6. a clear policy of funding allocation between members of the department to give appropriate credit to all researchers involved in a grant or publication,
7. the identification of infrastructure developments (e.g., statistical support, research nurses, centralised purchasing) that could be shared across groups and be cost-effective.

Decisions about these elements need not all be finalised within the first year and the work of the Committee could be extended beyond one year as necessary. Implementation should begin by May 2018.

A) Functional pharmacology, Physiology and Neuropsychopharmacology
This subgroup consists of the groups Functional pharmacology, Physiology and Neuropsychopharmacology. One of the groups, functional pharmacology, is a large and highly productive group, headed by Helgi Schiöth, which has maintained a high standard of excellence over many years and was highly praised in the KoF11 evaluation. Despite this, there are significant difficulties that compromise the research environment and which are recognised by the subgroup. Because of the focus of KoF17 these difficulties, and their likely solutions, constitute the main body of this reevaluation in a separate document. In formulating this, the panel was highly conscious of the publication success, innovation and enterprise of this group in particular and have no wish to stifle this in any way.

Because the research environment covers much more than the territory of this subgroup, the suggestions we make are directed towards the Department of Neuroscience as a whole and have been combined in a recommended strategy for the Department. This is given separately from this panel report as applies to all the constituents in the Department. We also recognise that our panel is not the first to realise that a new strategy is needed, and so our suggestions are more specific and focused than they might otherwise have been. What is abundantly clear is that the original four themes of the group – neuronal networks and plas-
ticity, neural basis of body weight control, neurotrauma, and genetics and clinical neuroscience, are no longer fit for purpose and need replacing.

The academic standing of the group is very high but could be even greater if there was better collaboration across sections with more external funding. There is also concern, not expressed universally, that the administrative structure is unwieldy and if it was less centralised it would improve efficiency.

**B) Developmental neuroscience, Developmental genetics, Neuroanatomy and Pharmacology**

This subgroup, which includes Developmental Neuroscience (Hallböök), developmental genetics (Kullander), neuroanatomy (Kozlova), and pharmacology (Larhammar), is somewhat disparate but has been combined for the purposes of the KoF17 evaluation. It covers a wide brief, entirely preclinical, including neural networks, locomotor function in zebra fish, memory, eye development, and spinal cord repair. This should act as a bridge between preclinical and clinical work but at present this is somewhat underdeveloped. Some units are much more successful than others, and the Kullander group has substantial external funding. There is a high teaching load (there has been a 50% increase in medical students since 1998) and this has created pressures on research staff.

The work of this group is varied but some is of major scientific interest and should be encouraged. There is a general feeling that several of the units are adrift from other sections in the department and much could be achieved by better integration.

**C) Physiotherapy and Speech Language Pathology**

This is a relatively new subgroup led by an enthusiastic head (Åsenlöf) that has a clear understanding of the need of the priorities of the subject and how progress should be made. The research environment is excellent and supported by PhD and junior researchers as well as senior staff.

Overall we felt the research environment in this group was excellent.

There is a lack of senior researchers in the subgroup and a need for greater teaching and clinical input, and more recruitment is expected. There is a particular problem in that a senior person is needed to lead speech pathology but a clear expectation that this person should be fluent in Swedish, thus reducing the potential pool of applicants.

There was excellent communication between PhD students and other colleagues in the unit, reinforced by our discussions with junior staff.
D) Psychiatry, Child and Adolescent Psychiatry and National Centre for Disaster Psychiatry

This group has profited from having new accommodation in the Psychiatry Hut and an advantage for collaboration. The recent appointment of a new and productive Professor in Child and Adolescent Psychiatry (Långström) should be a great reinforcement to the group, although it is a challenge to get a coherent research programme initiated. There are 30 PhD students who are well integrated into the unit structure. The research environment is a supportive and encouraging one.

The forward plans for the unit are good and each of the unit members has a clear view of their role. National collaboration is good and the Centre for Disaster Psychiatry has considerable potential. The publication record could be improved but the most appropriate journals for this group do not have high impact factors. The UPPS (Uppsala Psychiatric Patient Samples) project has considerable potential as a preclinical/clinical collaboration but needs much better integration. Personality disorder research is well established.

E) Neurology, Neurosurgery, Rehabilitation Medicine, Clinical neurophysiology and ophthalmology

This has not been a particularly successful group in recent years. Some components, such as clinical neurophysiology, have had a proud history but now undertake very little research.

There is considerable dissatisfaction in this unit, with greater satisfaction with the hospital than with the university department, so emphasising the importance of the integrated strategy suggested for this subgroup. There is understanding that preclinical collaboration is essential to the continued success of the unit and the key members are willing to work hard to achieve this. Some sub-units, such as clinical neurophysiology, are small and vulnerable, but are making good progress with enthusiastic staff, and the U-Pain project also has potential for the unit and should be fostered. The traumatic brain injury subunit remains highly respected but is having difficulties with funding because of changing national priorities but need to be supported.

This unit is currently on the periphery of the department and needs to be brought into the centre.
3. **Summary**

### 3.1 **Strengths**

Below you find identified strengths within the research environments at the department of neuroscience. Strengths mentioned in more than one research environment are important research of international importance, leadership and a good working environment regarding support, working relationship and commitment.

- Excellent performance of group as a whole with research findings of international importance (A)
- Wide range of research projects in areas of scientific importance and with potential for gains in health (A)
- Great commitment of core researchers (A)
- Internationally recognised contributions made by some groups (B)
- Considerable novelty in many projects (B)
- Good vision for future (C)
- Excellent leadership (C)
- Very supportive environment (C)
- Good integration in a new unit (D)
- Excellent working relationships (D)
- Good training for PhD students and researchers (D)
- Good individual leaders of subgroups (E)

### 3.2 **Weaknesses**

In addition, weaknesses are identified. Weaknesses found in more than one research environment relates to funding, lack of integration and disparity and lack of strategy.

- Absence of a coherent long-term strategy for the group (A)
- Disparity in perceptions of the research environment (A)
- Administrative inefficiencies (A)
- Disconnection with others in Department (B)
- Teaching load considered excessive (B)
- Relatively little internal funding (B)
- Small number of senior staff (C)
- Grant opportunities limited in this discipline (C)
- Speech pathology needs staff reinforcement (C)
- Relatively one-sided collaborations (D)
• Publication record needs improvement (D)
• Poor integration with rest of department (E)
• Lack of overall focus (E)

3.3 Recommendations
Among the recommendations that are directed to more than one research environment are development of strategies and improved collaboration.

• Need for new overall strategy for department (A)
• Improved collaboration plan (A)
• New administrative structure (A)
• Adoption of new strategy as a matter of urgency (B)
• Review of funding structure (B)
• Recognition from colleagues in other units that this group is performing well (C)
• Greater availability of general departmental resources as outlined in our strategy would be of particular value in this group (C)
• Greater collaboration between clinical and preclinical groups would help both (E)
Department of Surgical Sciences

1. Introductory remarks

The Department of Neuroscience and The Department of Surgical Sciences were both set up in 1998. For the purposes of this evaluation exercise, the two departments were further subdivided into subunits. The panel was asked to focus on how well the processes that drive research quality and renewal function in the research environments. Before the site visit, the panelists were provided with the department’s evaluations, bibliometric analysis, survey results as well as background data. The panel visited Uppsala between May 15 and 19, 2017.

2. Observations and analysis

There have been changes in the organisation of surgery research since the Kof11 evaluation. At that time there was considerable concern that individual surgical groups might be working too much in isolation and would suffer accordingly. Since the appointment of a Head of Surgery (Professor Per Hellman) there has been better integration although the natural tendency of individual units to pursue their own research independently is still present. There is considerable variation in the research output of different units but as many of the less productive ones are relatively new and undergoing expansion direct comparison would be unfair. The units of endocrine and breast surgery, vascular surgery, gastrointestinal surgery and urology remain at an internationally high standard and some other units are very close to achieving this level also.

Although an improved level of integration has been achieved, it could be developed much further without in any way compromising the work of individual units. Some of the smaller units in particular would benefit greatly from a common research support infrastructure, and intermingling of PhD students with a much greater number of seminars would also stimulate collaboration. The Radiology unit could be a key component of the new infrastructure and this is outlined in our general recommendations below. The Hedenstierna laboratory has been a very valuable resource in the past but it is now under threat. If it is to survive, it will need to adapt to new requirements and so needs a detailed review of its role.
2.1 Recommendations
There is some very good research work being carried out at the Department of Surgical Sciences and much of this is clearly praiseworthy, but progress is uneven across the units and we have concerns that the research environment is less than satisfactory for many personnel. The following suggestions are made with the intention of both promoting more harmonious research and in ironing out these differences, and which we feel can all be carried out under the supervision of Per Hellman, Head of the Department:

1. The level of integration between the University and the Hospital should be enhanced to provide better alignment between the development of surgical specialties, research priorities and clinical excellence. There are some examples of good models that demonstrate this alignment, with clear communication between clinical and research directors. The Faculty should be more closely involved in this enterprise than it is at present.

2. A nominated person to oversee the agreed common minimum training pathway for PhD students, with the commitment from both hospital and university to ensure (a) appropriate timetables for research, (b) student/staff ratio, (c) flexibility to allow for differences in work patterns, (d) the minimum time for research agreed in contracts, (Report system being set up, integration issue also)

3. A clinical Post-Doc faculty programme that is widely advertised, (a) ensuring the presence of support systems for junior researchers, (b) help with grant applications and (c) advice over career opportunities

4. A seminar programme or journal club should be encouraged for all staff and students, preferably covering several units,

5. Consideration of the greater use of the resources in Radiology for other uses (beyond those already agreed with Astra Zeneca), that could yield funds for all sections in surgery. The possibility of an innovation group to take this forward might be considered,

6. Consideration of the Radiology resources being available for the training and appointment of medical physicists and other staff involved with image processing,

7. Infrastructure developments in IT, statistics and research methodology (eg, qualitative research), that could be available for units in the Department that can justify their use. A combined Clinical Trials and Health Economics unit might be considered here,

8. An in-depth review of the future and functions of the Hedenstierna Laboratory, and of the other smaller research laboratories,

9. There was some concern that many units seemed to expect promotions from existing staff members when we understand the University policy is to pro-
mote open advertisement with the best candidate appointed. The hospital employee structure may need to be revisited,
10. Rationalisation of the concept of Centre of Excellence status with the Hospital and with the University in a way that promotes development of research as well as services,
11. The success of a research unit need not depend on the appointment of a Professor and this should be appreciated, especially when funds are limited,
12. area to facilitate assessment and recruitment of patients to research studies. Ideally, these could be permanently available and have the possibility for 24 hour staffing,
13. A review of the future of research in all surgical specialties is probably needed in view of the national tendency to create fewer units covering larger populations than Uppsala.

A) Orthopaedic surgery
This is a busy clinical department with 1000 joint replacements per year and strong activity as a tertiary referral centre. Nonetheless it plays an active part in research, has a good programme of randomised controlled trials, and also a good publication record. It has a strong record of collaboration with other international units in orthopaedics and has important joint work in the Rudbeck laboratory. There is less collaboration with other units within surgical sciences, but good ones with other units within the faculty (eg, recent BMJ article (2014) suggesting link between greater milk consumption, mortality and fracture risk). There are many PhD students but some of them are relatively detached from the unit and joint teaching and support is lacking in some respects. Some of the PhD students are taking up to 8 years to complete their research. This is unsatisfactory and we think it is linked to their relative lack of support.

The good research output of the unit is achieved by a great deal of hard work by senior and junior colleagues, and by focusing on important clinical topics. There is limited integration within the department of surgical sciences and this could be improved with the potential to improve performance still more. There is an urgent need for office space for research nurses and researchers within clinical areas – this is addressed in the overall comments for the department.

The main issues are addressed in the overall comments about the department and there is much to be gained by the infrastructure developments suggested. In a unit where full time researchers are very few and there is pressure to complete research quickly it is important to ensure that research time is not compromised. Good liaison with the sub-Dean and others responsible for the PhD environment is needed here. We do recognise that this a much larger unit than many others and some splitting of functions may be necessary.
B) Vascular surgery
This unit, headed by Prof Anders Wanhainen, has a clear focus on aortic diseases, vascular registry and endovascular treatment. There are 25 PhD students and 6 research nurses are they are all well integrated into a well-run and well-oiled team.

Because all in this unit have a clear understanding of the well-established focus on aortic disease in all its aspects, there is harmonious collaboration, both national and international, and this has created a successful research environment. If there was room for criticism it might be said that the environment was almost too cosy, and because there is little perceived need to go outside the department, possible collaborations with other units (eg thoracic surgery) might have been neglected. There is also good research funding and appropriate back-up for research available (eg, statistical and data base support).

The research environment in this unit was very good and might be used as a good illustration of what can be done when there are good resources available. The unit would benefit if the overall suggestions for the department were implemented.

C) Endocrine, breast and experimental surgery
This is a well established unit comprising a Centre of Excellence in the University Hospital and also across Europe through the ENETS group for endocrine tumours (Prof Per Hellman). The units for breast (Ass Prof Fredrik Wärnberg) and experimental surgery are smaller and more recent but has been involved in good research, especially on ductal carcinoma. The unit has been involved in the Uppsala Biobank since the 1980's but recognises the need for the breast grouping to have more outside collaboration, not least as at present there is very little research time for clinicians.

In experimental surgery there is clearly a need for preclinical positions within the department but the mechanism for achieving this was not clear. It was also not clear in this evaluation why these units were joined together as they have very different approaches and backgrounds.

This is another unit where more infrastructure is needed along the lines suggested for the department as a whole.

D) Transplantation surgery
This is a relatively small unit with one associate professor, 10 PhD's, and eight consultants. It is suffering a little because of loss of morale in the discipline associated with the Macchiarini scandal and with ethical concerns over consent for transplantation.

This unit is involved with some important work, including the desensitisation of immunised patients (an international collaboration), but because of recent
difficulties is not working to its full potential. It would benefit at this stage from
collaborating more with other departments, especially neurosurgery.

This unit is a somewhat unusual one because of its special requirements. Nonetheless we feel it would be helped if the suggestions made in our general summary were followed, as this would improve collaboration.

E) Anaesthesia and Intensive Care Medicine
This unit, headed by professor Sten Rubertsson, is relatively large within the
department. The unit with the Hedenstierna laboratory is internationally attrac-
tive. The unit is very strong in intensive care medicine but less so in anaesthesia.

Main issues that were identified has to do with the distribution of the block
grant, and issues surrounding the Hedenstierna laboratory.

This is another unit where more infrastructure is needed along the lines sug-
gested for the department as a whole.

F) Gastrointestinal surgery
This is a successful unit headed by Professor Wilhelm Graf with research being
carried out into oesophageal, bariatric, hepatopancreaticobiliary and colorectal
surgery.

The unit has been help greatly by good international collaboration and by
having experienced mentors. Despite these good international links, or possibly
because these have been major elements in the expansion of the unit, the infra-
structure for the Unit is in need of improvement. The suggestions made in our
overall summary are highly relevant here.

This unit is an exemplar of the benefits that could be achieved by the develop-
ment of an overall infrastructure for the Department of Surgical Sciences

G) Urology
This unit, with established professors, Per-Uno Malmström, Anna Bill-Axelson
and Pär Stattin, is highly successful, with a combination of translational and reg-
ister studies and register studies, and clinical trials, with a very high publication
rate.

Whilst we have no need to suggest any changes to the existing successful
structure of the unit there did seem to be a degree of exclusivity leading to igno-
rance on what was going on in other closely related subjects. One of the penalties
of success that specialties become even more specialised, but we felt that closer
links within the separate sub units within the group, especially at the junior re-
search level, would help to improve the research environment.

This is yet another unit which would benefit greatly from the infrastructure
suggestions made in our general summary.
H) Caring Science
This is one of two Caring Sciences units in the University of Uppsala and is relatively new. It has a broad brief involving all research questions concerning clinical care and currently has little infrastructure, with seven senior lecturers in position. It has few collaborations in place at present but these are being developed.

The unit needs a better infrastructure for teaching and supervision and would benefit greatly from the suggestions made to improve the infrastructure of surgical sciences overall.

A new unit of this nature would benefit greatly from the infrastructure development suggested in the overall comments about surgical science.

I) Oral and maxillofacial surgery
This is the only unit in the University linked to dentistry. Associate professor, Andreas Thor, emphasised the value of this particular discipline within surgery but its full potential has yet to be realised. It is likely to become more important as dentists with double dental and medical qualifications are increasing in number. Currently between 10 and 15 dentist are in this position within the unit.

This unit is keen on collaborating with others within surgical sciences but currently very few are in place. It would particularly like a link with orthopaedics and expand its work on biomaterials with the associated laboratories.

This unit is particularly well-placed to benefit from the infrastructure suggestions made in the overall recommendations for surgical sciences

J) Plastic surgery
This is another of the new units within the Department. It has relatively few personnel and its special interest, surgery of congenital defects, is a specialised one. Although it has published widely within this field the journals concerned have relatively low impact that could give a false impression of poor productivity.

Daniel Nowinski heads the unit, but the presentation was made by Maria Mani who would be keen on having more University appointments made. This is one of the units that would like to have a professor appointed but is really doing very well without one currently. We are not saying that a professor would be undesirable but it may not be necessary at this point in development.

This is one of the units that receives considerable funding from the clinical department. This is appropriate in unit whose research is so closely involved with clinical practice, but there is uncertainty about how this fits into the university structure. Plastic surgery is one of those disciplines in which research tends to be relatively limited that could have great opportunities for expansion. The recent development of an interest in microsurgery could be encouraged.

This is also a unit, par excellence, that would benefit from the infrastructure developments that we have proposed in our overall recommendations.
K) Radiology
This unit, headed by Håkan Ahlström, is in an excellent position to help with infrastructure developments within the Department of Surgical Sciences. This is because it is well endowed with the scanners, especially the whole body PET/MR scanner provided by the Swedish Research Council, and also because so many of the other units within the department required its services.

It has exciting prospects, including its contribution to the whole body imaging atlas, and its close collaboration with many productive units within the department. There is research committee that decides on priorities and this seems to work smoothly. There is also statistical help for data analysis but at present this seems to be confined to the radiology unit only.

There is a shortage of medical physicists.

This unit is a great asset to the Department but we feel could be expanded further. Because it is central to so many of the activities within the Department it could be the place for the infrastructure expansion that we regard as important in our general summary. There are two distinct strands of research in the radiology department, (a) the intrinsic research of the radiology group, which is noteworthy, and (b) the other groups within surgical science who would benefit greatly from imaging facilities in their own research. In developing the work in this group both need to be supported.

Our panel may be going slightly beyond its brief in making some other suggestions. Scanners, especially PET scanners, are highly prized commodities and expensive assets. We established during our visit that there were long periods when the scanners were not being used and we felt that there was the case for a business plan to be developed to contract out the use of the scanner to other organisations (apart from AstraZeneca who already have a contract). Although we understand that any funds generated would go to the Hospital an arrangement could be made to ensure the University also benefited.

We also felt that the unit could play an important part in training and retaining medical physicists, as these are in such short supply.

This unit is probably the key to the infrastructure developments that we had proposed in our overall summary. This is particularly appropriate if statistical assistance was to be given across the Department of Surgical Sciences beyond that already provided for the unit of radiology. Because radiology is a natural hub for so much of the collaboration going on in the department it could play a very useful part in expansion.

L) Thoracic surgery
This department, headed by Professor Elisabeth Ståhle, has a strong track record of publications and good collaboration with other departments within the University, and with the Hedenstierna Laboratory. It is well-placed close to the hos-
pital. Has excellent national collaborations and good new ideas, especially with regard to stem cells.

There is some concern over the long-term future of the unit and the establishment of successors to senior staff. Our panel was a little concerned that assumptions were being made, not only in this unit but in many others, that promotion was going to be internal. Whilst we fully understand the advantages of internal promotion when staff are well known and established, we were a little concerned that there seem to be so little expectation of external staff being appointed. In many cases this may be a reasonable conclusion to make when the specialty is relatively small, but we caution against the natural assumption and that internal promotion is always preferred.

This is another unit which is indeed of infrastructure developments along the lines suggested in our general recommendations. We also felt that these developments might help promoting close collaborations with other units (eg aortic disease).

M) ENT Surgery
This unit, under Professor Göran Laurell, has been productive in the past, especially with regards to studies of hearing loss, but it has been less successful recently and is looking for new talented staff.

The unit is relatively well endowed with access to two laboratories, and has 11 PhD students. Our panel developed the impression that there was an urgent need for new ideas and strategy to development within the unit and are currently there was considerable uncertainty about its future.

We understand that ENT research is considered to be an important part of the Department’s work but at present the Unit seems to lack stimulation and innovation. This is recognised by the head of department but there is uncertainty about developments in the next few years. We considered that considerable rationalisation of resources was necessary.

This is another units that needed infrastructure development but also infrastructure rationalisation in that the two laboratories attached to the Unit might be put to better use.

N) Forensic Medicine
This is an unusual unit, headed by Professor Ingemar Thiblin, as it is not part of the University but of the Ministry of Justice. Nonetheless, it has an established and well respected place in the university structure and has a good track record of publications. There are currently for PhD students involved in their work.

Despite its somewhat semi-detached relationship with the University, the unit is happy with the support that it receives. It is currently doing useful research on the shaken baby syndrome and its main concern is that the Ministry of
Justice does not fully realise that research takes time and cannot be delivered like a menu order at a restaurant.

The general recommendation that we have made for the Department do not really apply to this unit.

3. Summary

3.1 Strengths

Below you find identified strengths within the research environments at the department of surgical sciences. Strengths mentioned in more than one research environment are research of good quality and international importance, good access to certain infrastructure, good working relations, good collaborations.

- High impact research output at all levels (A)
- Good linkage to international registries and other university units abroad (A)
- External funding impressive (A)
- International status (B)
- Good network development and support structures with on call research nurses a great asset (B)
- Good relationship across all staff disciplines (B)
- Good collaborations within and beyond Sweden (B)
- Good support for PhD students (mentoring and time) (B)
- Very strong endocrine well-established group (C)
- International recognition (C)
- Good clinical-scientific research studies (C)
- Good arrangements for PhD students (clinical and non-clinical) (C)
- Great participation in multi-centre trials by the breast group (C)
- Three excellent transplant surgeons (D)
- Preclinical collaboration established (D)
- One research group covering cardiac arrest, respiratory physiology, sepsis, pain (E)
- Strong record in intensive care research (E)
- Experimental lab, including well run large animal lab (E)
- Succession planning involving young researchers with protected time for clinical researchers (E)
- Large research group with foci of excellent research and international collaboration (F)
PANEL 16

DEPARTMENT OF SURGICAL SCIENCES

- Experienced mentors (F)
- Common theme of tumour biology (F)
- Good research partners (F)
- The excellent Swedish and Nordic cancer registries available for research (F)
- High publication rate (G)
- Big impact on practice (G)
- Good quality research, internationally recognised and externally funded (G)
- Good collaborations within University to conduct clinical trials (G)
- Succession planning (G)
- New and enthusiastic group (H)
- New department with great ambition (I)
- Potential to embrace new technologies in medical dentistry (I)
- Good existing collaborations with Chemistry and Radiology (I)
- Enthusiasm of staff (J)
- Good clinical and research environment (J)
- Interest in expanding research areas (J)
- A well resourced and structured department (K)
- Good research programmes (K)
- Established Inter unit collaboration (K)
- A large unit with some good collaborations (L)
- Established links with laboratories (L)
- Established record in subject (M)
- High proportion of PhD success (M)
- Established structure (N)

3.2 Weaknesses
In addition, weaknesses are identified. Weaknesses found in more than one research environment relate to balancing clinical duties with research, collaboration, future outlook, clinical and preclinical cooperation and the relation between the hospital and the university.

- Many PhD students are relatively unsupported, with inadequate time for their studies (A)
- There are too few academic meetings and seminars within the unit (A)
- Might benefit from preclinical partnership (B)
• Mild degree of complacency (B)
• Lack of new blood developments (B)
• There is relatively poor collaboration with the pre-clinical departments relevant to maintaining a state-of-the-art scientific approach. We are not suggesting that more preclinical staff should be placed in the department but the closer links suggested in our overall summary would allow better preclinical liaison (C)
• Inability to develop research studies involving lab work because of staff limitations (reinforcing the points mentioned above) (C)
• No clear path forward for unit (D)
• Reduced morale over misconduct issues (D)
• Collaborations for immunological research not clear (D)
• Minimal collaboration with other surgical departments (eg thoracic) (D)
• Clinical future of general versus specialist transplant units is uncertain (D)
• Less competitive in anaesthesia, but this is balanced by an excellent clinical service (E)
• In Sweden, there is no consent route for including unconscious patients (E)
• Animal laboratory-based research is unfashionable (E)
• The future and staffing of the Hedenstierna laboratory is uncertain (E)
• Shortage of Research nurses (F)
• Limited support available for statistical and data management (F)
• The expectation of the hospital and staff that clinical developments need to be led by professors, leading to fragmentation of research focus (F)
• The expectation that all sub-themes within a department should be equally research active and successful (F)
• Lack of recognition that enrolling patients in trials and registries might be the best research that those with heavy clinical loads should pursue (F)
• Lack of reward for clinical excellence (F)
• Limited office space (G)
• PhD supervision arrangements not clear (G)
• Despite success of unit there is uncertain funding in the long-term (G)
• There is a general lack of infrastructure support (G)
• Developments in clinical urology do not seem to have been fully appreciated (G)
• Uncertain role in the department (H)
• Needs more expertise in designing research questions and getting external grants (H)
• Small number of active researchers (I)
• No collaboration with orthopaedics (I)
• Long training programme: both dentistry & medicine leading to older PhD students and researchers (I)
• Not enough collaborations yet established (J)
• Small number of established researchers (J)
• Uncertainty over Hospital/University responsibilities (J)
• Full use of resources not yet made (K)
• Supervision arrangements for PhD students not clear (K)
• Bottle-neck at image processing level (K)
• Mediocre to poor research climate in this area (L)
• Need for help with the nursing and administrative structure (L)
• Uncertainty over the long-term future (L)
• Declining volume of open surgery in practice: it is not clear whether minimally invasive techniques have been embraced fully (L)
• Lack of research planning: Diverse, unfocused research aims and outputs (L)
• No recognition for clinical excellence (L)
• Uncertainty about future (M)
• Underuse of laboratories (M)
• Could benefit from more time available for research (N)

3.3 Recommendations
• There should be weekly journal clubs and seminars at appropriate times (A)
• Study nurses are essential to good recruitment and need dedicated space (A)
• Consideration of MSc qualification rather than PhD for part-time students or fewer PhD students (A)
• Research rooms needed, and possibly a clinical research ward to develop studies (B)
• Need to embrace new approaches not currently fitting in with current foci (B)
• Search for preclinical and more surgical partners would be helpful here – although the productivity of this group is good they would benefit from having an external perspective on the longer term future (B)
• Centre of Excellence status needs to be more widely promoted and renewed in the current review (C)
• Breast surgery research needs to be expanded as it is doing so well (C)
• Urgent need for preclinical collaborations, including the funding of posts in preclinical departments (C)
• More collaboration with other units desired (D)
• Patient support groups (E)
• Funding negotiations (E)
• Antibiotic resistance and sepsis research are important and could be expanded in the laboratory (E)
• Unit to be involved in all aspects of the development of a new infrastructure in view of weaknesses outlined above (F)
• Closer links to be established within unit, especially to junior staff (G)
• Examination of research priorities to ensure funding is maintained (G)
• The possibility of a surgical trials subunit to support urology, orthopaedics, vascular surgery and other departments could be considered (G)
• Long term strategy for the place of this unit and surgical sciences is needed (H)
• More contact with social science and qualitative researchers is essential (H)
• Some liaison with the other unit of caring sciences is desirable (H)
• Encouragement to allow integration into the surgical sciences group (I)
• Exploration of links between orthopaedics and plastic surgery (I)
• Joint seminars with other units with related interests (I)
• Clarification of relationship between Hospital and University (I)
• Initiation of discussions to promote collaboration with like-minded units (I)
• If the infrastructure suggestions made were approved more stuff could be appointed and promoted (K)
• A business case for extension of scanner use to be considered (K)
• Discussion needed about training of medical physicists locally (K)
• Involvement in infrastructure developments following our general recommendations (L)
• Examination of possibilities for staff renewal (L)
• Closer alignment or merger with vascular surgery could be considered (L)
• Review of department needed in connection with the general recommendations for the Department (M)
• If it were possible to bring this unit closer to the university structure, not exclusively in surgical sciences, it might help to promote its functions (N)
1. Introductory remarks

The Department of Medical Sciences and the affiliated Centres for Clinical Research in Dalarna, Sörmland, Gävleborg and Västerås are committed to the triple mission of Uppsala University through their research programs, their undergraduate medical and PhD education programs, as well as their efforts at providing benefit to society through knowledge dissemination and other activities. The charge to Panel 17 was, at the level of those facilities, to observe and analyse the structures and processes of the research and educational environment in relation to those preconditions and processes that support high quality and strategic renewal of research. Regarding the Centres for Clinical Research, the evaluation is focused on the relationship between the centres and Uppsala University. The panel members reviewed all material provided prior to and during the site visit, including the self-evaluation documents from each research site, the results of the Research Environment Questionnaires, the Annual Report for 2015 of the Department of Medical Sciences, and the presentations provided by the department leaders and representatives from each Centre of Clinical Research. The panel members also had the opportunity to meet with selected PhD students, post-doctoral trainees and staff researchers, and the R&D Director at Uppsala University Hospital. Discussion in the context of the presentations was particularly productive, clarifying current challenges and limitations experienced by the department, the hospital and the Centres for Clinical Research. The panel’s work was facilitated by inclusion of panellists familiar with the requirements of the Swedish government regarding employment and its mechanisms of research support, as well as members with knowledge of alternative structures and processes implemented at other European and Scandinavian universities. The assignment given to the panel and the material provided, including planned interviews, did not provide an opportunity to review the university’s organizational structure and administration or its relationship to other departments, the university hospital...
or the affiliated county hospitals where research, PhD training and basic medical education commissioned by Uppsala University are performed. In addition, the panel notes that documents outlining the university's strategies and goals were not provided to the panel. The conclusions and recommendations of the panel might have been modified if the assignment had included a broader perspective, as from the point of view of the relationship of the Faculty of Pharmacy and Medicine or the whole university to the Department of Medical Sciences. The special challenge of appreciating the interaction of the university with Uppsala University Hospital and with the four Counties with research centres would have been facilitated if contracts and documents regulating those relationships had been made accessible.

This report will summarize the observations relevant to the overall medical sciences research and the affiliated Centres for Clinical Research and PhD programs, including consideration of each of the research sites, and will recommend review and modifications of the research environment relevant to the department and research centres and extending to the university hospital and the broader university structure.

2. Observations and analysis

Department of Medical Sciences

Background

The Department of Medical Sciences represents the largest clinical department in the Faculty of Medicine with more than 250 staff, including 27 professors and 7 affiliated professors, along with more than 300 associated co-workers at the hospital. Twenty-four research groups are distributed among six subject areas: Circulation and Respiration; Infection; Inflammation; Laboratory Medicine; Endocrinology; and Oncology. Members of the faculty actively participate in the education of more than 2000 students at the undergraduate medical student and PhD level. In a typical year, approximately 20 PhD students will present their dissertation and complete their training.

The department is led by Professor Lars Rönnblom, an internationally recognized immunologist and rheumatologist who has made seminal contributions to the understanding of systemic autoimmune disease. He has been in his leadership position for three years and has responsibility for the quality of science and education in the department and for executing the strategies of the university's strategic plan relevant to medical sciences. He has thoughtfully established the department leadership structure and has considered areas of opportunity and gaps in department research activity as well as a need to ensure appropriate compliance of PhD trainees with institutional policies. He designed and initiated a new departmental structure to facilitate communication and collaboration
among collections of research groups and individual researchers based on thematic areas of research as well as geographic location. A faculty Research Coordinator is responsible for academic as well as operational coordination among researchers and research groups to ensure regulatory compliance, but more importantly, to help to augment research productivity. He has appointed Professor Johan Sundström as Deputy Head of Department, partnering with Professor Rönnblom in developing and optimizing research-related activities. Professor Bertil Lindahl is Assistant Head of Department and is responsible for oversight of PhD training. The PhD program appears to be successful with a stable number of PhD students, some demonstrating impressive research success based on publication citations. As is true of PhD programs throughout the university, students enter at a relatively late stage in their careers – typically following completion of medical specialty training – and often complete their training at 40 years of age or older. The department has not tracked the career trajectories or productivity of past PhD graduates. Professor Christer Janson serves as Assistant Head of Department and is responsible for Undergraduate Medical Education. Dr. Johan Dixelius is Senior Research Officer and Annette McLoghlin is Chief Administrator, managing department finances. Consistent feedback from students, junior faculty and senior faculty reported the efficient, timely and friendly administrative services provided by the department. In addition to this core department leadership group, Professor Sune Larsson serves as Director for Research and Education at Uppsala University Hospital and works closely with Professor Rönnblom to augment research and teaching activities of those faculty employed by the hospital. It appears that Professor Rönnblom has established an appropriate and collegial leadership group with the expertise and commitment to implement both research and educational aspects of the department.

Professor Rönnblom chairs a Department Board composed of elected members responsible for approving the department’s budget and proposing teachers to the faculty. In a recent election, a departmental initiative to achieve appropriate gender balance at the level of the Department Board was successful, with equal numbers of male and female representatives elected to the board.

The department’s faculty and students have generally generated high quality and high impact research. Some of the department’s faculty have strong international reputations and enhance the university’s stature in the international academic community. The department’s research is closely aligned to its teaching mission, and the department has taken the approach of facilitating successful development of research careers rather than selecting specific scientific areas for development. Scientific areas might be preferentially supported if they are closely linked to an education mission relevant to medical students, nursing students and laboratory technicians. The department is affiliated with impressive institutional research resources, particularly the Uppsala Clinical Research Centre.
and the SciLifeLab, and members of the department’s faculty participate in administering those resources. The establishment by the Department Chair of six areas of research concentration, each directed by a faculty research coordinator, holds promise of augmenting collaboration among department researchers and students. The publication record of the department faculty is outstanding.

The Department Chair envisions a future that will involve a more coherent organization of the department’s relationship to Uppsala University Hospital in which research and education are integral components of the clinical experience. He would like to cut across the barriers currently imposed by the separation of the PhD program into one based at the university and one based at the hospital in order to provide a consistent experience for all students. He would like to nurture and provide support for the career development of promising young faculty with high potential to achieve outstanding research productivity and impact.

Discussion of Relevant Themes
Department Structure and Leadership. Although the Department Board and its chair represent an appropriate group to implement the university’s and the disciplinary domain’s strategic plans, the panel observed that the department has not been empowered to execute the responsibilities and strategies relevant to the Department of Medical Sciences. A disciplinary domain board, elected by the departments, makes important decisions relevant to the department but does not always take full advantage of input from the Department Chair. It was also reported that decisions at the domain level with important implications for department structure and function could be extremely slow or insufficiently communicated to the Department Chair. As reported to the panel members by the Dean of the Medical Faculty, the Department Chair is not provided with an allocation of institutional funds with which to implement strategic initiatives, time-sensitive actions, or support for programs of general benefit to department faculty and students. In general, the link between the goals and strategies relevant to the department and their execution is broken, limiting the capacity of the department leadership to optimally implement those strategies. Providing the department with the needed tools and authority could have a significant positive impact on augmenting the quality of the research and education missions. Development of a vision and strategic plan specific to the department and approval and support of that plan by the Dean might help to empower the department’s leaders to effectively execute their responsibilities. One of the roles of the university and the domain should be to nurture the development and leadership skills of those faculty members with the potential to effectively manage others. The department chair position should offer that opportunity for talented researchers but requires that the chair is provided with the mandate to lead and the tools to do so.
The Relationship of the Department with Uppsala University Hospital. The Department is responsible for providing undergraduate medical education at the hospital in the internal medicine disciplines, and department faculty participate in the clinical care of patients cared for at the hospital. The department also oversees the graduate training of PhD students at the hospital and attempts to set a high standard for overall academic quality at the hospital. Many members of the department faculty participate in clinical research studies that involve hospital patients.

In spite of the many hospital activities in which department faculty and students participate, as well as research activities performed in association with physicians and other medical staff, the relationship between the two entities is complex and insufficiently integrated. A large number of the PhD students are employed by the hospital but are registered as students in the university's PhD program. Those PhD students contribute to research attributed to the university and in many instances participate in teaching of the undergraduate students at the hospital. At the same time, they are not granted full participation in the academic community, lacking for instance the opportunity to vote for representatives in department boards. Students interviewed by the panel expressed confusion regarding their connection to the department when they were employed by the hospital, and they craved a sense of ownership and affiliation with the department, which they viewed as their desired academic home. It would strengthen loyalty to the university if these students were provided with the same rights and obligations as those registered PhD students employed by the university. The same pertains to several of the researchers employed by the hospital but with research and teaching assignments at the university.

Clinical pressures for those primarily associated with the hospital sometimes limited time available for commitment to research projects. The panel appreciated the recent efforts and commitment on the part of hospital leadership to direct attention to development of the research and education components of hospital activities, and the committees that include members from the hospital and the department have the potential to improve integration of the medical sciences and clinical programs. However, even with new effort and focus on the challenges presented by the complex relationships between the hospital and the department, the panel is concerned that an optimal work and research environment will be difficult to achieve. A dedicated task force or comprehensive review of the relationship, commissioned by those at a high level at the university, could result in a new system that improves the research environment and the career development of students and faculty.

A significant contribution of clinical research funding is provided by the ALF agreement. Counties with training of medical students at university hospitals are granted compensation for teaching and funding for clinical research from the gov-
The university hospital’s ALF funds use and allocation are determined by County Council committees at the hospital. The department has no direct influence on the distribution of the ALF money. It would be an added advantage for clinical research in Uppsala if the research agendas of the hospital and its medical faculty at the university were mutually aligned and communicated to the research and health care communities to create an even more comprehensive and coherent research agenda.

**Department Process and Culture – Mobility and Gender Issues.** Similar to many Swedish universities, the faculty members in the Department of Medical Sciences are fairly inbred, as many have graduated from Uppsala University. The students and faculty are encouraged to gain experience and new points of view through collaboration with investigators outside the department and outside the university and to consider establishing affiliations at other universities. Even when the family situation limits mobility, invitations to guest professors to join a lab at Uppsala University can bring new blood into the environment. The Department Chair is well aware of the advantages of fluid mobility of faculty and post-doctoral students and encourages a broad range of scientific experience. He is also well aware of the importance of attention to gender issues. Women are well represented among the PhD students, but are less well represented at the professor level. The panel was presented with a report on the effectiveness of a recent plan to achieve improved female representation on the Department Board. The recent election resulted in a board composition with equal representation of men and women. Special attention should be directed to recruitment of women to new faculty positions, a result that can be facilitated by ensuring that all new recruitments involve an open call for applicants and review of candidates by an institutional committee with appropriate representation of women.

In addition to gender inequality, other circumstances may hinder equal opportunities to develop careers and promote excellent research. It is noted that language can be such a barrier. Even though research is generally communicated in English among the medical and research faculty, other communication, such as that related to university administration, is not. Efforts should be made to have administrative information, instructions and directives, etc. communicated to a greater extent in English to allow all employees to make informed decisions.

Similarly, educational background may also hinder equal opportunity. For instance, careers and employment structures are primarily designed to fit researchers with an MD, while competitive research also requires non-MD researchers. In this context, the panel noted that only one of the department’s 27 professors has a non-MD background. Career opportunities better aligned with diverse educational backgrounds should be considered to optimize the research performance at the department.
Faculty. Recruitment is a topic that was repeatedly addressed in the self-evaluation of the department and in interviews with the department leadership. The Department Chair and the Department Board have a good understanding of the scientific and medical disciplines that represent significant gaps in the current faculty and are also attuned to areas of opportunity. They have been hampered in executing recruitments as decisions regarding senior faculty positions are made at a higher level. While that may be appropriate in some cases, the Department Chair should be given the opportunity to present the rationale for a particular recruitment. The current situation, as described to the panel, limits his opportunity to present a request for a new faculty position to the Domain Board. There appears to be an excessive sensitivity to perceived conflicts of interest to the point that the department has limited voice in important decisions that impact it. The panel feels strongly that the Department Chair needs to have the opportunity to advocate for his department. The panel encourages the department to develop a well-reasoned recruitment plan, based on the department’s research strategy, that will provide a convincing and strong rationale for shaping a strong faculty that will position the department for growth and productivity in future years. Recruitment of talented young scientists, both MDs and non-MDs, should be a priority.

The evaluation of faculty is fairly traditional, with a focus on number of publications, impact factor, and number of dissertations supervised. In general, the panel feels that impact of publications – not only based on impact factor but more importantly, impact on use of knowledge by others as well as impact on society - is more informative than just counting publications. An impressively high number of citations were reported for several of the recent graduates of the PhD program, a good reflection of the significance of those publications. Documentation of collaborative research is another effective measure of scientific quality and is encouraged. The panel discussed the value of systematically documenting over time the career trajectories, positions and productivity of past graduates of the department’s PhD program. Knowledge of the post-graduate career tracks of department graduates can provide information useful for assessment of the success of the program as well as data useful in developing the department’s recruitment plan.

Research. The department has an excellent record of significant research productivity and external funding, but also is very dependent on the contribution of so-called ALF funds to Uppsala University Hospital. The department prioritizes high quality research, particularly in those areas for which the department has responsibility for undergraduate medical education. It has identified targeted areas for recruitment that would strengthen the research and education base, but in some cases, the proposed recruitment plans have not been approved. In some
cases funds are provided to support those researchers with insufficient external support, and it appears that those researchers contributing to the educational mission might be favoured. Researchers have the independence to drive their individual research directions. A limitation is that the department does not have funds for strategic recruitments, and the Department Chair is not provided with institutional funds to be used at his discretion, or with the support of his Department Board, for strategic initiatives (such as skilled staff support positions or pilot grant funding) that might augment the research productivity of the department. Moreover, the Department Chair is not in a position where he can always provide the match for larger grants, such as those from NIH and ERC that require co-funding from the host institution.

**PhD Training and Career Planning.** The PhD program appears to be successful, with a stable number of PhD students, some demonstrating impressive research success based on publication citations. As is true of PhD programs throughout the university, students enter at a relatively late stage in their careers – typically following completion of medical specialty training – and often complete their training at 40 years of age or older. The department has not tracked the career trajectories or productivity of past PhD graduates. Documentation of post-graduate careers is the flip side of a recruitment plan, and the data can be used in designing a recruitment plan. The panel was impressed with the difficulties experienced by some students affiliated with the hospital in establishing a strong identity in the department. Some appeared unclear regarding the opportunities for potential future appointment to the faculty. Development of a more robust mentoring plan would be beneficial to the students. They would also benefit from further development of cross-cutting opportunities for communication of ongoing research activities throughout the department. Translational research in the Department of Medical Sciences will depend on researchers with various backgrounds, e.g., medicine, physiology, molecular biology, statistics, etc. There is a lack of a career path, at least for non-MDs above the postdoc level, who will carry out their research within the Department of Medical Sciences.

### 3. Summary: Department of Medical Sciences

Although the charge to the KoF17 review panel was distinct from the critical assessment of research quality that characterized the previous KoF7 and KoF11 reviews, the panel was unanimous in recognizing that much of the research produced by the Department of Medical Sciences is excellent, with its record of numerous publications of high impact that contribute to the international reputation of the institution. This research productivity is a function of the talent,
motivation and leadership skills of the Department Chair and department leaders, along with the talent and commitment of faculty, staff and students.

The overall research output is influenced by the institutional structures, processes and traditions in which those leaders and department members function. The panel was impressed with some of the limitations on timely, flexible and efficient operations of the Department of Medical Sciences, particularly in the area of recruitment, imposed by a university and domain structure that removes the Department Chair from the decision-making process. The panel concluded that the current university and domain structure does not provide the Department Chair with optimal resources to achieve department goals consistent with Uppsala University’s goals and strategies. The system in which the department functions appears to be characterized by an overemphasis on concerns regarding potential conflicts of interest to the point that the thoughtful recommendations and vision of the Department Chair and his colleagues are not allowed a fair hearing at the domain level. In addition, the current relationship of the department to the domain and the higher levels of university leadership has not sufficiently facilitated development of a coherent strategic plan and supportive structure for implementing such a plan. While the Department Chair has the responsibility to communicate a compelling case for high priority recruitments to those in a position to allocate funds for growth of quality research and renewal, the university has a responsibility for timely consideration of the chair’s recommendation and collegial communication. The panel considered the potential value of clearly defining the Department Chair’s role and responsibilities and empowering his success by providing a mandate and the resources needed to successfully lead his department. Establishing a responsive and more efficient and supportive decision mechanism should have a positive impact on department productivity. The panel also considered the potential value of appointing several external scientific reviewers who could develop an ongoing relationship with the department. A small external review committee could periodically provide feedback to the department as it develops its plans for strategic recruitment and identifies research initiatives, lending critical support to the Department Chair’s interactions with the university.

The dual and parallel structures for leadership of the department and Uppsala University Hospital should be reviewed and considered with a view to extend and optimize the recent focus on research and education at the hospital level. The review should preferably be jointly initiated by those university and hospital representatives who signed the recent local ALF agreement. It would be an advantage for the competitiveness of clinical research in Uppsala if a joint research and recruitment agenda could be communicated broadly as a result of a high level review of the relationship between the department and the hospital. Clinical work at the hospital is typically emphasized over research and educa-
tion, a deficiency that should be addressed. Those students and faculty employed by the hospital do not have the sense that they are truly active members of the university department, and they crave greater engagement with the academic environment of the department. A more coherent structure would benefit those PhD students and faculty.

The medical student and postgraduate teaching programs appear to be excellent, with some students achieving publication of research that is highly cited. However, if doctoral education is to be an attractive career choice for highly motivated and qualified students from all over the world, consistent with the university’s goal, it will be important to document and disseminate information on the subsequent career paths for those students. Development of supportive entry-level faculty positions that allow the most talented graduates of Uppsala University’s training programs, as well as those recruited from outside universities, to initiate a research career should be a priority. Those faculty members working within the hospital setting will benefit from establishment of a period of financial support for their research activities and protection from excessive clinical responsibilities. As is true for the department’s research programs, review and modification of the university’s approach to postgraduate education could contribute to capture of talented, highly motivated scientists with the potential to develop successful careers. The structure of the program, with the PhD training typically initiated following medical training, internship and residency, and with an average age of 42 years among PhD graduates, works against future success of those graduates. An open-minded consideration of alternative models for post-graduate education was encouraged by panel members.

### 3.1 Strengths

- The Department Chair is dedicated to the success of the department and the university. He is motivated to work with his colleagues to establish an effective and productive faculty and has a strong commitment to education.
- The Department Chair has established an effective leadership structure and is proposing new approaches with the goal of augmenting research collaboration and compliance with administrative requirements.
- Among the department’s faculty are many highly productive investigators publishing significant research and bringing international reputation to the university.
- The Department Chair has prioritized supporting development of successful faculty careers, particularly those of young investigators.
- The relative autonomy and independence of the research groups are advantageous when those groups are strong.
• The administrative functions of the department were consistently praised for their responsiveness and effectiveness.

• The department is strongly affiliated with the Uppsala Clinical Research Centre, an outstanding resource for development and implementation of investigator-initiated, sponsored and intra-institutional clinical research and clinical trials.

• Several SciLifeLab platforms are strongly affiliated with the department and are supporting high impact research studies.

• The department is obviously highly committed to undergraduate medical education and PhD training, and most faculty members dedicate significant effort to teaching.

• The department maintains a stable record of PhD dissertations.

• The ambition and newly reinforced efforts of Uppsala University Hospital to give higher priority to research and education is an important advance toward higher quality academic performance of the university.

• The department has made a successful effort to establish appropriate gender representation in the Department Board and is working hard towards equality on different levels and areas within the organization.

3.2 Weaknesses

• The Department Chair’s leadership role is not well defined, and he has not been provided by the university with a mandate or the tools to ensure that the potential of the department is fulfilled. In the absence of empowerment, the Department Chair is handcuffed, and the department’s productivity and impact are unlikely to achieve their full potential.

• The lack of resources and tools for implementing a strong vision at the department level is a missed opportunity to develop strong physician leaders.

• The Department Chair is not provided with the opportunity to strongly make his case for high priority recruitment to the Domain Board. Perhaps excessive and unnecessary concerns regarding conflict of interest stand in the way of successful communication of department goals.

• The department does not have access to resources that would allow implementation of a comprehensive and feasible plan to increase the impact of its research through strategic recruitment and targeted faculty support.

• The department has not clearly identified and preferentially supported research areas and research faculty with a potential for high impact.

• The parallel and insufficiently coordinated functions of the department and Uppsala University Hospital limit the capacity of the clinical programs to achieve the academic goals of the university. The hospital does not suffi-
ciently prioritize research in its clinical programs. The current dual structure also results in confusion on the part of the students and clinical faculty and contributes to their sense that they do not have a voice in the activities of the university and the Department of Medical Sciences.

- The students and faculty expressed a desire for communication systems that would increase their awareness of the work of others in the department.
- The current typical structure of the PhD program – with enrolment often following completion of specialty medical training – results in the PhD candidates completing their training at an excessively advanced age. The system does not take advantage of the high motivation, energy and passion of younger trainees.
- Some of the PhD students and graduates appear bewildered regarding the path toward a faculty appointment and a stable and successful career trajectory.

3.3 Recommendations

a. Department Structure and Leadership

- The University Management team should define the leadership role of the Department Chair, and through provision of appropriate resources, empower the chair with a mandate to effectively lead the department.
- The university should charge the department with development of a strategic plan that defines goals and strategies that will improve the productivity and impact of the department’s research and education activities, and provide the department with appropriate resources and decision authority to effectively implement the plan.
- The university should also encourage proactive advocacy of the department on behalf of its vision and ambition for achieving the highest level of research quality and the most effective educational programs.
- Consider appointing a small External Advisory Committee that would develop an ongoing relationship with department leadership and provide feedback on recruitment and research development goals and strategies.

b. Relationship of Department with Uppsala University Hospital

- The ambition of the Uppsala University Hospital to give higher priority to research and education should be encouraged and further developed.
- The inconsistencies that result from the dual structures for training and implementation of clinical research linked to the university department and the university hospital – including distinct and sometimes inconsistent
prioritization of research, research support, and career paths – should be systematically reviewed at a high level to improve the coherence of the programs. Alternative organizational structures could be considered. The Department Chair and hospital leadership should work closely together to better synthesize the clinical programs with the university's academic goals – or alternatively, one individual in a leadership position could be responsible for all clinical care, research and education activities relevant to the medical disciplines addressed by the Department of Medical Sciences.

- Incentives could be provided to those clinical faculty employed by the hospital to promote their engagement in productive research.

c. Department Process and Culture

- Systems and processes could be developed within the department to improve communication among the faculty and students, and ultimately to augment research collaboration.

- The basis for the perception among some – particularly those students and clinical faculty employed by the hospital – that they do not have an identity or voice in the functions of the department should be addressed by the department and reviewed with the Dean.

- The perception among some clinical faculty that clinical work is prioritized above research should be addressed by the university and university hospital through thoughtful consideration of how greater integration of department and hospital activities could be achieved.

d. Faculty

- The department should be charged by the university with developing a comprehensive recruitment plan that will achieve the research and education goals of the department and the university as well as appropriate representation based on gender and other considerations of equity. In light of the anticipated retirement of senior research faculty, a compelling recruitment plan will be essential to ensure maintenance and future growth of a productive academic program. If a strong rationale for the recruitment plan is developed, the department should have a high likelihood of achieving the resources and support from the Dean needed to implement and communicate the recruitment plan.

- The department should continue to establish mechanisms that promote and incentivize high quality collaborations.

- The department leadership could review and revise the criteria and metrics with which faculty productivity is assessed. High quality collaborative re-
search – within the department, within the university and with extramural researchers – should be documented and recognized.

- Impact of publications should be recognized above number of publications. Who uses the information in published papers and how that knowledge is used is more informative than number of papers published.

- The requirements for appointment as a senior consultant (överläkare) – currently a PhD following specialty training – could be made more flexible to include opportunities for those completing alternative degrees, e.g., Master in Public Health, to gain this position.

\textit{e. Research}

- The independence of strong research groups should be maintained, and the particularly successful groups should be prioritized for additional support over less productive groups. Those demonstrating high impact research productivity should be provided with the means to improve the other missions of the university. Areas of scientific opportunity that are consistent with the expertise of department faculty and availability of department resources could be prioritized for strategic investment and development. Success in development of “big research” programs could result in increased department resources from indirect funds.

- The evaluation of the quality of department research should include assessment of its impact on society.

- Collaborative studies that utilize the resources of the SciLifeLab and the Uppsala Clinical Research Centre should be encouraged.

- The allocation of ALF funds from the hospital might be reviewed to determine if they are appropriate and sufficient given the large size of the department. Competitive allocation of ALF funds could be considered.

- The expectations for the role of research coordinator should be clearly communicated and their functions further developed to establish improved means of intra-department communication and collaboration. The coordinators can serve as a resource to guide need for future recruitments.

- Centres of Excellence might be established to strengthen productive research and clinical competence in a few specific areas.

\textit{f. PhD Training and Career Planning}

- Document and communicate the career paths and productivity of those who have completed their PhD training in the department to allow evaluation of the success of the training program.
• Clear and transparent descriptions of the potential paths toward a permanent position or alternatives should be developed.

• The current typical structure of PhD training should be reviewed and alternative models considered. Embarking on PhD training during medical training or prior to specialty training might be considered.

• Development of a comprehensive and strong mentoring program for PhD students and junior faculty is strongly recommended. This program could include formal and informal training in preparation of research grant applications.

• Mobility should be encouraged at all levels (within the university, nationally and internationally).

4. Summary: Centres for Clinical Research in Dalarna, Sörmland, Gävleborg and Västerås

A clinical research centre was first established in Västerås from an initiative by the Vice Rector of Medicine and Pharmacy in the late 1990s. The now four clinical research centres at Dalarna, Sörmland, Gävleborg and Västerås seem to be well run with considerable research output to the benefit of the regions they serve. Several of the centres also participate in a significant number of clinical trials and interact in several ways with their respective counties’ local research agendas decided by local political authorities. However, the panel did not get the impression that the potential for mutually beneficial collaboration between the clinical departments at the university and the centres and also among the four centres has been exploited to its full potential. Even though the centres are affiliated to Uppsala University, it was not clear how this collaboration mutually benefitted the centres and the university. Collaboration beyond what is needed to make sure that PhD students graduate did not seem to be a priority.

4.1 Strengths

• The four centres for clinical research represent a considerable and valuable research effort.

• Promotion of the academic environment through research activities at hospitals, including clinical rotations for Uppsala University medical students, contributes to the attractiveness for recruitment of hospital staff.

• The centres increase activity and participation from both hospital staff and patients in research projects.

• There is good support from local authorities that grant a research budget for local competitive funding.
- The interest in research and likely the demand for evidence-based health care among local decision makers is increasing.
- The enrolment of patients in clinical studies is benefitted by local research activity.

4.2 Weaknesses

- Insufficient ability to track research output, such as number of publications, due to lack of correct attribution of reports to the respective clinical research centres.
- Lack of prioritized areas for collaborative research.
- The expectation from Uppsala University regarding the activities of the centres is not actively communicated.
- Low level of funding from Uppsala University.
- Low fraction of external competitive funding.
- In spite of almost all PhD exams being attributed to Uppsala University and the fact that medical students from Uppsala University are supervised during clinical rotations and teaching at the respective clinical centre (with the exception of Dalarna), the centres do not take part in the ALF funding for research.
- In general, the centres are small and are challenged to constitute a critical mass to support research discussion in the diverse research areas.
- There is little cooperation and exchange of experiences among the four external research centres, and the potential benefits from closer cooperation among the centres as well as within the department are not exploited.

4.3 Recommendations

- A thorough review of the potential benefits of a closer collaboration among the centres and sharing of experiences with their different organizational models, as well as between the centres and the university, is encouraged.
- The centres and the university might establish a coordinated structure and research agenda that would prioritize particular collaborative projects and research topics.
5. Reflections on the similarities and differences between evaluation units within the panel – what to learn from each other?

The Department of Medical Sciences at Uppsala University is clearly the most significant and influential unit reviewed. Its scope and the quality of its research and training are outstanding, and its leadership and the department’s faculty and students have the potential to elevate the international reputation of the university. Each of the affiliated Centres for Clinical Research in Dalarna, Sörmland, Gävleborg and Västerås has its own focus and approach to PhD training, and none of the centres is strongly integrated with the university’s programs or the Department of Medical Sciences. Clarification of the goals and expectations of the university with regard to the regional centres could result in beneficial modifications to those relationships.
1. Introductory remarks

Department of Immunology, Genetics and Pathology (IGP) is a large Department with 51 research groups that form nine different research programs. The Department has internationally prominent research group leaders and research programs, performs highly innovative work and has a very strong infrastructure. The overall impression of the panel is that IGP performs excellent research, which is internationally very competitive.

The overall purpose of Q&R17 is to enhance the quality of the University's research by creating a foundation for development measures.

The purpose of this evaluation is therefore not to grade research quality/research output per se, but to analyze preconditions and processes for good quality and strategic renewal of research. According to the instructions the evaluation is expected to generate an increased awareness of aspects of the research environment that should be actively maintained and aspects that should be further developed or changed. Do the University's research environments function so as to provide good preconditions for high-quality research? Are they characterized by processes that drive quality and renewal?

Based on the instructions given and the aim of the evaluation panel 18 has therefore focused on asking questions based on the themes mentioned in the instructions given in the report template including the Department's strategies and visions, research leadership, research funding, career structure and mobility, recruitment strategies, academic culture, publications, cross border collaborations and outreach, internationalization, research-teaching linkages and infrastructure. Since we found that several of these themes are not major issues for the Department to improve the conditions for good quality and strategic renewal of research, we have focused on identifying strengths and weaknesses where improvements can be made and also linked and compared these to the departments own 5-10 years vision. Based especially on the weaknesses and where we can see a possibility for the Department to improve, we have then made a number of recommendations. We have tried to make general recommendations that are not specific for individual research groups or individuals.
2. Observations and analysis

2.1 The evaluation unit’s aims
As stated in the self-evaluation report:
“Research at IGP spans from basic to clinical research with an overarching theme of translational medicine. The work serves to expand basic biological as well as medical knowledge, improve means to generate and collect medical data, and to interpret and model large quantities of novel scientific data for cutting edge medical research. The research is linked to relevant clinical problems with a clear aim to shorten the transition from scientific discoveries to clinical applications.”

2.2 Strategies and vision
In the self-evaluation document the Department lists four action points for 2017:
- To reassure that the organization of the Research Programs is dynamic, that the programs are optimally formed, and that the collaboration within and between the programs is vibrant.
- Recruitment needs for each program are continuously reviewed in discussions with group leaders to support the Departmental Board and the HoD in interactions with the Faculty, University Central Management and Central Administration.
- A group leader retreat will be organized for scientific and strategic discussions.
- PIs of Research Programs with low level of joint activities and exchange will be encouraged to increase activities in various ways.

In addition, the Department has developed a vision with a 5-10 year perspective. Each of the vision points has been classified according to the themes that will be further discussed in this report. Based on the identified strengths, weaknesses and vision we have made a number of recommendations under each of the themes. These are the vision points identified by the Department as listed in the self-evaluation report:
- Encourage international exchange of researchers at all levels.
- Strive for a clear and predictable career system for both preclinical and clinical scientists.
- Recruit highly qualified scientists with profiles that fit the research programs.
- Stimulate clinical translation by bridging basic and clinical research.
• Encourage speedy and efficient application of research results in industry, healthcare and other sectors of society, by closely interacting with various stakeholders including companies and hospitals.
• Increase public awareness of our research.
• Facilitate national and international collaborations.
• Establish unique research technologies and provide broad access in research and clinically.
• Promote research at the international frontline.
• Provide support for purchase of common equipment, and host core facilities for larger instrumentation and services at both Departmental and national levels.
• Conduct and coordinate extensive, modern, high-quality biobanking.

Strengths
• Wide range of identified themes to be addressed that in combination have the potential to improve conditions and processes for good quality and strategic renewal of research.

Weaknesses
• Some vision points are very broad and lack a plan of implementation.

Recommendations
• Discuss vision in the Department and make strategy detailed plans for their implementation.

Note: During the visit at IGP, the panel was given evidence of strategic planning activities, but they were not described in detail. However, a document with more detailed aims and strategies (“IGP: Aim and Strategies”) was made available to the panel on the second last day of the visit. This “Aims and Strategies” document was last updated in June 2016. In the document and during the meeting, the process by which IGP identified the aims and strategic goals were not described. Moreover, a plan for their implementation was not described. However, subsequently the panel was made aware of an Action Plan from 2017, which the panel has not discussed.

2.3 Research leadership
The Departmental board is the major decision making body of IGP, which approves budget, recruitments, strategies, infrastructure and education. The board has eight members that are elected. Four members are teachers (researchers, sen-
ior lectures or professors), one represents technical-administrative staff, one is a postgraduate student and two are undergraduate students. The members of the board are all elected for three years, except the undergraduate students, who are elected every year.

The board elects the Head of the Department for a three-year period, who is subsequently appointed by the Vice Rector for Medicine and Pharmacy. The Head of Department can only be elected twice, i.e. an individual can be a Head of the Department for a maximum total of six years. The Head of Department appoints Deputy and Assistant Heads according to needs. Currently, there are two Assistant Heads responsible for the graduate program and for recruitment. In addition, there is a Head of Undergraduate studies, a Head of Economy and a Head of Personnel. A number of coordinating working groups have also been defined (equal opportunities, work environment, Rudbeck seminars, common equipment, chemical safety).

Scientists at IGP are organized in nine different research programs, which currently include a total of 51 research groups, each headed by a group leader. Each research group leader is expected to be the scientific leader of the group. Since the research programs do not have any directors or spokesperson, the scientific organization at IGP is non-hierarchical.

The organization of the Department structure with a Departmental Board, including the number of persons in the board, and the election of the Department Head are decided by the by-laws of Uppsala University.

Although the panel finds that this organization has several elements of strengths, as listed below, it also found that the organization has several major challenges, which should be addressed to run an efficient Department.

**Strengths**

- Elected Departmental Board and Department Head ensures legitimacy in the organization.
- Limited time-frame as Head of Department ensures renewal in leadership.
- Non-hierarchical structure favored by most scientists.

**Weaknesses**

- 3+3 year leadership duration may be too short to make an impact in the direction of a Department.
- The flat hierarchical structure with 51 research group leaders referring to a Department Head can have negative impact on mentorship and guidance for group leaders.
- The Departmental Board has too few scientific members and therefore does not represent all the different scientific disciplines and research pro-
grams at IGP. Strategic decisions in the Departmental Board appear opaque and not well understood by the research group leaders at IGP. Many group leaders complained about lack of transparency in the recruitment process and lack of a clear recruitment strategy.

- Despite having five associated clinics, IGP is not present in the FOOU council between the hospital and the Medical Faculty. This cuts IGP out of important and relevant discussions related to research, development and education.

**Recommendations**

- Formation of a Scientific Council consisting of 10-12 group leaders and the Head of the Department. The group leaders should represent each of the scientific programs at IGP. To ensure that junior group leaders are represented in the Scientific Council, at least two of the members should be elected among the junior group leaders. The Scientific Council should be advisory to the Departmental Board, and make proposals for Scientific Strategies to IGP, including the requirement for continuity, closure and recommendations for new research programs, recruitment of group leaders, plans for investments and infrastructure.

- The Faculty of Medicine should consider giving more independence to the individual departments in the recruitment of senior faculty.

- IGP should have a member of the FOOU council.

**2.4 Research funding**

IGP’s budget consists of a block grant (research and teaching), a performance-based grant (based on publications, external grants and number of dissertations) and external grants. The total budget was 375 MSEK in 2016, of which 58% came from external funding. Scientists at IGP are holders of a large number of very prestigious grants, including six ERC grants, several grants from the Wallenberg Foundation, personal grants from the Swedish Cancerfonden and the Swedish Cancer Society. In addition to this, IGP is a major player in several strategic research projects funded by the Swedish government (SciLifeLab, U-CAN, EXODIAB, StemTherapy).

**Strengths**

- IGP is one of the most successful departments at UU in attracting external funding.

- IGP has managed to attract several highly competitive and prestigious international and national research grants.

- IGP’s funding comes from diverse sources.
Weaknesses

- Low block funding limits the possibilities of making strategic plans at IGP.
- Lack of systematic internal peer-review of grant applications before submission.
- Lack of funding support from the Department for non-tenured young researchers, when external funding is limited

Recommendations

- IGP could set up an internal peer-review system for grant applications of strategic importance organized by a research coordinator at the Department. The internal peer-review, in which for instance two colleagues (group leaders) give feedback on a grant application before submission, could have two effects. First, it could increase the quality of the application. Second, it could lead to better scientific knowledge of what other group leaders do in the Department, and therefore to more interaction and collaborative projects. Internal peer-review systems are obligatory at some departments at other universities.
- IGP introduces a strategic budget to support group leaders for shorter periods of time. The budget should be used as bridging grants, i.e. if an external grant has not been awarded or made available in time.

2.5 Career structure and mobility

To our understanding the career track structure is complicated in Sweden and this is not limited to the structure of IGP. We can conclude that the system is not straightforward and sometimes there is a lack of transparency especially for international researchers. At IGP there has been an effort to set up a career development plan aimed to identify promising individuals and provide support for these young scientists as they transition from the postdoc-stage to independent scientists.

The first stages of career development from master’s student to PhD and to Postdoc are straightforward and follow international procedures. The main challenges can be found at the stage of young researchers becoming group leaders and PIs proceeding into tenure position. According to our understanding there are four possible ways of obtaining tenure.

1. Applying for an Associate lecture position which is decided and announced by the university. These positions are relatively new and only a few positions have been announced. This path is most similar to international tenure track system.
2. Fo-Ass funding for 4-5 years that come from university sources. This path used to be more common before 2010 and very few young researchers at IPG have this type of funding.

3. Through competitive external grants such as ERC Starting grant, VR Young Researcher, Wallenberg Academy Fellow. Several young researchers at IGP have received this type of funding, and some have obtained tenure but the funding is not a guarantee of tenure.

4. As a researcher funded by external grants. This seems to be the most insecure and difficult path to obtain tenure and there are no clear or set timelines or conditions that can predict if and/or when a young researcher will obtain tenure.

The associate lecturer position is the only one of these four paths that follows a clear tenure track process. The other three positions (marked in blue) can also lead to a lecturer position, however, for these positions the tenure track process is not clear.

**Strengths**

- Structured PhD program with set timelines and evaluation at half-time and possibility to apply for “backpack money” that can be used for conferences and courses.
- Possibility to continue doing research with external funding with a researcher position without a specific time limit.
- Flat structure with a supportive environment for young scientists.
- Easy access to infrastructure, equipment and core facilities.
**Weaknesses**

- The low influx of post-docs from abroad (37%).
- Lack of a structure/established tenure track system which is transparent and easy to understand for international scientists.
- Rigid promotion evaluation system (from associate lecture to lecture and from lecture to professor), mostly focusing on quantity (number of publications, number of teaching hours) instead of quality.
- Difficulty for clinicians to obtain clinical/academic combination positions, because of bureaucratic funding rules.
- Lack of coordination between UU and the hospitals for career development of clinical researchers.

**Recommendations**

- A clear/transparent tenure-track system for both pre-clinical and clinical scientists with stable funding for salaries.
- Communications at all levels at UU should be in English in addition to Swedish
- A single tenure-track system.
- Flexible promotion criteria for senior lecturers focusing more on quality of productivity instead of quantity.
- The focus on number of teaching hours in promotions and recruitments could be relaxed to facilitate the recruitment and promotions especially of international researchers coming from mainly research institutions, where teaching is not mandatory.

### 2.6 Recruitment strategies

As mentioned above, the career structure, the potential lack of funding and lack of a transparent recruitment strategies appear to be a great challenge at IGP. The discussion of the lack of transparent strategy and the need for positions at both junior and senior group leader (professor) levels were mentioned in almost all meetings with the members of the research programs. As we understand the recruitment strategy is to hire group leaders that fit into the nine existing research programs. The panel was not presented with a specific strategy for the hiring of new senior group leaders, and the plan for the hiring of junior group leaders appeared mostly based on their individual success in obtaining competitive external funding. A scientist can apply to the Departmental Board to become a group leader, if he/she has a group of at least three persons, which are financed by their own grants.
Strengths

- Recruitment into the existing nine research programs ensures consistency in the research portfolio of IGP and strengthens the likelihood of success of the hired group leader.
- To hire junior or senior group leaders once they have secured funding makes it more likely that they are competitive for future funding.

Weaknesses

- Lack of a clear recruitment strategy.
- Risk of losing important research areas and scientific opportunities.
- No clear tenure-track program.
- Promotion to academic positions appears to require a specific number of teaching hours (without much flexibility) and focus on the number of scientific papers published, rather than their quality.

Recommendations

- IGP should introduce a tenure-track system.
- Junior group leaders should only be recruited into a tenure-track system.
- Group leaders should only be hired after being discussed in the Scientific Council (see recommendation 2.3.3) and approved by the Departmental Board.
- Scientists should only be supported to apply for independent research grants that are on the track to become a group leader after it has been discussed in the Scientific Council. This is to ensure that IGP supports the group leader for a tenure track position. The Scientific Council can make a tenure-track position dependent on whether the group leader obtains funding. A similar system exists in the UK, where potential junior group leaders are sponsored by departments to apply for research fellowships from Wellcome Trust, CRUK, MRC etc.
- IGP and the Faculty should make clear guidelines for tenure reviews and what a junior group leader should fulfil to obtain tenure.

2.7 Academic culture

The corner stone of academic culture is freedom to study and resolve those enigmas towards which the scientist directs his or her passion. The organizational structure of IGP has purposely been kept lean to guarantee maximal freedom even for the young PIs to operate without additional layers of prominent leaders. In practice, it has meant that all 51 group leaders are directly under the Depart-
Mentoring is an essential part of academic culture and overall the panel got an impression that this activity is well taken care of at the PhD and postdoctoral level. In some discussions, it became evident that it is sometimes challenging to start as an independent group leader and receive external funding after working in a group of a prominent scientist.

The PhD studies are rather formally regulated and the students seem to be satisfied with the guidance during their studies. Scientific ethics is an integral part of academic culture, and is taught during the PhD period. Moreover, all masters, licentiate and doctoral theses are checked for plagiarism. The PhD students reported that they teach up to 20% of their working time. The Head of IGP says the correct number is 5%, and it therefore appears that the Head needs to set the record straight at IGP, if some students are teaching 20% of their working time.

IGP has a respectable number of academic activities such as workshops, seminars and retreats. Despite this, the knowledge of the science done in other groups in IGP seems to be limited. Foreign PhD students, postdoctoral fellows and recruitments at lecturer and professor levels bring necessary international academic atmosphere to IGP.

During the discussions with the IGP faculty, it became evident that although the hospital is a University hospital and therefore expected to respect academic values and support research, the research group leaders felt that hospital commitments towards research had declined during the years and the clinicians were overloaded with clinical responsibilities leaving very little room for research. The panel found this extremely worrying.

Strengths

- Freedom to operate without strict organizational restrictions
- Open and communicative atmosphere
- International high profile scientists are an important part of the academic culture in IGP

Weaknesses

- Declining interest towards academic activities in the hospital
- A mentor program for young PIs is missing
- Limited knowledge about science done in other groups inside IGP
- PhD students are lacking a PhD committee (with members in addition to the supervisor) and although PhD students have annual “planning dialogues”, the critical and evaluative element of these is not clear.
• Annual appraisals are an option, not mandatory, and many scientists do not take advantage of this process

Recommendations
• To increase interactions and collaborations, there should be intra-Departmental scientific meetings, in which different groups would present their work
• Inclusion of a mentor program would help young PIs at early steps in their independent career
• Everybody at IGP should be given appropriate training in research integrity, ethics and good laboratory practice.
• We recommend that IGP discusses implementation of a Departmental PhD program with funded fellowships

2.8 Publications
Publications arise from research undertaken in individual or combined research groups and efforts towards publication are largely self-directed, aiming at the best possible level of publication. There is a clear and appropriate consensus that prominent publication of original and significant work is the major goal and criterion of success in research.

Strengths
• Publication quality is undoubtedly at a very high level across many research programs in IGP, with many research groups reporting world-leading advances in their fields
• IGP researchers are frequently the lead authors of the papers arising from the Department, and not simply co-authors of studies led from elsewhere
• Publication quality is clearly valued highly within the Department, and there is a healthy emphasis on the originality and impact of papers (and not just their numbers)
• The local ethos and ways of working are effective in delivering a very strong aggregate output of good publications

Weaknesses
• The distribution of good papers is uneven between research groups and programs, and not all research groups continue to publish high-quality papers
• Our understanding is that the UU promotions process gives undue importance to the number of publications, and does not sufficiently value judgements or measures of quality

• Recently appointed PIs have both experience and advice in preparing papers, but it is not clear that this is systematic or sufficient

Recommendations

• Although already generally strong, efforts should still be made to maintain and spread success. In this respect, individual appraisals could be helpful in monitoring and advising on progress.

2.9 Cross border collaboration
A key element in translational research is to ensure that the translational process is smooth in both directions - from the laboratory to the clinic – and back. There are several tools to help with that process such as the U-CAN biobank, which is strongly supported by material from Uppsala; the clinical infrastructure through the CRU and the KFUE. Whereas this can function well, as in the case of early clinical trials in cancer immunotherapy, other programs (e.g. neuro-oncology) have a less defined way for how new therapeutic strategies should be translated into the clinic. There is not a clear clinical leadership responsible for attracting new clinical trials in the “academic” hospital. The clinical activities suffer (as many places in Scandinavia) from an increased routine workload, at the expense of daily support for academic activities.

The panel has also noticed the lack of continuity of the clinical professorships, which occur when a professor retires. It is unclear who has the obligation to ensure that important activities are continued or closed. Some of this can be international leading research, and means to avoid the consequences of such loss should be instituted. This can happen through an active recruitment process including a stimulus for academic researchers in clinical positions leading towards re-establishing the relevant clinical professorships. However, this issue again points to the need for a clinical coordinated structure to secure a strategic view on the research activities within the hospital.

Another striking difference between the lab and the clinic is the different structure of the PhD program and education. Whereas the non-clinical PhD seems well structured, the clinical PhD with a part-time research activity during many years is not necessarily the optimal way to perform clinical research. Some full PhD fellowships may in the long run strengthen the clinical research and the translational interphase, and secure better candidates for clinical research persons.
Some unique infrastructures also leave room for important trans-institutional activities: This includes the U-CAN biobank and the option to take (national) leadership in clinical and epidemiological cancer studies based the INCA database and Regional Cancer Centrum. It is not clear from the self-evaluation how this infrastructure will be used for research purposes.

As a potential valuable research infrastructure it should be noted that UU has a long tradition within particle therapy, which already in the 1960s was explored at the Svedberg Laboratory. More recently a Swedish national initiative – strongly supported by scientists from Uppsala University – has resulted in the establishment of Skandionkliniken, which is placed next door to the University Hospital – although not part of it. This initiative deserves to be used in an optimal way to ensure that clinical trials and underlying radiobiological, imaging and medical physics research are performed. Strikingly Skandionkliniken is not mentioned in the self-evaluation, but it must be addressed irrespective of the political sensitivity. UU and the hospital have a unique possibility to become a European power center in this area. UU possesses radiation science knowledge (and more can be found next door in Stockholm), an experimental precision animal irradiation device, a potential still working experimental beam at Svedberg (if preserved), and access to Skandionkliniken and its option for clinical trials.

The many double appointments of scientists secure a strong international faculty in some programs (e.g. vascular biology) and a consequential network to (other) leading institutions, but it also contains a risk of lack of local continuity in the day to day supervision of younger faculty.

**Strengths**

- The U-CAN infrastructure
- The clinical infrastructure the CRU and the KFUE
- Epidemiological data bases (INCA and Regional cancer Centrum)
- The Skandionkliniken

**Weaknesses**

- Potential lack of hiring clinical professors to ensure continuity in scientific and clinical disciplines, when professors retire
- Structure of the clinical PhD program

**Recommendations**

- Interactions between the Hospital and University should be strengthened to improve the academic activities, including hiring of clinical professors
• Discuss if the clinical PhD program provides sufficient time for clinicians to perform research
• A strategy to use the clinical and epidemiological infrastructures, including Skandionkliniken

2.10 Outreach
Public outreach is one of the three main missions of universities in Sweden, together with research and teaching. The HoD mentioned a number of activities that the Department is involved in, and overall there appear to be many opportunities for Outreach and public engagement activities in the Department.

Strengths
• Selected groups are very active and engage in various activities
• Several groups mention being in contact with Press office, or directly the Media, to provide commentary and opinion on relevant scientific topics

Weaknesses
• Most group leaders and research programs did not mention outreach at all as part of their activities, and a few, when questioned, did not seem to be aware of the existence of activities or even the meaning of the word
• Apart from one noticeable exception, the group leaders lacked a clear understanding of the many aspects of outreach they could get involved in
• The activities seem to be left to the individual’s own initiative and interest
• The perception is that there is no reward from the Department for outreach activities

Recommendations
• Raise awareness of Outreach activities
• Encourage each program to get involved in Outreach activities, both as public engagement to communicate science and as activities to engage with patient groups
• Reward involvement in outreach activities
• Even though IGP has an Outreach strategy, it does not seem to be available to or known to many of the scientists at IGP. Therefore, it is recommended that the Department leadership discusses the Outreach Strategy with the research group leaders and members of the Department to raise awareness of Outreach strategies.
2.11 Internationalization

Most of the research programs at IGP, and therefore also the Department as a whole, are internationally highly competitive at an excellent or outstanding level.

Internally, many of the programs host substantial portions of their investigators and employees from other countries. Great efforts are being made to recruit international scientific leaders into multiple areas. Such efforts include, but are not limited to, significant sign up packages, investments and temporary or long-term part-time arrangements between Uppsala University and other institutions.

Externally, several of the programs have significant international collaborations based on EU or other externally funded research projects and/or based on the scientific excellence the IGP scientists. These include also commercial collaborations or spin off companies that are successful and internationally active.

Strengths

• Highly motivated, successful international staff in most programs.
• Successful recruitment of international leaders into faculty and junior faculty.
• Unique collaborations at the scientific or commercial level, especially in diagnostic modalities and technology development.
• Excellent international reputation of many programs.

Weaknesses

• Strict focus on teaching requirements (research side) impede the recruitment of highly qualified international staff into faculty positions.
• The lack of close collaboration of the clinical services with the research side in many areas threaten the international competitiveness, especially of the clinical services.
• English is not uniformly used as a second language at UU.

Recommendations

• Obstacles for recruitment of foreign staff should be minimized. The Department should develop an internationalization strategy.
• All documents from the IGP administration are available in English. UU’s central administration should also ensure that all documents from the central administration are available in English.
2.12 Research-teaching linkages
The education work of the Department is an important part of its portfolio, although it contributes relatively small amounts to the overall budget. Teaching is undertaken on undergraduate (including medical) and master’s courses, the latter aligned clearly to research strengths of the programs.

Strengths
- At master’s level, there are some specialized courses that allow students to gain up to date training and understanding in rapidly-moving subjects. Among these, three (in forensic science, molecular medicine and medical nuclide techniques) received the highest rating in evaluation from the UKA.
- Postdoctoral and postgraduate researchers are given the opportunity to undertake teaching duties.

Weaknesses
- The teaching requirements of the Department appear to be unequally distributed between individuals, and hence between research programs, drawing academic time away from research unequally. There is a perception that units with relatively heavy teaching may not gain any funding advantage in the form of revenue from teaching.
- Although valuable for the current rather inflexible promotion system, involvement of postdoctoral staff in teaching inevitably draws them away from their role in research, which forms the basis of the funding supporting their salary. The panel found this particularly surprising in a system in which income from research and teaching are considered and accounted for so separately.
- Promotion criteria appear to require a certain amount of teaching, disadvantaging researchers who have trained abroad.

Recommendations
- There should be better transparency in communicating the rationale for the distribution of teaching duties between programs or groups, and the distribution of the corresponding funding should be openly discussed at least at the level of the Departmental Board.
- Similarly, the expectations and fair distribution of teaching duties between academics, postdocs and postgraduates should be a matter of transparent record in the Department.
• IGP and the faculty should argue for a more flexible promotion criterion for teaching, especially for researchers who have trained abroad (who are in many cases exactly the individuals who will be most valuable in securing the longer-term success of the Department).

2.13 Infrastructure

Strengths
• All researchers were very satisfied with the IGP administration.
• The IGP has successfully managed to establish the Department as a center for seven national research infrastructure platforms within the SciLife organization. The infrastructure covers most technology-intensive areas in biomedical research. IGP researchers also have unique access to validated antibodies through the Human Protein Atlas.
• The IGP hosts the most sophisticated and largest biobank resource in Sweden. The Department has also recruited a PI responsible for the national biobank for hematological malignancies. There is a rapid increase in the number of projects using biobank resources. The biobank has a strong emphasis on collecting and organizing clinical information around the specimens. IGP is well integrated with the infrastructure at Uppsala University Hospital: PIs include physicians, who work in the departments of Oncology, Clinical Immunology, Pathology and Radiology. These researchers initiate and run investigator-initiated clinical trials that are directly linked to the research performed at IGP.
• Proximity to commercial partners: Several companies in relevant fields are located in Uppsala. Structures are in place to help researchers interact with business partners, attract funding and become entrepreneurs. Several examples of successful entrepreneurship were presented. The general impression is that there are good opportunities to commercialize inventions and build new companies.
• IGP has access to UU infrastructure on science career development, business development, grant-writing.

Weaknesses
• Researchers did not seem to be fully aware of all the opportunities provided by the infrastructures.
• Some researchers pointed at difficulties with coupling patient data to stored biological material.
• Bioinformatics is perhaps not yet at a level matching the technology platforms. Integration of platforms.
Recommendations

• The infrastructure is excellent. Improvements may be in coordination and awareness.
• The biobanks constitute a unique resource, and the Department should continue ongoing efforts to streamline the collection of samples and entry of relevant clinical information in databases.
• While biobanking may appear to be the responsibility of the hospital, it seems clear that the university must take a leading role in developing a long-term strategy to fully exploit the potential.

3. Summary

Strengths

• Infrastructure
• Many strong scientific programs
• Excellent funding
• Strong innovative research and technology transfer
• Translational research

Weaknesses

• Lack of clear career structure
• Inflexible promotion criteria
• Lack of organizational structure to discuss scientific and recruitment strategies for the entire Department
• Lack of strategy to support effective cooperation between the Department and the hospital, including continuity of clinical-academic leadership

Recommendations

• Establish a scientific council
• Implement an international recognizable tenure-track system
• Introduce a clear transparent recruitment system
• Introduce clear and flexible promotion criteria
• Improve the cooperation between the Department (UU) and the academic hospital.
1. Introductory remarks

The Department of Public Health and Caring Sciences was one of two departments that Panel 19 evaluated, the other being Women's and Children's Health.

The department provided the panel with a comprehensive and highly reflective self-evaluation document which provided useful background on the strengths and weaknesses of the department, in addition to evidence of a willingness to make positive changes. The programme of visits, organised by the department, was well structured; with individual sessions mapping directly onto the self-evaluation themes. An insightful addition to the panel's visits to the department was an exhibition of research posters. This enabled panel members to capture the breadth of research undertaken. It also afforded the opportunity to converse with other members of the department, including lecturers, research assistants and PhD students.

The panel wish to thank the department for their excellent critical self-reflection and willingness to discuss areas of weakness in an open manner.

1.1 Review approach

It was agreed that an Appreciative Inquiry (Cooperrider & Srivastva, 1987) approach would be used to conduct the review. This approach highlights the positive aspects of an organization (department), whilst engaging the key stakeholders (research group leads) to build on what already works to make progressive changes to the benefit of all.

In asking our questions, we were mindful of the fact that questions in themselves can be interventions, and worked on the assumption that the act of asking
the question has the potential to influence the group. Thus, our questions largely followed the four processes of appreciative inquiry; Discovery, Dream, Design and Destiny (Figure 1). To this end, the questions put to department members focussed on determining what works well in the department (discovery), what could be built upon and improved (dream), how a shared, holistic, vision could be reached (design) and what steps could enable the vision to be realised (destiny).

1.2 Procedure
The panel consisted of seven members, including the Chair, and covered a broad array of professional and methodological expertise. The panel had not met prior to the review process. A panel guide was in attendance throughout all visits and deliberations, but did not contribute to discussions. None of the panel members declared any conflict of interest in undertaking this work.

The panel had been supplied with the Department's Annual Report (Date 2015), output bibliometrics, survey results and a self-evaluation report to inform their review. The self-evaluation report was the main source of reference, as this offered the most insight into the research environment as a whole. The self-evaluation report contained themed sections (Recruitment, Leadership, Academic Culture, Infrastructure, Feedback and Evaluation, Cross-border collaboration and outreach, Internationalisation, Research Funding, Research-teaching linkages, Campus Gotland), offering a logical structure that captured the main aspects of a research environment. It was therefore decided that the questions that would guide the main part of the review would, in the main, follow the same logical flow.

Panel members volunteered to lead on questions related to the themes which best matched their expertise. These questions were presented to the panel by
individual members in advance of the site visits. Some questions were rephrased to stay in keeping with the AI approach and duplicates were removed prior to gaining a consensus on a catalogue of questions.

1.3 Site visits
During the site visits (1 ½ days) the panel had the opportunity to discuss the research environment with 12 research group leads, a Head of Department, a PhD student representative and researcher in a formal meeting. The department is about to change its Head and the upcoming Head of Department was present in all of the meetings. Members were also given a tour of the laboratories used for research in the field of Geriatrics and attended a poster presentation forum, where they had the opportunity to talk to additional researchers of varying levels of career development.

In the formal meetings, questions were led by the allocated theme leader. However, all panel members had an opportunity to ask additional questions, as required. Contemporaneous note taking was shared amongst panel members. The panel had an opportunity to meet alone for short periods throughout the day, to assess the success of the process and recap on areas requiring further exploration.

1.4 Report writing
Each allocated theme leader was tasked with writing the report narrative for their theme, along with key recommendations. The recommendations were agreed amongst the whole panel during the meeting week. It was these recommendations that were reported to the department teams. The panel Chair collated the different thematic areas into the final report, which was approved by all panel members prior to submission.

2. Observations and analysis
The following thematic areas provide the main observations and analysis of our review. Although presented as separate sections, many of the themes overlap.

2.1 Academic culture
Introductory Remarks
In the instructions for the self-evaluation, academic culture was defined in terms of intellectual interaction, internal and external peer review, collegiality, equal opportunity, creativity, ambition, scientific conduct, research integrity and junior researchers’ sense of good professional conduct. We have assumed that such criteria are an expression of a set of values where the researcher’s freedom to prioritize research issues is at the core, including selecting methods and exploiting opportunities. However, the researcher does not work in isolation but within a
certain context, including funding opportunities and the purpose of the department of which one is a part. The research strategy of the surrounding environment implies some restrictions, but will also offer direction and guidance.

Based on some empirical research (e.g. Blomqvist et al. 2016, Bolden et al. 2012) on successful research environments (defined in terms of being recognized by the scientific society) one can argue that a good academic culture is characterized by all the things mentioned in the self-evaluation. These include a positive work climate, lively internal and external communication (including open and trustful relations between junior and senior researchers), but also a research leadership with a strategic vision, planning capacity and a social and emotional orientation.

The basis for the creative and productive academic culture is the autonomy of the research group within a broadly defined research area, which in turn is part of a more general strategic research vision, in this case on the departmental level. Without such a vision the research groups will lose connection to each other and research at the department will become fragmented. It is a task of the department leadership to continuously explore and, in interaction with the personnel, to discover the purpose that connects the research to a broader whole. Based on this analysis it will be possible to formulate the goals for the department. It will be essential for the department leadership to communicate and to act according to shared values. In conclusion the academic culture, in our view, is not only expressed in certain types of activities, but is based in values and a strategic research vision.

Departmental specifics
It is our impression that the department, to a certain extent, still suffers from its history. It was created 15–20 years ago when smaller departments at the university were merged into bigger ones. The research groups represent a broad array of disciplines from neuroscience on the molecular level, through nutrition and metabolism to health economics and philosophy. Five of the groups are defined as preclinical and seven as clinical, where some researchers also have clinical positions at the hospital or in primary care. The twelve research groups vary in size and degree of external funding. Some have large teaching obligations and are less engaged in research and some are more research oriented. It seems that most collaboration, academic exchange and development work takes place within the research groups. With this diversity and under such circumstances it is difficult to create a shared academic culture. In the self-evaluation it is pointed out that the sense of belonging and loyalty primarily lies with researchers’ own research group and not the department.

It seems to be the case that the seminar culture thrives within each research group and we were informed that senior and junior researchers have good and
open communication on this level, at least in some of the groups. However some of the groups are relatively small and some suffer from too little time available for research, as most researchers are employed as lecturers with heavy teaching obligations. Against this background it comes as no surprise that results on the survey questions regarding seminar culture place the department below the average compared to the outcome from UU as a whole. However, the results also imply that there is substantial room for improvement also within each research group.

In our discussions we observed a dedicated and engaged leadership group who all seemed to be aware of the problems associated with the diversity of the department. It was discussed how interdisciplinary collaborations might be reinforced. Every term a department day is organized for all staff and it was suggested that these events might be used more efficiently to identify the common denominator of the work. There was also an awareness that cross disciplinary cooperation might foster new creative research ideas which can result in strong grant applications.

### 2.2 Recruitment strategies

The self-evaluation report highlights the fact that the department is ‘in a phase of renewal’, with two professors recently retired, one overseas professor resigned and four additional professors retiring in the next couple of years. The Head of Department will also be stepping down from the role, after 6 years. To support the professoriate, one professor in geriatrics and two in social medicine have recently been appointed, with a further professor, in caring sciences, to be recruited later this year. There was no real evidence of a strategy for recruiting to these leadership roles, in terms of their ‘fit’ with, and contribution to, the wider department.

Whilst the change in leadership is a potential threat to the department, this was viewed by the panel as a real opportunity to re-energise the department and work towards a more unified vision. It is suggested that future appointments are thematically targeted, to improve the department’s research identity and optimise funding success. Whilst the recruitment of individuals with strong research programmes brings obvious benefits, collaborations across the department may be less likely if these individuals’ research interests do not have an obvious fit with departmental strategy.

It seems, however, that the department itself has little control over recruitments and greater autonomy may boost more strategic decision-making. Additional institutional barriers were identified related to recruitment of staff, and included a restriction on the period for temporary positions, which were usually limited to two years with the potential for a further two years. Research group members felt that terminating jobs that reached the timeline was to the detriment of the programme of research and research team. The groups felt further
disadvantaged by the need to redeploy existing staff from elsewhere in the university, who might not have the skills and knowledge of those whose jobs had been terminated. Moreover, it was felt that even though a post-doctoral researcher may be more valuable to a research group than a PhD student, the incentive of ALF funding provided motivation to recruit at this lower level. This suggests that financial structures, as opposed to academic need, are driving the compilation of research teams. University administrative recruitment procedures also hindered research groups, particularly in relation to the time that it took for processes to be operationalised; devolvement to departmental level may be a solution.

One of the department’s medium term visions included international collaborations. Whilst it was noted that some research groups had international connections, it was also observed that the department was well placed for shared appointments, across universities and countries.

2.3 Research leadership
The department is led by the Head of the Department with the support of a board with different staff members – the board decides on budget and employment. Responsibility for research is devolved to 12 research group leaders. Research group leaders decide on the group’s research agenda, finances, staff reviews and the work of PhD students. The Departmental Head will step down in July and a new Head has been appointed from amongst the professoriate. Research group leaders, the assistant heads and the study directors of research meet together every two weeks in a meeting chaired by the Head of Department. In its Self-Evaluation the department notes that “this meeting has no formal role according to the regulations of the university but it is the most important meeting of the department where all significant issues are discussed”.

The department has 12 Research Groups which they describe as “ranging from molecular biology to patient reported outcomes and health economy”. There are differences across Research Groups in terms of staffing numbers and profile and quality and quantity of research activity and somewhat separate research cultures across and within some of the Research Groups. Researchers within the Research Groups are also managing a range of competing demands (clinical work, teaching and research), the proportions and demands of which vary across the Groups. The Head of Department and Research Group leaders are also operating in contexts of some uncertainty (especially in relation to the priorities and organisation of the hospital) and adopting different approaches to practical issues such as distribution of resources, establishing expectations of researchers individually and collectively and mentoring/support for early career, non-permanent staff and an interdisciplinary staff group. Research Groups have a range of leadership arrangements; a Professor leads most, but some have developed co-leadership arrangements, including with Assistant Professors. Research Groups vary in size
and their sources of funding are also variable, with some funded entirely by external money and others supported via a mixture of ALF and external funding, some with very small amounts of the later. The department does not have established criteria for how large a group should be or how much research activity it should have, although there is a general expectation that groups will be a reasonable size and will be sustaining their activities with appropriate external funding.

The department produced a very insightful self-evaluation, noting that the strengths of these arrangements lie in the autonomy they offer to research groups to pursue research they deem important, but also noted that the disadvantage of these arrangements is that some groups are very dependent on activities of one Professor. There is relatively little collaboration across groups, and it is difficult to find common ground across some groups due to the span of substantive research interests and methodologies involved. There is some collaboration between groups, mostly through shared PhD supervision, but there are few joint research projects. The department would like to build upon their various efforts to address these issues and the Review Group concurs with their suggestions in this regard, particularly with respect to the need for more consistent and frequent reflection on opportunities and achievements and improved joint working across Research Groups. The department would also benefit from further support from Faculty and University leadership to achieve their goals, including increased involvement in and transparency with regards to decision making and collaboration with the municipality and the Academic hospital.

2.4 Infrastructure

Infrastructure, supported by overheads, was considered to be relatively good at the University level: useful and professional. However, there appeared to be a degree of fragmentation in the department, with some research groups being more successful and therefore better resourced than others. This could be improved through groups working more closely together and the possible centralization of certain needs across the department e.g. IT and statistical expertise.

Some grants are available for infrastructure development but they are time-limited, and there could be better support with continuity and integration. The university or faculty could help. Uppsala Clinical Research Centre helps with statistics and RCT planning. National registries (e.g. birth registry, prescriptions etc.) could be exploited more efficiently and it was suggested that Uppsala University could proactively offer to house national cohort studies. We suggest the need for more general strategic thinking about research; particularly how different parts of the department can work together to gain bigger, multidisciplinary project funds. One possibility already being explored is in epigenetics, but there are others. There seems to be some degree of overlap between the research fields of some research groups.
We suggest that when the University initiates cross-university research priorities, which it incentivises applications in such areas, perhaps by offering matched-funding or additional funded post-doctoral places etc.

2.5 Research funding
This is a medium-sized department in terms of personnel and budget. The annual turnover is approximately 150 mSEK from university/departmental funding plus 10 mSEK from the state through the hospital (“ALF”) for clinical research, mainly salaries for clinical doctoral students. About 1/3 of the budget is used for teaching, 2/3 for research. Of the research funding, 10–11 mSEK is university money and the rest is external competitive grants.

The allocation of University research funding within the department is based on activity according to jointly agreed principles, and is transparent. Similar transparency is felt to be lacking in the funding decisions at the faculty and domain levels, where the department feels it has little input. Because of flexibility in internal decisions, the DPHCS has been able to maintain a reasonable balance between clinical and non-clinical groups, which could easily tip in favour of the former. There is a feeling that too much of the state and University resources have been transferred to strategic projects, decided top-down, and too little is left for core funding bottom-up, i.e. investigator-initiated projects (currently only 17% approval rate). On the other hand, the subject area of DPHCS is in the domain of applied, not abstract or theoretical science and it should not be too difficult or opportunistic to orient research towards areas where the funding opportunities are.

Obtaining external funding is up to the research groups, and their success is highly variable. Practice-oriented caring sciences are at a disadvantage compared with more ‘fashionable’ basic research. At least two Research Groups are part of EU projects, one as the coordinating centre, but ERC grants have not been obtained. Other public and private sources are mainly national (VR, Forma, Riksbanken etc.).

It appeared to the panel that opportunities were being missed in obtaining funding. Several strategic initiatives (state, foundations, International) are in the subject area of DPHCS, yet these do not appear to be sufficiently exploited by the groups. Areas covered by the DPHCS, e.g. related to domestic societal problems, for example, urgently require an evidence base and the DPHCS is ideally placed to supply this. It was felt that pooling of expertise across groups would result in larger, more competent, multidisciplinary projects.
2.6 Cross-border collaboration and outreach
Lack of co-payment possibilities and obligatory overhead payments to the university can be a barrier for some kinds of international funding in cross-border collaborative projects. Co-financing of International grants, by the University, should be available and requirements for overhead payment should be more flexible.

Collaboration with developing countries often requires financial University support. Social responsibility of the University should be considered as a basis for promoting research collaboration with low income countries in areas of special relevance for public health and caring sciences.

Collaborative initiatives and International networking on the University level are increasingly taking place, but these are hard to support and utilize if they do not reflect the expertise and interests of the departments. There seems to be a gap between central initiatives regarding International collaboration and local interests – and a more bottom-up process could help close this gap.

International collaboration is not systematically monitored and thereby not so visible in profiling and funding of the department and the individual groups. More explicit indicators of international collaboration should be developed at the University level.

Both regarding Nordic grants and EU-grants some groups are already active as coordinators or research partners. However, even more involvement of all groups as coordinator or research partner can be developed and supported by the department based on international networking. Financial support from the University for activities related to international applications does exist, but there is room for improvement in the department to use these opportunities.

Joint appointments internationally could facilitate collaboration and international grant applications. Also more visiting scholars would be a way to support collaboration, but administrative and financial support from the university is needed in order to facilitate the potential for such initiatives.

2.7 Publication
Bibliometric monitoring seems to play an important role, but different disciplines within public health and caring sciences have different traditions and norms for publication. The panel thought that the monitoring should generally better reflect quality rather than only quantity. Monitoring of publication activities should therefore be organized in order to reflect the multi-disciplinarity of the department. Focus on quality and importance in the specific area of research, and not impact factors, should be a leading principle in publication planning and in the monitoring of the groups and the department as a whole. This should be recognized at the Faculty and University level as a general principle.
Common co-authorship principles should be developed for the whole department. Vancouver guidelines are used in some groups, but there are no common rules regarding the involvement of supervisors and collaborators as co-authors.

Publication activity could be supported by providing more time for researchers to focus on in-depth research activities through sabbaticals and “writing weeks” away from daily routines. Some groups have opportunities of this kind and the department allows these activities, but does not actively support them. Common procedures and possibly financial support from the department to facilitate this would help increase research productivity and outcomes in the form of publications of high quality.

Sharing experiences and plans for publication can facilitate publication activities – not least for younger researchers. Regular publication meetings could be organized within all groups with a focus on personal experiences regarding facilitators and barriers for publication.

Open-access publications are of increasing importance, not least in fields like public health and caring sciences, with direct relevance for a broad group of stakeholders. The considerable costs involved are normally covered by project budgets, but supplementary financial support should be available at the department level in order to facilitate open-access publication whenever relevant.

2.8 Career structure and mobility

The issue of career structures and progression for researchers figured, explicitly or implicitly, in the department’s self-evaluation. At the site visit we learned more about how full-time and part-time (clinical) PhDs differ and the perverse incentive that ALF funding creates in relation to clinical PhDs.

A strength of the department was the investment made in junior researchers, including research training, and in facilitating visits to conferences in other countries, including research visits to other groups. However, this investment goes to waste if the best researchers are not retained, because of the lack of a career path for them. With so few tenure track positions, the proportion of good researchers who will ever join the ranks of senior lecturers is very small. The remainder, no matter how good they are as researchers, face either an insecure future dependent on successful grant applications or a move away from academic research. Those who do succeed in gaining a lecturer position then find themselves with heavy teaching loads, which compromise their ability to perform well as researchers. At the site visit it was suggested that this was also a problem for those who progress to senior lecturer level, thus impeding their movement to professorial positions.

The lack of strategic thinking about career structures at post-doctoral level was highlighted by this department as a weakness, but they cannot solve this entirely by themselves.
In the site visit we asked the department to think about radical strategic solutions to the problems they had raised. We also asked how much freedom they had to develop a model that could support research careers in their annual budget plans. One suggestion was that of programme funding for successful research groups that would allow researchers to be supported on a longer term basis. Some external funders offer such programme funding; the panel wondered if the University might provide underwriting for something similar.

Other models, such as funding for bridging between research contracts, can also offer some security for those employed wholly as researchers without compromising the university’s or department’s finances. On our return to this department on 18th May we were delighted to hear that the idea of creating bridging funds for researchers was already being discussed between two research group leaders.

The knowledge that we acquired about the ALF system, including its support for clinical PhD students, was not encouraging. It seems a blunt instrument, which across a department tends to reward activity but not quality, and which has perverse effects in encouraging large numbers of clinical PhD registrations while offering nothing in way of support for post-doctoral work. We were also disturbed to hear that it did not necessarily guarantee clinical PhD students the annual three months of PhD focussed work that they are supposed to have. More strategic use of ALF, to reward successful groups and underwrite more post-doctoral work, would seem to offer many advantages to departments. The distribution of relatively small amounts of ALF money to many research groups reduces opportunities for strategic thinking at departmental level about how it might best be used to support research careers.

When research groups themselves bring in large programme grants, two things seem to be missing. First, it was not clear what commitments, if any, the University makes to matched funding, during the programme grant or, more importantly, to some continuation funding at the end of the programme. Without support for continuing their work, the groups with programme grants face a cliff face at the end of the grant. If the group has been successful, experienced researchers are lost, the group is unable to build on existing research, and the potential for making a sustained contribution to science and impact are thus also lost. This seems to us a wasteful model.

The main issue that the department raised itself in the career structure section of the self-evaluation was that most doctoral candidates were drawn from clinical roles and returned to clinical work after graduation. The implication was, again, one of wasted investment in research training.

The average age of those who eventually gain their doctorate was also raised as an issue. This is related to the clinical PhD route that the majority of students in this department take. Eight years to complete a PhD after qualification will
take these post-graduates well into their thirties and, for many, into the middle of family responsibilities. The demands, rewards and uncertainties of an academic career – even with a tenured position – may seem unattractive at this stage, when compared to the rewards of a wholly clinical role with clear career progression.

Discussion at the site visits made it clear that a doctorate is seen as essential for clinicians (mainly medical doctors) who wish to proceed to a consultant role in the health service. This raises the question of whether a ‘traditional’ PhD is what most clinicians actually need or want. The professional doctorate model offers advanced students many advantages. It can produce professionals who are research-aware and research-informed, who can assess their practice against the best current knowledge about effectiveness, and who could support research in their clinical surroundings without necessarily being active researchers themselves. Further, as the professional doctorate is suitable for being delivered, in part at least, on-line it can be fitted around working life more easily than the traditional PhD.

We were unable to establish whether the requirement for a PhD for clinical progression was nationally mandated or a local expectation. In either case, both the Faculty and the University are in a strong position to raise the issue with the relevant bodies and promote the value of a professional doctorate.

2.9 Feedback and Evaluation

At the site visit, it was revealed that, at department level, feedback and evaluation was disseminated individually through two sets of annual communications. One took place with the Head of Department, whereby research group leads discussed their current and future perspectives. At these meetings formal instruction and reporting was in place and reports were made. Another annual consultation was about salaries. This was delegated from the Head of Department to research group leads; it was here that there were opportunities to give financial incentives above the 2% average annual increase. In the meeting, ideas were shared on ways in which these consultations could be better utilized to increase the opportunities to inspire and enhance the development of individuals in relation to competence development, career opportunities etc.

Policies were in place to support processes underpinning PhD supervision; however the frequency of supervision meetings appeared to be at the discretion of the individual supervisor. Although the duration of PhD training was prescribed as 8 years at 50% or 4 years full time, and provision of supervision was supposed to be limited to this, some supervisors continued to support students way beyond these time frames. The panel questions whether extending supervision beyond 8 years is a good use of resources, given that a period beyond 8 years is unlikely to result in the production of good quality, publishable research.
A system is in place to enable post-graduate students to opt out of training at a mid-term evaluation; however it was unclear to the panel how often this occurs. It was also unclear how many students complete their PhD although there was an aspiration to keep track of the proportion of these PhD candidates. However, there was a general feeling that greater competition for PhD positions had improved the process and the candidates were more likely to succeed; it is harder to get PhD position and projects are more likely to be well designed with funding. As an example, recently there were 25 positions announced and 200 applicants, thus the standard of candidates was high.

Research groups appeared to find it difficult to articulate how they celebrated success, within the department and larger University. One opinion was that the University did not acknowledge success, unless it was, for example, funding from Wallenberg; in which case the University would add a support grant as a prerequisite for securing the award. The department suggested that it may be difficult to know about all the achievements across the department and were fearful of excluding some. This is perhaps indicative of the weaknesses in the communication channels across the department. The panel believed that greater opportunities at department and university level should be found to highlight successes, as motivators to ongoing work.

2.10 Research-teaching linkages
It was suggested that many research staff wish to participate in more teaching, but the current strong division between tenure track teaching/research staff and research-only positions provides a barrier to this. PhD students also wanted to gain experience of teaching, but again this was limited. Experience of teaching is essential to academic career development and we suggest that the University needs to re-think the current categories of employment or create more tenure-track positions.

There was some evidence that variable teaching loads between staff in the same category in the department causes some friction. A review of teaching workloads may be helpful. It appears that Master’s courses have good integration into research groups, but they could be further strengthened by linking them more firmly not only to research but also to relevant practice (e.g. public health, local government, business).

2.11 Internationalisation
More international researchers working in the department for shorter or longer periods could enhance internationalization of the department. A more explicit strategy for international exchange of researchers and for the application of funding for such activities would be desirable. However, there seemed to be limited knowledge in the department about existing formal and informal internation-
al networks that could serve as a framework for exchange of staff. Information about existing formal and informal international networks involving the University in general or specific research groups should be systematically provided and shared among all staff.

Swedish language dominates most information material and staff meetings and this could be a barrier for attracting international researchers. A general policy regarding English language for information material and meetings is needed.

An international Master’s program in Public Health could serve as a platform for recruiting international researchers, perhaps with elements of distant learning. Such a programme is under consideration in the department, and possible initiatives regarding this could involve collaboration with the Master of Global Health programme, as well as other universities in Sweden and abroad.

Some clinical and educational activities of the department may require national qualifications that might prevent recruitment of international researchers. More flexibility could be introduced in the planning of teaching programmes and specific courses in order to utilize expertise of scholars from abroad in teaching and supervision. Recruitment processes are generally slow and this might prevent international recruitment of excellent researchers. This could be solved through more efficient university procedures with strict time limits. There are time consuming procedures and obstacles for arriving guest researchers (i.e. obtaining a personal code). General administrative problems related to international guest researchers should be systematically solved by University administration.

In order to facilitate internationalization and international collaboration it is important that staff at all levels are encouraged to go abroad for research stays and that the department and the University generally supports this activity based on networking, internal and external funding etc. This should include doctoral students as part of their programme, but also postdocs and other researchers.

\subsection*{2.12 Campus Gotland}

There are clearly mixed feelings about the involvement of the DPHCS in Campus Gotland activities. Currently there is a nursing programme in place, with 20 students, taught partly on-line from Uppsala. A senior lecturer is in Gotland but conducts research in Uppsala. There are interesting opportunities to develop research, particularly public health projects, in this very specific well-defined community and largely rural setting. There was a sense that Campus Gotland was rather a top-down operation from the university leadership, and it might be worth investing in good quality communications infrastructure and encouraging collaborative research through investment.
2.13 Impact
There is an ethical and social responsibility to ensure that research is not just an academic exercise but attempts to have an impact on the health and well-being of those being researched. Group leads suggested that the ethos of ‘publish or perish’ dominated activities and this was seen as the major driver in the University. However, as there are no incentives to implement research findings, this is generally given less attention and support than other activities.

Internationally, impact is now given considerable priority, and the panel suggest that evaluation of success, at university level, and allocation of associated resources should include demonstrable research impact. Furthermore, there should be mechanisms to capture impact, as part of annual reporting. It is suggested that both ‘pathways to impact’ (e.g. guidelines) and direct clinical, social and/or educational impact are considered at the outset of research projects and subsequently captured. Strategies that including strong advocacy, stakeholder involvement, media dissemination and patient and public (PPI) engagement may assist with impact pathways and implementation. The panel believed that this department is well placed to have a leading role in developing a strategic vision for impact across the University.

3. Summary
3.1 Strengths

- There appears to be a dedicated and engaged research leadership team.
- Several of the Research Groups are very successful on the competitive market and have an opportunity for their research programmes to grow further.
- The internal departmental funding allocation appears open, collegial and generally accepted by its members.
- Amongst the group of research leaders there is an awareness that things need to change. This was evidenced in the self-evaluation report and reflected in the discussions during site visits. The new Department Head might take advantage of this and consider some structural changes in terms of leadership and how to organize the research groups.
- The department provided good examples of clinically and socially relevant, applied research with demonstrable effect. The fact that the breadth of collaborations go beyond health care, places the department in an ideal position to be university pioneers in capturing and assessing impact.
3.2 Weaknesses

- The disciplinary diversity can be regarded as a strength if the opportunity for collaborations and joint grant applications are used actively. However, the diversity can sometimes be too large to be able to contain and make use of in one department. It might be the case that one or two research groups would profit from a move to another department. Recently one group made such a decision to move. The department is still rather large and it might be a more successful solution to have somewhat less diversity when the academic culture is under development.

- Where there are clear synergies within and between departments, these are not exploited.

- Current preoccupations at higher levels (the University, government) with particular research fields (for example genomics, stem cell research) may lead to an over-dependence on publication in high-impact journals when assessing research quality. When money follows bibliometrics, there is a danger that good quality applied research – which has the potential to affect the experience of service users in fundamentally important ways – is not adequately valued.

- Research Group funding is too short-term, without cushioning mechanisms at the termination of grants. Infrastructure funding is also short-term, making sustainability of programmes difficult.

- The uneven teaching obligations among the lecturers seem to have resulted in a weak research culture in some of the groups. Our impression was that the seminar culture can be improved, not only on the department level, but also within research groups. Quality of supervision seemed to vary a lot and our impression was that PhD students and postdoctoral students sometimes felt abandoned by senior researchers.

- There appears to be some internal discord because of different opportunities for research/career advancement. The less ‘fashionable’ applied research (e.g. in nursing science) appears to be at a disadvantage.

3.3 Recommendations

Our recommendations are based on our interpretations of the background information and individual responses supplied during discussions. Within the very short time the panel was given, it is impossible to have a comprehensive insight into all of the dynamics and challenges of the department. However, we hope that our inputs will be helpful in supporting a positive research environment and enhancing research excellence. We have divided our recommendations according to where we believe the action is required (National Government, Department, University or Domain); however in many cases a collegial effort from all is required.
National Government

- Make an initiative that the government explore options for developing a professional doctorate for clinicians, leaving the traditional PhD for those who have a true interest in research active careers.
- Propose a review of the use of ALF to develop it into a strategic funding mechanism to support programmes of research and post-doctoral careers, managed jointly by the University and the County Council.

University

- Increase departmental involvement in and transparency of Faculty/University decision making around research priorities, recruiting, and infrastructural investments.
- Integrate the University’s Gotland strategy better with departmental agendas.
- Facilitate strategic collaboration of the department, the municipality/county council, and the Academic hospital in order to engage the practitioner and user communities in co-designing and co-producing research.
- Assess and streamline the administrative/academic procedures to ensure timely recruitment of staff.
- Award longer periods of internal (university) funding to increase security and decrease bureaucracy (applications, reports).
- Recognise and support successful research leaders via celebratory events, prizes and practical support to ensure they feel valued by their organisation.
- Organize bibliometric monitoring better in order to reflect the multi-disciplinarity of the department and capture quality rather than quantity.
- Offer co-financing by the university for international grants and make requirements for overhead payment more flexible.
- Consider social responsibility of the university as a basis for promoting research collaboration with low-income countries.
- Close the gap between central initiatives regarding international collaboration and departmental interests through a more bottom-up process and better incentives.
- Develop a more explicit strategy for international exchange of researchers and for the application of funding for such activities.
- Address the general administrative problems related to international guest researchers systematically at the central level.
- Develop a general policy regarding the English language in information material and in meetings.
• Provide more opportunities for researchers to be involved in teaching, eg. through the provision of more tenure track assistant lecturer posts, as a vital component of career development for young researchers.

*Faculty/Domain*

• Put systems in place to ensure that departments have greater decision-making capacity when recruiting new staff.
• Provide mentoring, training and support for Research Group leaders from all departments, including case studies of successful research groups and change management.
• Ensure that part-time clinical PhDs who bring in prestigious grants are treated in the same way (i.e. given tenure track positions) as those on the full-time PhD route.
• Launch negotiations to pool all intellectual and financial resources in the public health and global health areas into a School (or Center) for Public Health and a School (or Center) for Global Health of Uppsala University.
• Facilitate internationalization through and international Master of Public Health program, in collaboration with the Master's of Global Health and input from other international institutions.
• Provide comprehensive information about formal and informal international networks.

*Department*

• For developing a strategic research vision, conduct a careful analysis of the diversity of the department, including the pros and cons of research groups moving between departments.
• Identify cutting edge research questions where researchers from more than one of the research groups are involved.
• Formulate a strategy on how to influence University management in questions of key importance for success at the department level (lobbying).
• Consider innovative ways of academic sharing amongst different levels of staff, eg. senior/junior presentations, seniors as chairs of seminars, monthly lunches for all researchers.
• Organize joint sessions for PhD supervisors where process issues can be discussed and learning and sharing can take place.
• Organize discussion/mentoring groups for post-docs and junior researchers.
• Create a Management Team to support the Head of Department in research leadership and further integration of research strategy and implementation into the management considerations and activities of the department as a whole.
• Continue biweekly meetings of research group leads (Verksamhetsföräldrar) to put research strategy into practice.
• Support and encourage research groups to organize into themed areas which are externally facing (e.g. community, prevention, ageing), and develop leadership capacity across these areas.
• Pool intellectual resources from department and partners to encourage stronger and more ambitious funding applications.
• Provide training and support for grant writing.
• Include training in multidisciplinary research methods and critical appraisal of research into all PhD training, and make it available to all post-docs.
• Develop general co-authorship principles for the whole department.
• Include sabbaticals and writing weeks in the general planning in order to allow time for in-depth research work, preferably with some departmental resources.
• Arrange regular publication meetings within all groups, with a focus on personal experiences regarding facilitators and barriers for publication.
• Utilize expertise of scholars from abroad flexibly in teaching and supervision.
• Review and map present infrastructure uses and opportunities (e.g. biobanks, cohorts etc.) – as well as plan for future research needs (e.g. epigenetics, big data sets etc.)
• Conduct strategic review of departmental research methods and skills to identify missing resources, and seek to establish a cross-cutting methods team to support all research groups in, e.g., in qualitative studies, health economics, feasibility studies, implementation studies etc.
1. Introductory remarks

The department of Women’s and Children’s Health was one of two departments that Panel 19 evaluated, the other being Public Health and Caring Sciences.

The department provided the panel with some useful information in the self-evaluation document, which provided some background on the strengths and weaknesses of the department, and which was built upon during site visits. The programme of visits, that was organised by the department, afforded the opportunity to converse with various grades of staff, at different times, enabling junior members to provide their own perspectives without the influence of research leaders.

The panel wish to thank the department for their honest and open dialogue when discussing the challenges the department faces and potential areas of improvement.

1.1 Review approach

It was agreed that an Appreciative Inquiry (Cooperrider & Srivastva, 1987) approach would be used to conduct the review. This approach highlights the positive aspects of an organization (department), whilst engaging the key stakeholders (research group leads) to build on what already works to make progressive changes to the benefit of all.

In asking our questions, we were mindful of the fact that questions in themselves can be interventions, and worked on the assumption that the act of asking the question has the potential to influence the group. Thus, our questions largely followed the four processes of appreciative inquiry: Discovery, Dream, Design and Destiny (Figure 1). To this end, the questions put to department members focussed on determining what works well in the department (discovery), what could be built upon and improved (dream), how a shared, holistic, vision could be reached (design) and what steps could enable the vision to be realised (destiny).

1.2 Procedure

The panel consisted of seven members, including the Chair, and covered a broad array of professional and methodological expertise. The panel had not met prior to the review process. A panel guide was in attendance throughout all visits and
deliberations, but did not contribute to discussions. None of the panel members declared any conflict of interest in undertaking this work.

The panel had been supplied with the department’s Annual Report (Date 2015), output bibliometrics, survey results and a self-evaluation report to inform their review. The self-evaluation report was the main source of reference, as this offered the most insight into the research environment as a whole. The self-evaluation report contained themed sections (Recruitment, Leadership, Academic Culture, Infrastructure, Feedback and Evaluation, Cross-border collaboration and outreach, Internationalisation, Research Funding, Research-teaching linkages, Campus Gotland), offering a logical structure that captured the main aspects of a research environment. It was therefore decided that the questions that would guide the main part of the review would, in the main, follow the same logical flow.

Panel members volunteered to lead on questions related to the themes that best matched their expertise. These questions were presented to the panel by individual members in advance of the site visits. Some questions were rephrased to stay in keeping with the AI approach and duplicates were removed prior to gaining a consensus on a catalogue of questions.

1.3 Site visits
During the site visits (1 ½ days) the panel had the opportunity discuss the research environment with three sub-division leads (Paediatrics, Obstetrics and Gynaecology, U-CARE), Head of department, several research group leads, PhD students, and research group members. At the initial ½ day of the programme, the panel was provided with information about the structure and operationalisa-

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**Figure 1.** Appreciative Inquiry Process.
tion of the department. At the panel’s request, the full day of the visits focussed on the themed sections that had been covered in the self-evaluation report.

In the formal meetings, questions were led by the allocated theme leader. However, all panel members had an opportunity to ask additional questions, as required. Contemporaneous note taking was shared amongst panel members. The panel had an opportunity to meet alone for short periods throughout the day, to assess the success of the process and recap on areas requiring further exploration.

1.4 Report writing
Each allocated theme leader was tasked with writing the report narrative for their theme, along with key recommendations. The recommendations were agreed amongst the whole panel during the meeting week. It was these recommendations that were reported to the department teams. The panel Chair collated the different thematic areas into the final report, which was approved by all panel members prior to submission.

2. Observations and analysis
The following thematic areas provide the main observations and analysis of our review. Although presented as separate sections, many of the themes overlap.

2.1 Academic culture
*Introductory remarks*
In the instructions for the self-evaluation, academic culture was defined in terms of intellectual interaction, internal and external peer review, collegiality, equal opportunity, creativity, ambition, scientific conduct, research integrity and junior researchers’ sense of good professional conduct. We have assumed that such criteria are an expression of a set of values where the researcher’s freedom to prioritizing research issues is at the core, including selecting methods and exploiting opportunities. However, the researcher does not work in isolation but within a certain context, including funding opportunities and the purpose of the department of which one is a part.

Based on some empirical research (e.g. Blomqvist et al. 2016, Bolden et al. 2012) on successful research environments (defined in terms of being recognized by the scientific society) one can argue that a good academic culture is characterized by all the things mentioned in the self-evaluation. These include a positive work climate, lively internal and external communication (including open and trustful relations between junior and senior researchers), but also a research leadership with a strategic vision, planning capacity and a social and emotional orientation.
The basis for the creative and productive academic culture is the autonomy of the research group within a broadly defined research area, which in turn is part of a more general strategic research vision, in this case on the departmental level. Without such a vision, the research groups will lose connection to each other and research at the department will become fragmented. It is a task of the department leadership to continuously explore and, in interaction with the personnel, to discover the purpose that connects the research to a broader whole. Based on this analysis it will be possible to formulate the goals for the department. It will be essential for the department leadership to communicate and to act according to shared values. In conclusion, the academic culture, in our view, is not only expressed in certain types of activities, but is based in values and a strategic research vision.

Department specifics
Our impression, based on a group interview with PhD students and researchers, the department leaders and the head, is that DWCH provides a friendly and an open environment. There seems to be a good collaboration within the Obstetrics/Gynaecology, Paediatrics and U-CARE groups and not much rivalry between or within research groups.

The International Maternal and Child Health group, which was a strong community with a long tradition and capacity of research, has had some difficulties after a transition period. However, the department head has worked with them and a constructive solution is on its way to being implemented.

Several seminar series are organized, but attendance is rather low and senior researchers are often too few. seldom present. Results on the survey questions regarding seminar culture place the department below the average compared to the outcome from the University of Uppsala as a whole.

There seems to be a constant struggle to integrate clinical work with research at the department. There are few full time research positions, and many clinicians who wish to do more, are unable to because of time limitations. The academic part of the clinical work has decreased. Sometimes there are short meetings with lunch. It is a struggle even to ensure scattered seminar series and meetings are able to continue.

The department will move to new premises in the beginning of 2018. This will be an opportunity to increase collaboration between research groups and areas of interest. Some members of the staff expressed concerns that the move away from the clinic area will make it even more difficult to integrate clinical work with research. However, the new office space is only a few minutes away from the clinic. Our view is that the advantages dominate and that the move will provide a much-needed opportunity to coordinate research activities and collaboration between researchers. The negative side effects of the move can be
solved through creative initiatives. It might prove worthwhile to involve junior researchers in identifying problems and suggesting solutions.

It seems that the U-CARE group has developed some procedures that can be used as a model for the department as a whole. Examples are an advisory board and reference groups with the aim of integrating clinical experience, research methods and quality aspects for large-scale projects.

2.2 Recruitment strategies
Recruitment is influenced by legislation, trade unions rules, collaboration with the hospital and external funders, making personnel management complicated and inflexible. There were multiple challenges to recruitment, several of which relate to the clinical environment. Firstly, requirements for clinical practice restrict international recruitment. Secondly, working conditions at the hospital are demanding, making allocation of research and teaching time restrictive. Finally, it was acknowledged that having joint university/hospital employments created problems, due to competing employer demands. There was also some discord amongst the department members, due to the unequal terms and conditions among different clinical professions; unlike the nursing/midwifery professions, physicians received additional income (30%) for research beyond their full time equivalent salary.

Recruitment is very dependant on external funding, and this creates insecurity amongst researchers who are unable to plan their future career. This is compounded by the restrictions on temporary positions, which allow a maximum of a 2 year post, with a 2 year extension in exceptional circumstances. Group members felt that terminating jobs that reached the timeline was a detriment to the programme of research and research team. The groups felt further disadvantaged by the need to redeploy existing staff from elsewhere in the university, who might not have the skills and knowledge of those whose job had been terminated. Moreover, it was felt that even though a post-doctoral researcher may be more valuable to a research group than a PhD student, the incentive of ALF funding provided motivation to recruit at the lower level. This suggests that financial structures, as opposed to academic need, are driving the compilation of research teams.

Administratively there appear also to be challenges. Recruitment processes are long; department members gave examples of Senior Lecturer and Professor posts which took two years to be filled. The 2 months notice for resignation also created problems as, in the current system, this does not allow enough time to recruit a replacement member of staff.

There appeared to be a gender balance of employees, which is expected given the variation of professional groups across the department. However, there did not appear to be a pro-active approach to being inclusive to individuals from
ethnic minority groups. This was partly explained by the clinical criteria to practice, restricting employment to those clinically registered in Sweden.

2.3 Research leadership

The leadership of the department is distributed across a range of roles, but much of it falls to the Head of Department who has the support of the Departmental Board, including the Deputy Head of Department, principally with respect to teaching matters as well as key support staff (Human Resources, Finance). The Head of Department has also been supported by departmental Research Division Heads and the Medical School Dean when dealing with staffing and strategic matters. The Departmental Head has recently had to manage significant changes to personnel, the transfer in and reconfiguration of some of the Research Groups, relocation and making key improvements to school culture to improve transparency and inclusiveness.

The department has three main research Divisions comprising different numbers of Research Groups, including a new Division/Group that recently moved to the department (U-CARE). There are differences across these Divisions and Research Groups in terms of staffing numbers, profile and quality and quantity of research activity, as well as somewhat separate research cultures across and within some of the research Divisions. Researchers within the Research Groups are also managing a range of competing demands (clinical work, teaching and research), the proportions and demands of which vary across the Groups. The Head of Department, Division and Research Group leaders are also operating in contexts of some uncertainty (especially in relation to the priorities and organisation of the hospital) and adopt different approaches to practical issues such as distribution of resources, establishing expectations of researchers individually and collectively and mentoring/support for early career, non-permanent staff and an interdisciplinary staff Group. Research Division and Group leads are at a range of career stages. Not all Group leads are Professors and one Research Group leader is not permanently employed by the department. Some leads might retire within the next 5–10 years. Typically, when leads retire Research Groups might be merged/absorbed into other Groups but it could also be the case that new leads are appointed/recruited. Research Groups can vary in size considerably (from 5–20) and their sources of funding are also variable, with some funded entirely by external money and others supported via a mixture of ALF and external funding, some with very small amounts of the latter. Division and Research Group leads report a range of ways in which they keep in touch with and support their researchers and some welcomed the opportunity to reflect on results of the survey with their staff and where improvements could be made. They also meet with the Head of Department to discuss research issues (every 2 months). The Head expressed a desire for more opportunities to discuss and develop research
strategy with heads of Division and Research Group leads for the department. Some Research Group/Division leads also expressed a desire for support with developing their Groups’ strategies. It was also suggested that guidance about the expectations of Research Group members and their leads would be welcomed. A strong desire for more support from the senior leadership of the University to address the challenges posed by uncertainties and proposed changes to the hospital/university laboratory locations/sites was also expressed.

2.4 Infrastructure
The Self-Evaluation document did not adequately capture the breadth of research infrastructure currently available and used by the research teams across the department. In presentations and discussion it became clear, for example, that the department works closely with a number of biobanks and tissue repositories and that these are central to the research conducted. The recent movement of the U-CARE-pare portal and related research is an opportunity to reflect upon how this infrastructure may be a benefit to others in the department, in terms of stimulating new collaborative research. We suggest that the department maps their entire current infrastructure and likely needs for future planned research. This may then be useful for future discussion about the relocation of the department (see below).

The imminent movement of the department is clearly causing a large amount of distress. We suggest that the university should discuss the relocation with the department and ensure that the needs of all parties will be met during and after the relocation. It is, generally, a good thing to co-locate the entire department if possible – but this should not be done at the expense of damage to links to the clinical context (as this is a source of many research questions – and important given the high number of clinical academics/researchers). Neither should small research groups be left in labs far from everyone else. Planning for such moves will always be complex as it involves both the University and Hospital, but should take into account all relevant considerations including, for example, the need to gather and store samples for future research at the clinical site.

We suggest that part of the strategic review of the department’s research should be establishment of a cross-cutting theme on research methods (e.g. use and develop expertise in qualitative research methods, health economics, feasibility studies etc.) – a “trials” unit to focus on implementation studies – that would work with all research groups. Whilst a group exists at the department of Medical Sciences focused on clinical research, they are rather expensive and have a narrow focus on RCTs. We believe that while it is essential for research groups in the department to have a clearer focus (see elsewhere), it is also important to have a clear departmental research identity. One possibility could be research priorities on W&CH across the domains of laboratory science, clinical research
and implementation. The Clinical Psychology group (U-CARE) can be at heart of this development, cutting across existing groups, and this may help with their integration into the department, but also bring greater focus and unity to all the research in the department.

The Head of Department is clearly well supported by an excellent team of administrators, especially in finance, IT and HR issues.

### 2.5 Research funding

The DWCH is rather small, with an annual budget of 91 mSEK (3rd smallest of the 11 departments of the domain of medicine and pharmacy). It was reported to have 114 employees, but the personnel structure is complicated because 47 of the research staff (professors, senior lecturers) have a permanent university position, 72 have a full-time and 42 a part-time position at the hospital, and there are a total of 350 associated researchers. The personnel budget in 2016 was 59,0 mSEK (also 3rd smallest of the 11 departments). Of the registered PhD students, 17 are paid by the university (4 years), 75 are hospital employees and receive annual compensation for a maximum of 3 months from ALF-funds (state funding through the County Council), 12 are "sandwich"-students (joint programme with low-income countries), and there are 3 "others" (these may be paid from research grants, but it is unclear).

The funding is derived from several sources. The block grant from the university budget (29,1 mSEK) covers the costs of undergraduate education at the departmental level. ALF funding (total 29,5 mSEK, of which 23 mSEK is for research) is allocated to the research groups "on the basis of activity" and mainly used to provide periods of full-time research for clinicians. This funding seems inadequate, since the most common complaint is the lack of time for research because of clinical commitments. The university allocation for research/researcher training (18,8 mSEK) is the lowest of all 11 departments, for unclear reasons.

The DWCH is the smallest department at the Medical Faculty. One of the major problems of the DWCH is the small amount of external funding (37,1 mSEK, 3rd smallest of the 11 departments). A large part of this comes from a grant to the U-CARE research group (10 mSEK), based on a strategic programme decided by the government, presumably for 10 years. The university has also defined new research initiatives, several of which are in the strong areas of DWCH research, including e-health, migration, mental health and antibiotic resistance. However, funding to support research towards these strategic goals has not been forthcoming.

Both the Obstetrics/Gynaecology and Paediatric divisions as well as U-CARE have grants from the medical research council (VR), and paediatrics from participation in EU projects. There seem to be no EU projects initiated and coordinated by DWCH, nor advanced or starting grants from the ERC. In the interviews it
became apparent that, for unknown reasons, too few members of the academic staff submit grant applications. The self-evaluation suggested remedies focusing on a few large-scale collaborative projects and support for young investigators in writing grant applications.

Some of the problems that became apparent in the self-evaluation and interviews, apart from an overall lack of money, were insecurity and short-termism. There also seems to be lack of transparency in the way that budget decisions are made at the level of university, disciplinary domain, and faculty; at least there was little awareness of these principles and practices at the departmental level, where the leadership has no discretionary funding to use for developing activities.

2.6 Cross border collaboration and outreach

The department is involved in a number of collaborative research activities with researchers within the EU and outside. Collaboration outside Europe seems more dominant as part of the global health focus, whereas Nordic and European collaboration that does take place is less developed across the whole department. EU-grants could serve as an important basis for more cross-border collaboration – involving the department as a main coordinator or just as a partner, but in both cases existing international networks are helpful as a basis for new initiatives.

Building international networks should be an ongoing process. One way of promoting this could be to provide funding from the department to staff participating in international conferences with an oral or poster presentation as a way to increase international contacts between the researchers and colleagues with similar interests in other parts of the world.

Administrative and financial support for international/EU application activities is available from Uppsala University; however, there are no specific university rewards for receiving EU grants besides the general budget framework.

It is important to ensure mechanisms are in place to inform all staff of new calls and funding opportunities in order to support application planning and processes.

2.7 Publication

The publication activity of the department has increased quite substantially over recent years, but there is a general issue of quantity versus quality that needs to be carefully discussed. Aiming for fewer publications might provide more time for improving their quality. This, however, is a general issue, that is subject to strong external incentives (related to budget formula and individual advancement criteria for researchers and clinicians). The requirement of 4 peer-reviewed articles for a doctoral thesis is a driver for focusing on quantity. Due to the financial budget system, articles are often submitted to high-ranking journals with a high impact factor instead of journals that are more important within the spe-
cific discipline. The issue of co-authorship could also be a subject for thorough discussion in order to define common principles. For example, the criteria for a supervisor to be a co-author should be determined. The role of other kinds of non-scientific publications/communications to the public could also be discussed in relation to budgeting and career potentials.

Open access publications are generally encouraged, but they are costly and budgets for this kind of expense are not always available in specific projects. This could be facilitated through specific funding opportunities by the department or central university funds.

For many researchers, not least those in clinical positions, there is a general lack of time for in-depth research activities. There is no formal system for ensuring individual “writing weeks” or even sabbaticals; these could promote the research process and improve outcomes in the form of high-quality publications.

2.8 Career structure and mobility
In this department, issues of career structure and progression were raised in several places in the self-evaluation. The main issue highlighted was that most doctoral candidates were drawn from clinical roles and returned to clinical work after graduation. The implication was one of wasted investment in research training for the department itself.

The average age of those who eventually gain their doctorate was also raised as an issue. This is related to the clinical PhD route that the majority of students in this department take. Eight years to complete a PhD after qualification will take these post-graduates well into their thirties and for many into the middle of family responsibilities. The demands, rewards and uncertainties of an academic career, even with a tenured position, may seem unattractive at this stage, when compared to the rewards of a wholly clinical role with clear career progression.

Discussion in the department suggested that a doctorate is seen as essential for clinicians (mainly medical doctors) who wish to proceed to a consultant role in the health service. This raises the question of whether a ‘traditional’ PhD is what most clinicians actually need or want. The professional doctorate model offers advanced students many advantages. It can produce professionals who are research-aware and research-informed, who can assess their practice against the best current knowledge about effectiveness, and who could support research in their clinical surroundings without necessarily being active researchers themselves. Further, as the professional doctorate is suitable for being delivered, in part at least, on-line it can be fitted around working life more easily than the traditional PhD.

We were unable to establish whether the requirement for a PhD for clinical progression was nationally mandated or a local expectation. In either case, both
the Faculty and the University are in a strong position to raise the issue with the relevant bodies and promote the value of a professional doctorate.

A related issue was raised in the self-assessment section on recruitment, where it was stated that the clinical status of the department meant that most senior positions were open only to clinicians, so that ‘promising scientists with other backgrounds have problems seeing a future at the department’. In the long term however, the solution offered – more opportunities for post-doctoral research assistant positions for non-clinician researchers – would not solve this problem, but postpone it. Externally funded groups, such as the U-CARE group are able to offer longer-term research posts to non-clinicians, but are, of course, dependent on continuing funding for their work.

The knowledge that we acquired about the ALF system, including its support for clinical PhD students, did not encourage us. It seems a blunt instrument, which across a department tends to reward activity but not quality, and which has perverse effects in encouraging large numbers of clinical PhD registrations while offering nothing in way of support for post-doctoral work. We were also disturbed to hear that it did not necessarily guarantee clinical PhD students the annual three months of PhD focused work that they are supposed to have. More strategic use of ALF, to reward successful groups and underwrite more post-doctoral work, would seem to offer many advantages to departments. The distribution of relatively small amounts of ALF money to many research groups reduces opportunities for strategic thinking at departmental level about how it might best be used to support research careers.

In addition, the panel suggest that clinical leaders should become more involved in and made accountable for the progression of PhD students. This commitment could be made in joint meetings between the PhD student, supervisors and head of the clinical department.

In the funding section of the self-evaluation there were conflicting statements about the level of grant applications in different groups. On the one hand, it was said that too few researchers, both young and more senior, applied for grants. Nevertheless, it was reported that young researchers had been successful in bringing in prestigious grants.

We asked questions about which researchers were not applying for grants and whether those who had brought in prestigious grants had been moved onto tenure track positions; we had been told, when the Dean gave her general introduction to the Faculty at the start of our work, this was standard practice. It seems that there are some researchers with joint clinical posts who have brought in prestigious VR grants (career support funding) but who have not been moved so far onto the tenure track. The rationale for this is unclear and it is difficult to understand this apparent inequality.
We subsequently learned that a successful young researcher from this group, with a very impressive record in raising grant income, but without a tenured post, had applied successfully for a chair in Social medicine (Public Health and Caring Sciences). This meant that she and her research group moved from one Uppsala department to another. We felt that this was wasteful of time and effort and that it should not be necessary for someone so successful to have to make a move of this sort in order to get security of tenure.

The self-evaluation report also says that the more successful research groups have introduced internal review processes for grant applications. We feel that introducing similar processes across the department would be valuable.

2.9 Feedback and Evaluation
Feedback and evaluation was addressed in the self-evaluation report, a formal presentation given related to postgraduate education, direct interviewing and informal discussions.

**PhD students**
The department has developed a new plan to structure PhD training, as part of the Faculties efforts to ‘streamline’ PhD study tracks and content; this will start in October 2017. As part of this plan, PhD students will have access to research training, a seminar series, dedicated website and an annual scientific meeting.

In the presentation during site visits, the self-assessment survey was referred to. Supervision was rated ‘Excellent’ by 70% of respondents and ‘Good’ by the remainder. The survey response rates, however, were poor and therefore caution needs exercising when reviewing these findings. The survey indicated that problems are rare, but that clinicians have difficulty getting time off, that progress can be slow, and that disagreement between supervisor and PhD student, may occur.

All supervisors hold a doctoral degree and attend a mandatory course for supervision (one day dedicated). There appear to be clear criteria for supervision and formal requirements for supervision meetings. However, frequency of meetings appears to be at the discretion of the individual supervisor. Supervisors are financially responsible for the PhD students in their group, which may motivate them to provide adequate support. However, there are no time limits on the PhD programme. Although the duration of PhD training was prescribed as 8 years at 50% or 4 years full time, and provision of supervision was supposed to be limited to this, some supervisors continued to support students way beyond these time frames. The panel questions whether extending supervision beyond 8 years is a good use of resources, given that a period beyond 8 years is unlikely to result in the production of good quality, publishable research.

There seem to be no formal structures as to PhD supervision. One of the comments was that there were two types of supervisors; one clinician with only one
or few PhD students who did not really “push” people through the system and then more “professional” researchers who had several candidates and managed to get them through the system.

There was concern that the clinical PhD had to write 4 papers in order to “prove” that they were qualified. This may lead to papers of poor quality. One comment in the discussion was that some candidates were given insufficient critical comments. This was a concern as it appeared that students were exposed to supervisors with different academic competencies. There appeared to be pressure on clinicians to undertake a PhD as a pathway to becoming a Consultant, even though it was highlighted that some such students have no desire (and sometimes ability) to be a researcher; this needs addressing.

Researchers
It was clear that there is some structure to provide feedback to staff in the department. The Head of department has annual developmental dialogues with the leaders of the research groups, who in turn are expected to have annual developmental dialogues with their PhD students and research staff. However, the format and content of these evaluations was unclear. It was stated that there were some pre-formulated reports to be made annually, but how these were used was vague. Progress is also discussed within the research groups at seminars and meeting. There seemed to be a lack of systematic evaluation and feedback from the research leaders to the individual researcher, yet this could be linked to the lack of key performance indicators or transparent objectives for individuals and groups.

Although the ALF system gives feedback on research performance for individual researchers, it was described at the site visit as a “mathematical model,” which failed to provide more qualitative evaluation of researchers’ activities that go beyond the measurable.

There were no systematic ways of celebrating achievements of individuals or groups. It was felt that recognition of successes within the department could be used as a way of valuing individuals and motivating groups as a whole.

2.10 Research-teaching linkages
The Department of Women's and Children's Health (WCH) has a number of established teaching programmes including a Masters in Global Health and extensive clinical teaching roles in courses on medicine, nursing and midwifery. As the Self-Evaluation document makes clear many of the researchers do some teaching, but many do little or none.

There are clear plans for more focused research training for doctoral students around the three broad research themes that were presented, but it appears that
methodological research training is largely left to the Faculty to provide. The exception is the U-CARE group, who have clear expertise in some research methods (such as qualitative research) that could benefit the doctoral students across the department. We suggest a review of all teaching conducted by the department to ensure that it is research-led.

2.11 Internationalisation
The department is generally aiming at developing further internationalization of its research. It is to some extent hosting international researchers, but this could be further strengthened by developing the exchange strategies for staff through exchange agreements with other universities. Some agreements do exist with some African universities, but the exchange options have been mostly engaging Swedes. Certain universities in Europe and additional networks involving Uppsala University can also be used for this purpose. However, more information about these opportunities is needed among staff. There is no formal requirement for doctoral students to go abroad, and mobility can be a problem for the many doctoral students who have family commitments. However, international research visits should be promoted among the doctoral students and staff in general, preferably based on international research collaboration involving the whole department. Funding could be partly secured by the university/department or through grants.

The U-CARE program uses an Advisory board, which includes researchers from many European universities. This kind of international support could be extended to the whole department in order to facilitate international collaboration and initiatives.

Recruitment of international researchers is an ambition, however, the recruitment process is generally slow, and could be speedier through more efficient university procedures with strict time limits. It is sometimes a dilemma to balance ambitions of international recruitment against needs for local collaboration, clinical competencies and teaching requirements. For instance, lack of license as a Swedish medical doctor has been a problem. Solutions to this should be discussed and facilitated. Inviting Swedish researchers who have made a research career abroad might be a solution in some instances.

The Global Health Master’s programme is useful for international recruitment. Students are often invited as part of their master’s project to take part in ongoing projects during the programme. This, however, is an informal process that might be more structured and facilitated through systematic communications about the options.
2.12 Campus Gotland
The department has some existing links with the Gotland Campus (particularly through Clinical Psychology with the gaming group) and this links to the development of innovative ways of facilitating implementation of interventions, as well as through some nursing, midwifery and medical links. It is good that links are already established, however the panel felt that future links should not be forced but should develop naturally from shared teaching and research interests.

A major problem is, apparently, one of recruitment of staff to Gotland. We suggest that the Faculty and/or the University need to consider priorities for strategic development of links with the Gotland site. Some financial incentives to collaborate may be of benefit here.

2.13 Impact
There is an ethical and social responsibility to ensure that research is not just an academic exercise but also has an impact on the health and well-being of those being researched. However, it seemed that publications dominated impact activities and this was seen as the major driver in the University. The department were receptive to the greater emphasis on impact; however, as there are no incentives to implement research findings, this would require greater attention and support from the University.

Internationally, impact is now given considerable priority, and the panel suggest that evaluation of success, at university level, and allocation of associated resources should include demonstrable research impact. Furthermore, there should be mechanisms to capture impact, as part of annual reporting. It is suggested that both ‘pathways to impact’ (e.g. guidelines) and direct clinical, social and/or educational impact are considered at the outset of research projects and subsequently captured. Strategies that including strong advocacy, stakeholder involvement, media dissemination and patient and public (PPI) engagement may assist with impact pathways and implementation. The panel believed that this department is particularly well placed to do this.
3. Summary

3.1 Strengths

- The department is considered to be a welcoming and collegial environment with a good degree of autonomy for research groups.
- The clinical/academic interface enables development of relevant research questions and fosters some interdisciplinary collaboration.
- There are several researchers whose competence is in areas of national or university strategic interests.
- There is potential for ambitious multidisciplinary collaboration within and outside the department.
- The focus of the research, Women’s and Children’s Health, is a priority area internationally, affording good opportunities for international collaborations and external funding.

3.2 Weaknesses

- The research areas (ObGyn, Paed, U-CARE and IMCH) have developed a high degree of independence and are characterized by different cultures. From one perspective this can be considered a strength. It has served an important function in developing internationally competitive research. However, the four research areas are closely connected in terms of subject matter and in order to win large grants and to develop relevant research questions for the future, interdisciplinary collaborations need to be fostered. Instead of a rather fragmented research situation we suggest that the department joins its forces towards a common strategic research vision.
- Clinical research is obviously dependent on the clinic. Today, the department has limited possibilities to influence the hospital to arrange optimal conditions for research. New and creative ideas will have to be developed in order improve collaboration.
- The department is also dependent on the university management, but has not yet been able to develop a successful strategy to get their attention, as exemplified by the lack of University funding regarding three of the prioritized research areas at UU 2016–2020, to which three of the research groups are devoted, i.e. E-health, Migration, Integration and Racism and Mental health.
- The seminar culture is weak and senior researchers as role models and inspiration to junior researchers could be more visible. Supervision varies a lot between supervisors who seem to need more support in their roles. PhD students and Postdocs, especially those in the clinic, have difficult roles and need more space to talk, not only about the research in itself, but also the
emotional challenges involved in the sometimes frustrating process of doing research.

- There appears to be a lack of ambition for planning competitive research and applying for funding, despite this area being an International priority.
- There is fragmentation into small groups, with only modest intra- and interdepartmental collaboration
- Failure to recruit top-quality young investigators to replace the aging academic staff (oldest in the faculty)

### 3.3 Recommendations

Recommendations are based on our interpretations of the background information and individual responses supplied during discussions. Within the very short time the panel was given, it is impossible to have a comprehensive insight into all of the dynamics and challenges of the department. However, we hope that our inputs will be helpful in supporting a positive research environment and enhancing research excellence. We have divided our recommendations according to where we believe the action is required (National Government, Department, University or Domain); however, in many cases a collegial effort from all is required.

**National government**

- Make an initiative that the government explore options for developing a professional doctorate for clinicians, leaving the traditional PhD for those who have a true interest in research active careers.
- Propose a review of the use of ALF to develop it into a strategic funding mechanism to support programmes of research and post-doctoral careers, managed jointly by the University and the County Council.

**University**

- Enlist support from the University leadership in negotiations with the University Hospital to ensure that changes there do not detract from the departmental research mission and to ensure alignment and infrastructural support consistent with University research priorities.
- Increase departmental involvement in and transparency of Faculty/University decision making around research priorities, recruiting and infrastructural investments.
- Integrate the University’s Gotland strategy better with departmental agendas.
Facilitate strategic collaboration of the department, the municipality/coun-
ty council, and the Academic hospital in order to engage the practitioner
and user communities in co-designing and co-producing research.

Assess the administrative/academic procedures of the University to ensure
timely recruitment of staff.

Award longer periods of internal (university) funding, whenever possible,
to increase security and decrease bureaucracy (applications, reports).

Recognise and support successful research leaders via celebratory events,
prizes and practical support to ensure they feel valued by their organisation.

Organize bibliometric monitoring in a way that better reflects the multi-
disciplinarity of the department and the applied nature of much of its research

Offer co-financing by the university for international grants and make re-
quirements for overhead payments more flexible.

Consider the social responsibility of the university as a basis for promoting
research collaboration with low income countries.

Close the gap between central initiatives regarding international collabo-
ration and departmental interests through a more bottom-up process and
better incentives.

Develop a more explicit strategy for international exchange of researchers
and for the application of funding for such activities.

Address the general administrative problems related to international guest
researchers systematically at the central level.

Provide more opportunities for researchers to be involved in teaching, e.g.
through the provision of more tenure track assistant lecturer posts, as a
vital component of career development for young researchers.

**Faculty/Domain**

Put systems in place to ensure that departments have greater decision-mak-
ing capacity when recruiting new staff.

Provide mentoring, training and support for Research Group leaders from
all departments, including case studies of successful research groups and
change management.

Provide comprehensive information about formal and informal internation-
al networks.

Develop guidance on what makes a successful Research Group in medicine
in general and Women's and Children's health in particular, including case
studies of successful Research Groups – articulating their strategies, longevity, kinds of activities and staffing structures.

- Establish cross-cutting research design and methodology services (e.g. qualitative methods, health economics, feasibility studies, implementation science).

Department

- For developing a strategic research vision, conduct a careful analysis of the diversity of the department, including the pros and cons of research groups moving between departments.
- Formulate a purpose and strategic research vision for the department as a whole, including identification of cutting edge research questions where researchers from more than one of the research groups are involved.
- Introduce pre-submission grant review in all research groups.
- Introduce clear performance management processes, with targets, for tenured staff who are not applying for research grants. Review block funding and ALF for such staff. Consider teaching only contracts if such staff do not have the ability to win contracts.
- Formulate a strategy on how to influence University management in questions of key importance for success at the department level.
- Start a small project group with engaged junior and senior clinical researchers and give them the task to test new ideas on how to integrate clinical work and research.
- Consider innovative ways of academic sharing amongst different levels of staff, e.g. senior/junior presentations, seniors as chairs of seminars, monthly lunches for all researchers.
- Organize forums for PhD supervisors where process issues can be discussed and learning and sharing can take place.
- Organize discussion/mentoring groups for post-docs and junior researchers.
- Introduce a system for joint appointment of researchers between University of Uppsala and universities in other countries, including low income countries such as Tanzania and Uganda, where collaborations exist.
- Create a Management Team to support the Head of Department in research leadership and further integration of research strategy and implementation into the management considerations and activities of the department as a whole.
- Pool intellectual resources from department and partners to encourage stronger and more ambitious applications.
• Provide training and support for grant writing.
• Include training in multidisciplinary research methods and critical appraisal of research into all PhD training, and make it available to all post-docs.
• Include sabbaticals and writing weeks in the general planning in order to allow time for in-depth research work, preferably with some departmental resources.
• Arrange regular publication meetings within all groups, with a focus on personal experiences regarding facilitators and barriers for publication.

4. Reflections on the similarities and differences between evaluation units within the panel – what to learn from each other?

Both departments are structured as a kind of ‘umbrella’ department for a number of sections/units that seem to work quite independently. The departments ‘house’ the Research groups but integration is limited. Both departments would benefit from a stronger internal collaboration based on some kind of a joint strategy regarding general targets and joint procedures within the Department.

Issues related to career structure and progression were raised in several places in the self-evaluation and site visits of both departments. This, to some extent, reflects the inevitable interconnections between funding, recruitment and career structures that were also evident. The shared challenges highlight the need for fundamental changes at university/national level, to address some of the regulation and process obstacles.

It is also quite clear that the departments are in need of the same general faculty and university support which seems to be insufficient regarding many issues (including information and resources to support international collaboration) and both are subject to an unfortunate focus on quantity of publications rather than quality and excellence. The two departments reviewed by our panel could obviously benefit from closer collaboration between the two, regarding both research and educational programmes, given the substantial overlap between their methodologies and research interests.

The panel believe that both departments have the potential to strengthen their research portfolios and would be interested in receiving an update on any implemented changes as a consequence of this review.
4.1 References


Appendix 1: Self-evaluation template
Appendix 2: The Q&R17 research environment questionnaire
Appendix 3: Design of the survey and method of analysis
Appendix 4: Basic data
Appendix 5: Panel instructions and panel report template
Appendix 6: Panel member requirements
Appendix 7: Panel members
Appendix 8: Instructions to Cluster-coordinators and Departments for the planning of panel site visits
Appendix 9: Panels by visiting week
Note: The following self-evaluation template was distributed to the departments in November 2016. Some faculties decided to add a few faculty specific questions, these are not included in this general template which included all departments.

Quality and Renewal 2017 (Q&R17) at Uppsala University – instructions for self-evaluation

Dear colleague,

Q&R17 brings the preconditions and processes underpinning quality and renewal within the research environments of the Uppsala University to the fore. In other words, Q&R17 is primarily expected to provide the research environments of the university with input to further develop their systematic quality work and research renewal.

Q&R17 will not result in any sort of grading, rewards or penalties. Instead, Q&R17 will culminate in an analysis, which will identify strengths, weaknesses, and areas suitable for development within the research environments. The external experts will also be asked to submit recommendations. The information yielded is to serve as the basis for development measures and improvements. Therefore, a good self-evaluation is truly self-critical and reflective. The ability to reflect upon one’s own actions and activities in a nuanced way will provide the best basis for continued quality enhancement.

The Q&R17 process involves a bibliometric analysis, an internet-based survey to all faculty and research staff affiliated with the university, self-evaluations performed within the research environments, and finally external expert evaluations. The survey results, the bibliometric data and the basic data extracted from databases, are meant to form the point of departure for the self-evaluation and spark important discussions on quality and renewal within your unit. I highly recommend that the analysis involve many if not all members of staff that make up your research environment.

Do you want more information about Q&R17? https://mp.uu.se/web/info/vart-uu/uniovergrprojekt/kof17-forskningsutvardering

Professor Anders Malmberg
Deputy Vice Chancellor
Project Manager, KoF17
Instructions for the self-evaluation

The self-evaluation report will be the most important background material for the expert panels when carrying out their evaluation. It will include your analysis and conclusions with regard to a number of predefined aspects that are important to the research environment. These have been selected based on the literature about factors that influence the quality of research according to research, combined with the experience of academic leaders and researchers at Uppsala University.

You will be provided with three documents that are aimed at supporting the analysis in the self-evaluation – results from the internet-based survey, bibliometric data and certain basic data aggregated for your department/equivalent. You are encouraged to include other relevant sources in addition to these to underpin your self-evaluation. These may include documents describing internal policies, rules and regulations at your department, results from internal and external evaluations, and any kind of systematic data collection that you have carried out yourself – be it qualitative (e.g. interviews with different actors) or quantitative (e.g. information from GLIS, and questionnaires).

In addition to the results for your evaluation unit (and subunits if applicable) you have received detailed results for your faculty/disciplinary domain and Uppsala University overall, serving as points of reference in the analysis. You will also receive a report where all evaluation units within Uppsala University are compared, to facilitate the identification of your relative strengths and weaknesses. This university-wide comparison is made for a selection of questions in the online survey. Please note, in order to preserve the confidentiality of respondents, results from the internet-based survey will not be fed back to units – or included in the overall comparison – if there are less than 10 respondents. If so, please use the results from the next level of aggregation (department, faculty), and reflect upon whether they are likely to be valid for your unit(s).

The self-evaluation is divided into two parts. The first part is a reflective analysis focusing on a number of predefined themes. Most of these are generic, i.e. they are the same throughout the University, while others are specific to your own scientific domain and/or faculty. You may also add themes at the department level, if important aspects of the preconditions and processes for high quality research, central to your unit, are not covered by the predefined themes.

The self-evaluation document should be brief. The maximum total number of words should typically range between 5 000–12 000 words depending on the complexity of the evaluation unit (including the number of sub-units). This means that there will be some 250–600 words per question/sub-question on average). If you find that you have to exceed this limit, please contact the project secretary.
Finally, remember to be self-critical and reflective in your analysis and in your writing. It is important to reflect upon the research and the research environment in a nuanced way in order to get a truly useful basis for further development and quality enhancement. The panels will be instructed to evaluate the evaluation unit’s capacity for critical self-reflection, including the ability to bring deficiencies to the surface. This means that the panels are asked to focus on the evaluation unit’s readiness to deal with deficiencies, e.g. by describing already taken or planned actions, rather than the deficiencies per se.
Template for the self-evaluation

To be completed (in English) by the Department and submitted by the 17th of March at the latest to kof17@uadm.uu.se.

The evaluation document will be submitted to the external expert panels, by the KoF17 secretariat immediately after this.

Use this template and submit one aggregated document per evaluation unit (department). When considering the questions, please focus on the level of the evaluation unit (department or equivalent), but also note if there are important specificities and differences between the practices of the predefined subunits within the evaluation unit. If you find it appropriate, please provide answers sub-unit-wise using subheadings.

The research environment – background and reflective analysis

Name of the department: [Write here]

1. Background
   a. Describe briefly how the department is organised in terms of:
      • Subdivisions/disciplines/sub disciplines/link to hospital etc.
      • Formal department leadership (board, head(s), director(s) of study etc.)

      [Write here]

   b. Describe briefly:
      • Research profiles, strategies and plans at the department level
      • Current plans on new research initiatives (major new projects etc.)
      • Where the department aspires to be in 5–10 years’ time with regard to its research, i.e. your vision for the medium-term future.

      [Write here]
2. Reflective analysis
To identify structures and processes that create good conditions for high quality research is the overall concern in KoF17 and in the self-evaluation. A number of factors of importance have been identified below (2.1–2.12).

For every such key factor, you will be asked to consider the following questions:

- How are you currently working to make the [key factor] contribute to high quality research and renewal?
- What strengths and weaknesses do you see in your current approach?
- In what way could your current approach be further improved?
- Are there any ongoing or planned new initiatives?
- Are you in need of further support (administrative support, removal of administrative barriers etc.)? If so, what?

Please, focus primarily on what is within the department’s immediate reach and control, i.e. on what can be done – and improved – by the department itself. In addition, you may suggest changes that have to be decided upon – or made – at other levels within the university (e.g. the Faculty or the University level), and/or by external bodies (e.g. changes in government regulations and research council procedures).

When considering the questions, please refer to the results from the internet-based survey, the bibliometric data, the basic data aggregated for your department/equivalent, and any other evidence, whenever relevant.

2.1 Recruitment
How are you currently working to ensure that recruitment contributes to high quality research and renewal? Strengths and weaknesses of approach? Suggestions for improvement? Ongoing/planned initiatives? Wish for support? How is equal opportunities ensured?

[Write here]

2.2 Leadership
a. Department level. Describe how research leadership is organised (the role of the board, department head, other constellations, individual research leaders etc.). Strengths and weaknesses? Suggestions for strengthening research leadership? Ongoing/planned initiatives? Wish for support?

[Write here]
b. Faculty/disciplinary domain/university level. How do you perceive that the leadership at the faculty/disciplinary domain/university level work to support high quality research and renewal? Strengths and weakness of approach? Suggestions for improvement? Any ongoing/planned initiatives that you are aware of?

[Write here]

2.3. Academic culture
How are you currently working to nurture a culture that is conducive to high quality research and renewal (e.g. with regard to intellectual interaction, internal and external peer review, collegiality, equal opportunity, creativity, ambition, scientific conduct, research integrity etc.)? Strengths and weakness of approach? Suggestions for improvement? Wish for support? Ongoing/planned initiatives? More specifically, how do you ensure that the junior researchers (PhD students and postdocs) in your environment establish a robust sense of good professional conduct?

[Write here]

2.4. Infrastructure (including administrative support)
How are you are currently working to maintain and develop the infrastructure in order to support high quality research and renewal? Strengths and weakness of approach? Suggestions for improvement? Ongoing/planned initiatives? Wish for support?

[Write here]

2.5. Funding
Please describe your current funding situation and strategy. Do you have a funding strategy at the departmental level? Based on what criteria do you allocate the blockgrant ("basanslag för forskning och forskarutbildning") within the department? How do you work to secure external funding? Strengths and weakness of approach? Suggestions for improvement? Ongoing/planned initiatives? Wish for support?

[Write here]
2.6 Cross border collaboration including interdisciplinary collaboration

a. Collaboration and networks with other universities. Which are your most important collaboration partners? How are you currently working to establish and maintain external collaboration and networks with other universities to support high quality research and renewal? Strengths and weakness of approach? Suggestions for improvement? Ongoing/planned initiatives? Wish for support?

[Write here]

b. Collaboration with other parts of Uppsala University. Are you striving for collaboration with other parts of Uppsala University to strengthen research quality and renewal? If not, why? If you are, describe strengths and weaknesses of approach? Suggestions for improvement? Ongoing/planned initiatives? Wish for support?

[Write here]

c. External collaboration and outreach. Which are your most important types of collaboration partners outside academia? How are you currently working to establish and maintain such collaboration and networks, and to realise wider dissemination of research results to the rest of society? What are our current approach to stimulate outreach/knowledge utilisation/innovation? Strengths and weakness of approaches? Suggestions for improvement? Ongoing/planned initiatives? Wish for support?

[Write here]

2.7 Publication

a. Analysis of bibliometric data. Comment upon your research output based on bibliometric data with regard to productivity, citations, and publication channels. Noticeable changes over time? Strengths and weaknesses of your output as measured by bibliometric data? Potential for improvement?

[Write here]
APPENDIX 1: SELF-EVALUATION TEMPLATE

b. **Publication strategy.** Describe your current publication strategy. How do you follow up on the development of your publication patterns? Strengths and weakness of approach? Suggestions for improvement? Ongoing/planned initiatives? Wish for support?

[Write here]

2.8 **Career structure and mobility**
How are you currently working to support researchers in their career, and to stimulate mobility (researchers in all phases of their career)? How do you ensure that the provision of support attend to equal opportunities for all researchers? Strengths and weakness of approach? Suggestions for improvement? Ongoing/planned initiatives? Wish for support?

[Write here]

2.9 **Feedback and evaluation**
How are you currently conducting follow up/evaluating the research environment, and research outcomes? How do individual researchers receive feedback on their performance? Strengths and weakness of approaches? Suggestions for improvement? Ongoing/planned initiatives? Wish for support?

[Write here]

2.10 **Research-teaching linkages**
How are you currently working to create links between research and teaching in order to improve student learning and research quality? Strengths and weakness of approach? Suggestions for improvement? Ongoing/planned initiatives? Wish for support?

[Write here]
2.11 Internationalisation
You have probably described aspects of internationalisation in relation to most, if not all, areas above 2.1–2.9. Please provide a brief summary of how you are working to increase internationalisation of your research. If you are not working to increase internationalisation of your research, please explain why. Strengths and weakness of approach? Suggestions for improvement? Ongoing/planned initiatives? Wish for support?

[Write here]

2.12 Research at Campus Gotland
If your department is present at both Campus Uppsala and Campus Gotland, describe how you are working to ensure quality and renewal of research involving both campuses. How are you working to bring the two research environments together? Strengths and weakness of approach? Suggestions for improvement? Ongoing/planned initiatives? Wish for support?

[Write here]

3. Other matters
Please state below if there are matters of relevance to research quality and renewal that have not been covered above, i.e. themes at the department level that are important aspects of the preconditions and processes for high quality research that are central to your unit.

[Write here]

4. Organisation of work with completing the self-evaluation
Please, describe briefly how you have organised the work with completing the self-evaluation.

[Write here]
Note: The questionnaire was distributed as a web-survey in September 2016 and could be answered in both Swedish and English. Results were distributed to the departments in November 2016 as background material to the self-evaluation. Also the expert panels got this information prior to the site-visit.

Have you conducted research at Uppsala University during 2015 or 2016?

☐ Yes
☐ No (Thank you for your response! You are not part of the target group in this survey.)

1. BACKGROUND

1. Gender
   ☐ Female
   ☐ Male
   ☐ Other

2. Age
   ☐ 30 or younger
   ☐ 31–40 years
   ☐ 41–50 years
   ☐ 51–60 years
   ☐ 61–66 years
   ☐ 67 or older

3. Do you work in a clinical research environment (e.g. at Uppsala University Hospital, a centre for clinical research (CKF), a municipality)?
   ☐ Yes. Where?_______________
   ☐ No
4. What percentage of a full-time employment are you working at Uppsala University this semester? (If you work at a clinic please indicate the overall percentage that you conduct teaching and research at Uppsala University)
   □ 10% or less
   □ 11–25%
   □ 26–50%
   □ 51–75%
   □ 76–100%
   □ Don’t know

5. What is your academic role at Uppsala University (employment category)?
   □ Doctoral student
   □ Post-doc
   □ Associate senior lecturer (in Swedish “biträdande universitetslektor”)
   □ Senior lecturer (including adjunct and guest lecturer)
   □ Researcher (including guest researcher)
   □ Post-doctoral research fellow (in Swedish “forskarassistent”)
   □ Professor (including adjunct and guest professor)
   □ Emeritus/senior employee
   □ Other, please specify: _______________________________________

6. What is your highest academic degree/title?
   □ Bachelor, Master or equivalent title (e.g. professional qualification)
   □ Licentiate
   □ Doctor
   □ Docent (or equivalent)
   □ Professor
   □ Other, please specify: _______________________________________

APPENDIX 2: THE Q&R17 RESEARCH ENVIRONMENT QUESTIONNAIRE
APPENDIX 2: THE Q&R17 RESEARCH ENVIRONMENT QUESTIONNAIRE

7. Please specify where you completed the following degrees and post-doc. Fill in all options that apply to you!

<table>
<thead>
<tr>
<th>Uppsala University</th>
<th>Other higher-education institution in Sweden</th>
<th>Higher-education institution elsewhere in Europe</th>
<th>Higher-education institution outside Europe</th>
<th>Have not completed/Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>□</td>
<td>□</td>
<td>□</td>
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<td>O</td>
</tr>
</tbody>
</table>

a) Undergraduate degree (Bachelor’s degree or equivalent professional qualification)

b) One or two year Master’s degree or equivalent professional qualification

c) Doctoral degree, year:____

d) Post-doc

8. How long have you been working at Uppsala University (including time as a doctoral student)? (If you were working at Gotland University before the merger, please state the total length of time you worked at Gotland University and Uppsala University together.)

□ 1 year or less
□ 2–5 years
□ 6–10 years
□ 11–15 years
□ 16–20 years
□ More than 20 years
□ Don’t know
9. In your current position at Uppsala University, do you have any formal duties with overall responsibility for leading other colleagues’ research (other than the role as a supervisor or as director of studies)? Please mark all relevant options!
□ Yes, as department head or equivalent (including deputy and vice head)
□ Yes, as director of a research programme
□ Yes, as leader of a research group
□ Yes, as project leader for a research project
□ Yes, other: __________________________________________________________
□ No

2. ORGANISATIONAL AFFILIATION AND MAIN RESEARCH ENVIRONMENT

Below are some questions about your organisational affiliation in the environment in which you conduct your primary research. (If you work at a clinic, the organisational affiliation at Uppsala University in which you conduct your research.)

2.1 Organisational affiliation

10. Is Campus Gotland your primary workplace?
□ Yes
□ No – go to question 12

11. As a researcher at Campus Gotland, you are often a part of multiple environments, both within the campus and in a department located in Uppsala. In your case, having a primary workplace at Campus Gotland, which specific obstacles and opportunities for creating a good research environment do you see?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
12. In which faculty at Uppsala University are you primarily active?
□ Arts    □ Languages    □ Social Sciences
□ Theology □ Law     □ Medicine
□ Pharmacy □ Science and Technology □ Educational Sciences

Comment: ____________________________________________________________

13. In which department/equivalent are you primarily active?

Comment: ____________________________________________________________

14. In which of the following sub-units are you primarily active?

Comment: ____________________________________________________________

15. Besides your main research environment, which other research environments (if any) are you involved in at Uppsala University (other department, research centre, SciLife Lab or other SFO, programme, research node, division/healthcare clinic at Uppsala University Hospital etc.)?

_____________________________________________________________________
_____________________________________________________________________

_____________________________________________________________________
_____________________________________________________________________

_____________________________________________________________________
2.2 Main research environment
Researchers/doctoral students are often involved in several research environments. Here we would like you to select one of the research environments at, or linked to, Uppsala University that you are involved in and answer the questionnaire based on this. From here on, this environment will be referred to as your main research environment*.

At times, however, your feedback is requested at the department level (or equivalent) regardless of whether you have indicated this as your main research environment or not.

16. Choose the option that best characterises the main research environment that you have chosen. Please choose only one option!

- [ ] Department
- [ ] Research centre
- [ ] Division/healthcare clinic linked to Uppsala University
- [ ] Division/research programme or one of the department’s research topics
- [ ] Research group (as organisational unit)
- [ ] Other: ____________________

*In this survey, the main research environment refers to the environment at, or linked to, Uppsala University where you on a daily basis conduct your research, i.e. the environment in which you day to day interact with colleagues regarding your own and their research, both informally at coffee breaks etc. and formally in for example seminars. For many researchers, this would generally correspond to the department (or equivalent). However, at larger departments or departments with several research subjects the main research environment may rather be understood as a sub-grouping/research group/specialisation/subject.

Although some researchers at the university to an equal or even larger extent are connected to research environments outside Uppsala University, this survey addresses the main research environment at Uppsala University, or linked thereto.

(If you would like to complete the questionnaire for several different research environments in which you are involved, please contact KoF17survey@uadm.uu.se for additional questionnaires.)
3. RESEARCH ACTIVITIES IN THE RESEARCH ENVIRONMENT

17. a) To what extent *do you estimate* that you were active in research at Uppsala University over the past semester (spring semester 2016)? (Indicate percentage of full-time employment.)

- □ 1% – 20%
- □ 21% – 49%
- □ 50% – 79%
- □ 80% or more
- □ I did not conduct any research at Uppsala University during the previous semester
- □ Don’t know

b) Do you regard that the work time you spent on research at Uppsala University last semester (as stated above) is less or more than the research time set out in your *formal* terms of employment (i.e. your agreed or contracted time)?

<table>
<thead>
<tr>
<th>Much less</th>
<th>Less</th>
<th>Same</th>
<th>More</th>
<th>Much more</th>
<th>Don’t know/not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
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</tbody>
</table>

□ □ □ □ □ □ □
### 3.1 General questions about the research

18. Please respond to the following statements about your *main research environment*:

<table>
<thead>
<tr>
<th>Statement</th>
<th>Not at all</th>
<th>To a small extent</th>
<th>To some extent</th>
<th>To a large extent</th>
<th>To a very large extent</th>
<th>Don’t know/not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) It is a stimulating and creative climate that contributes to my research</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>O</td>
</tr>
<tr>
<td>b) It provides scope for me to test new approaches and take risks</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>O</td>
</tr>
<tr>
<td>c) It provides the opportunity for me to freely develop/choose research topics and methods</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>O</td>
</tr>
<tr>
<td>d) It provides the opportunity to receive constructive feedback on my research</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>O</td>
</tr>
<tr>
<td>e) There is a sufficient number (a critical mass) of active researchers in my field of research</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>O</td>
</tr>
<tr>
<td>f) There is an aspiration to seek complementary knowledge outside one’s own research environment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>O</td>
</tr>
<tr>
<td>g) There is <em>stimulating</em> competition between colleagues</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>O</td>
</tr>
</tbody>
</table>
### APPENDIX 2: THE Q&R17 RESEARCH ENVIRONMENT QUESTIONNAIRE

<table>
<thead>
<tr>
<th>h) There is too tough competition between colleagues</th>
<th>Not at all</th>
<th>To a small extent</th>
<th>To some extent</th>
<th>To a large extent</th>
<th>To a very large extent</th>
<th>Don’t know/not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>i) There is a satisfactory balance in the gender distribution</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>O</td>
</tr>
<tr>
<td>j) There is a satisfactory balance between junior and more senior researchers</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>O</td>
</tr>
<tr>
<td>k) There are senior researchers who take responsibility for ensuring that the collective research environment develops as good as possible</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>O</td>
</tr>
<tr>
<td>l) There is active discussion on issues of research ethics and/or academic integrity (e.g. fraud, plagiarism, manipulation)</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>O</td>
</tr>
<tr>
<td>m) There is an aspiration to achieve gender equality and equal opportunities (regardless of gender, gender identity or expression, ethnicity, religion, physical ability or disability, sexual orientation or age)</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>O</td>
</tr>
</tbody>
</table>
19. I think that *my main research* environment places great importance on...

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>To a small extent</th>
<th>To some extent</th>
<th>To a large extent</th>
<th>To a very large extent</th>
<th>Don’t know/not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) publications in highly ranked national and international journals</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>b) the aspiration to conduct world-class research</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>c) active quality management for the development of research activities</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>d) providing support to researchers who are newly graduated doctors</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>e) establishing contacts with internationally leading research environments</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>f) working actively to communicate, promote and utilise our research in industry and society (e.g. through collaboration or popular science communication)</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>
3.2 Seminars, research group meetings, project meetings, etc.

*Seminars (or equivalent) refer here to scientific discussions in the form of organised meetings involving employees actively conducting research.*

20. Have you taken part in seminars or similar events at *Uppsala University* in the past year?
   - □ Yes, several times per semester (e.g. seminar series)
   - □ Yes, occasionally
   - □ No – go to question 23
   - □ Don’t know go to question 23

21. The primary seminars or similar events I have participated in at *Uppsala University* over the past year have taken place...
   (Please choose only one option, as the following question is based on your answer here. Later in the questionnaire you will be asked to describe any other seminars you have taken part in.)
   - □ in the department
   - □ at the research centre
   - □ at Uppsala University Hospital, CKF
   - □ within the division/research programme
   - □ within one of the department’s research subjects
   - □ within a research group (as organisational unit)
   - □ in interdisciplinary networks/contexts
   - □ other (please specify) __________________________

Please answer the following question based on your response above.
22. Please respond to the following statements regarding the primary seminars or similar events that you participated in. In these seminars...

<table>
<thead>
<tr>
<th>Statements</th>
<th>Not at all</th>
<th>To a small extent</th>
<th>To some extent</th>
<th>To a large extent</th>
<th>To a very large extent</th>
<th>Don’t know/not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) scientific reasoning and critical thinking is stimulated</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>○</td>
</tr>
<tr>
<td>b) there is an open, permissive and lively discussion climate</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>○</td>
</tr>
<tr>
<td>c) senior researchers participate</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>○</td>
</tr>
<tr>
<td>d) everyone can speak on equal terms</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>○</td>
</tr>
<tr>
<td>e) the seminar culture is too tough (overly critical)</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>○</td>
</tr>
<tr>
<td>f) the seminar culture is too kind (not critical enough)</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>○</td>
</tr>
</tbody>
</table>

23. Have you over the past year taken part in seminars or similar events in addition to those mentioned in the previous question (at or outside Uppsala University)?

- □ Yes, several per semester (e.g. seminar series). Please specify where: __________________________________________________________
- □ Yes, occasionally. Please specify where: __________________________
- □ No
- □ Don’t know
### 3.3 Cooperation, networks and collaboration with the community

24. In my research, I have research-related cooperation with people...

<table>
<thead>
<tr>
<th>Cooperation Type</th>
<th>Not at all</th>
<th>To a small extent</th>
<th>To some extent</th>
<th>To a large extent</th>
<th>To a very large extent</th>
<th>Don’t know/not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) within my main research environment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) in my department/equivalent (if this is your main research environment, please give the same answer as above)</td>
<td></td>
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<tr>
<td>c) in one or more other departments/equivalent at Uppsala University or (another) clinic at Uppsala University Hospital</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>d) at one or more other universities in Sweden</td>
<td></td>
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<tr>
<td>e) at one or more other universities in the European Union</td>
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<tr>
<td>f) at one or more other universities outside the European Union</td>
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</tr>
<tr>
<td>g) in the business community, industry, spin-offs</td>
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<tr>
<td>h) at government agencies/organisations (other than universities)</td>
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<td></td>
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</tr>
</tbody>
</table>
i) at hospitals, medical centres or similar (other than Uppsala University Hospital)

If you, in your research, have research-related cooperation with people within any other organisation than those mentioned in the previous question, please write them here:

-------------------------------------------------------------------------------------------------------------------------------------
-------------------------------------------------------------------------------------------------------------------------------------

25. I have the opportunity to attend academic conferences/similar that I deem relevant to my research.

<table>
<thead>
<tr>
<th>Not at all</th>
<th>To a small extent</th>
<th>To some extent</th>
<th>To a large extent</th>
<th>To a very large extent</th>
<th>Don’t know/not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

26. I work actively to communicate and promote my research and my knowledge in the field outside the university (e.g. through popular science communication, speaking engagements).

<table>
<thead>
<tr>
<th>Not at all</th>
<th>To a small extent</th>
<th>To some extent</th>
<th>To a large extent</th>
<th>To a very large extent</th>
<th>Don’t know/not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
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</tr>
</tbody>
</table>

27. I work actively with businesses and other organisations so that my research can provide mutual benefit (e.g. through the commercialisation of ideas arising from the research).

<table>
<thead>
<tr>
<th>Not at all</th>
<th>To a small extent</th>
<th>To some extent</th>
<th>To a large extent</th>
<th>To a very large extent</th>
<th>Don’t know/not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>□</td>
<td>□</td>
<td>□</td>
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<td>□</td>
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</tbody>
</table>
APPENDIX 2: THE Q&R17 RESEARCH ENVIRONMENT QUESTIONNAIRE

3.4 Funding

28. My current funding situation enables me to have a long-term perspective regarding my research.

<table>
<thead>
<tr>
<th>Not at all</th>
<th>To a small extent</th>
<th>To some extent</th>
<th>To a large extent</th>
<th>To a very large extent</th>
<th>Don't know/not applicable</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

29. I see my future research funding situation as...

<table>
<thead>
<tr>
<th>Very uncertain</th>
<th>Rather uncertain</th>
<th>Neither uncertain or certain</th>
<th>Rather certain</th>
<th>Very certain</th>
<th>Don't know/not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

3.5 Recruitment and career paths

30. I take part in group-wide discussions on competence needs and recruitment strategies in my main research environment

<table>
<thead>
<tr>
<th>Not at all</th>
<th>To a small extent</th>
<th>To some extent</th>
<th>To a large extent</th>
<th>To a very large extent</th>
<th>Don't know/not applicable</th>
</tr>
</thead>
<tbody>
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</tr>
</tbody>
</table>

31. There is mobility regarding research staff in and out of my main research environment (e.g. of doctoral students, post-docs, guest researchers)

<table>
<thead>
<tr>
<th>Not at all</th>
<th>To a small extent</th>
<th>To some extent</th>
<th>To a large extent</th>
<th>To a very large extent</th>
<th>Don't know/not applicable</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

32. It is clear to me what qualifications are needed for me to take the next career step within the university sector.

<table>
<thead>
<tr>
<th>Not at all</th>
<th>To a small extent</th>
<th>To some extent</th>
<th>To a large extent</th>
<th>To a very large extent</th>
<th>Don't know/not applicable</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
</tr>
</tbody>
</table>
3.6 Concluding questions regarding research

33. In my opinion, my *main research environment* can be characterised as...
   Please choose only one option!

- □ Internationally leading
- □ Internationally renowned
- □ Nationally leading
- □ Nationally renowned
- □ Substandard
- □ Don’t know/not applicable

Comment: ____________________________________________

34. Would you recommend other researchers/doctoral students to apply to your *main research environment*?

<table>
<thead>
<tr>
<th>No</th>
<th>No, probably not</th>
<th>Maybe</th>
<th>Yes, probably</th>
<th>Yes</th>
<th>Don’t know/not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>

Comment: ____________________________________________

35. Overall, I think that my opportunity to conduct good research in my *main research environment* is...

<table>
<thead>
<tr>
<th>Very poor</th>
<th>Poor</th>
<th>Neither good nor poor</th>
<th>Good</th>
<th>Very good</th>
<th>Don’t know/not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

Comment: ____________________________________________
4. RESEARCH-TEACHING LINKAGES

36. a) How much of your work time do you estimate that you spent teaching during the past semester at Uppsala University (at the graduate or undergraduate level)? (Indicate percentage of full-time employment)

- 1% – 20%
- 21% – 49%
- 50% – 79%
- 80% or more
- I did not teach at either the graduate or undergraduate levels last semester
- Don’t know

b) Do you regard that the work time you spent teaching at Uppsala University last semester (at the graduate or undergraduate levels) is less or more than the teaching time set out in your terms of employment (i.e. your agreed or contracted time)?

- Much less
- Less
- The same
- More
- Much more
- Don’t know/not applicable

37. I think that great effort is made in my main research environment to connect teaching to research in a carefully planned and executed manner.

- Not at all
- To a small extent
- To some extent
- To a large extent
- To a very large extent
- Don’t know/not applicable
5. COLLEGIAL CLIMATE AND SOCIAL INTERACTION

38. How well do you agree with the following statements about your main research environment?

<table>
<thead>
<tr>
<th>Statement</th>
<th>Not at all</th>
<th>To a small extent</th>
<th>To some extent</th>
<th>To a large extent</th>
<th>To a very large extent</th>
<th>Don’t know/not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) There is a sense of collegial responsibility regarding group-wide issues</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>O</td>
</tr>
<tr>
<td>b) Colleagues share information and experience</td>
<td></td>
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<td></td>
<td>O</td>
</tr>
<tr>
<td>c) Doctoral students are included in the collegial community</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td>O</td>
</tr>
<tr>
<td>d) It works well to combine research career and family</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td>O</td>
</tr>
</tbody>
</table>
39. At the *department level (or equivalent)* in which I work...

<table>
<thead>
<tr>
<th>Question</th>
<th>Not at all</th>
<th>To a small extent</th>
<th>To some extent</th>
<th>To a large extent</th>
<th>To a very large extent</th>
<th>Don’t know/not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) interaction is encouraged between the various researchers and groups (e.g. shared equipment, joint ventures and applications)</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>O</td>
</tr>
<tr>
<td>b) everyone can make their voice heard at formal meetings</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>O</td>
</tr>
<tr>
<td>c) employees are usually present at the workplace</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>O</td>
</tr>
<tr>
<td>d) valuable discussions on research are conducted even outside the regular meeting places (e.g. in the hallways, in the break room, at lunch)</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>O</td>
</tr>
</tbody>
</table>

40. In an international research environment, multilingualism is common (e.g. in scientific discussions, social events, teaching, administrative support and information). Do you think that your department (or equivalent) has found an effective way to handle multilingualism?

<table>
<thead>
<tr>
<th>Not at all</th>
<th>To a small extent</th>
<th>To some extent</th>
<th>To a large extent</th>
<th>To a very large extent</th>
<th>Don’t know/not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>O</td>
</tr>
</tbody>
</table>

Comment: __________________________________________
41. Overall, I think that the social environment in my department (or equivalent) is...

<table>
<thead>
<tr>
<th>Very poor</th>
<th>Poor</th>
<th>Neither good nor poor</th>
<th>Good</th>
<th>Very good</th>
<th>Don’t know/not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>□</td>
<td>□</td>
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</tr>
</tbody>
</table>

6. ACADEMIC LEADERSHIP

42. There is active discussion on the focus and long-term development of the research...

43. I think that I can easily inform myself of important decisions made at the...
44. In my role as researcher/doctoral student, I feel that my immediate superiors at Uppsala University...

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>To a small extent</th>
<th>To some extent</th>
<th>To a large extent</th>
<th>To a very large extent</th>
<th>Don’t know/not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) are engaged in research matters</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) are available when I need to contact them</td>
<td></td>
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</tr>
<tr>
<td>c) have confidence in me as an employee</td>
<td></td>
<td></td>
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<tr>
<td>d) are interested in how my research proceeds</td>
<td></td>
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<tr>
<td>e) take charge of things that aren’t working in the research environment</td>
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<tr>
<td>f) give positive feedback on good performances</td>
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<tr>
<td>g) involve employees in fundamental, long-term issues</td>
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<tr>
<td>h) support me in my efforts to secure research funding (such as time and resources)</td>
<td></td>
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</tr>
<tr>
<td>i) encourage me to take the next step in my research career within the university sector</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
7. SUPPORT AND INFRASTRUCTURE

45. To what extent are you satisfied with the infrastructure and the support you need to conduct your research? (Regardless of whether the infrastructure or support is within or outside of Uppsala University.)

<table>
<thead>
<tr>
<th>Infrastructure/Support</th>
<th>Not at all</th>
<th>To a small extent</th>
<th>To some extent</th>
<th>To a large extent</th>
<th>To a very large extent</th>
<th>Don’t know/not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Library services and digital media (e.g. journals/periodicals)</td>
<td></td>
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<td></td>
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<tr>
<td>b) Computer equipment, databases, data storage and software</td>
<td></td>
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<tr>
<td>c) Technical laboratory equipment (e.g. analysis tools)</td>
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<tr>
<td>d) Technical laboratory support (e.g. research engineers, lab assistants, mechanical workshops)</td>
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<tr>
<td>e) Equipment for field research</td>
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<tr>
<td>f) Research premises (e.g. laboratories, premises for clinical research)</td>
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<tr>
<td>g) Experiment materials</td>
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<tr>
<td>h) Museums and collections</td>
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<tr>
<td>i) IT support</td>
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<tr>
<td>j) Administrative support (e.g. staff administration, financial administration)</td>
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</tbody>
</table>
APPENDIX 2: THE Q&R17 RESEARCH ENVIRONMENT QUESTIONNAIRE

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>To a small extent</th>
<th>To some extent</th>
<th>To a large extent</th>
<th>To a very large extent</th>
<th>Don’t know/not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>k) Research support (e.g. EU project coordinators, research secretaries, application support, project support)</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>O</td>
</tr>
<tr>
<td>l) Legal support</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>O</td>
</tr>
<tr>
<td>m) Support for academic qualifications (e.g. publication support, open access)</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>O</td>
</tr>
<tr>
<td>n) Career support (e.g. career guidance)</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>O</td>
</tr>
<tr>
<td>o) Patent and commercialisation support</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>O</td>
</tr>
<tr>
<td>p) Support for cooperation with businesses and organisations (to utilise my research)</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>O</td>
</tr>
</tbody>
</table>

b) If you have any other comments regarding infrastructure and support at Uppsala University, please write them here. (Please also suggest potential improvement measures!)

________________________________________________________________________________________________________________________________________________________

46. Overall, I think that the support and the infrastructure that I have access to is...

<table>
<thead>
<tr>
<th></th>
<th>Very poor</th>
<th>Poor</th>
<th>Neither good nor poor</th>
<th>Good</th>
<th>Very good</th>
<th>Don’t know/not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>O</td>
</tr>
</tbody>
</table>
8. FINAL OPEN QUESTIONS

47. What do you think are the greatest strengths of your main research environment at Uppsala University?

________________________________________________________

________________________________________________________

________________________________________________________

48. What weaknesses or obstacles to conducting successful research do you think exist in your main research environment? Please also suggest potential improvement measures!

________________________________________________________

________________________________________________________

________________________________________________________

49. Other comments:

________________________________________________________

________________________________________________________

________________________________________________________

Thank you very much for your time and assistance!
The design of the survey is based on literature on high-quality research environments and extensive reference/focus group discussions in the project group, quality committee and reference group (heads of departments, researchers and doctoral students).

The questionnaire consists of 46 questions (some of which are divided into a number of sub-questions) grouped into eight themes. These are: background; organisational affiliation and main research environment; research activities in the research environment; research-teaching linkages; collegial climate and social interaction; academic leadership; support and infrastructure; and final open questions about strengths and weaknesses (see Appendix 2 for the questionnaire).

In the chapter, the results are mainly presented as percentages in either tables, figures or text. A majority of the questions in the survey are designed according to a nominal scale based on six response alternatives (generally ranging from ‘not at all’ to ‘to a very large extent’). The scale also includes a ‘don’t know/not applicable’ option. In some figures the options at the far end of the scales are combined in order to enhance the readability (e.g. combining ‘not at all’ and ‘to a small extent’ into one category, and the alternatives ‘to a large extent’ and ‘to a very large extent’ into another category).

Cross tabulations and chi-square tests \( (p < 0.05) \) were performed initially on three dichotomous variables: women and men; doctoral students and senior staff; and respondents with Swedish or international undergraduate degree. A fourth variable was added, dividing the respondents into three groups corresponding to the three disciplinary domains, i.e. Humanities and Social Sciences (H&S), Medicine and Pharmacy (M&P) and Science and Technology (S&T). Because of the vast number of cell-wise combinations in this variable and in order to improve the general readability of the text in the chapter, not all significant results are reported in the text.

1 Regarding questions/statements where the expected value is less than five, only the results where not more than 20% of all cells have an expected value of less than five and/or where the minimum expected value is not less than one are presented. After recommendation by Yates, D., Moore, D., McCabe, G. (1999). The Practice of Statistics (1st ed.). New York: W.H. Freeman.
In short, the cross-tabulation and the chi-square test compare the differences in the distribution of answers (e.g. ‘not at all’, ‘to a small extent’, etc.) within each variable category (e.g. man or woman), and these in turn are compared across the categories. To give an example: “Within the category ‘women’, a larger share (20%) has answered ‘not at all’ to a specific question, compared with the share within the category ‘men’ answering in this way (15%)”. This does not necessarily mean, however, a) that more (a larger number of) women than men have answered in this way, nor b) that the response options that are commented on in the text as showing significant differences are necessarily the ones that exhibit the largest difference. Moreover, the test does not control for covariance or correlation with other variables. Adjusted standardised residuals were used as post-hoc comparisons to examine where among the different response alternatives the significant differences in the response pattern lie. Bonferroni corrections were used to avoid type I errors due to multiple testing. These corrections were made cell-wise.

Population and response rates

The survey targeted research-active staff at Uppsala University during 2015/2016, including doctoral students and clinical practitioners engaged in research at, or associated with, Uppsala University.

The population and email addresses were collected from AKKA, the University’s organisational and staff directory. Lists of the population were sent to the heads of departments, who were given the opportunity to make corrections, i.e. to add research-active staff to the list and remove persons that were not research-active. The survey was distributed to over 6,500 persons in September 2016. Up to four reminders were sent to respondents that had not answered the questionnaire. The survey could be answered in either Swedish or English.

The overall response rate was 57%. The response rate at faculty level varied between 42% and 71% (see Table 1) and at evaluation unit level between 14% and 94% (only six evaluation units out of 53 had a response rate lower than 50%, see Table 2). The lowest response rates are found in research areas with many clinical practitioners.

---


4 The lower response rate at evaluation units with many clinical practitioners can partly be explained by the fact that many practitioners have affiliations with several research environments included in the survey, and partly by the fact that some clinical researchers at the University Hospital do not regard themselves as part of Uppsala University, despite some form of formal affiliation.
A non-response analysis based on employment category revealed no substantial differences in the share of staff in each employment category between those invited to answer the questionnaire and those who chose to answer it.

**Defining the main research environment**

In the survey, the respondents were asked to identify what best characterises their main research environment and select the most fitting option. The main research environment is referred to in the survey as:

the environment at, or linked to, Uppsala University where the respondent on a daily basis conduct his/her research, i.e. the environment in which the researcher interacts with colleagues on a daily basis regarding their and other’s research, both informally at coffee breaks etc. and formally in for example seminars. For many researchers, this would generally correspond to the department (or equivalent). However, at larger departments or departments with several research subjects the main research environment may rather be understood as a sub-grouping, research group, specialisation or subject.

Hence, respondents were given the opportunity to choose between five pre-defined types of research milieus, i.e. department, research centre, division/health-care clinic linked to Uppsala University, division/research programme or one of the department’s research topics, and finally research group (as organisational unit). Respondents that did not see any of these alternatives as the most suitable were given the opportunity to choose the alternative ‘other’, followed by a free text box. Since many researchers and doctoral students are often involved in, or part of, more than one research environment, respondents were asked to select only one of the research environment alternatives to bear in mind when completing the questionnaire (if not explicitly asked to answer a question from another organisational context).5

---

5 By contacting the Q&R17 survey secretariat, researchers involved in several research environments were also able to answer multiple questionnaires. However, no researcher took advantage of this opportunity.
## Tables

**Table 1.** Response rates per faculty

<table>
<thead>
<tr>
<th>Faculty*</th>
<th>Responses</th>
<th>Response rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty of Arts</td>
<td>300</td>
<td>65%</td>
</tr>
<tr>
<td>Faculty of Educational Sciences</td>
<td>86</td>
<td>71%</td>
</tr>
<tr>
<td>Faculty of Languages</td>
<td>154</td>
<td>69%</td>
</tr>
<tr>
<td>Faculty of Law</td>
<td>90</td>
<td>66%</td>
</tr>
<tr>
<td>Faculty of Medicine</td>
<td>1001</td>
<td>42%</td>
</tr>
<tr>
<td>Faculty of Pharmacy</td>
<td>158</td>
<td>64%</td>
</tr>
<tr>
<td>Faculty of Science and Technology</td>
<td>1222</td>
<td>65%</td>
</tr>
<tr>
<td>Faculty of Social Sciences</td>
<td>514</td>
<td>71%</td>
</tr>
<tr>
<td>Faculty of Theology</td>
<td>74</td>
<td>51%</td>
</tr>
<tr>
<td>Empty</td>
<td>62</td>
<td>1%</td>
</tr>
<tr>
<td><strong>Faculty total</strong></td>
<td><strong>3661</strong></td>
<td><strong>57%</strong></td>
</tr>
</tbody>
</table>

*Centre for Clinical Research not included (organised under the disciplinary domain)

**Table 2.** Response rates per evaluation unit (descending)

<table>
<thead>
<tr>
<th>Evaluation unit</th>
<th>Responses</th>
<th>Response rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department of Food, Nutrition and Dietetics</td>
<td>17</td>
<td>94%</td>
</tr>
<tr>
<td>Department of Musicology</td>
<td>12</td>
<td>92%</td>
</tr>
<tr>
<td>Uppsala Centre for Russian and Eurasian Studies</td>
<td>23</td>
<td>85%</td>
</tr>
<tr>
<td>Department of Social and Economic Geography</td>
<td>34</td>
<td>85%</td>
</tr>
<tr>
<td>Department of Sociology</td>
<td>40</td>
<td>83%</td>
</tr>
<tr>
<td>Department of Organismal Biology</td>
<td>89</td>
<td>82%</td>
</tr>
<tr>
<td>Department of Chemistry – BMC</td>
<td>53</td>
<td>80%</td>
</tr>
<tr>
<td>Department of Pharmacy</td>
<td>49</td>
<td>79%</td>
</tr>
<tr>
<td>Department of Linguistics and Philology</td>
<td>51</td>
<td>78%</td>
</tr>
<tr>
<td>Department of History of Science and Ideas</td>
<td>31</td>
<td>76%</td>
</tr>
<tr>
<td>Department of English</td>
<td>30</td>
<td>73%</td>
</tr>
<tr>
<td>Department of Informatics and Media</td>
<td>30</td>
<td>73%</td>
</tr>
<tr>
<td>Department of Engineering Sciences</td>
<td>242</td>
<td>72%</td>
</tr>
<tr>
<td>Department of Literature</td>
<td>40</td>
<td>71%</td>
</tr>
<tr>
<td>Department of Psychology</td>
<td>72</td>
<td>71%</td>
</tr>
<tr>
<td>Department of ALM</td>
<td>12</td>
<td>71%</td>
</tr>
<tr>
<td>Department of Neuroscience</td>
<td>140</td>
<td>70%</td>
</tr>
<tr>
<td>Educational Sciences (incl. Department of Education; Centre for Educational Management; Centre for Professional Development and Internationalisation in Schools; SWEDESD)</td>
<td>85</td>
<td>70%</td>
</tr>
<tr>
<td>Department of Modern Languages</td>
<td>33</td>
<td>69%</td>
</tr>
</tbody>
</table>
### APPENDIX 3: DESIGN OF THE SURVEY AND METHOD OF ANALYSIS

<table>
<thead>
<tr>
<th>Evaluation unit</th>
<th>Responses</th>
<th>Response rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department of Business Studies</td>
<td>79</td>
<td>68%</td>
</tr>
<tr>
<td>Department of Archaeology and Ancient History</td>
<td>53</td>
<td>68%</td>
</tr>
<tr>
<td>Department of Economic History</td>
<td>44</td>
<td>68%</td>
</tr>
<tr>
<td>Department of Peace and Conflict Studies</td>
<td>35</td>
<td>67%</td>
</tr>
<tr>
<td>Department of Medicinal Chemistry</td>
<td>53</td>
<td>67%</td>
</tr>
<tr>
<td>Department of Ecology and Genetics</td>
<td>110</td>
<td>67%</td>
</tr>
<tr>
<td>Department of Earth Sciences</td>
<td>108</td>
<td>66%</td>
</tr>
<tr>
<td>Department of Law</td>
<td>89</td>
<td>65%</td>
</tr>
<tr>
<td>Department of Government</td>
<td>59</td>
<td>64%</td>
</tr>
<tr>
<td>Department of Cell and Molecular Biology</td>
<td>112</td>
<td>63%</td>
</tr>
<tr>
<td>Department of Physics and Astronomy</td>
<td>233</td>
<td>63%</td>
</tr>
<tr>
<td>Department of Cultural Anthropology and Ethnology</td>
<td>23</td>
<td>62%</td>
</tr>
<tr>
<td>Centre for Gender Research</td>
<td>23</td>
<td>62%</td>
</tr>
<tr>
<td>Department of Philosophy</td>
<td>32</td>
<td>62%</td>
</tr>
<tr>
<td>Institute for Housing and Urban Research</td>
<td>25</td>
<td>61%</td>
</tr>
<tr>
<td>Department of Economics</td>
<td>40</td>
<td>60%</td>
</tr>
<tr>
<td>Department of Scandinavian Languages</td>
<td>40</td>
<td>59%</td>
</tr>
<tr>
<td>Department of History</td>
<td>48</td>
<td>59%</td>
</tr>
<tr>
<td>Department of Public Health and Caring Sciences</td>
<td>136</td>
<td>58%</td>
</tr>
<tr>
<td>Department of Medical Biochemistry and Microbiology (incl. Ludwig Institute for Cancer Research)</td>
<td>95</td>
<td>55%</td>
</tr>
<tr>
<td>Department of Mathematics</td>
<td>43</td>
<td>54%</td>
</tr>
<tr>
<td>Department of Information Technology</td>
<td>130</td>
<td>54%</td>
</tr>
<tr>
<td>Department of Pharmaceutical Biosciences</td>
<td>56</td>
<td>54%</td>
</tr>
<tr>
<td>Department of Art History</td>
<td>23</td>
<td>53%</td>
</tr>
<tr>
<td>Department of Chemistry – Ångström Laboratory</td>
<td>100</td>
<td>53%</td>
</tr>
<tr>
<td>Department of Statistics</td>
<td>11</td>
<td>52%</td>
</tr>
<tr>
<td>Department of Theology (including Uppsala Religion and Society Research Centre, CRS)</td>
<td>73</td>
<td>50%</td>
</tr>
<tr>
<td>Department of Game Design</td>
<td>3</td>
<td>50%</td>
</tr>
<tr>
<td>Department of Medical Cell Biology</td>
<td>44</td>
<td>49%</td>
</tr>
<tr>
<td>Department of Women’s and Children’s Health</td>
<td>131</td>
<td>46%</td>
</tr>
<tr>
<td>Department of Immunology, Genetics and Pathology</td>
<td>136</td>
<td>39%</td>
</tr>
<tr>
<td>Department of Medical Sciences</td>
<td>181</td>
<td>37%</td>
</tr>
<tr>
<td>Department of Surgical Sciences</td>
<td>138</td>
<td>25%</td>
</tr>
<tr>
<td>Centre for Clinical Research Dalarna, Sörmland, Gävleborg and Västerås</td>
<td>20</td>
<td>14%</td>
</tr>
<tr>
<td>Empty</td>
<td>63</td>
<td>0%</td>
</tr>
<tr>
<td>Don’t know</td>
<td>9</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3681</strong></td>
<td><strong>57%</strong></td>
</tr>
</tbody>
</table>
Table 3. Respondents’ age, full-time employment, and work experience at Uppsala University (including time as a doctoral student) by gender (‘other’ excluded).

<table>
<thead>
<tr>
<th>Age</th>
<th>Women</th>
<th></th>
<th>Men</th>
<th></th>
<th>Total</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Column</td>
<td>(Count)</td>
<td>Column</td>
<td>(Count)</td>
<td>Column</td>
<td>(Count)</td>
</tr>
<tr>
<td></td>
<td>Valid</td>
<td>N %</td>
<td>Valid</td>
<td>N %</td>
<td>Valid</td>
<td>N %</td>
</tr>
<tr>
<td>30 or younger</td>
<td>19%</td>
<td>(295)</td>
<td>18%</td>
<td>(359)</td>
<td>18%</td>
<td>(654)</td>
</tr>
<tr>
<td>31–40 years</td>
<td>34%</td>
<td>(542)</td>
<td>31%</td>
<td>(635)</td>
<td>32%</td>
<td>(1177)</td>
</tr>
<tr>
<td>41–50 years</td>
<td>23%</td>
<td>(365)</td>
<td>22%</td>
<td>(451)</td>
<td>23%</td>
<td>(816)</td>
</tr>
<tr>
<td>51–60 years</td>
<td>15%</td>
<td>(236)</td>
<td>17%</td>
<td>(344)</td>
<td>16%</td>
<td>(580)</td>
</tr>
<tr>
<td>61–66 years</td>
<td>7%</td>
<td>(106)</td>
<td>7%</td>
<td>(139)</td>
<td>7%</td>
<td>(245)</td>
</tr>
<tr>
<td>67 or older</td>
<td>2%</td>
<td>(37)</td>
<td>6%</td>
<td>(117)</td>
<td>4%</td>
<td>(154)</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>(1581)</td>
<td>100%</td>
<td>(2045)</td>
<td>100%</td>
<td>(3626)</td>
</tr>
</tbody>
</table>

Percentage of full-time employment at Uppsala University

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Women</th>
<th></th>
<th>Men</th>
<th></th>
<th>Total</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Column</td>
<td>(Count)</td>
<td>Column</td>
<td>(Count)</td>
<td>Column</td>
<td>(Count)</td>
</tr>
<tr>
<td></td>
<td>Valid</td>
<td>N %</td>
<td>Valid</td>
<td>N %</td>
<td>Valid</td>
<td>N %</td>
</tr>
<tr>
<td>10% or less</td>
<td>8%</td>
<td>(119)</td>
<td>8%</td>
<td>(159)</td>
<td>8%</td>
<td>(278)</td>
</tr>
<tr>
<td>11–25%</td>
<td>5%</td>
<td>(72)</td>
<td>5%</td>
<td>(98)</td>
<td>5%</td>
<td>(170)</td>
</tr>
<tr>
<td>26–50%</td>
<td>6%</td>
<td>(99)</td>
<td>7%</td>
<td>(146)</td>
<td>7%</td>
<td>(245)</td>
</tr>
<tr>
<td>51–75%</td>
<td>7%</td>
<td>(107)</td>
<td>6%</td>
<td>(113)</td>
<td>6%</td>
<td>(220)</td>
</tr>
<tr>
<td>76–100%</td>
<td>72%</td>
<td>(1135)</td>
<td>73%</td>
<td>(1489)</td>
<td>72%</td>
<td>(2624)</td>
</tr>
<tr>
<td>Don’t know</td>
<td>3%</td>
<td>(47)</td>
<td>2%</td>
<td>(36)</td>
<td>2%</td>
<td>(83)</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>(1579)</td>
<td>100%</td>
<td>(2041)</td>
<td>100%</td>
<td>(3620)</td>
</tr>
</tbody>
</table>

Work experience at Uppsala University

<table>
<thead>
<tr>
<th>Work experience</th>
<th>Women</th>
<th></th>
<th>Men</th>
<th></th>
<th>Total</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Column</td>
<td>(Count)</td>
<td>Column</td>
<td>(Count)</td>
<td>Column</td>
<td>(Count)</td>
</tr>
<tr>
<td></td>
<td>Valid</td>
<td>N %</td>
<td>Valid</td>
<td>N %</td>
<td>Valid</td>
<td>N %</td>
</tr>
<tr>
<td>1 year or less</td>
<td>10%</td>
<td>(157)</td>
<td>8%</td>
<td>(166)</td>
<td>9%</td>
<td>(323)</td>
</tr>
<tr>
<td>2–5 years</td>
<td>34%</td>
<td>(540)</td>
<td>30%</td>
<td>(601)</td>
<td>32%</td>
<td>(1141)</td>
</tr>
<tr>
<td>6–10 years</td>
<td>23%</td>
<td>(358)</td>
<td>21%</td>
<td>(435)</td>
<td>22%</td>
<td>(793)</td>
</tr>
<tr>
<td>11–15 years</td>
<td>13%</td>
<td>(206)</td>
<td>13%</td>
<td>(265)</td>
<td>13%</td>
<td>(471)</td>
</tr>
<tr>
<td>16–20 years</td>
<td>8%</td>
<td>(121)</td>
<td>8%</td>
<td>(172)</td>
<td>8%</td>
<td>(293)</td>
</tr>
<tr>
<td>More than 20 years</td>
<td>12%</td>
<td>(181)</td>
<td>19%</td>
<td>(379)</td>
<td>16%</td>
<td>(560)</td>
</tr>
<tr>
<td>Don’t know</td>
<td>0%</td>
<td>(6)</td>
<td>0%</td>
<td>(9)</td>
<td>0%</td>
<td>(15)</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>(1569)</td>
<td>100%</td>
<td>(2027)</td>
<td>100%</td>
<td>(3596)</td>
</tr>
</tbody>
</table>
### Table 4. Respondents’ academic role (employment category)

<table>
<thead>
<tr>
<th></th>
<th>Doctoral student</th>
<th>Post-doc</th>
<th>Associate senior lecturer</th>
<th>Senior lecturer</th>
<th>Researcher</th>
<th>Post-doctoral research fellow</th>
<th>Professor</th>
<th>Emeritus/senior employee</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UU total</strong></td>
<td>32%</td>
<td>9%</td>
<td>1%</td>
<td>16%</td>
<td>17%</td>
<td>1%</td>
<td>15%</td>
<td>4%</td>
<td>3%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>37%*</td>
<td>10%</td>
<td>1%</td>
<td>18%</td>
<td>17%</td>
<td>1%</td>
<td>11%*</td>
<td>2%*</td>
<td>3%</td>
<td>100%</td>
</tr>
<tr>
<td>Men</td>
<td>29%*</td>
<td>8%</td>
<td>2%</td>
<td>15%</td>
<td>17%</td>
<td>1%</td>
<td>19%*</td>
<td>5%*</td>
<td>3%</td>
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* Significant after Bonferroni correction at p < 0.05

### Table 5. In my opinion, my main research environment can be characterised as...

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* Significant after Bonferroni correction at p < 0.05
### Table 6. Would you recommend other researchers/doctoral students to apply to your main research environment?

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* Significant after Bonferroni correction at $p < 0.05$

### Table 7. My current funding situation enables me to have a long-term perspective regarding my research.

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* Significant after Bonferroni correction at $p < 0.05$
Table 8. I see my future research funding situation as...

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* Significant after Bonferroni correction at p < 0.05

Table 9. Overall, I think that my opportunity to conduct good research in my main research environment is...

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<td>9%</td>
<td>14%</td>
<td>44%</td>
<td>30%*</td>
<td>1%</td>
<td>100%</td>
<td>(1127)</td>
</tr>
<tr>
<td>S&amp;T</td>
<td>1%</td>
<td>7%</td>
<td>13%</td>
<td>40%</td>
<td>38%*</td>
<td>1%</td>
<td>100%</td>
<td>(1168)</td>
</tr>
</tbody>
</table>

* Significant after Bonferroni correction at p < 0.05
### Table 10. Overall, I think that the social environment in my department (or equivalent) is...

<table>
<thead>
<tr>
<th></th>
<th>Very poor</th>
<th>Poor</th>
<th>Neither good nor poor</th>
<th>Good</th>
<th>Very good</th>
<th>Don't know/ n/a</th>
<th>Total</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UU total</strong></td>
<td>3%</td>
<td>6%</td>
<td>14%</td>
<td>46%</td>
<td>30%</td>
<td>2%</td>
<td>100%</td>
<td>(3459)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>3%</td>
<td>8%*</td>
<td>15%</td>
<td>44%</td>
<td>29%</td>
<td>1%</td>
<td>100%</td>
<td>(1480)</td>
</tr>
<tr>
<td>Men</td>
<td>2%</td>
<td>5%*</td>
<td>14%</td>
<td>47%</td>
<td>30%</td>
<td>2%</td>
<td>100%</td>
<td>(1946)</td>
</tr>
<tr>
<td><strong>Academic role</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doctoral student</td>
<td>2%</td>
<td>7%</td>
<td>15%</td>
<td>47%</td>
<td>27%</td>
<td>1%</td>
<td>100%</td>
<td>(1081)</td>
</tr>
<tr>
<td>Senior staff</td>
<td>2%</td>
<td>6%</td>
<td>14%</td>
<td>45%</td>
<td>31%</td>
<td>2%</td>
<td>100%</td>
<td>(2342)</td>
</tr>
<tr>
<td><strong>Undergraduate degree</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Swedish</td>
<td>3%</td>
<td>6%</td>
<td>15%</td>
<td>45%</td>
<td>29%</td>
<td>2%*</td>
<td>100%</td>
<td>(2080)</td>
</tr>
<tr>
<td>International</td>
<td>2%</td>
<td>5%</td>
<td>15%</td>
<td>46%</td>
<td>31%</td>
<td>1%*</td>
<td>100%</td>
<td>(1079)</td>
</tr>
<tr>
<td><strong>Disciplinary domain</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H&amp;S</td>
<td>4%*</td>
<td>6%</td>
<td>17%</td>
<td>43%</td>
<td>29%</td>
<td>1%</td>
<td>100%</td>
<td>(1173)</td>
</tr>
<tr>
<td>M&amp;P</td>
<td>2%</td>
<td>6%</td>
<td>14%</td>
<td>46%</td>
<td>30%</td>
<td>3%*</td>
<td>100%</td>
<td>(1120)</td>
</tr>
<tr>
<td>S&amp;T</td>
<td>2%</td>
<td>6%</td>
<td>13%</td>
<td>48%</td>
<td>30%</td>
<td>1%</td>
<td>100%</td>
<td>(1166)</td>
</tr>
</tbody>
</table>

* Significant after Bonferroni correction at p < 0.05

### Table 11. Overall, I think that the support and the infrastructure that I have access to is...

<table>
<thead>
<tr>
<th></th>
<th>Very poor</th>
<th>Poor</th>
<th>Neither good nor poor</th>
<th>Good</th>
<th>Very good</th>
<th>Don't know/ n/a</th>
<th>Total</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UU total</strong></td>
<td>1%</td>
<td>5%</td>
<td>19%</td>
<td>52%</td>
<td>20%</td>
<td>2%</td>
<td>100%</td>
<td>(3445)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>1%</td>
<td>5%</td>
<td>21%</td>
<td>51%</td>
<td>18%</td>
<td>3%*</td>
<td>100%</td>
<td>(1469)</td>
</tr>
<tr>
<td>Men</td>
<td>1%</td>
<td>6%</td>
<td>17%</td>
<td>53%</td>
<td>21%</td>
<td>1%*</td>
<td>100%</td>
<td>(1943)</td>
</tr>
<tr>
<td><strong>Academic role</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doctoral student</td>
<td>1%</td>
<td>4%</td>
<td>17%</td>
<td>55%</td>
<td>21%</td>
<td>2%</td>
<td>100%</td>
<td>(1078)</td>
</tr>
<tr>
<td>Senior staff</td>
<td>1%</td>
<td>6%</td>
<td>20%</td>
<td>51%</td>
<td>20%</td>
<td>2%</td>
<td>100%</td>
<td>(2331)</td>
</tr>
<tr>
<td><strong>Undergraduate degree</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Swedish</td>
<td>1%</td>
<td>7%*</td>
<td>21%*</td>
<td>53%</td>
<td>15%*</td>
<td>3%*</td>
<td>100%</td>
<td>(2072)</td>
</tr>
<tr>
<td>International</td>
<td>1%</td>
<td>3%*</td>
<td>14%*</td>
<td>51%</td>
<td>28%*</td>
<td>1%*</td>
<td>100%</td>
<td>(1074)</td>
</tr>
<tr>
<td><strong>Disciplinary domain</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H&amp;S</td>
<td>1%</td>
<td>7%</td>
<td>21%</td>
<td>52%</td>
<td>17%*</td>
<td>2%</td>
<td>100%</td>
<td>(1166)</td>
</tr>
<tr>
<td>M&amp;P</td>
<td>2%</td>
<td>5%</td>
<td>21%</td>
<td>51%</td>
<td>18%</td>
<td>2%</td>
<td>100%</td>
<td>(1116)</td>
</tr>
<tr>
<td>S&amp;T</td>
<td>1%</td>
<td>4%</td>
<td>15%*</td>
<td>54%</td>
<td>24%*</td>
<td>2%</td>
<td>100%</td>
<td>(1163)</td>
</tr>
</tbody>
</table>

* Significant after Bonferroni correction at p < 0.05
### Table 12. Please respond to the following statements about your main research environment?

<table>
<thead>
<tr>
<th>Statement</th>
<th>Not at all</th>
<th>To a small extent</th>
<th>To some extent</th>
<th>To a large extent</th>
<th>To a very large extent</th>
<th>Don’t know/ n/a</th>
<th>Total</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) It is a stimulating and creative climate that contributes to my research</td>
<td>3%</td>
<td>8%</td>
<td>23%</td>
<td>35%</td>
<td>31%</td>
<td>1%</td>
<td>100%</td>
<td>(3514)</td>
</tr>
<tr>
<td>b) It provides scope for me to test new approaches and take risks</td>
<td>2%</td>
<td>8%</td>
<td>23%</td>
<td>34%</td>
<td>31%</td>
<td>2%</td>
<td>100%</td>
<td>(3514)</td>
</tr>
<tr>
<td>c) It provides the opportunity for me to freely develop/choose research topics and methods</td>
<td>1%</td>
<td>6%</td>
<td>17%</td>
<td>31%</td>
<td>44%</td>
<td>1%</td>
<td>100%</td>
<td>(3497)</td>
</tr>
<tr>
<td>d) It provides the opportunity to receive constructive feedback on my research</td>
<td>3%</td>
<td>11%</td>
<td>26%</td>
<td>33%</td>
<td>27%</td>
<td>1%</td>
<td>100%</td>
<td>(3502)</td>
</tr>
<tr>
<td>e) There is a sufficient number (a critical mass) of active researchers in my field of research</td>
<td>6%</td>
<td>17%</td>
<td>31%</td>
<td>27%</td>
<td>18%</td>
<td>1%</td>
<td>100%</td>
<td>(3509)</td>
</tr>
<tr>
<td>f) There is an aspiration to seek complementary knowledge outside one’s own research environment</td>
<td>3%</td>
<td>11%</td>
<td>29%</td>
<td>34%</td>
<td>21%</td>
<td>3%</td>
<td>100%</td>
<td>(3501)</td>
</tr>
<tr>
<td>g) There is stimulating competition between colleagues</td>
<td>9%</td>
<td>17%</td>
<td>36%</td>
<td>21%</td>
<td>7%</td>
<td>9%</td>
<td>100%</td>
<td>(3507)</td>
</tr>
<tr>
<td>h) There is too tough competition between colleagues</td>
<td>36%</td>
<td>33%</td>
<td>15%</td>
<td>5%</td>
<td>3%</td>
<td>8%</td>
<td>100%</td>
<td>(3510)</td>
</tr>
<tr>
<td>i) There is a satisfactory balance in the gender distribution</td>
<td>7%</td>
<td>16%</td>
<td>28%</td>
<td>27%</td>
<td>17%</td>
<td>6%</td>
<td>100%</td>
<td>(3486)</td>
</tr>
<tr>
<td>j) There is a satisfactory balance between junior and more senior researchers</td>
<td>4%</td>
<td>14%</td>
<td>33%</td>
<td>32%</td>
<td>12%</td>
<td>5%</td>
<td>100%</td>
<td>(3501)</td>
</tr>
<tr>
<td>k) There are senior researchers who take responsibility for ensuring that the collective research environment develops as good as possible</td>
<td>5%</td>
<td>13%</td>
<td>28%</td>
<td>31%</td>
<td>20%</td>
<td>3%</td>
<td>100%</td>
<td>(3503)</td>
</tr>
<tr>
<td>l) There is active discussion on issues of research ethics and/or academic integrity (e.g. fraud, plagiarism, manipulation)</td>
<td>8%</td>
<td>20%</td>
<td>32%</td>
<td>24%</td>
<td>10%</td>
<td>5%</td>
<td>100%</td>
<td>(3508)</td>
</tr>
<tr>
<td>m) There is an aspiration to achieve gender equality and equal opportunities (regardless of gender, gender identity or expression, ethnicity, religion, physical ability or disability, sexual orientation or age)</td>
<td>3%</td>
<td>8%</td>
<td>25%</td>
<td>33%</td>
<td>21%</td>
<td>11%</td>
<td>100%</td>
<td>(3510)</td>
</tr>
</tbody>
</table>
Table 13. To what extent are you satisfied with the infrastructure and the support you need to conduct your research?

<table>
<thead>
<tr>
<th>Service Description</th>
<th>Not at all</th>
<th>To a small extent</th>
<th>To some extent</th>
<th>To a large extent</th>
<th>To a very large extent</th>
<th>Don't know/n/a</th>
<th>Total</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Library services and digital media (e.g., journals/periodicals)</td>
<td>0%</td>
<td>2%</td>
<td>9%</td>
<td>45%</td>
<td>41%</td>
<td>2%</td>
<td>100%</td>
<td>(3410)</td>
</tr>
<tr>
<td>b) Computer equipment, databases, data storage and software</td>
<td>1%</td>
<td>6%</td>
<td>21%</td>
<td>43%</td>
<td>26%</td>
<td>4%</td>
<td>100%</td>
<td>(3404)</td>
</tr>
<tr>
<td>c) Technical laboratory equipment (e.g., analysis tools)</td>
<td>1%</td>
<td>3%</td>
<td>12%</td>
<td>23%</td>
<td>11%</td>
<td>50%</td>
<td>100%</td>
<td>(3380)</td>
</tr>
<tr>
<td>d) Technical laboratory support (e.g., research engineers, lab assistants, mechanical workshops)</td>
<td>3%</td>
<td>9%</td>
<td>13%</td>
<td>13%</td>
<td>8%</td>
<td>53%</td>
<td>100%</td>
<td>(3402)</td>
</tr>
<tr>
<td>e) Equipment for field research</td>
<td>2%</td>
<td>3%</td>
<td>7%</td>
<td>9%</td>
<td>5%</td>
<td>74%</td>
<td>100%</td>
<td>(3389)</td>
</tr>
<tr>
<td>f) Research premises (e.g., laboratories, premises for clinical research)</td>
<td>2%</td>
<td>5%</td>
<td>11%</td>
<td>22%</td>
<td>11%</td>
<td>49%</td>
<td>100%</td>
<td>(3395)</td>
</tr>
<tr>
<td>g) Experiment materials</td>
<td>1%</td>
<td>2%</td>
<td>7%</td>
<td>15%</td>
<td>9%</td>
<td>64%</td>
<td>100%</td>
<td>(3388)</td>
</tr>
<tr>
<td>h) Museums and collections</td>
<td>1%</td>
<td>2%</td>
<td>7%</td>
<td>9%</td>
<td>7%</td>
<td>74%</td>
<td>100%</td>
<td>(3385)</td>
</tr>
<tr>
<td>i) IT support</td>
<td>2%</td>
<td>10%</td>
<td>27%</td>
<td>37%</td>
<td>19%</td>
<td>4%</td>
<td>100%</td>
<td>(3387)</td>
</tr>
<tr>
<td>j) Administrative support (e.g., staff administration, financial administration)</td>
<td>2%</td>
<td>7%</td>
<td>19%</td>
<td>41%</td>
<td>27%</td>
<td>4%</td>
<td>100%</td>
<td>(3400)</td>
</tr>
<tr>
<td>k) Research support (e.g., EU project coordinators, research secretaries, application support, project support)</td>
<td>4%</td>
<td>11%</td>
<td>20%</td>
<td>20%</td>
<td>9%</td>
<td>36%</td>
<td>100%</td>
<td>(3406)</td>
</tr>
<tr>
<td>l) Legal support</td>
<td>3%</td>
<td>6%</td>
<td>11%</td>
<td>11%</td>
<td>7%</td>
<td>62%</td>
<td>100%</td>
<td>(3393)</td>
</tr>
<tr>
<td>m) Support for academic qualifications (e.g., publication support, open access)</td>
<td>7%</td>
<td>14%</td>
<td>19%</td>
<td>16%</td>
<td>8%</td>
<td>36%</td>
<td>100%</td>
<td>(3388)</td>
</tr>
<tr>
<td>n) Career support (e.g., career guidance)</td>
<td>13%</td>
<td>19%</td>
<td>17%</td>
<td>8%</td>
<td>4%</td>
<td>39%</td>
<td>100%</td>
<td>(3394)</td>
</tr>
<tr>
<td>o) Patent and commercialisation support</td>
<td>2%</td>
<td>4%</td>
<td>7%</td>
<td>7%</td>
<td>4%</td>
<td>76%</td>
<td>100%</td>
<td>(3390)</td>
</tr>
<tr>
<td>p) Support for cooperation with businesses and organisations (to utilise my research)</td>
<td>7%</td>
<td>11%</td>
<td>12%</td>
<td>8%</td>
<td>3%</td>
<td>58%</td>
<td>100%</td>
<td>(3396)</td>
</tr>
</tbody>
</table>
APPENDIX 4
BASIC DATA

Note: A basic data sheet with the following information was distributed to the departments in December 2016 as background material to the self-evaluation. Also the expert panels got this information prior to the site-visit.

Economy 2015
Total revenue (Million SEK)
Total costs (Million SEK)

Revenue sources (MSEK)
Education, basic/adv. Level
Tuition Fees
Beställd utbildning/contracted course
Commissioned education
Research/res.education
Externally funded research
Commissioned research

Major costs (MSEK)
Personnel
Premises
Other running costs
Depreciation
Common costs

Research exams

Doctoral exams (2011–2015)
Number of exams
Numbers of exams/year, average
Net study time (years), average
Gross study time (years), average
Age at examination (years), average
% female graduates

Licentiate exams (2011–2015)
Number of exams
Numbers of exams/year, average
Net study time (years), average
Gross study time (years), average
Age at examination (years), average
% female graduates
APPENDIX 4: BASIC DATA

Personnel – Oct 2016

Number of employees (total)
Tot. employed, Research active:
Employed, Other staff:

% Research-active staff:
Average age

Professor (number of employees)
% Females
% Males
Average age (empty=no employees)

Senior lecturer (number of employees)
% Females
% Males
Average age (empty=no employees)

Researcher (number of employees)
% Females
% Males
Average age (empty=no employees)

Postdoc (number of employees)
% Females
% Males
Average age (empty=no employees)

Doctoral student (exkl. on stipends)
(number of employees)
% Females
% Males
Average age (empty=no employees)

Senior employee (number of employees)
% Females
% Males
Average age (empty=no employees)

Other staff (number of employees)
% Females
% Males
Average age (empty=no employees)
Note: The following instructions and panel report template were distributed to panelists in April 2017 together with an instruction on how to access the university’s internal website in order to get further information and the background material.

Quality and Renewal 2017 (Q&R17) at Uppsala University – instructions for evaluation panel

1. Terms of reference for expert panels

The present document describes the Terms of Reference to be used by the expert panels engaged in the research evaluation Q&R17 (In Swedish “KoF17”).

1.1 Background

The University is divided into three broad disciplinary domains, comprising nine faculties and about 60 departments located in a number of research and education campus areas.

A few facts (as of 2016) are the following:

- Three disciplinary domains: Humanities and Social Sciences, Medicine and Pharmacy, and Science and Technology
- Education and research across about 50 departments divided into nine faculties; theology, law, arts, languages, social sciences, educational sciences, medicine, pharmacy, and science and technology
- 70 study programs at Bachelors' level, 70 at Master's level and approximately 2,000 freestanding courses. Of these 50 international master programs and nearly 800 freestanding courses taught in English.
- 43,519 registered students, corresponding to 23,734 full-time students (5,743 at Master's level, 23%)
- Student exchange agreements with nearly 500 universities in 50 countries
- Postgraduate education includes 2,289 doctoral students, and 389 doctoral degrees are conferred each year
- 5,600 peer-reviewed scientific publications per year
- 3,607 teachers and researchers
- 584 full professors
- Turnover 2016 of 6,6 billion SEK (€698 million); 70% of which for PhD studies
The present research evaluation is initiated by the Vice-chancellor and includes 54 evaluation units (mostly departments and centers) engaged in research.

1.2 Objectives of the evaluation
Q&R17 is the third comprehensive research evaluation of Uppsala University as a whole, following Q&R07 (conducted in 2006–2007) and Q&R11 (conducted in 2010–2011).

The overall purpose of Q&R17 is to enhance the quality of the University’s research by creating a foundation for development measures.

The purpose of this evaluation is not to grade research quality/research output per se, but to analyse preconditions and processes for good quality and strategic renewal of research. Q&R17 is expected to generate an increased awareness of aspects of the research environment that should be actively maintained and aspects that should be further developed or changed. Do the University’s research environments function so as to provide good preconditions for high-quality research? Are they characterised by processes that drive quality and renewal? In contrast, both Q&R07 and Q&R11 primarily – if not exclusively – focused on research results. Q&R17 does primarily – if not exclusively – focus on prerequisites and processes.

The research evaluation is expected to give the University’s research environments an opportunity to further develop their systematic work on quality assurance and enhancement and their capacity for renewal. This design means that the evaluation is more enhancement-led than control-oriented. It is also intended to serve as decision-making support by providing data for use in strategic development work at different organizational levels within the University.

Hence, it is expected that Q&R17 will result in increased knowledge about the strengths and weaknesses of the University’s research environments, derived in part from the analysis and reflection involved in the self-evaluation, and in part from feedback and recommendations from external peers.

The insights gained from the evaluation is believed to lead to a further development of the quality culture in the local research environments. For example, individual researchers in the environment might decide to increase their involvement in and contribution to seminars, or become better at supporting young researchers in their day-to-day activities.

The evaluation is also expected to lead to systematic action – and this will make demands on the academic leadership. The impact of the evaluation will largely be determined by the ability and the willingness of the leadership to follow up on the results actively and use them as a starting point for further development, and as support in their decision-making. This applies to collegial bodies at all levels, and to individuals ranging from research group leaders to heads of department, deans, vice-rectors and the Vice-Chancellor.
The impact of the evaluation will be visible in the disciplinary domains’ and faculties’ response to the evaluation results. Concrete measures will be presented in operational plans for 2018, and will subsequently be followed up in annual operational reports (including Uppsala University’s annual report), and in disciplinary domain dialogues until they have been implemented. Discussion of joint challenges, and sharing of good practice across the university will also be facilitated. The Vice-Chancellor’s instructions call for collegial exchanges between the disciplinary domains/faculties after Q&R17 has been carried out, and the report has been submitted to the Vice-Chancellor. The precise arrangements for these post-evaluation activities will be determined in dialogue with the disciplinary domains and faculties.

1.3 Method of evaluation
For the purpose of the evaluation, 54 units (in most cases departments) have been identified and grouped into 19 clusters, each evaluated by one panel. A cluster may consist of one large department (sometimes divided into sub-units) or several smaller departments. Each of the 19 panels consist of 6–8 highly regarded international experts that evaluate and elucidate the research environments based on a five-day site visit. Each panel has an international Chair and a group of experts including a ‘researcher on research’ panelist. It also has a representative from another Swedish university who can assist in matters that require context specific knowledge and insight (see more about the role of the expert panel in section 1.5). A local ‘panel guide’ will support the panel in practical matters during the visit.

The panel members will receive background material in advance consisting of:

- Results from an online survey focusing on the research environment, addressed to research active staff (incl. PhD students)
- Results from a bibliometric analysis
- A sheet with basic data (facts and figures regarding each evaluation unit’s personnel, economy etc)
- A self-evaluation provided by the evaluation unit (a description of academic culture, networks and collaborations, recruitment, leadership, infrastructure, funding, publication etc)

The survey results, bibliometric data and the basic data have served as a basis for the self-evaluation, which aim for constructive, critical self-reflection. Please note that research results in the form of bibliometrics are included in the evaluation as a point of reference, not as a basis for ‘grading’.
The chair of the panel can make requests for complementary information. This information is given if possible according to time and availability. If you want additional information, please contact the member of the KoF17 working group that relates to the scientific domain in question.

1.4 Evaluation criteria
The basic unit for collection of background material is a department or a centre, and this is also the basic unit for evaluation. Departments are grouped together to represent a research area that can be evaluated by one expert panel.

Unlike earlier research evaluations at Uppsala University (Q&R07 and Q&R11) there will be no grading of research quality in Q&R17. The Q&R17 evaluation is enhancement-led and aims at development of the University’s research environments. The panels are asked to identify, observe and reflect upon strengths and weaknesses in the research environments and make recommendations for positive development to strengthen research environments and renewal of research (see section ‘2. Instructions for panel report’).

In the instructions for the self-evaluation (directed to the evaluation units), it is stated that “a good self-evaluation is truly self-critical and reflective”. It is furthermore stated that “the ability to reflect upon one’s own actions and activities in a nuanced way will provide the best basis for continued quality enhancement”. Since the evaluation units are encouraged to be open, and to address both their strengths and weaknesses, it is important that doing so will not backlash. The panels are therefore asked to also evaluate the evaluation unit’s capacity for critical self-reflection, including the ability to bring deficiencies to the surface. This means that self-identified deficiencies should not be regarded as weaknesses unless there is no – or unsatisfactory – note on the evaluation unit’s readiness to deal with them, e.g. by describing already taken or planned actions.

1.5 The role of the panel
The panel should work as a group to attain collective assessments, at the same time making use of the complementary expertise among the members. In each panel you will find a chair, a ‘researcher on research’ expert together with a number of field experts. The panel also has one representative from another Swedish university who can assist in matters that require knowledge and insight in e.g. the Swedish university sector and research funding practices.

All panelists have to strive for a well-adjusted contribution to the work of the panel (see section 1.6 Characteristics of a good panelist). The panel members are to serve as experts and as such you will:

• Serve on the panel and thereby contribute in the enhancement-led evaluation on research environments at Uppsala University
• Contribute to the writing of the panel report
• Provide preliminary feedback to the research environments on the last day of the site visit

In addition to serving as an expert, the Chair will be coordinating the work of the panel and take the responsibility for the final report. The chair will also provide preliminary feedback to the management of disciplinary domains and faculties as well as to the University management and the Q&R17 project team. The Chair of the panel have a responsibility to ensure that the work of the panel is carried out professionally.

Given that Q&R17 focuses on the conditions and the processes that contribute to the creation of high quality research environments, we have invited ‘researchers on research’ experts to serve on the panels in addition to experts within the respective field. The purpose is to complement the panels’ experience-based knowledge about research environments with research-based knowledge about the preconditions and processes that influence research quality. The main idea is that the ‘research on research’ experts will contribute to the panels’ discussions with their expertise, and thereby facilitate both meta-reflections on and in depth analysis of the conditions and processes that make up the evaluation unit’s research environment. In addition to serving as a panel expert, the ‘researchers on research’ expert will, together with the panel chairs, provide preliminary feedback to vice rectors and deans of the disciplinary domains and faculties on the last day of the visit.

As all panelists, the ‘researcher on research’ have to strive for a well-adjusted contribution to the work of the panel (see section 1.6 about characteristics of a good panelist).

1.6 Characteristics of a good panelist

We have reason to believe that our carefully selected panelists will contribute to a constructive climate in their respective panels, meaning that you will all share the characteristics of a good panelist according to Lamont in her research on grant panels (Lamont 2009). A good panelist shows up fully prepared, demonstrates intellectual breadth and expertise, is succinct, speaks across disciplinary boundaries, and respects the other panelists’ expertise and sentiments. Sound panel deliberations also follow the rule of deferring to expertise and observing disciplinary sovereignty. Good panelists defer to the expertise of others if they are not competent themselves, and follow the rule of cognitive contextualization, i.e. they recognize that different standards should be applied to different disciplines. In particular, multidisciplinary panels may have to make explicit their shared perspectives as well as their differences. Finally, a well-functioning panel maintains collegiality. They may occasionally engage in dynamic discussions, but they always keep a respectful tone.
Most of what Lamont have identified as important for a panel to be well-functioning is applicable to Q&R17, but there is one major difference. Since KoF17 focuses on the quality of research environments rather than quality of research itself, it is reasonable to believe that there will be more commonalities between disciplines, and easier to share experiences and knowledge across them. Aspects on research environments are prone to be more generic than aspects of research within different disciplines. This means that an openness for learning across disciplines should be the hallmark of Q&R17. Cognitive contextualization will still be of importance, but less so than in a traditional research assessment exercise focusing on research per se.

1.7 Working arrangements of expert panels
Once you get access to the self-evaluation and supporting data, you are ready to start preparing for the site visit. We suggest that you read the documents and identify questions that you want to explore during the site visit. However, the panel chair may provide other – or additional – instructions for the preparation phase.

During the first day of the site visit, an introduction will be given and time will be allocated to plan the work during the visit. The panel chair coordinates the work of the panel and is also responsible for coordinating the writing of the panel report. A template for the panel report is provided and time will be given to work on the report during the visit. The report should primarily focus on identifying strengths and weaknesses of the research environment in question, as well as on providing recommendations for future development. We expect the panels to have written a substantial part of the report/-s once they leave Uppsala.

The site visits will take place in one of two consecutive weeks, depending on panel. The first visit is on May 8–12 2017; the second on May 15–19 2017.

One panel are free to communicate with other panels during the KoF17 work. In the table below you find contact information to each panel’s chair and researcher on research. You also find the e-mail address and the phone number to the local panel guide.

1.8 Final Q&R17-report
A final overall evaluation report will be edited by the project management. It will describe the procedure for KoF17, and present an overview of the knowledge gained by the panel reports. It will present the results of the survey and the bibliometric analysis, and give recommendations concerning the use of the report in the continued work on quality development at the University. Individual panel reports will be published in the final Q&R17 report.
1.9 Confidentiality and trust
The panel members accept not to misuse non-public information that is disclosed to him/her through the evaluation. In accordance with Swedish legislation, the panel reports will be public once they are submitted in their final form. The panel members are required to declare any conflict of interest with respect the subjects of the evaluation.

2. Instructions for the panel report

According to the instructions given in the Terms of reference, the panels are asked to identify strengths and weaknesses in the research environments that constitute the evaluation units. In addition, the panels will also provide recommendations for future development and renewal. In the following panel report template, headlines are given under which the panels are asked to provide comments and recommendations.

In the panel report, the panel is suggested to give an account of the impressions of the research environment at the evaluation unit, as well as comment on aspects that relate to the themes in the self-evaluation and in the background material (the results from survey, bibliometric analysis, and basic data).

The panel is also encouraged to comment on other issues of choice, i.e. aspects or themes considered important even if not highlighted in the self-evaluation, or in the background material. It should, however, relate to the research environment’s efforts to create good conditions for high quality research.

The maximum total number of words in the panel report should typically range between 6,000–12,000 words depending on the number of evaluation units in the cluster, and the complexity of the evaluation units. If there are sub-units, you may use subheadings denoting them. Deadline for the panel report is the 15th of June 2017. Thereafter the evaluation units will have the opportunity to comment on factual errors.

2.1 Writing guidelines

Remember that you are writing primarily for international readers, most of whom are likely to be non-native speakers of English. This means that you need to write your report in clear English without compromising its content.

Avoid long and complex sentences. Split complex sentences into two simpler sentences. Write in a formal, professional style, adhering to the report template. Statements should be precise and convey content as concisely as possible, particularly where a term or circumstance has complex or culture-specific meaning.

Please use Calibri 11, and the same formatting of headings as in this instruction, and in the template for the panel report.
Panel report template

Evaluation unit:

Panel number:

1. Introductory remarks
Introductory remarks about the cluster of evaluation units that you are reviewing and possibly the work of the expert panel, for example comments on your work procedure. (This section may be the same for all evaluation units being evaluated by the same panel.)

Write your text here

2. Observations and analysis
Observations, reflections and analysis pertaining to the evaluation unit in question and, if applicable, subdivisions within this unit. Please relate to the themes in the self-evaluation (see below), and to the background material (results from survey and bibliometric analysis, and basic data) if you find them relevant, and to any additional theme/s as identified by the panel.

Themes in the self-evaluation: the evaluation unit’s aims, strategies and vision, recruitment strategies, research leadership, academic culture, infrastructure, research funding, cross border collaboration and outreach, publication, career structure and mobility, feedback and evaluation, research-teaching linkages, and internationalisation. In some cases, there are additional themes: research involving Campus Gotland, faculty/domain specific question(s) and/or other matters raised by the evaluation unit. Please, refer to the self-evaluation for further operationalisation of the themes.

Write your text here
3. Summary
Based on your observations and analysis of the evaluation unit above, please summarise in brief the evaluation unit’s main strengths and weaknesses and your recommendations for further development (using bullet points).

3.1 Strengths
- ……
- ……
- ……

3.2 Weaknesses
- ……
- ……
- ……

3.3 …Recommendations
- ……
- ……
- ……

4. Reflections on the similarities and differences between evaluation units within the panel – what to learn from each other?
Most panels evaluate several evaluation units. Please, give a concluding remark on similarities and differences between the different evaluation units in the cluster. Is there something to learn from the comparison, and can the evaluation units learn something from each another? (This section may be the same for all evaluation units evaluated by the same panel.)

Write your text here
Composition of the panel

1 Chair
4–8 Panel experts
1 Panellist with professional background from another Swedish university

• Compliance with rules regarding financial or research relations or other forms of dependence between panel members and the evaluation unit in question is essential
• A balanced gender distribution is sought
• UU’s university networks, such as U4 and Matariki, can be suitable sources for recruiting panellists

Panel guides from UU will accompany the panels during the site visit.

The panel – desired qualifications

The Chair

• Generalist within the relevant scholarly field, or a person with good knowledge and/or experience of how well-functioning research environments are created, preserved, developed and renewed
• Recognised scholar of great integrity
• Experience of international evaluations
• Suitable character and good ability to lead the panel’s work
• Not active in Sweden

Panel experts

• Preferably active outside Sweden – firstly, within Europe, preferably within the Nordic countries, and
• Secondly, outside Europe, and
• With scholarly legitimacy and
  — Understanding of the conditions under which outstanding research is created within the evaluation unit’s field of research, or
  — Good knowledge of and/or experience of how well-functioning research environments are created, preserved, developed and renewed.
Each panel should include at least one person with *research-based knowledge* about research environments and preconditions for good research. It is also possible to nominate panellists from a completely different field of research.

*Panellist with professional background from another Swedish university*

- With scholarly legitimacy
- Working at another Swedish university within a relevant field of research
- Good knowledge of conditions under which research is conducted at Swedish universities
Panel 1
Department of English, Department of Linguistics and Philology, Department of Modern Languages, Department of Scandinavian Languages

Joseph Salmons, Department of Linguistics, University of Wisconsin, USA
(chair)

Jürgen Enders, University of Bath School of Management, United Kingdom
(research on research)

Fred Karlsson, Department of Modern Languages, Helsinki University, Finland

Julie Sanders, Department of English Literature, Languages and Linguistics, Newcastle University, United Kingdom

Jost Gippert, Empirical Linguistics, Frankfurt University, Germany

Saara Haapamäki, Languages, Åbo Academy, Finland

Lars-Håkan Svensson, Department of Culture and Communication, Linköping University, Sweden

Panel guide: Birgitta Hellqvist, Uppsala University

Chair presentation

Joseph Salmons

Professor of German and of Linguistics, and Director of the Max Kade Institute. He holds a B.A. in Philosophy (UNC-Charlotte, 1978) and a Ph.D. in Germanic linguistics (University of Texas at Austin, 1984). Associate editor of the Journal of Germanic Linguistics and review editor of Diachronica, and was president of the Society for Germanic Linguistics. His primary research tests theories of phonology and language change against historical and contemporary data, especially from Germanic languages. He also works on German dialects spoken in the United States, dealing with language contact and change, as well as language shift.
Panel 2
Department of Musicology, Department of Game Design, Department of Archives, Libraries and Museums, Department of Cultural Anthropology and Ethnology, Department of Sociology, Department of Art History, Department of Archaeology and Ancient History, Campus Gotland

Helge Jordheim, Department of Culture Studies and Oriental Languages, University of Oslo, Norway (chair)
Mats Benner, Department of Business Administration, Lund University, Sweden (research on research)
Richard Münch, Department of Sociology, Bamberg University, Germany
Geoffrey C. Bowker, Department of Informatics, University of California, Irvine, USA
Simon Coleman, Department for the Study of Religion, University of Toronto, Canada
Anne Danielsen, Department of Musicology, University of Oslo, Norway
Audrey Horning, School of Natural and Built Environment, Queen's University Belfast, Ireland

Panel guide: Sara Lilja Visén, Uppsala University

Chair presentation
Helge Jordheim
Professor in Cultural History and Museology. Areas of expertise are theories and histories of times and temporalities, history of historiography, history of concepts, history of knowledge, literature and the political, history and theory of the humanities. He is currently involved in several projects such as Geological Times: Geology and New Regimes of Historicity, Synchronizing the World, Globalization and Multiple Times and The Printed and the Built, Architecture and Public Debate in Modern Europe.
Panel 3

Department of Economic History, Department of Business Studies, Department of Informatics and Media, Department of Social and Economic Geography

Ray Hudson, Department of Geography, Durham University, United Kingdom (chair)

Gili Drori, Department of Sociology and Anthropology, Hebrew University of Jerusalem, Israel (research on research)

Rebecca Piekkari, Department of Management Studies, Aalto University, Finland

Ron Boschma, Urban and Regional research centre, University in Utrecht, The Netherlands

Haridimos Tsoukas, Department of Business and Public Administration, University of Cyprus, Greece

Jari Olaja, Department of History and Ethnology, University of Jyväskylä, Finland

Claes Alvstam, Economic History, University of Gothenburg, Sweden

Panel guide: Linda Stafbom, Uppsala University

Chair presentation

Ray Hudson
Professor emeritus, Department of Geography. He has held various senior positions in the University, including Director of the interdisciplinary Wolfson Research Institute, Pro-Vice Chancellor and Deputy Vice Chancellor, Acting Vice Chancellor, 2014–15. He has served on several scientific committees such as the Research Division of the Royal Geographical Society, the Conference of Heads of Geography in UK HEIs and various ESRC and HEFCE committees and boards. A political-economic geographer, his research has focused upon economic geographies, processes of combined and uneven development, relations between corporate and state policies and issues of territorial development. Much of his empirical research has focused on ‘old’ industrial regions.
Panel 4
Department of Psychology, Department of Economics, Department of Statistics, Department of Food, Nutrition and Dietetics

**Martin Caraher**, Department of Sociology, City University London, United Kingdom (chair)

**Liisa Husu**, School of Humanities, Education and Social Science, Örebro University, Sweden (research on research)

**Gunnar Rosenqvist**, Hanken School of Economics, Finland

**Klaus Fiedler**, Department of Psychology, University of Heidelberg, Germany

**Lea Pulkkinen**, Psychology, University of Jyväskylä, Finland

**Christian Schultz**, Department of Economics, University of Copenhagen, Denmark

**Louise Rönnqvist**, Department of Psychology, Umeå University, Sweden

Panel guide: **Anna-Sofia Hedberg**, Uppsala University

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**Chair presentation**

**Martin Caraher**

Professor of food and health policy at Centre for Food Policy. He has worked extensively on issues related to food poverty, cooking skills, local sustainable food supplies, the role of markets and co-ops in promoting health, farmers markets, food deserts & food access, retail concentration and globalisation. Acted as a consultant to the UK Dept of Health, the World Bank and the World Health Organisation. Trustee of the Caroline Walker trust. Acts as an advisor on food matters to a number of social science research groups across Europe.
Panel 5
Institute for Housing and Urban Research, Uppsala Centre for Russian and Eurasian Studies, Centre for Gender Research, Department of Peace and Conflict Research, Department of Government

*Peter Munk Christiansen*, Department of Political Science, Aarhus University, Denmark (chair)
*Helen Peterson*, Department of Sociology and Work Science, University of Gothenburg, Sweden (research on research)
*Robert Austin*, Department of History, University of Toronto, Canada
*Jørgen Møller*, Department of Political Science, Aarhus University, Denmark
*Harriet Silius*, Gender Studies, Åbo Academy, Finland
*Sabine Hark*, Zentrum für Interdisziplinäre Frauen- und Geschlechterforschung, Technische Universität Berlin, Germany
*Helena Lindholm*, School of Global Studies, University of Gothenburg, Sweden

Panel guide: *Fredrik Andersson*, Uppsala University

**Chair presentation**
*Peter Munk Christiansen*
Professor in Political Science. Research fields; The interplay between political and non-political civil servants, The political role of interest groups, Public sector reforms/institutional reforms, Public policy decision-making, and Elites. He is member of several committees and editorial boards; the board of directors of the Danish Evaluation Institute, the board of directors for the Danish *Power and Democracy Study* Member, and of the editorial committee of *Politica*. 
Panel 6
Department of History, Department of History of Science and Ideas,
Department of Literature, Department of Philosophy, Department of Theology

Margot Finn, UCL History Department, University College London, United Kingdom (chair)
Sven-Eric Liedman, History of Science and Ideas, University of Gothenburg, Sweden (research on research)
Anna Westerståhl Stenport, Department of Germanic Languages and Literatures, University of Illinois, USA
Catherine Epstein, European Study of History, Amherst College, Massachusetts, USA
Alia Lauha, Faculty of Theology, Helsinki University, Finland,
Peter Kjaergaard, Natural History of Museum Denmark, Copenhagen, Denmark

Panel guide: Katarina Westerlund, Uppsala University

Chair presentation
Margot Finn
Professor and historian of modern Britain (Britain since 1750), with a predominant focus on the period to 1914. Her previous work has ranged from the history of Victorian popular politics to the gendered legal, social and cultural histories of debt and credit in England. She now researches, teaches and supervises predominantly in topics relating to British colonial and imperial history, with particular emphasis on the family, gender, material culture and transnational encounters. President of the Royal Historical Society and Chair in Modern British History at University College London.
Panel 7
Faculty of Law, Faculty of Educational Sciences

Hans Petter Graver, Department of Private Law, University of Oslo, Norway (chair)
Rickard Danell, Department of Sociology, Umeå University, Sweden (research on research)
Christina Moëll, Department of Law, Lund University, Sweden
Kåre Lilleholt, Department of Private Law, University of Oslo, Norway
Jenny Ozga, Department of Education, University of Oxford, United Kingdom
Jan Masschelein, Department for Education and Society, KU Leuven, Belgium
Harry Daniels, Department of Education, University of Oxford, United Kingdom

Panel guides: Ulrika Wallenquist, Magnus Ödman, Uppsala University

Chair presentation
Hans Petter Graver
Professor of Law. His research encompasses issues within law, sociology of law and legal theory, with specific research fields; Theory of legal argumentation, Law and rhetoric, Competition law, Administrative law, and EEA/EU Law. Dean of the Faculty of Law until 2015. Vice President of the Norwegian Academy of Science and Letters. Engaged in Norwegian government law-reform work and in special commissions.
Panel 8
Department of Information Technology, Department of Mathematics

*Helge Holden*, Department of Mathematical Sciences, Norwegian University of Science and Technology, Norway (Chair)

*Duncan Lawson*, Pro-Vice-Chancellor for Formative Education, Newman University, United Kingdom (Researcher on research)

*Susan Eisenbach*, Department of Computing, Imperial College London, United Kingdom

*Nathalie Revol*, Laboratoire de l’Informatique du Parallélisme, ENS de Lyon, France

*Frank Kutzschebauch*, Mathematical Institute, Universität Bern, Switzerland

*David Wallom*, Oxford e-Research Centre, University of Oxford, United Kingdom

Panel guide: *Eva Pålsgård*, Uppsala University

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**Chair presentation**

*Helge Holden*

Professor of mathematics since 1991 at the Norwegian University of Science and Technology. Secretary of the International Mathematical Union (IMU). Research interests include differential equations, mathematical physics; in particular hyperbolic conservation laws and completely integrable systems, stochastic analysis and flow in porous media.
Panel 9
Department of Physics and Astronomy

Chi-Chang Kao, SLAC National Accelerator Laboratory, Stanford University, USA (Chair)
Pat O’Connor, Department of Sociology, University of Limerick, Ireland (Researcher on research)
Petra Rudolf, Faculty of Science and Engineering, University of Groningen, The Netherlands
Arkady Tseytlin, Department of Physics, Imperial College London, United Kingdom
Peter Hansen, Niels Bohr Institute, University of Copenhagen, Denmark
Jørgen Christensen-Dalsgaard, Department of Physics and Astronomy, Aarhus University, Denmark
Björn Jonson, Department of Physics, Chalmers University of Technology, Sweden

Panel guide: Björn GålNander, Uppsala University

Chair presentation
Chi-Chang Kao
Professor of photon science and since 2012 Director of SLAC National Accelerator Laboratory at Stanford University. Formerly chairperson of the National Synchrotron Light Source (NSLS) at Brookhaven National Laboratory in New York. Research interests include resonant elastic and inelastic X-ray scattering techniques and their application to materials physics.
Panel 10
Department of Engineering Sciences

*Torbjørn Digernes*, Norwegian University of Science and Technology, Norway (Chair)
*Per Eriksson*, Department of Electrical and Information Technology, Lund University, Sweden (Researcher on research)
*Lars Montelius*, Director General, INL – International Iberian Nanotechnology Laboratory, Portugal
*Heli Jantunen*, Faculty of Information Technology and Electrical Engineering, University of Oulu, Finland
*Deborah Greaves*, School of Engineering, Plymouth University, United Kingdom
*Elvira Fortunato*, Materials Science Department, Universidade NOVA de Lisboa, Portugal
*Maria Vallet Regi*, Department of Inorganic and Bioinorganic Chemistry, Universidad Complutense de Madrid, Spain
*Göran Andersson*, Power Systems Laboratory, ETH Zurich, Switzerland

Panel guide: *Ylva Bäcklund*, Uppsala University

**Chair presentation**

*Torbjørn Digernes*
Professor in marine projecting at the Norwegian University of Science and Technology (NTNU). Has served as Dean of the Faculty of Engineering and Technology and then as Vice-Chancellor of NTNU 2005–2013. After graduate studies in engineering physics and informatics he worked at the Fishery Science Research Institute, European Space Agency and the Faculty of Marine Technology.
Panel 11
Department of Chemistry – BMC, Department of Chemistry – Ångström

Thomas Bjørnholtm, Prorector for Research and Innovation, University of Copenhagen, Denmark (Chair)
Thomas Heinze, School of Human and Social Sciences, Bergische Universität Wuppertal, Germany (Researcher on research)
Kenneth Ruud, Prorector for Research and Development, University of Tromsø, Norway
Françoise W. Winnik, Department of Chemistry, University of Montreal, Canada
Stephen Neidle, UCL School of Pharmacy, University College London, United Kingdom
Eva Malmström, Department of Fibre and Polymer Technology, KTH Royal Institute of Technology, Sweden

Panel guide: Carmen Medina, Uppsala University

Chair presentation
Thomas Bjørnholtm
Professor of Materials Chemistry at the University of Copenhagen since 2000. He is prorector for research and innovation at the University of Copenhagen since 2010. Former Director of Nano-Science Center at the University of Copenhagen. Research interests include organic electronics, molecular electronics, supramolecular chemistry, single molecule science, nanochemistry, bionanotechnology and synthetic biology.
Panel 12
Department of Organismal Biology, Department of Ecology and Genetics, Department of Cell and Molecular Biology

*Klement Tockner*, President, Austrian Science Fund FWF, Austria (Chair)
*Sverker Sörlin*, School of Architecture and the Built Environment, KTH Royal Institute of Technology, Sweden (Researcher on research)
*Mart Saarma*, Institute of Biotechnology, University of Helsinki, Finland
*Elena Conti*, Department of Systematic and Evolutionary Botany, University of Zurich, Switzerland
*Jeanine Olsen*, Groningen Institute for Evolutionary Life Sciences, University of Groningen, The Netherlands
*Britt-Marie Sjöberg*, Department of Biochemistry and Biophysics, Stockholm University, Sweden
*Joan Strassmann*, Department of Biology, Washington University in St. Louis, USA
*Eric Westhof*, Institut de Biologie Moléculaire et Cellulaire, Université de Strasbourg, France

Panel guide: *Sofia Wretblad*, Uppsala University

**Chair presentation**

*Klement Tockner*
Professor for Aquatic Ecology at the Freie Universität of Berlin and Director of the German Leibniz Institute of Freshwater Ecology and Inland Fisheries. Elected in 2016 as President of the Austrian Science Fund FWF for a four-year term. Research interests include ecology, biodiversity, sustainable water management, geomorphology and hydrology.
Panel 13
Department of Earth Sciences

*Kathy Whaler*, School of GeoSciences, University of Edinburgh, United Kingdom (Chair)
*Terttu Luukkonen*, ETLA – Research Institute of the Finnish Economy, Finland (Researcher on research)
*Bert Holtslag*, Department of Environmental Sciences, Wageningen University & Research, The Netherlands
*Nicholas Arndt*, Institut des Sciences de la Terre, Université Grenoble Alpes, France
*David Snyder*, Natural Resources Canada, Geological Survey of Canada, Canada
*Jon Ove Hagen*, Department of Geosciences, University of Oslo, Norway
*Per Ahlberg*, Department of Geology, Lund University, Sweden

Panel guide: *Reihaneh Dehghani*, Uppsala University

**Chair presentation**
*Kathy Whaler*
Professor of Geophysics at the Grant Institute, University of Edinburgh. Former President of the Royal Astronomical Society, UK. Research interests include geomagnetism, planetary magnetism, crustal magnetisation, magnetotellurics, inverse theory, core dynamics and thermal history.
Panel 14
Department of Medicinal Chemistry, Department of Pharmaceutical Biosciences, Department of Pharmacy

*Sven Frøkjær*, Department of Pharmacy, University of Copenhagen, Denmark (Chair)
*Linda Pololi*, Women's Studies Research Center, Brandeis University, United States of America (Researcher on Research)
*Meindert Danhof*, Division of Pharmacology, Universiteit Leiden, the Netherlands
*Katarina Nordqvist*, Department of Microbiology, Tumor and Cell Biology, Karolinska Institute, Sweden
*Shirley Price*, Faculty of Health and Medical Sciences, University of Surrey, United Kingdom (Absent at the site visit)
*Niklas Sandler*, Department of Biosciences, Åbo Akademi University, Finland
*Anna Tsantili-Kakoulidou*, Department of Pharmaceutical Chemistry, University of Athens, Greece
*Jean-Luc Veuthey*, Section of Pharmaceutical Sciences, University of Geneva, Switzerland

Panel Guide: *Ulrika Huss Melin*, Uppsala University

**Chair Presentation**
*Sven Frøkjær*
Professor of Pharmaceutics since 1993 at the Danish University of Pharmaceutical Sciences, which merged with the University of Copenhagen in 2007. His research interest is focused on peptide and protein formulation with a special emphasis on particulate drug delivery systems, e.g. microspheres, liposomes and lipid emulsions, and peptide transport across biological membranes including carrier-mediated mechanisms.
Panel 15
Department of Medical Cell Biology,
Department of Medical Biochemistry and Microbiology

Helle Prætorius Øhrwald, Department of Biomedicine, Aarhus University,
Denmark (Chair)
Lars Geschwind, School of Education and Communication in Engineering Science, Royal Institute of Technology, Sweden (Researcher on Research)
Dennis Bamford, Department of Biosciences, University of Helsinki
Diana Berggren, Department of Clinical Sciences, Umeå University, Sweden
Chris Haley, Division of Infection and Pathway Medicine, The University of Edinburgh, United Kingdom
Thomas Mandrup-Poulsen, Department of Biomedical Sciences, University of Copenhagen, Denmark

Panel Guide: Erik Ullerås, Uppsala University

Chair Presentation
Helle Prætorius Øhrwald
Professor of Medical Physiology since 2010 at Aarhus University. Her research interests is renal physiology, membrane transport and the influence of local signalling on both these parameters. The main focus is purinergic signalling, which involves cellular release of ATP reacting on specific, extracellular P2-receptors. Her research addresses this important singling system in regulation of normal renal function and under pathophysiological conditions including severe urinary tract infections.
Panel 16
Department of Neuroscience, Department of Surgical Sciences

Peter Tyrer, Department of Medicine, Imperial College, United Kingdom (Chair)
Norma Morris, Department of Science and Technology Studies, University College London, United Kingdom (Researcher on Research)
Joost Dekker, Department of Psychiatry and Department of Rehabilitation Medicine, VU University Medical Center, the Netherlands
Fredrik Elinder, Department of Clinical and Experimental Medicine, Linköping University, Sweden
Thea Vliet Vlieland, Leiden University Medical Center, the Netherlands
Paulina Salminen, Department of Clinical Sciences, University of Turku, Finland
Janet Powell, Department of Surgery and Cancer, Imperial College, United Kingdom

Panel Guide: Krister Halldin, Uppsala University

Chair Presentation
Peter Tyrer
Professor emeritus of Community Psychiatry. His main research interests are in models of delivering community psychiatric services, the classification and treatment of common mental illnesses, particularly anxiety and health anxiety, and the classification and management of personality disorders. He also leads on research into the management of patients with intellectual disability and on new psychological treatments for a common but largely unrecognised condition, health anxiety.
Panel 17
Department of Medical Sciences,
Centers for Clinical Research in Dalarna, Sörmland, Gävleborg and Västerås

*Mary Kuntz Crow*, Rheumatology, Hospital for Special Surgery and Weill Cornell Medical College, United States of America (Chair)
*Ivar Bleiklie*, Department of Administration and Organization Theory,
University of Bergen, Norway (Researcher on Research)
*Håkan Billig*, Department of Physiology, University of Gothenburg, Sweden
*Margareta Olsson Birgersson*, Roche AB, Sweden
*Bente Klarlund Pedersen*, Department of Clinical Medicine, University of Copenhagen, Denmark
*Mikael Knip*, Department Clinicum, University of Helsinki, Finland

Panel Guide: *Anna Lobell*, Uppsala University

**Chair Presentation**

*Mary Kuntz Crow*
Professor of Medicine since 1998, and Joseph P Routh Professor of Rheumatic Diseases in Medicine since 2010. Her research interests are focused on the cellular and molecular mechanisms that underlie the systematic autoimmune diseases, in particular systemic lupus erythematosus and rheumatoid arthritis. She has served as President of the American College of Rheumatology and as President of the Henry Kunkel Society.
Panel 18
Department of Immunology, Genetics and Pathology

Kristian Helin, Biotech Research and Innovation Centre, University of Copenhagen, Denmark (Chair)
Pauline Mattsson, Department of Learning, Informatics, Management and Ethics, Karolinska Insitutet, Sweden (Researcher on Research)
John Armour, School of Life Sciences, University of Nottingham, United Kingdom
Sirpa Jalkanen, Department of Medical Microbiology and Immunology, University of Turku, Finland
Christof von Kalle, National Center for Tumor Diseases Heidelberg, University Hospital Heidelberg and German Cancer Research Center, Germany
Fridtjof Lund-Johansen, Department of Immunology, Oslo University Hospital, Norway
Jens Overgaard, Department of Clinical Medicine, Aarhus University, Denmark
Anna Randi, National Heart and Lung Institute, Imperial College, United Kingdom

Panel Guide: Carolina Rydin, Uppsala University

Chair Presentation
Kristian Helin
Director of the Biotech Research and Innovation Centre at the University of Copenhagen since 2003 and Professor since 2003. His research interest are focused on molecular mechanisms leading to cancer and anti-cancer therapies.
Panel 19
Department of Public Health and Caring Sciences,
Department of Women’s and Children’s Health

*Dame Tina Lavender*, Division of Nursing, Midwifery and Social Work,
University of Manchester, United Kingdom (Chair)

*Christer Sandahl*, Department of Learning, Informatics, Management and Ethics, Karolinska Institutet, Sweden (Researcher on Research)

*Angus Dawson*, School of Public Health, University of Sydney, Australia

*Anne Kerr*, School of Sociology and Social Policy, University of Leeds, United Kingdom

*Alan Krasnik*, Department of Public Health, University of Copenhagen, Denmark

*Gillian Parker*, Social Research Policy Unit, University of York, United Kingdom

*Kari Raivio*, Children’s Hospital, University of Helsinki, Finland

*Berit Schei*, Department of Public Health and Nursing, NTNU, Norway

Panel Guide: *Titti Ekegren*, Uppsala University

**Chair Presentation**

*Dame Tina Lavender*

Professor of Midwifery and Director of the Centre for Global Women’s Health at the University of Manchester. Her research is focused on improving maternal and newborn outcomes.
Note: The following information was sent to cluster-coordinators in March 2017.

A final proposal for the panel schedule (Tuesday–Thursday) should be sent to kof17@uadm.uu.se by 3rd of April 2017 at the latest.

The panels will visit the evaluation units (e.g. departments) during Tuesday, Wednesday and Thursday in the respective weeks (week 19 or 20 depending on panel, see further below). Monday will be reserved for an introductory session and panel work planning, and Friday is used for feedback and panel report finishing, where the preliminary conclusions are presented to heads of department, deans/vice rectors, rector and the KoF Steering Committee. The panel visit is concluded around 14:00 on Friday.

Planning of the site visits

Schedule
A schedule has to be established to allocate time for discussions of the themes included in the evaluation (i.e. the themes in the self-evaluation). The time schedule has to be made in accordance with the main time schedule shown in the table below. A 20-minute break between different meetings is recommended to allow for the panel to summarize and prepare. When distributing time between departments and sub-units, take into account the size and complexity of the units. The time plan needs to be negotiated within the departments, and between departments, to adequately reflect all research environments (see distribution of departments on panels below).

Interviews
The panel chair will lead the work of the panel during the visit, and he/she will decide on the format of the interviews. The head of department (or other assigned person) may start with a brief introduction to the research environment and the research at the department, but do not plan a tight schedule of presentations following that. Instead, be prepared to discuss questions that are brought up by the panel. The main purpose of the meetings during the panel visit is to discuss topics that have emerged in the panel’s reading of the self-evaluation, such as strengths and weaknesses in the research environment, as well as potential for renewal. The panel is expected to be well prepared. The self-evaluation, the bibliometrics, the survey results (except for respondents’ open commentaries) and the basic GLIS-data have been sent to the panelists in advance.
Participants in interviews
The selection of individuals to participate in the panel interviews is done by the departments, but should reflect the department’s organization and research activities. Strive for heterogeneity with regard to position (e.g. research leaders, professors, junior and senior researchers, postdocs, PhD students, etc.), research area, gender, age, etc., and consider if there are categories that should meet the panel on their own as well. PhD students might feel freer to speak openly if seniors are not present, as might academics in the absence of the head of the department. It might also be a good idea to let the panel meet the head of the department in separate.

All individuals that take part in the interviews have to be prepared, i.e. they should have read the self-evaluation and reflected upon supporting data (bibliometrics, survey results and basic data).

The individuals appearing in the panel meetings should have a clearly visible name badge. A “panel guide” from the university administration will be accompanying each panel from the hotel in the morning, and assist in various matters during the site visit. A list with the names of the panel guides will be sent out later.

Lunches, coffee breaks and refreshments
Lunches and coffee breaks for the panels are to be arranged by the clusters/departments. The KoF17-project can only finance lunch and coffee for the panel members, but if the departments find a possibility to let research staff join lunch, it is recommendable, since it gives more room for more exchange. It is suggested that catering service for working lunch is offered, but the department may of course find other ways to organize lunch and coffee breaks. A sum of 200 SEK per panel member (incl. panel guide) and day can be provided from the KoF17-project budget to support lunch, coffee and refreshments for panel members. In order to give opportunities for informal contact between panel, faculty and PhD students you can use lunch and coffee breaks. For example, you can plan for a mingle session with coffee after the panel members have had lunch.

Since the panel will have internal meetings during the day, a suitable, private room is required. The meeting room used for the interviews and discussions can be used also for this. Make sure that there is refreshments (water and fruit) available in the meeting room throughout the day, every day.

Panel feedback and report
The feedback session on Friday is meant to communicate the preliminary conclusions of the panel to heads of department, deans/vice rectors, university management and KoF Steering Committee.
The panel will submit their report in writing by **June 15 2017**. The department will be given the opportunity to comment upon the panel evaluation report for factual errors before it is included in the final report.

**Summary of the preparations to be made by departments before and during the site visit**

- Time schedule for the panel’s interviews with researchers during Tuesday, Wednesday and Thursday 9:00–16:00, in the week of the site visit. When making a schedule think of this:
  - See it as a conference and that you have the overall responsibility from Tuesday to Thursday (meeting rooms, lunch, water, fruit, coffee, other refreshments etc.)
  - Think of how the panel will be able to pass/move inside otherwise locked buildings/corridors
  - Minimize the need for the panel to move around between meetings during one day. It is preferable that the panel has a fixed room where it can work, and to which different groups come to see the panel.
  - The panelists will need a 20 minutes break between every interview to be able to reflect upon the last interview and adjust their questions for the next interview
  - The panelists will need a one hour lunch break
  - The length of the interviews may vary according to the size of the departments. Take into account the size and the complexity of the units
  - Clusters with more departments and/or sub-units will not be able to allocate as much time to each interview and/or they will have to combine more categories of staff in each interview
  - The panel visits may start with a short introduction made by the head of department (approx. 15–30 minutes depending of time distribution within the cluster). The main purpose of the meetings during the panel visits is to discuss topics that have emerged in the panel’s reading of the self-evaluation.
  - Consider to carry out some interviews without the head of department, as well as an interview with the head of department in separate (if there is enough time)
  - In some cases it can be appropriate for the panel to meet different groups of staff separately, for example PhD students
  - The selection of individuals to be present should reflect the department’s organization and research activities. Strive for heterogeneity.
• Name badges with full name, and last name in clearly visible capital letters for all who appear at panel interviews.
• Arrangement of lunch, coffee and refreshments for the panelists (Tuesday, Wednesday, Thursday).
• Private meeting room available for internal panel meetings.

A final proposal for the panel schedule (Tuesday–Thursday) should be sent to kof17@uadm.uu.se by 3rd of April 2017 at the latest. The schedule will then be presented to the panel chair for comments.

Frame time schedule for KoF17 panel visits (week 19 and 20)

<table>
<thead>
<tr>
<th>Day</th>
<th>Event</th>
<th>Time</th>
<th>Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunday</td>
<td>Optional dinner for panelists arriving Sunday</td>
<td>18:00</td>
<td>Hotel Gillet</td>
</tr>
<tr>
<td>Monday</td>
<td>• Coffee</td>
<td>09:00–09:30</td>
<td>Hotel Gillet</td>
</tr>
<tr>
<td></td>
<td>• Welcoming and KoF17-introduction</td>
<td>09:30–10:30</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Coffee break</td>
<td>10:30–10:45</td>
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<tr>
<td></td>
<td>• KoF17 introduction continues</td>
<td>10:45–11:30</td>
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<tr>
<td></td>
<td>• Introduction to disciplinary domains and faculties</td>
<td>11:30–12:30</td>
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<tr>
<td></td>
<td>• Lunch</td>
<td>12:30–13:30</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Planning of panel visits</td>
<td>13:30–18:00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Welcome reception (by invitation)</td>
<td>18:00–20:00</td>
<td>Gustavianum</td>
</tr>
<tr>
<td>Tuesday</td>
<td>• Department visit incl. lunch</td>
<td>09:00–16:00</td>
<td>Department</td>
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<tr>
<td></td>
<td>• Internal panel meeting</td>
<td>16:00–17:00</td>
<td>or hotel</td>
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<tr>
<td></td>
<td>• Vice-chancellor’s Dinner (by invitation)</td>
<td>19:00</td>
<td>Norrlands or V-Dala nation</td>
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<tr>
<td>Wednesday</td>
<td>Department visit incl. lunch</td>
<td>09:00–16:00</td>
<td>Department</td>
</tr>
<tr>
<td></td>
<td>• Internal panel meeting</td>
<td>16:00–17:00</td>
<td>or hotel</td>
</tr>
<tr>
<td></td>
<td>• Panel Dinner</td>
<td>18:00</td>
<td>Hotel Gillet</td>
</tr>
<tr>
<td></td>
<td>• Internal panel meeting</td>
<td>19:00–</td>
<td>Hotel Gillet</td>
</tr>
<tr>
<td>Thursday</td>
<td>Department visit incl. lunch</td>
<td>09:00–16:00</td>
<td>Department</td>
</tr>
<tr>
<td></td>
<td>• Internal panel meeting</td>
<td>16:00–17:00</td>
<td>or hotel</td>
</tr>
<tr>
<td></td>
<td>• Panel Dinner</td>
<td>18:00</td>
<td>Hotel Gillet</td>
</tr>
<tr>
<td></td>
<td>• Internal panel meeting</td>
<td>19:00–</td>
<td>Hotel Gillet</td>
</tr>
<tr>
<td>Friday</td>
<td>• Panels give feedback to the research environments</td>
<td>08:20–10:00</td>
<td>Hotel Gillet</td>
</tr>
<tr>
<td></td>
<td>• Coffee break</td>
<td>10:00–10:30</td>
<td></td>
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<tr>
<td></td>
<td>• Panel Chairs and panel research-environment experts give</td>
<td>10:30–11:30</td>
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<tr>
<td></td>
<td>feedback to the management of disciplinary domains and faculties</td>
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<tr>
<td></td>
<td>• Lunch</td>
<td>11:30–12:30</td>
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<tr>
<td></td>
<td>• Panel Chairs give feedback to the university management and the KoF17 steering committee and working group</td>
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<tr>
<td></td>
<td>• Panels gather to sum up and plan for further work</td>
<td>13:30–14:00</td>
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<tr>
<td></td>
<td>• Coffee and departure</td>
<td>14:00</td>
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</tbody>
</table>
Clusters and evaluation units

<table>
<thead>
<tr>
<th>Panels Humanities and Social Sciences</th>
<th>Clusters/evaluation units</th>
<th>Visiting week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel 1</td>
<td>Department of Linguistics and Philology, Department of Modern Languages, Department of Scandinavian Languages, Department of English</td>
<td>20</td>
</tr>
<tr>
<td>Panel 2</td>
<td>Department of Art History, Department of ALM, Department of Musicology, Department of Archaeology and Ancient History, Department of Game Design, Department of Sociology, Department of Cultural Anthropology and Ethnology, Campus Gotland</td>
<td>19</td>
</tr>
<tr>
<td>Panel 3</td>
<td>Department of Economic History, Department of Social and Economic Geography, Department of Business Studies, Department of Informatics and Media</td>
<td>19</td>
</tr>
<tr>
<td>Panel 4</td>
<td>Department of Economics, Department of Statistics, Department of Psychology, Department of Food, Nutrition and Dietetics</td>
<td>19</td>
</tr>
<tr>
<td>Panel 5</td>
<td>Uppsala Centre for Russian and Eurasian Studies, Institute for Housing and Urban Research, Centre for Gender Research, Department of Peace and Conflict Studies, Department of Government</td>
<td>20</td>
</tr>
<tr>
<td>Panel 6</td>
<td>Department of Theology, Department of History, Department of History of Science and Ideas, Department of Philosophy, Department of Literature</td>
<td>19</td>
</tr>
<tr>
<td>Panel 7</td>
<td>Educational Sciences, Department of Law</td>
<td>19</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panels Science and Technology</th>
<th>Clusters/evaluation units</th>
<th>Visiting week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel 8</td>
<td>Department of Mathematics, Department of Information Technology</td>
<td>19</td>
</tr>
<tr>
<td>Panel 9</td>
<td>Department of Physics and Astronomy</td>
<td>19</td>
</tr>
<tr>
<td>Panel 10</td>
<td>Department of Engineering Sciences</td>
<td>19</td>
</tr>
<tr>
<td>Panel 11</td>
<td>Department of Chemistry – BMC, Department of Chemistry – Ångström Laboratory</td>
<td>20</td>
</tr>
<tr>
<td>Panel 12</td>
<td>Department of Ecology and Genetics, Department of Organismal Biology, Department of Cell and Molecular Biology</td>
<td>20</td>
</tr>
<tr>
<td>Panel 13</td>
<td>Department of Earth Sciences</td>
<td>19</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Panels Medicine and Pharmacy</th>
<th>Clusters/evaluation units</th>
<th>Visiting week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel 14</td>
<td>Department of Medicinal Chemistry, Department of Pharmaceutical Biosciences, Department of Pharmacy</td>
<td>20</td>
</tr>
<tr>
<td>Panel 15</td>
<td>Department of Medical Cell Biology, Department of Medical Biochemistry and Microbiology</td>
<td>19</td>
</tr>
<tr>
<td>Panel 16</td>
<td>Department of Neuroscience, Department of Surgical Sciences</td>
<td>20</td>
</tr>
<tr>
<td>Panel 17</td>
<td>Department of Medical Sciences, Centre for Clinical Research (Dalarna, Sörmland, Gävleborg, Västerås)</td>
<td>20</td>
</tr>
<tr>
<td>Panel 18</td>
<td>Department of Immunology, Genetics and Pathology</td>
<td>20</td>
</tr>
<tr>
<td>Panel 19</td>
<td>Department of Women’s and Children’s Health, Department of Public Health and Caring Sciences</td>
<td>20</td>
</tr>
</tbody>
</table>
Note: The panel visits took place during two consecutive weeks, in May 2017 according to the panel list below. A special pre-meeting for chairs and the panelists called “researchers on research” was held in February 2017.

<table>
<thead>
<tr>
<th>Site visits week 19 (8–12 May)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel 2</td>
<td>Department of Art History, Department of ALM, Department of Musicology, Department of Archaeology and Ancient History, Department of Game Design, Department of Sociology, Department of Cultural Anthropology and Ethnology, Campus Gotland</td>
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<td>Department of Mathematics, Department of Information Technology</td>
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<tr>
<td>Panel 13</td>
<td>Department of Earth Sciences</td>
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<tr>
<td>Panel 15</td>
<td>Department of Medical Cell Biology, Department of Medical Biochemistry and Microbiology</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Site visits week 20 (15–19 May)</th>
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</thead>
<tbody>
<tr>
<td>Panel 1</td>
<td>Department of Linguistics and Philology, Department of Modern Languages, Department of Scandinavian Languages, Department of English</td>
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