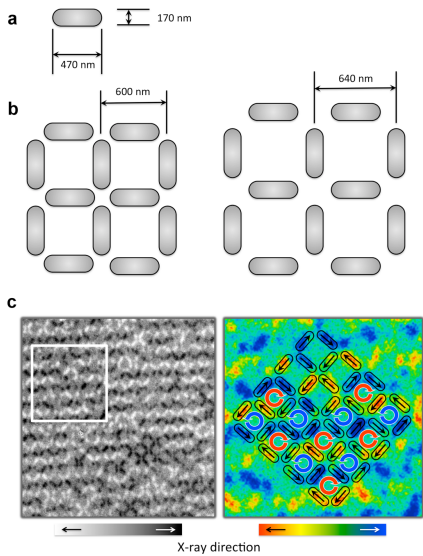


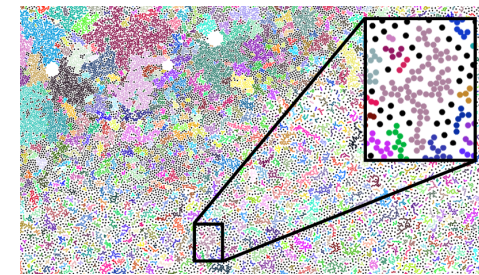
Materials Physics

Science

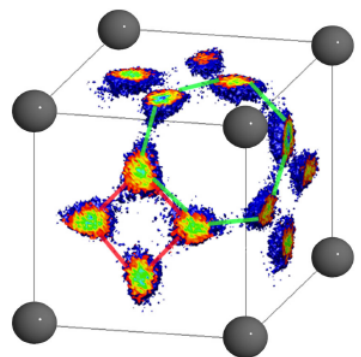


Low dimensional
Magnetism

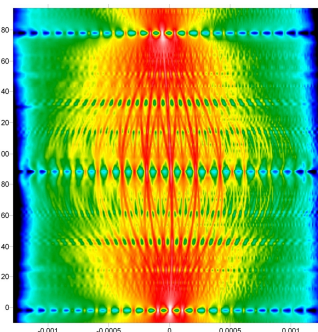
Soft matter



Plasmons + Magnetic nanostructure



Hydrogen in
materials



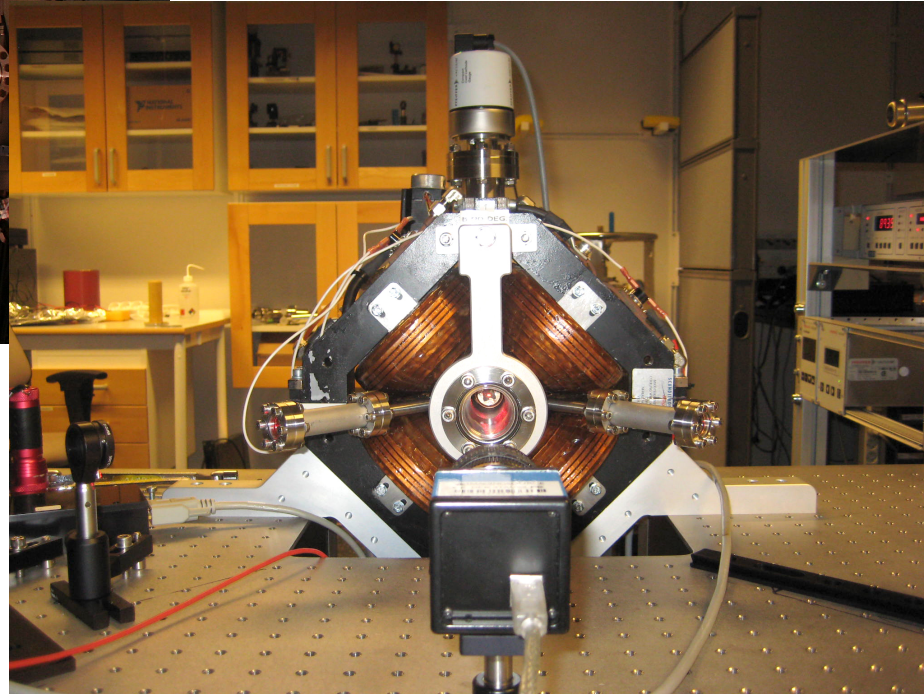
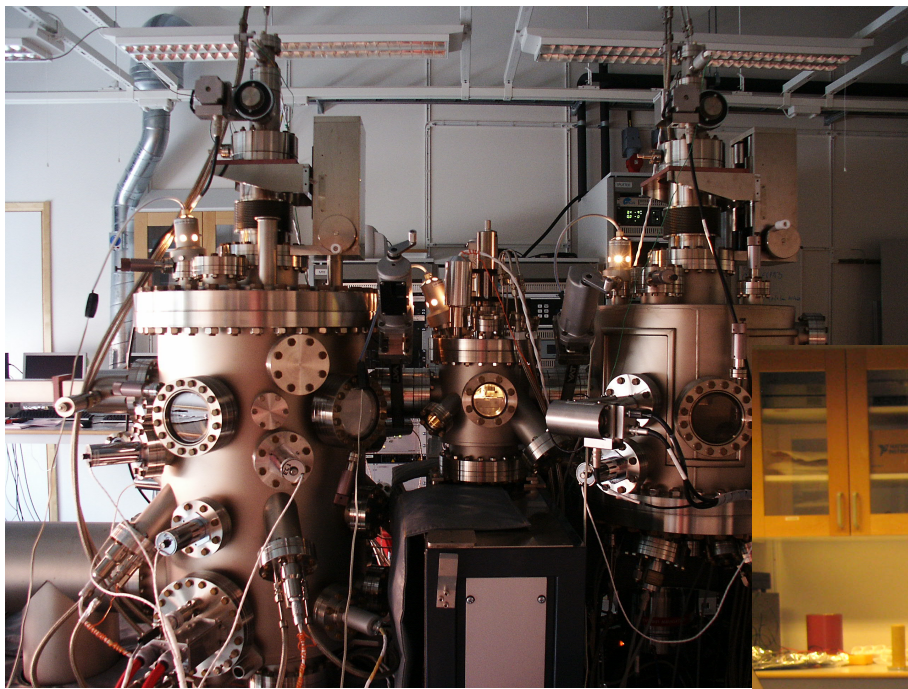
Scattering
Techniques

AM



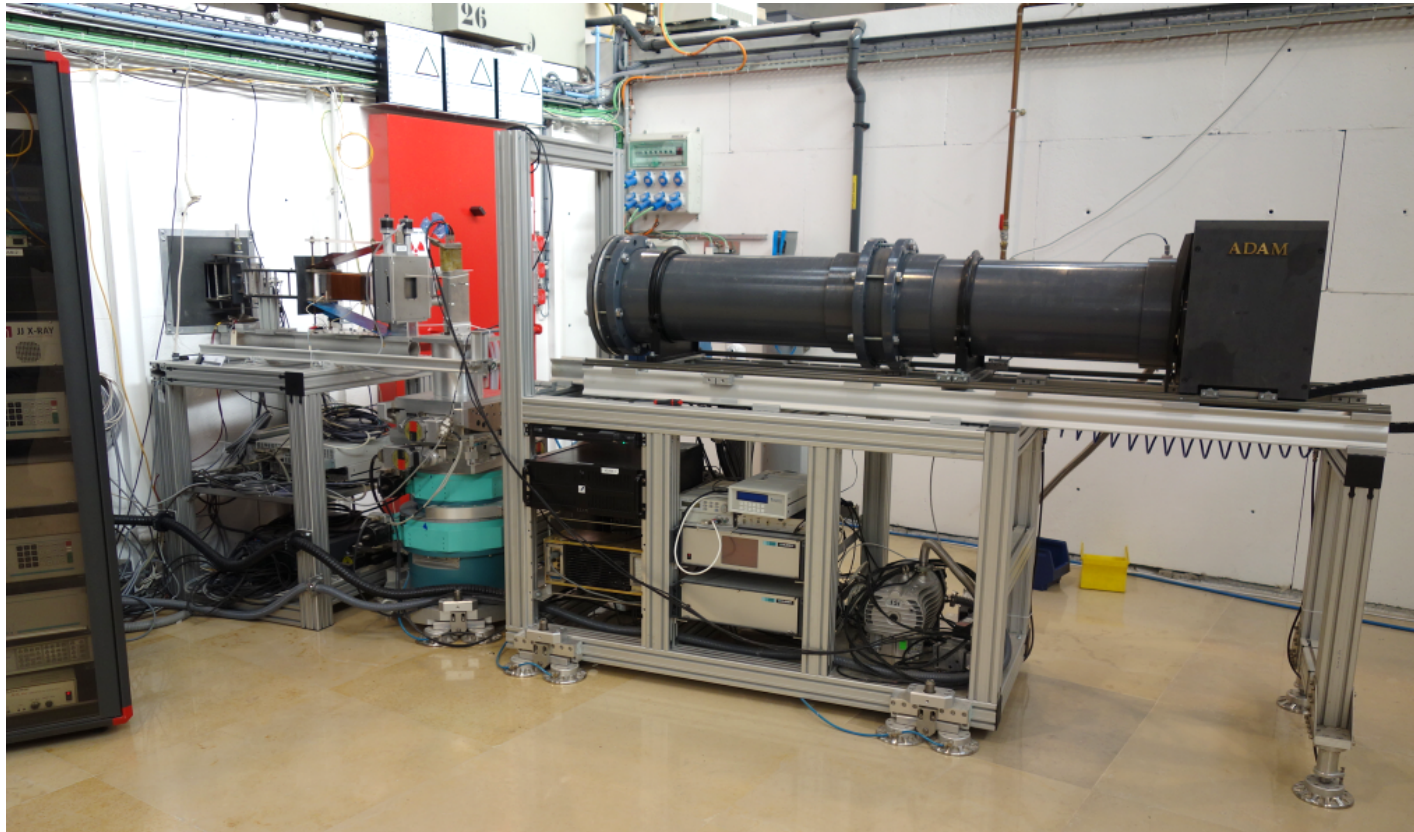
≈15 years

Scientific profile



Infrastructure (≈ 50 Msek)

National Infrastructure



Super ADAM @ ILL

Strong interaction with:

Materials Theory

Department of Chemistry-Ångström

Department of Engineering Sciences

Local collaborations

Resources

People

Uppsala

6 Seniors

4 Retired (active)

12 PhD students

4 Junior faculty (postdocs and researchers)

1 Technicians

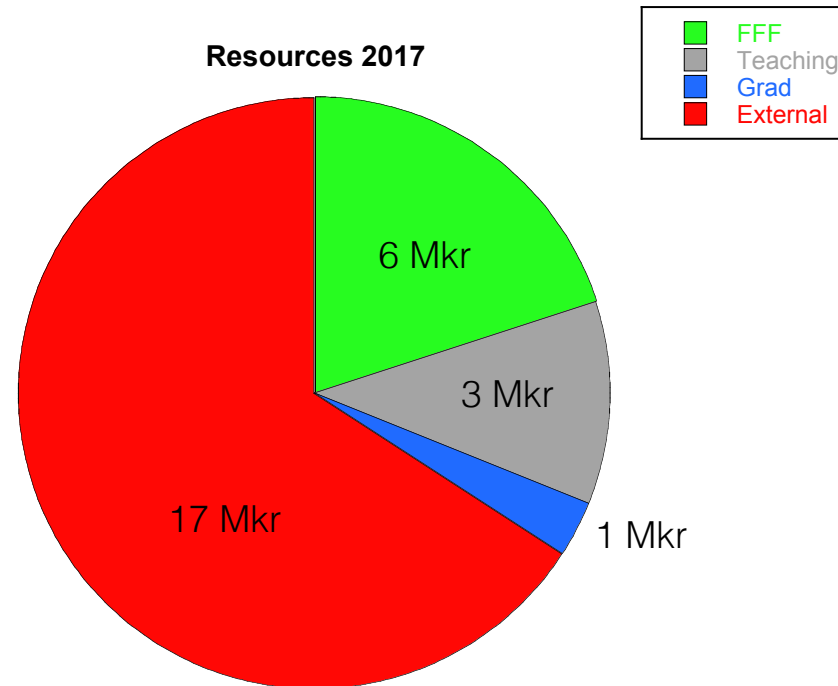
large number of guest, students, associated...

Grenoble

2 researchers (third currently employed in Lund)

1 Technicians

Financial resources 17



KAW, SSF, VR, STINT, SI, ..

Substantial development of courses!

Relevant Processes

Processes- research programme

Operation through delegation (example, Vasilios Kapaklis responsible for planning of teaching).

Program meetings (once a week), everyday business + short talks (focussing on students)

Division meetings: all senior staff members + technician and one student (approximately 3-4 times/year), Senior meetings (strategies, funding etc, approximately 3 times/year)

Supervision meetings (all supervisors and director of third cycle). Progress, challenges, contingency plans etc. (2 times/year)

Thematic meetings: Growth + general magnetism, Magnetoplasmonics, soft matter & hydrogen (2 times/month)

Planning & cleaning days

Processes- research programme

Operation through delegation (example, Vasilios Karaklis responsible for planning of teaching).

Program meetings (once a week), everyday business + short talks (focussing on students)

Division meetings: all senior staff members + technician and one student (approximately 3-4 times/year), Senior meetings (strategies, funding etc, approximately 3 times/year)

Supervision meetings (all supervisors and director of third cycle). Progress, challenges, contingency plans etc. (2 times/year)

Thematic meetings: General magnetism, Magnetoplasmonics, soft matter & hydrogen (2 times/month)

Planning days

Processes- Funding

Synchronise where to apply (reduce the risk of internal competition)

Actively seeking funding from/with industry

Actively seeking/supporting formation of constellations to increase competitiveness

Processes- Hiring/Leaving

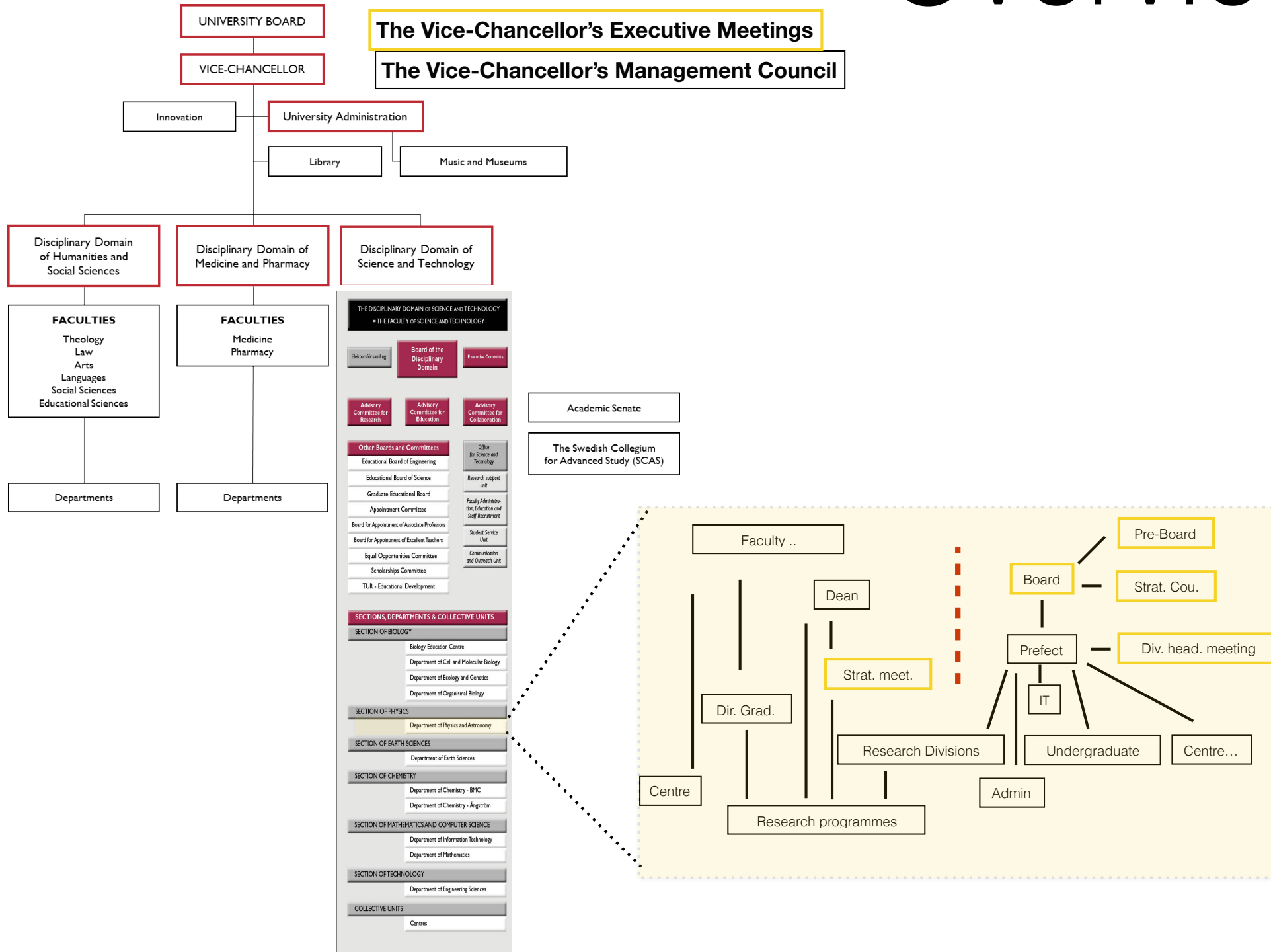
Increased care concerning recruitments of both junior faculties as well as PhD students. Has resulted in increased competitiveness/competition concerning recruitment is apparent.

Active promotion of career development through individual discussions as well as increasing awareness on different options (university, schools, industry, agencies)

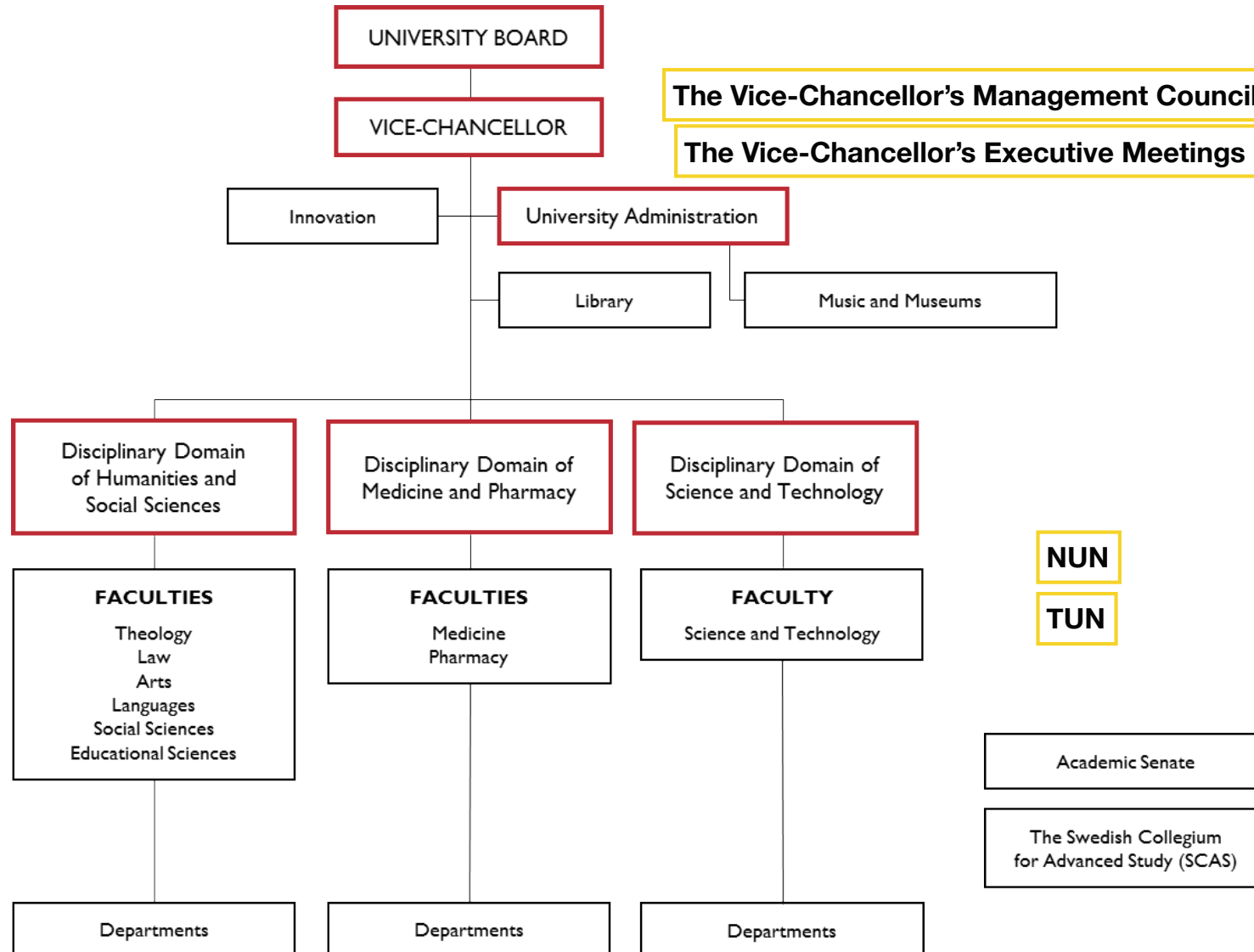
Organisation

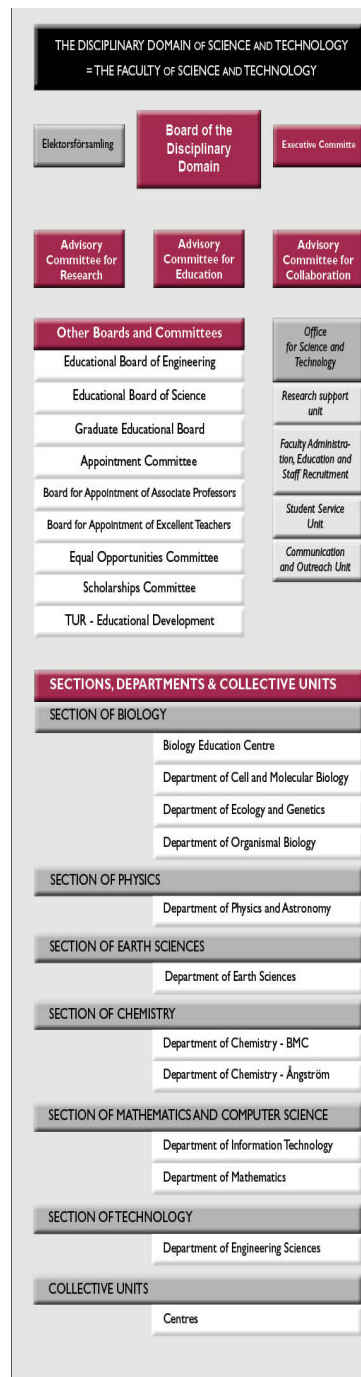
Research program = Division

Overview

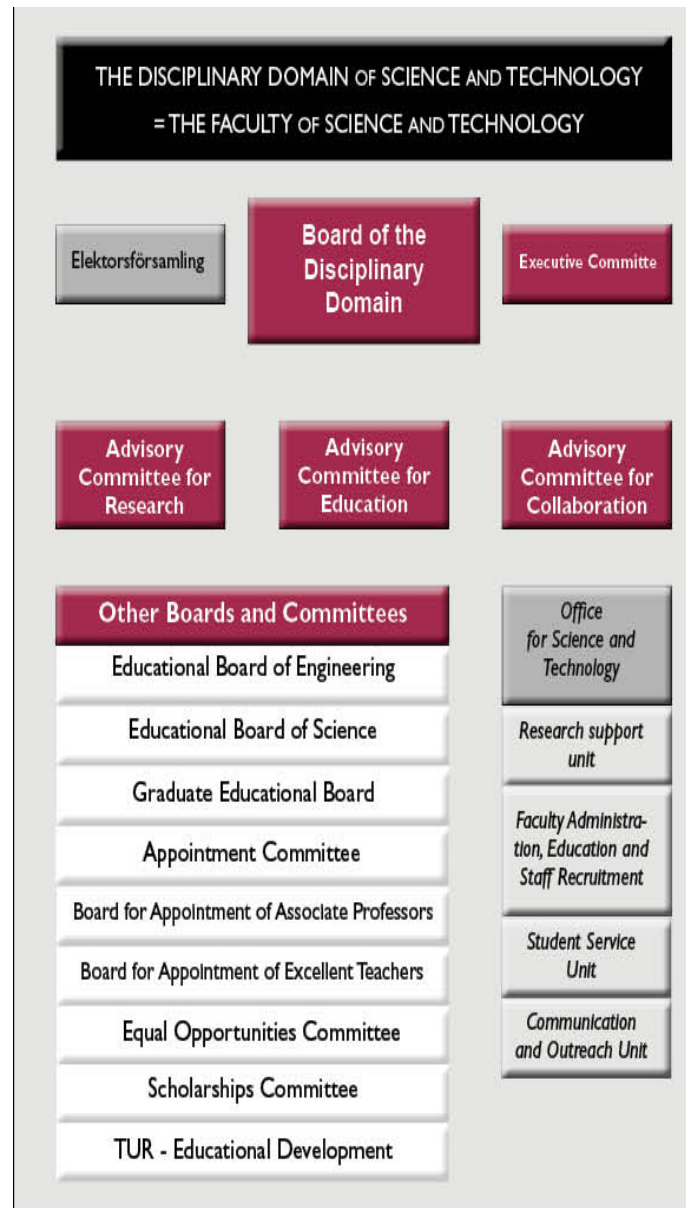
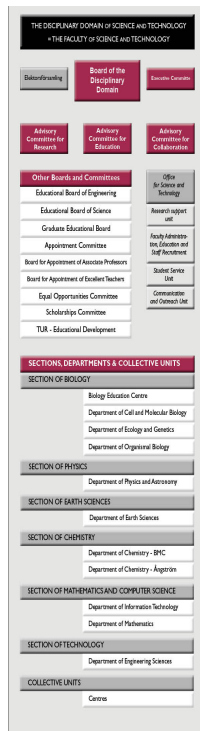
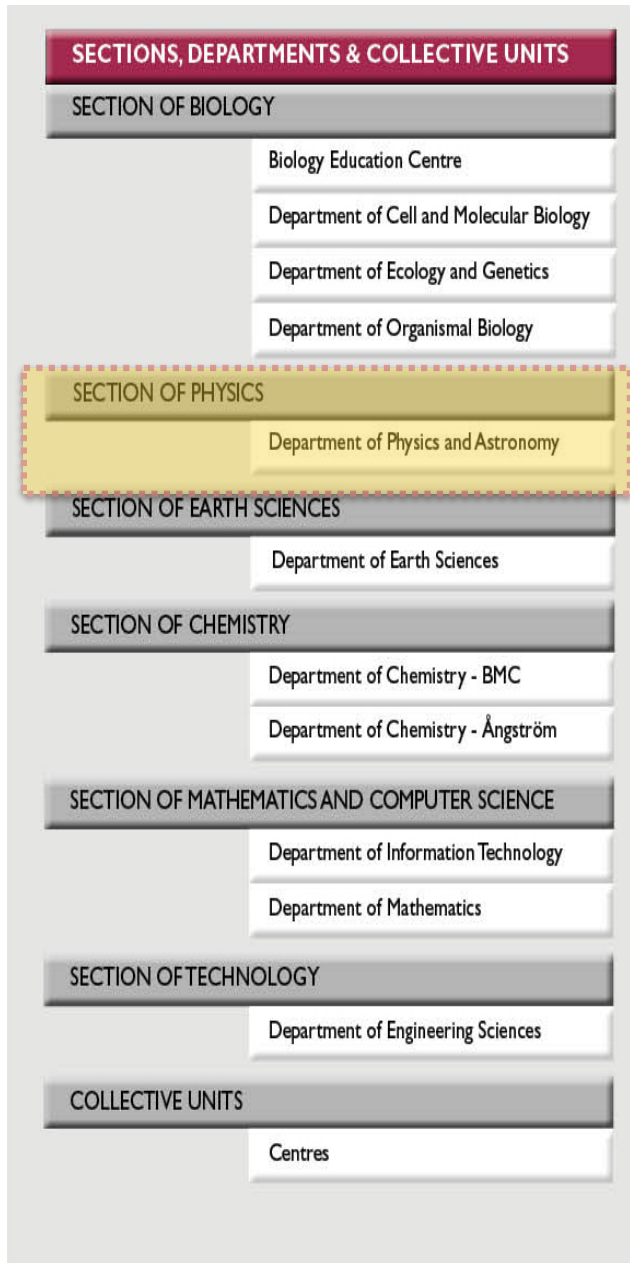


<http://www.uu.se/om-uu/organisation-styrning/organisation/organisationskiss/>





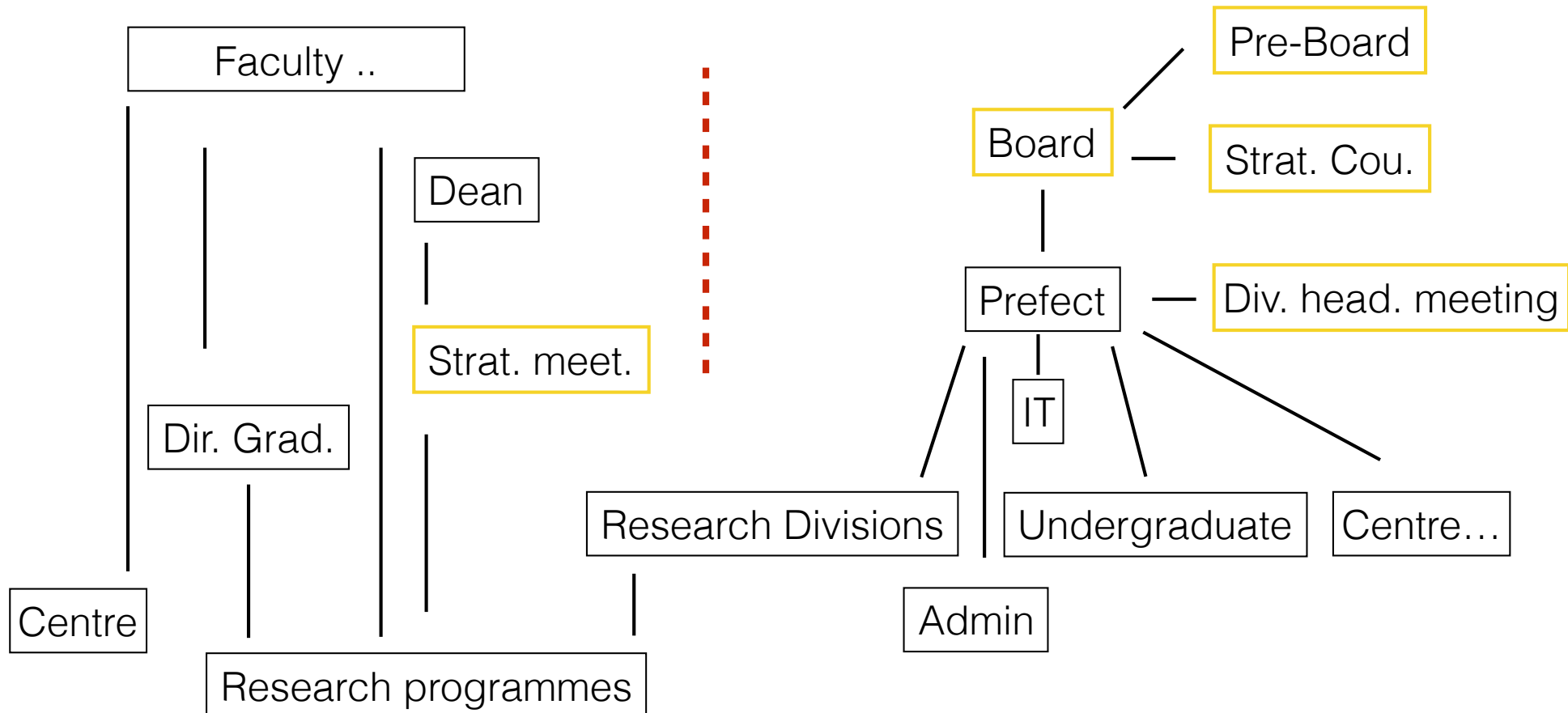
<http://www.teknat.uu.se/about-us/organisation/>



Department of Physics and Astronomy

Research & education

Administrative & education



Challenging for academic leadership!

Reflections (from self evaluation)

The internal organisation is complicated. Furthermore, at the university level, it can be described as a double-chain-of-command, which could be a contributing factor to the perceived inefficiency.

The board does not take any apparent role in research leadership.

Research leadership is in practice at the research programme/division level. This can be viewed as strength or a weakness, depending on which assumptions made. Prior to board meetings, there is a pre-board meeting. The board also has a strategic group (representative body) and different working groups to address specific questions concerning the operation of the department.

The research programs are a part of (or constitute) a division. Division leaders meet with the prefect weekly. No decisions are taken at these meetings (it is not a formal body).

Simplification of the organisation might be a fruitful step to take. It could increase the overall efficiency and enable better awareness of how decisions are made. This work has been initiated (working group).

Reflections (from self evaluation)

The connection between the research programs and the University as a body, is mainly through VP (plan for the coming year,

including allocated resources), “faculty meetings” and the presence of the dean at meetings of the division leaders with the prefect. The resources made available to research programs are defined in the “VP”, which can be viewed as a steering of the research activity in the departments/programmes. This steering can be described as stable, which allows the research divisions/programmes to make long term plans for the utilisation of resources. This includes hiring as well as investment in infrastructure.

The overall strategies of the University are most forcefully implemented by controlling access to funding schemes such as KAW and infrastructure at the Research Council as well as approval of recruitments. The steering can therefore be described as a mixture of micro- and macro-management. This approach can be viewed as strength or a weakness depending on which assumptions are made. As a consequence, the priorities are mostly done at the program level.

One of the most important strategic tools available is the choice of research directions of the programmes. No mechanism is identified which would allow an educated choice of new directions. Thus, most of the changes are taking place in a close to an adiabatic manner. The positive side of this choice (or the absence of choice) is the relative stability from the employee point of view. The downside is a loss of organisational capability to swiftly steer activities to meet changes in demand.

Autonomy of research programs!

other Reflections

(from self evaluation)

Reflections (from self evaluation)

Here I solely describe the funding strategies applied within the material physics program.

First of all, part of the faculty funding is reserved as a buffer to cover for changes in the external funding. This has allowed us to be more aggressive in hiring both students and postdocs, resulting in a strong increase in the impact of the research activities. Furthermore, we have a collegial approach

concerning applications for funding, forming constellations within the programme as well as with other relevant research teams. This approach has served us well and given rise to strong interactions both within the department as well as with programs within department of technology and department of inorganic chemistry. The overall funding is good for the programme and we are still expanding. Still, here is room for improvements and we have on-going discussion on how we can increase the synergy of the staff members.

Adaptability is required, flexibility!

Reflections (from self evaluation)

The age structure within the research program is appropriate, which allows for long term planning. Recently we have initiating

recruitment within the field of neutron scattering (in combination with either magnetism or hydrogen) to further strengthen the expertise within the area as well as to meet the foreseen needs on manpower. This is possible due to the long-term engagement on neutron infrastructure (Super Adam).

The highest priority with respect to renewal is a recruitment of (a) lecturer within the field of modern optics, with specialisation on plasmons and magneto-optical effects.

The synergy effect with the thin film magnetism activity, meso-magnetism and the recently started activity within the field of plasmons is judged to be high. The recruitment will be initiated immediately after identifying possible sources for funding.

Recruitment at the PhD level has undergone substantial changes during the last years. First of all, the number of applicants has been steadily rising and the last announced position attracted 94 applicants. The evaluation process has also been developed with the aim to ensure successful selection of the “best” candidate. The process consists of three steps: Evaluation of the written applications, interviews of the 5 top candidates and finally critical assessment of the expected capabilities of the candidates. The evaluation includes e.g. results from the interviews as well as the experience from postgraduate students/postdocs from lab visits.

The need for renewal is omnipresent!

Reflections (from self evaluation)

The department of physics is a new organisation. This implies both shortcomings and possibilities.

One of the ideas behind the formation of the new department was to strengthen the intellectual interactions, with the ambition to strengthen both the teaching and research activities through collegial interactions. In principle, the larger department should provide a more efficient use of resources and to provide broader/stronger collegiality among staff members. We have probably not reached the full potential impact of these changes.

One of the apparent consequences of the ease of communication is the endless flow of information. Thus, the everyday life of staff members is characterised by “sorting/extracting relevant information” from a number of information channels. It can be argued that we are on the verge of an information overflow, with well-known consequences. In this context, the webpages of the university are a good example of inefficient use of tools in the digital era. Fortunately there have been substantial efforts to improve the situation, while substantial work remains to be done.

We are constantly working on improvements, within the research programme, aiming to strengthen our core activities: research and teaching.

New pedagogical approaches are implemented and developed and we still see a large potential for improvements. The formalisation of actions can in the current context be a mixed blessing. An elastic framework is therefore likely to serve us best, reflecting the preferences and ideas of the staff members. Without flexibility, little or no development can emerge.

Focus on the core activities!

Reflections (from self evaluation)

Infrastructure of national interest and infrastructure of local interest. The priority and methodology concerning national infrastructures can be questioned, which we will not do here as it is not within the scope of the evaluation. The government provided funding for infrastructures at Swedish universities, through the Research council. At Uppsala, these resources were distributed without any concern of the needs for infrastructure. Thus, currently there is no dedicated source for covering the cost of infrastructure at the University. Suggestions to remedy the problem by taxation of the “programme resources” might be the worst possible path. This would create increased administration at different levels and give rise to lower efficiency in the use of resources as compared to other alternatives. For example, there is a good possibility to purchase equipment (either by a single research group or a constellation of research groups) through a “loan”. This is possible as the University own capital is abundant and the depreciate can be covered by operation budgets of the team(s). Thus, the probability of opportunistic use of resources is lower as compared to the alternative.

Infrastructure (administrative support). The perceived efficiency of the university administration has decreased. The

changes in the mode of operation, i.e. the changes of the role of local administrators and administrators at the central administration, can be used as an example of perceived decrease in efficiency. This includes the handling of salaries, travel etc. Furthermore, there is a perceived increase of administrative burden on academic staff members. If the perceived change is real or imagined cannot be addressed within the current response.

Focus on the core activities, optimise support!

Reflections (from self evaluation)

We have a long tradition of interacting with external actors. This includes both industrial partners as well as different outreaching efforts.

Examples of outreach can be seen at: <https://neutronia.wordpress.com> , <https://vimeo.com/51624209>

and example of a spin off company can be found at <http://olssonruby.com> and finally, strategic partnership through common patents, see <http://www.exmet.se>

Outreach needs to be strengthened

Challenges

“Governing” efficiency (Occam’s razor, at all levels)

Efficiency in routines & support (travel expenses, purchasing equipment and services ...(centralisation has pros and cons))

Renewal & gender balance

Outreach (new initiatives!)