

## **The Swedish Research Council - Research-policy issues**

Like other state providers of research funds, the Swedish Research Council is an advisor to the Swedish Government on research issues. In addition, the Council has a strategic role as advisor to the Government on issues relating to research policy. As such, it has submitted to the Government its research strategy for 2005-2008.

The Swedish Research Council monitors and evaluates the conditions for basic research in Sweden, ongoing research, the researchers involved, and the methods of research funding and their results. Based on this information, the Swedish Research Council suggests strategies for:

- conduct of basic research in Sweden
- funding of research
- organisation of research.

The Swedish Research Council participates in the Government's research-committee meetings and informs the Government on current research-related bills. The Government may assign the Swedish Research Council to investigate specific issues. The Swedish Research Council also explores issues related to ethical assessment of research.

The Council's secretariat includes a special section responsible for research-policy issues, with overall responsibility for strategy and analysis – the remit assigned to it by the Government. Alongside strategic and analytical issues of a national and international nature, this department also deals with matters concerning ethics, gender equality and gender research.

The Scientific Councils and the Committees for Education Science and Research Infrastructure are also engaged in research-policy issues.

## **The Council's research strategy**

In November 2003, the Swedish Research Council submitted to the Government its research strategy for 2005-2008. This includes the strategic documents of the various Scientific Councils and Committees.

In the strategy, the Research Council stressed the need for substantially increased funds to strengthen basic research in Sweden. Project support will remain the Council's main form of research funding, as it has been to date. But the Council is also engaged in strategic research funding, such as grants specifically for areas where research needs strengthening; special support for young researchers; and special funding for strong research environments (more on these below).

In its research strategy, the Research Council also emphasised its readiness to administer faculty support on a competitive basis if the Government advances funds for this purpose. This support would give the higher education institutions (HEIs) clear incentives to invest in basic research of top quality. Faculty support of this kind was also proposed in *A National Strategy for Higher Education, Research and Innovation*, the joint communication submitted to the Government in October 2003 by the Council and other government research funders, HEIs, the Royal Swedish Academy of Sciences (KVA) and the Royal Swedish Academy of Engineering Sciences (IVA).

## **Strong research environments**

### **Linnaeus Grant and Berzelius Centres – new forms of support for higher education institutions**

In June, as a result of a special initiative in *Research for a Better Life*, the latest bill on research policy (Govt. Bill 2004/05:80), the Swedish Research Council announced two new forms of long-term support for strong research environments.

One, announced jointly with Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning (Formas), is known as the 'Linnaeus Grant'.

The other, announced with the Swedish Agency for Innovation Systems (VINNOVA), is for what are called 'Berzelius Centres'. Only HEIs are eligible for these two forms of support. They may be seen as a supplement to the HEIs' own basic resources, the research councils' support for projects initiated by researchers and the other support provided by VINNOVA.

At the same time as the Linnaeus Grant and Berzelius Centre support was announced, VINNOVA also announced its support within the framework of the existing 'VINN Centre of Excellence Centre' support. During autumn 2005, the Swedish Council for Working Life and Social Research (FAS) also announced new funds for 'FAS Centres', i.e. strong research environments.

The aim of these initiatives is to generate national competition among the HEIs for funding of research that is internationally competitive. The support concerned is expected to influence HEIs' strategic priorities and exert a structural impact on the research and innovation systems.

## **Support for research groups**

In February 2003, the Swedish Research Council submitted to the Government a report on support for strong research environments. In this report, the Council stated its intention to create and strengthen research environments of the highest quality, especially through

- support for research in various disciplines at HEIs, rather than for special new research institutes
- major, long-term framework grants for the best research groups in the Council's annual call for project-fund applications
- support for research groups cooperating on a geographical basis
- incentives for the HEIs to give priority to the emergence of high-class research environments in distributing their faculty funds
- continued support through special funds for young researchers
- increased monitoring of quality in Swedish basic research.

Given these means, the Council has now allocated special support for strong research environments comprising SEK 220 million over five years, starting in 2005. (This support should not be confused with the new Linnaeus Grants and support for Berzelius Centres, which are open to HEIs for investing in the strong research environments of their choice; see above.)

## **General issues of research policy**

### **Analyses and monitoring**

Long-term accumulation of knowledge regarding analysis and monitoring of research and research funding is under way at the Research Council. This work is carried out in the section for research-policy issues, but also in other parts of the Council. The Council cooperates with other funding providers in analytical matters. For example, the Council and VINNOVA have jointly purchased a publication database in which publications in Sweden and abroad can be studied.

### **Evaluations**

The Research Council is maintaining the long tradition of international evaluations of various research fields. These evaluations are arranged by the Scientific Councils and Committees, and performed by groups of international researchers in the fields concerned (see the respective Council or Committee). In addition, evaluations of a more general or specialist nature are arranged by the section for research-policy issues. One example from 2004 is the Government assignment of analysing Swedish research on the impact of electromagnetic fields on health.

### **International collaboration**

The Research Council has adopted an action plan for its international activities. The Council's international work is carried out in most of its departments and sections. The Council represents Sweden and Swedish research in some 30 international research organisations and joint research projects.

Through the European Heads of Research Councils (EUROHORCs), European Science Foundation (ESF) and other bodies, the Research Council plays an active part in European research policy and its implementation.

The Research Council also expresses its views to the Government on the wording of the EU Framework Programmes for Research and Development.

### **Nordic Collaboration**

[Committees for Nordic Research Councils, NOS](#)

(NOS-HS, NOS-M, NOS-N)

[Nordforsk](#)

[Nordiskt optiskt teleskop, NOT](#)

### **European Collaboration**

[EU Framework Programme](#) (ERA-NET, European Research Council, ERC)

[European Incoherent Scatter Facility, EISCAT](#)

[European Laboratory for Particle Physics, CERN](#)

[European Molecular Biology Conference, EMBC](#)

[European Molecular Biology Laboratory, EMBL](#)

[European Science Foundation, ESF](#)

[European Southern Observatory, ESO](#)

[European Synchrotron Radiation Facility, ESRF](#)

[European University Institute, EUI](#)

### **Global Collaboration**

[Bilateral Agreements](#)

[Global Biodiversity information facility, GBIF](#)

[Heads of International Research Organisations, HIROS](#) (Medicine)

[Integrated Ocean Drilling Programme, IODP](#)

[International Litosphere Program, ILP](#)

[International Stem Cell Forum, ISCF](#)

[International Agency for Research on Cancer, IARC](#)

[Swedish Research Links](#)

[Unesco Science Programmes](#) (IOC, IGCP, IHP, MOST, MAB)

[World Climate Research Programme, WCRP](#)

### **Work on ethical issues**

Under its directives, the Research Council must take the initiative in pinpointing ethical issues relating to research, and also disseminate information on issues of research ethics. The Board of the Council has a general responsibility for tackling matters concerning ethical issues in research. An Ethics Committee appointed by the Board prepares general ethical issues for its consideration. There are also special working groups for ethical issues in two disciplines.

The Research Council can lay down guidelines that are binding on applicants for its research grants. Thus, for example, the Board has drawn up ethical guidelines on human stem-cell research (in 2001) and guidelines on how to report financial interests in research (in 2003). At the request of the HEI concerned, an expert panel under the Ethics Committee examines matters where research misconduct is suspected.

A new law on ethical review of research relating to human subjects, and how this review should be arranged, has been in force since 1 January 2004. Six regional ethical review boards and a central Ethical Review Board, located adjacent to the Secretariat of the Research Council, have been set up. Projects that receive support from the Council and relate to research on humans must be examined by these review boards, while projects involving animal experimentation are scrutinised by committees for laboratory animal science.

The Research Council is also responsible for the CODEX website ([www.codex.vr.se](http://www.codex.vr.se)), a collection of links and overviews relating to research ethics.

## **Gender equality**

In line with the Government's established targets and guidelines, the Swedish Research Council has adopted a gender-equality strategy. The Council is to attain a more even gender distribution within its own review organisation and in its allocation of research support, and generally work for increased gender equality in the world of research.

Since the Research Council's inception in 2001, the proportion of women in its review groups has risen to 34%. In 2004, the approval rate for research support was lower for women than for men in all subject areas except Humanities and Social Sciences. The Council will monitor its allocation of research support with respect to gender equality.

## **Promotion of gender research and gender perspectives**

The Research Council's remit is to work for gender perspectives to be reflected in research and to support gender research.

An interdisciplinary committee appointed by the Board has a proactive and policy-creating role. It identifies problems of gender research, tests solutions and works on issues relating to scientific quality and internationalisation of gender research. This committee also seeks to promote initiation of gender research in fields that lag behind.

Under a Government decision, the Swedish Research Council's Board has at its disposal at least SEK 10 million a year to finance gender research and research with gender perspectives. Applications for these funds are prepared by the various Scientific Councils and the Committee for Educational Science.

Read more in the document "Gender Research in Brief", which was compiled by the Council's Committee for Gender Research.

## **Cooperation with other research funders**

The Research Council cooperates in various forms with other providers of research funds, with higher education institutions and with other bodies in the research system. Cooperative groups of a more permanent nature exist to deal with matters of common interest.

## **Research Infrastructures**

The Committee for Research Infrastructures (KFI), in cooperation with experts in various fields, is drawing up a long-term strategic plan - a roadmap - as a help in the over-all aim to give Swedish researchers access to relevant research infrastructure. This may mean taking the initiative for new infrastructure projects, as well as developing or phasing out existing facilities. It may also mean that Sweden takes part in international joint projects. The roadmap is to have a perspective of approximately 10-20 years and be updated annually. The first national roadmap (Vetenskapsrådets guide till infrastrukturen) for research infrastructures was launched in the summer of 2006. A summary of the key conclusions in English can be ordered or downloaded.

Other tasks of the KFI are to carry out continuous evaluation of needs and uses of infrastructure for research, and to monitor the use of approved grants.

### **Swedish research infrastructure**

Through the Swedish Research Council, Sweden supports MAX-lab (the Swedish National Electron Accelerator Laboratory for Synchrotron Radiation Research, Nuclear Physics and Accelerator Physics), the Onsala Space Observatory (the Swedish National Facility for Radio Astronomy), databases for longitudinal studies, microfabrication laboratories, the Swedish University Computer Network (SUNET) and the Swedish National Infrastructure for Computing (SNIC).

At MAX-lab in Lund, experiments in accelerator physics, synchrotron radiation and nuclear physics are under way. The Onsala Space Observatory is Sweden's leading facility for radio astronomy and a key party to the planning of experiments at the European Southern Observatory (ESO) in Chile.

## International cooperation

Swedish participation in several international organisations and facilities for research infrastructure is dealt with by the Research Council's Committee for Research Infrastructures (KFI). Sweden is, for example, a member of CERN, the European Organization for Nuclear Research (with the world's largest particle physics laboratory); EMBL and EMBC, the two organisations for molecular biology; the European University Institute (EUI); the European Southern Observatory (ESO); the European Synchrotron Radiation Facility (ESRF); and the Integrated Ocean Drilling Program (IODP). The KFI also represents Sweden in the joint organisation ESFRI, the European Strategy Forum on Research Infrastructures, in which delegates from some 30 European countries are working to strengthen Europe as a research arena by drawing up, for example, a common roadmap for European research infrastructure.

## Future infrastructure projects

Current work on new infrastructure includes projects involving facilities for register research; the XFEL free-electron laser in Hamburg; the International Facility for Antiproton and Ion Research (FAIR), an accelerator complex for nuclear and hadron physics, in Darmstadt; the next-generation European Spallation Source and its possible location in Sweden; the European Molecular Biology Laboratory (EMBL) node in Sweden, specialising in molecular medicine; the MAX IV next-generation synchrotron radiation facility in Lund; and the ITER fusion reactor. The Committee for Research Infrastructures is engaged in discussions and negotiations concerning these facilities.

## Links to partner organisations

[CERN](#) - European Organization for Nuclear Research  
[ECORD](#) - European Consortium for Ocean Research Drilling  
[EISCAT](#) - European Incoherent Scatter Facility  
[EMBC](#) - European Molecular Biology Conference  
[EMBL](#) - European Molecular Biology Laboratory  
[EMBO](#) - European Molecular Biology Organization  
[ESFRI](#) - European Strategy Forum on Research Infrastructures  
[ESO](#) - European Southern Observatory  
[ESRF](#) - European Synchrotron Radiation Facility  
[ESS-Scandinavia](#) - European Spallation Source Scandinavia  
[EUI](#) - European University Institute  
[FAIR](#) - Facility for Antiproton and Ion Research  
[GBIF](#) - Global Biodiversity Information Facility  
[IARC](#) - International Agency for Research on Cancer  
[ILL](#) - Institut Laue-Langevin  
[IODP](#) - Integrated Ocean Drilling Program  
[ISIS](#) - the world's leading pulsed neutron and muon source (formerly the Spallation Neutron Source)  
[ITER](#) - an international fusion-energy research project  
[JET](#) - Joint European Torus (the world's largest nuclear fusion research facility)  
[MAX-lab](#) - Swedish National Electron Accelerator Laboratory for Synchrotron Radiation Research, Nuclear Physics and Accelerator Physics  
[NORDSIM](#) - laboratory located in the Laboratory for Isotope Geology at the Swedish Museum of Natural History  
[NOT](#) - Nordic Optical Telescope  
[Onsala Space Observatory](#) - the Swedish National Facility for Radio Astronomy  
[SNIC](#) - Swedish National Infrastructure for Computing  
[SUNET](#) - Swedish University Computer Network  
[XFEL](#) - the X-Ray Free-Electron Laser

## Humanities and Social Sciences

The Scientific Council for Humanities and Social Sciences works for a substantial increase in grants for improved use of existing research expertise.

## Ethics

The applications for which funding is proposed are examined by the Ethics Group of the Scientific Council

concerned. Various ethical rules, relating to integrity issues in particular, must be fulfilled in order for grants to be approved.

### **International collaboration**

In Humanities and Social Sciences the Research Council has extensive international contacts, especially with other research funders. Joint projects are under way within, for example, the framework of various ERA-NETs (European Research Area networks), the European Science Foundation (ESF), the European University Institute (EUI) and the Joint Committee of the Nordic Research Councils (NOS).

## **Medicine**

The strategy for the Scientific Council for Medicine is to work for a sharp rise in government funding of medical research; increased support for the qualitatively best research; recruitment and reinforcement of researchers; cooperation and coordination of resources; gender equality in medical research; and greater knowledge of medical research and its findings among the public.

### **International cooperation**

The Swedish Research Council supports international medical research collaboration through grants. It serves as a representative in various European research organisations and cooperates with research councils in other countries. Jointly with foreign fund providers, the Council administers a programme in stem-cell research.

The Council also provides grants for international symposiums held in Sweden, and for researchers for their work outside Sweden.

Its collaboration takes place through such organisations as the International Agency for Research on Cancer (IARC), the Joint Committee of the Nordic Research Councils for Medical Research (NOS-M), the European Science Foundation (ESF), the EU's Framework Programmed for Research and Development, the Heads of International Research Organisations (HIROs) and the International Stem Cell Forum (ISCF).

### **Ethics**

The Scientific Council for Medicine deals, above all, with ethical issues in research where human beings or experimental animals are included in study populations. The working group for ethics in the Scientific Council investigates ethical issues and serves as a policy body in matters of research ethics. The Committee for Laboratory Animal Science, part of the Scientific Council for Medicine, is a national policy body.

## **Natural and Engineering Sciences**

Knowledge of natural science and technology confers an understanding of the world around us and is the foundation of Swedish industry's development and national economic growth. This knowledge is also a key element in the culture of our society and a precondition for modern social development.

The Scientific Council for Natural and Engineering Sciences works for increased government support for basic research in these disciplines. The Council also works for increased breadth, renewal and gender equality in research, without compromising on quality.

### **International cooperation**

A high proportion of frontline research takes place through joint international projects. Collaboration in the EU is particularly important to Sweden. The Council supports several international facilities and research organisations in the fields of Natural and Engineering Sciences. Swedish researchers are thereby given access to vital equipment and experts while offering their expertise as a resource in international cooperation.

## Evaluations

The required expansion must rest on a sure foundation of evaluation. The Scientific Council continuously performs national and international evaluations of the effects of its own work in assigning research priorities.

## Educational Science

The function of the Committee for Educational Science is to promote research of high scientific quality that is relevant to teacher training and professional educational activity. It involves research on learning, knowledge formation, education and teaching.

The Committee allocates funds for research projects, researcher networks and doctoral programmes. In addition, it distributes travel grants to encourage international exchange among researchers. To draw attention to research areas that are lagging behind, special programmes have been set up and a special initiative concerning research closely based on practical work is under way. To disseminate information and encourage discussion on the field of Educational Science, the Committee has initiated overviews and surveys to highlight a few topics connected with its remit. Every autumn, the Committee also holds a conference in some topical field.

General objectives are to work for long-term development of this research field and to make research support permanent.

## Ethics

Responsibility for assessment with respect to research ethics rests on the applicant. For those applications that are granted, certificates of approval from the regional ethical review boards may subsequently be required.

International cooperation

To boost participation in international contexts, the Committee for Educational Science has announced funds to invite foreign guest researchers to Swedish higher education institutions (HEIs), and also embarked on cooperation with the INRP (*Institut National de Recherche Pédagogique*) in Lyons, France.

## Cofunding

One starting point in the allocation of funds for research in Educational Science should, according to the official appropriation document for 2003, be 'that participating higher education institutions should jointly contribute their own resources corresponding to at least one-third of the funds received from the Committee for Educational Science. This cofunding may include existing research if this can be associated with projects in Educational Science.' Every HEI that has successfully applied for funds for doctoral programmes or individual research programmes and projects should submit a special report on how the institution has measured up to the cofunding requirement. The Swedish Research Council distributes annual questionnaires to the HEIs concerned.