



ACADEMY OF FINLAND ANNUAL REPORT 2013:
A YEAR OF STRENGTHENING EXPERTISE
AND COOPERATION



ACADEMY OF FINLAND



YEAR 2013

PRESIDENT'S REVIEW OF 2013: EXPERTISE AND COOPERATION IN SCIENCE POLICY

2013 was a year of exceptional importance for the Academy of Finland. The international evaluation of the Academy was completed and the final report published on 3 September 2013. Just two days later, the Government passed a resolution to reform the system of government research institutes and research funding. The overhaul has profound implication for the Academy's role and position.

The international evaluation paints a very positive picture of the Academy. Both the effectiveness and quality of our work are rated as excellent, and the organisation's cost-effectiveness is described as outstanding. It is particularly important that the Academy's application, evaluation and decision-making processes meet with the approval and satisfaction of researchers in the field. The final report makes valuable recommendations, including the suggestion that the Academy should have a broader science policy role. This is a challenge we are happy to take on.

The reform of government research institutes will also involve the creation a new funding instrument for strategic research. Administered by the Academy, funding under this instrument is intended for research designed to support the regeneration and competitiveness of Finnish business and industry, workplace development as well as the development of the public sector.

The Academy's funding stream in 2013 was again quite diverse. The overall volume of research funding increased slightly from the previous year to 335 million

euros. This was thanks to the Finnish Government's third supplementary budget in which the Academy was given an additional 20 million euros to support knowledge-based growth. The funding was allocated to facilitate research excellence and to launch new research programmes, specifically the programmes on Arctic research and mineral resources and substitution. The first programme calls were announced in late 2013. The message from the supplementary budget is loud and clear: at times of economic stringency there is a particularly strong commitment to support scientific research.

On 4 June 2013, the Board of the Academy nominated 14 new Centres of Excellence for the 2014–2019 term. The selection process made it amply clear that there are several world-class research units in Finland. This is vitally important for Finnish science and research: internationally attractive research environments are an absolute necessity for success in what is an increasingly global research community.

Research programmes are one of the most prominent of the Academy's funding instruments. Almost 18 million euros was awarded in total to two research programmes, Synthetic Biology (FinSynBio) and The Future of Learning, Knowledge and Skills (TULOS). Both of these programmes address highly topical themes, and they can be expected to have wide-ranging impact. Another momentous decision was the launch of the ten-year ICT 2023 programme together with Tekes, the Finnish Funding Agency for Innovation. Research programmes will continue to depend on multidisciplinary and international cooperation in the future as well, but serious thought must be given to their relationship to the new funding instrument for strategic research.

Funding from the Academy is in ever greater demand. The number of applications received was again up on the previous year. The demand for researcher-driven funding is particularly strong. With so many excellent applications being left without funding, the situation is far from satisfactory either from the applicants' or from the funding agency's point of view. On the other hand, of course, this goes to show that the research community in Finland is highly active and doing a good job.

A significant new opportunity is opening up in European science policy with the launch of Horizon 2020, the EU's new Framework Programme for Research and Innovation. In order to succeed in the international competition for funding, Finnish researchers must network and collaborate closely both at home and abroad. The Academy gives every possible support to achieving this goal.

During the past year, the Academy's cooperation with its stakeholder groups has continued to deepen. Cooperation and ongoing dialogue with universities and research institutes as well as with the Ministry of

Education, Science and Culture is crucial to developing the Academy's role. We will continue our efforts to provide ministries and universities and research institutes with a broader and more accurate picture of the state of Finnish scientific research and its trends in development through the 2014 review of the state of scientific research, for instance. During 2013, cooperation with Tekes has been stepped up considerably.

National research funding was on an upward trajectory for a long time, but in recent years that trend has turned into a slight decline. It is paramount now that all stakeholders in the research, education and innovation system continue to weigh the different options available: it is necessary to explore and open up new avenues, even though this will require some funding sacrifices elsewhere.

Heikki Mannila
President



PROFESSOR ARTO MUSTAJOKI, CHAIR OF THE ACADEMY OF FINLAND BOARD: ACADEMY'S ROLE AND POSITION FURTHER STRENGTHENED

"2013 was a positive year for the Academy of Finland. One particularly momentous event was the restructuring of government research institutes and research funding, including the creation of a new strategic research council under the Academy's auspices. This further strengthens the Academy's role and position and sends a message of trust," says Chair of the Academy of Finland Board and Dean of the Faculty of Humanities at the University of Helsinki, Professor Arto Mustajoki.

The Board had several informal discussions on how the Academy's traditional research programmes would be affected by the arrival of the new council. The relative roles of the strategic research council and the Academy Board also attracted some discussion. Special focus was given to the question of how project proposals submitted to the strategic research council will be assessed both for their scientific quality and social impact. Preparations for the launch of the council have been ongoing since autumn 2013. This, Professor Mustajoki says, presents a major challenge both from an operational and content point of view.

"We also had very positive feedback from our international evaluation. The results showed that the Academy performs its core tasks with distinction, that it runs a cost-effective operation and instils a sense of confidence in the scientific community, which is par-

ticularly important." Indeed, for Arto Mustajoki, the publication of the evaluation report was the highlight of the year. "The decision to delegate the administration of the strategic research council and the additional IT research funding to the Academy sends a clear message of trust. We will try to live up to that trust."

Many of the recommendations made in the evaluation were in fact being put in place before the report came out, Mustajoki explains. These include arrangements for closer collaboration with Tekes and steps to strengthen the Academy's role in science policy. Some of the recommendations, such as that regarding the composition of the Academy Board, are beyond the scope of the Academy's authority. Even so, Professor Mustajoki says, steps have been taken to move this forward in consultation with the Ministry.

Other than in the area of infrastructure funding, the Academy's Board took no new explicit policy decisions in 2013. According to Mustajoki, the biggest challenge is the ever-increasing competition for funding. However, the new Board and the new research councils are highly committed to their work. "It's a privilege to get to work with experts of such a high calibre," Mustajoki says.

KEY INDICATORS

For key indicators, go to www.aka.fi/annualreport2013.

- Government R&D funding 2013, by organisation
- R&D expenditure in Finland 2006–2013, by sector
- Number of publications by Finnish researchers 1993–2013
- R&D investment in selected OECD countries

See also Statistics Finland's science statistics at www.stat.fi.

FUNDING

RESEARCH FUNDING SCHEMES

In 2013, the Academy of Finland awarded a total of 335 million euros in research funding, up from 327 million euros in 2012. The increase of eight million euros was made possible by the Government's third supplementary budget in which 20 million euros was made available to the Academy for supporting knowledge-based growth. This funding was allocated to facilitate leading-edge research and to support the launch of new research programmes.

The total number of funding applications processed was 3,477, compared to 3,724 in 2012. The number of applications funded fell slightly from 1,317 in 2012 to 1,030 in 2013.

The Academy provides funding for a diverse range of research. Academy funding was awarded to most fields of research at universities and research institutes. Universities received 84% of all Academy research funding.

Less than one-fifth or 17% of applications for Academy Project funding were approved. The amount of funding awarded came to 15% of the value of applications. The figures in 2012 were 17% and 16%, respectively.

The Academy provided funding to 33 Centres of Excellence (CoEs): 18 CoEs in the 2008–2013 programme and 15 CoEs in the 2012–2017 programme. Fourteen new centres were selected to take part in the Academy's sixth CoE programme in 2014–2019. A total of 48.7 million euros was awarded for the first three-year term of the new CoE programme.

In 2013, the Academy had twelve ongoing research programmes. New research programme funding deci-

sions were made to the value of 25.4 million euros. The new research programmes are Synthetic Biology (FinSynBio), The Future of Learning, Knowledge and Skills (TULOS), The Human Mind (MIND), Sustainable Governance of Aquatic Resources (AKVA), and Sustainable Energy (SusEn).

The Academy awarded 17.4 million euros in funding for research infrastructures through the FIRI 2013 call. The research infrastructure roadmap was updated jointly with the Finnish Research Infrastructure Committee (FIRI Committee).

The Academy awarded 6.3 million euros to the Integrated Carbon Observation System (ICOS). The project started up in 2013 and is scheduled to run through to 2031. During this time, Finland will be hosting the ICOS-EU headquarters together with France.

In 2013, the Academy funded 298 research posts as Academy Research Fellow and 44 as Academy Professor. At year-end, the total number of research posts was 342. Among applicants to the research posts as Academy Research Fellow, 13% received funding, compared to 15% in 2012. At year-end 2013, there were 574 Postdoctoral Researchers, 129 of whom started their three-year term at the beginning of the year. Funding was granted to 15% of all applicants to the research posts as Postdoctoral Researcher, compared to 19% in 2012.

The Academy supported international researcher mobility and collaboration through all its funding instruments. In addition, grants were awarded based on bilateral agreements with other funding agencies. Funding was made available to Finnish researchers in order to promote long-term research collaboration between Finland and selected partner countries. The Academy was involved in nine jointly-funded calls for

research proposals. The Academy's partner countries were Brazil, Chile, China, Hungary, India, Japan, and the United States.

The Academy supported research affiliated with the thematic areas of Strategic Centres for Science, Technology and Innovation via all its funding opportunities. The Academy awarded a total of 40.4 million euros to support research projects that had a statement from strategic centres affirming the importance of the cooperation.

KEY INDICATORS

For key indicators, go to www.aka.fi/annualreport2013.

- Academy research funding 2013
- Academy research funding 1998–2013
- Academy funding 1998–2013, by research council domain
- Academy funding 2013, by site of research
- Academy funding 2010–2013, by site of research
- Academy funding 2011–2013, by research field
- Finland's membership dues to international organisations paid by the Academy in 2013

PROGRAMMES



RESEARCH PROGRAMMES INTERNATIONALLY NETWORKED

In 2013, there were twelve ongoing Academy-funded **research programmes**. All these **programmes** were either internationally networked, or they involved international research projects. Financing for research programmes was received from 21 foreign funding agencies in 15 different countries, all representing the Academy's strategic partner countries and organisations. In addition, nine domestic funding agencies were involved in funding four research programmes. Four public funding agencies contributed their own funds to support Academy research programmes. Funding was also received through businesses and foundations. Under its research programmes, the Academy provided funding to support research projects affiliated with the thematic areas of two Strategic Centres for Science, Technology and Innovation.

The Academy allocated 25.4 million euros to support five research programmes, including two new programmes: Synthetic Biology (FinSynBio) and The Future of Learning, Knowledge and Skills (TULOS). FinSynBio received 9 million euros and TULOS 10 million euros. In addition, continued funding worth 6.4 million euros was awarded to three ongoing research programmes, i.e. The Human Mind (MIND), Sustainable Energy (SusEn) and Sustainable Governance of Aquatic Resources (AKVA).

The Academy Board decided to use the additional funds made available under the Finnish Government's 2013 supplementary budget to finance research projects in two new knowledge-based growth programmes, i.e. the programmes on Arctic research and mineral resources and substitution. Furthermore, the

Board decided to start preparations for the Personalised Health programme and the Ageing and Life Course programme. It is expected that global research collaboration will help these programmes provide relevant answers to current questions facing science and society.

The Academy's multidisciplinary research programmes address issues related to the grand challenges faced by society and humankind. Research programmes provide new impetus and direction for research in strategic subject areas. They bring together scientists and researchers from different fields, end-users of research evidence as well as research funding agencies into a network of long-term cooperation. In this setting, their aim is to achieve long-term scientific and social impact.

In 2013, the research programmes had high visibility and impact. They hosted 15 programme seminars and two exploratory workshops. In addition, two evaluation reports were published. The results of the Health and Welfare of Children and Young People programme (SKIDI-KIDS) were reported in a pamphlet volume.

One research programme organised a scenario and foresight workshop. Foresight is an important part of the Academy's own evaluations of research programmes: the purpose is to look into the future and to identify possible areas of future research inquiry. Foresight also provides important support for programme planning and valuable information for researchers and other stakeholders as well as for interested members of the audience.

CENTRES OF EXCELLENCE PROMOTED COLLABORATION

Centres of Excellence in Research (CoEs) are the flagships of Finnish science and research. In 2013, the Academy of Finland reviewed the applications received to the

sixth CoE programme. The 34 candidates shortlisted by the Academy Board were evaluated in seven expert panels. The evaluation is based on the written applications submitted and interviews conducted by the panels. Based on the outcomes of these evaluations, the Academy Board nominated 14 new Centres of Excellence for the 2014–2019 term.

Following talks with the newly-nominated CoEs, the Academy decided to award almost 49 million euros for the first three-year term of the programme. Additional funding was received through the Government's third supplementary budget, in which funds were earmarked for supporting knowledge-based growth.

In 2013, there were 33 CoEs in two ongoing CoE programmes: 18 CoEs in the 2008–2013 programme and 15 CoEs in the 2012–2017 programme.

Centres of Excellence are creative and target-oriented research communities of the very highest international calibre. Working to a clear and challenging research vision, they reinvigorate and reorient research, develop creative research environments and train talented researchers for Finnish academia and business. CoEs comprise one or more leading-edge research teams that are based at universities and government research institutes and that collaborate with businesses.

Coordinated by the Academy of Finland, CoE programmes are designed to facilitate the formation of research consortia and to promote the achievement of scientific breakthroughs. Furthermore, they support collaboration and the use of unique approaches at the interface of scientific disciplines and research fields. CoE programmes help make better use of research infrastructures, contribute to the national and international networking of CoEs, promote the social impact of scientific research and improve the quality standards, international competitiveness, visibility and esteem of Finnish research.

STRATEGIC CENTRES AIM TO ESTABLISH LONG-TERM COOPERATION

In 2013, the Academy provided funding to support research affiliated with the thematic areas of **Strategic Centres for Science, Technology and Innovation** through all its funding instruments. The Academy increased the number of researchers involved in the work of strategic centres and in this way helped strengthen scientific research carried out in strategic centres' research programmes.

Researchers applying for Academy funding can contact the strategic centre relevant to their research subject directly in order to obtain a statement affirming the importance of cooperation from one or more strategic

centre. At the same time, this gives strategic centres the opportunity to network with high-level researchers and research projects. Most strategic centres take advantage of this opportunity.

The Academy's research councils and research programmes awarded a total of some 40 million euros to support research projects that had received a favourable statement from strategic centres.

The Academy and Tekes joined forces in 2012 to conduct an international evaluation of Strategic Centres for Science, Technology and Innovation. The **report** was published in February 2013. Based on this evaluation, a steering group appointed by the **Ministry of Employment and the Economy** drew up concrete **development proposals** (in Finnish) to restructure their operation.

RESEARCH INFRASTRUCTURE ROADMAP UPDATED

The Finnish Research Infrastructure Committee (FIRI Committee) appointed by the Academy of Finland updated the national roadmap for research infrastructures in 2013 and determined the relative priorities of the roadmap projects. Inclusion in the roadmap is testimony to the research infrastructure's national significance. However, it does not automatically guarantee a favourable funding decision, but each infrastructure grant requires a separate decision. The roadmap report was published in March 2014. The English version is due later this spring.

Working closely with the Academy's project on the state of scientific research 2014, the FIRI Committee also sent out a questionnaire to universities, government research institutes and polytechnics in order to obtain a more complete picture of the infrastructure situation. These organisations were requested to provide information about their major and strategically most significant research infrastructures that have made possible their high-quality research and promoted international research collaboration.

Based on the FIRI 2013 research infrastructure call, a total of 17.4 million euros was awarded to research infrastructure projects in line with the national roadmap. A total of 126 applications were received from 72 different infrastructure projects, including consortia. The value of the applications amounted to 62.9 million euros. Almost all of the projects that received funding have connections with the 2014 infrastructure roadmap.

The Academy awarded 6.3 million euros to the Integrated Carbon Observation System (ICOS). Finland will be hosting the ICOS-ERIC headquarters and the ICOS coordination office from 2014.

INTERNATIONAL ENGAGEMENT



SEVERAL MAJOR EU ROLES

The biggest research and innovation occasion of 2013 was the launch of the EU Horizon 2020 programme. In 2014–2020, Horizon 2020 funding for research and innovation will amount to almost 80 billion euros. The Academy of Finland has responsibility for **seven programme sections**. Under the EU Seventh Framework Programme for Research (FP7), the precursor of Horizon 2020, Finland received annual funding of some 120 million euros. The Academy had national responsibility for several FP7 programmes as well.

Another significant milestone in research and innovation policy was the publication of the report on the state of play in the implementation of the European Research Area ERA. The country report concluded that national measures and reforms are central to the implementation of ERA.

The Academy was actively involved in developing ERA and EU activities at both the national and international level. Apart from its roles and responsibilities in research funding programmes, the Academy contributed to several EU-funded projects and was involved in strategic EU groups discussing the development of common research programmes and European-level research infrastructures. In the EU context, the Academy maintained active contact with various stakeholder groups, for instance the European Parliament.

ACTIVE INVOLVEMENT IN JOINT PROGRAMMING INITIATIVES

European Joint Programming Initiatives (JPIs) are inter-governmental research collaborations in selected areas of social significance. The aim of the ten ongoing JPIs is to promote the more efficient use of national resources and

competencies in tackling challenges that cannot be solved at the national level alone. The Academy of Finland is involved in six JPI Working Groups and to date has contributed to four JPI funding calls.

FROM ESF TOWARDS SCIENCE EUROPE

The **European Science Foundation** continued to wind down its activities. More member organisations withdrew from ESF activities and funding, forcing the ESF to restructure its operation. All ongoing research and networking programmes and other ESF collaborations will continue to the end of their terms, but for the time being no new programmes or other collaborations will be launched.

The Academy of Finland remains a member of the ESF and is involved in **ESF activities**. Since 2001, the Academy's research councils have been involved in 24 **EURO-CORES research programmes** launched by the ESF, providing funding to the Finnish research teams involved in different consortia. Project funding to date has totalled some 10 million euros. In addition, the research councils have provided funding for some 40 ESF Research Networking Programmes (RNPs). Academy funding to RNPs is around 300,000 euros per annum.

The Academy has been involved in ten ESF Member Organisation Fora, which have been set up to discuss current and important European-level science policy and science administration issues and to develop shared practices and procedures. A report was published on the forum's work under the title Evaluation of Publicly Funded Research.

In 2011, European research funding agencies joined forces in a new organisation, **Science Europe**. The role of Science Europe is to provide strategic direction to Euro-

pean science policy, but it does not finance research. The members of the organisation are major public research funding agencies and research institutes in their respective national science and research systems. The Academy of Finland became a member at year-end 2011.

Science Europe has appointed members to scientific committees on the recommendation of its member organisations, published declarations concerning the ERA, set up working groups to address science policy and research cooperation issues, and recruited staff.

FUNDING FROM EUROPEAN RESEARCH COUNCIL STABILISED

The Academy of Finland contributed to providing information about upcoming **European Research Council** (ERC) calls and to supporting successful applicants. Interview training was organised at the Academy for researchers shortlisted for the second round of the ERC Starting and Consolidator Grant calls.

In May, the Academy and the Ministry of Education, Science and Culture organised a joint seminar on the European Research Council in connection with the 2013 Science Forum. Contributions by the ERC Secretary General and other speakers offered different perspectives on ERC funding. The purpose of the seminar was to increase awareness of ERC funding opportunities and to give hints and tips to universities on how best to support applicants.

Under the EU Seventh Framework Programme (FP7) in 2007–2013, Finland received a total of 68 ERC research grants. In addition, Proof of Concept funding was awarded to two of these projects. Almost all successful ERC funding applicants based in Finland have at some point of their career received research funding from the Academy, either in the research posts as Postdoctoral Researcher, Academy Research Fellow or Academy Professor, or in the form of project funding: 96% of the 68 successful applicants have benefited from Academy funding. Many of them have also worked at Academy of Finland Centres of Excellence.

The European Research Council provides funding for investigator-driven research at the highest level. Projects funded are selected on the basis of scientific quality, and applications are assessed with a particular view to identifying novel, high-risk research ideas. The aim is to achieve breakthroughs in different disciplines and to promote innovation and quality in European research. The ERC has three main funding instruments for researchers at different career stages: Starting Grants, Consolidator Grants and Advanced Grants.

ERA-NETS PROMOTE COOPERATION AMONG NATIONAL RESEARCH PROGRAMMES

ERA-NETs are networks of national research funding agencies funded by the EU under Framework Programmes and intended to promote cooperation among national research programmes. They have a well-established role in European research cooperation. When Commission funding expires, ERA-NETs are set up as independent funding networks or as part of the Joint Programming scheme.

In 2013, the Academy was involved in 19 ERA-NET or ERA-NET Plus networks. In the context of the latter, the European Commission provides funding for research projects together with funding organisations from individual Member States.

In 2007–2013, Finnish research teams involved in consortia funded through ERA-NET calls received just over 20 million euros in Academy funding. In 2013, Finnish researchers received 1.1 million euros through the ERA-NET NEURON call and a total of 1.8 million euros through two separate BONUS calls.

Together with the Finnish Cultural Foundation, the Academy participated in the ERAfrica Interfacing Challenges call. The Academy also participated in the FACCE ERA-NET Plus and WoodWisdomNet Plus calls.

The subject of the 2013 ERA-NET NEURON joint call for proposals was “European Research Projects on Mental Disorders”. This theme ties in well with the Academy’s research programme The Human Mind (MIND). Three international calls were announced under this Academy programme, in which the ERA-NET NEURON call represented multilateral international cooperation among researchers from 16 countries. The two other international calls under the MIND programme were bilateral calls with Chinese and Russian funding partners. Under ERA-NEURON 2013, the Academy awarded 1.1 million euros to support three Finnish scientists, two of whom were consortia leaders and one a partner in joint three-year projects.

WoodWisdom-Net is a long-term programme of international funding cooperation that has promoted the networking and integration of national programmes in the area of wood material science and engineering. The programme’s fourth call for joint project proposals was announced in February: its aim is to support ongoing changes in the European forest industry, to increase the efficiency of available resources and to develop new products. Funding is provided by 16 organisations from twelve EU countries. The Finnish partners are funded by the Academy of Finland and Tekes.

NORDIC COUNTRIES

NORIA-net has evolved into a new form of cooperation

In 2009–2011, **NordForsk** launched several NORIA-net projects involving the Academy of Finland and other Nordic research funding agencies. Completed projects have led to more far-reaching cooperation, such as the **Nordic eScience Globalisation Initiative (NeGi)** and the **Nordic Research Infrastructure Network (NRIN)**.

No new major NORIA-net projects have been launched, but NordForsk uses the NORIA-net concept as a background tool in its strategy-making as well as in strategy implementation.

The latest NORIA-net is called **NORIA-net Arctic**, which has been set up to coordinate preparations for a research programme in Arctic regions. The Academy is involved in this initiative that will run with NordForsk funding for about one year before the actual research programme starts up.

NORDIC TOP-LEVEL RESEARCH INITIATIVE FOCUSES ON THE ENVIRONMENT

The Academy contributed to funding and implementing the **Nordic Top-Level Research Initiative (TRI)**. Launched in response to an initiative by the Nordic Council of Ministers, the TRI represents the biggest ever joint Nordic investment in climate, environment and energy research and innovation activities. Six Nordic Centres of Excellence, several research networks and a number of research projects are funded through its six separate thematic programmes. The budget for the five-year initiative is 50 million euros.

JOINT FUNDING CONTINUED IN OTHER INTERNATIONAL ACTIVITIES

The Academy of Finland supported international researcher mobility through all its funding schemes, awarding funding for the mobility plans detailed in funding applications and providing grants based on bilateral agreements with other funding agencies. The Academy had such agreements with eleven organisations from six different countries.

The Academy organised eight calls for jointly funded research projects with its key partner countries, i.e. Brazil, Chile, China (two calls), India, Japan (two calls), and the United States. In addition, one call was organised with Hungary.

The Academy organised the fifth letter of intent call for the Finland Distinguished Professor (FiDiPro) Programme. Letters of intent were received from 58 applicants. The Academy Board shortlisted 32 projects that were invited to submit full applications. The final decision on the projects to be financed under the FiDiPro programme will be made in June 2014.

In the context of research programmes, funding cooperation was concentrated on joint projects with the Academy's strategic partner countries China, Russia, India, Brazil and Chile. In addition, the Academy was involved in ERA-NET funding cooperation through the programmes Computational Science, Programmable Materials, Climate Change, The Human Mind and Synthetic Biology.

The Academy received visits from 19 foreign delegations from 15 countries.

RESEARCH COUNCILS

EVALUATION OF FINNISH PLANT SCIENCES FOLLOWED UP

The Research Council for Biosciences and Environment decided to conduct a follow-up of the 2011 evaluation of Finnish plant science. This was the first such follow-up of its kind. The panel members who conducted the original evaluation were reconvened in order to assess how their recommendations had been put into practice. They found that all of the research teams recognised with an excellent rating had continued their good work and on average had followed the panel's recommendations excellently. One of the challenges in the field of plant biology is the high degree of fragmentation between and within research organisations. When the results from discipline assessments are put to more effective use, both interorganisational cooperation and intraorganisational dialogue are bound to improve.

The water theme was central to the Research Council's activities in 2013. Finland has been actively involved from the outset in the EU Joint Programming Initiative on Water Challenges for a Changing World (Water JPI). The aim of this initiative is to reach a shared view on how to develop sustainable water supply systems in Europe and elsewhere in the world. Apart from the Commission, 19 European countries are involved as members in the JPI and five as observers. Supported by 17 participating countries and the Commission, a Water JPI coordination project was launched in 2013 (WatEUr). The first pilot call in this project will be organised by the Academy of Finland. Ten countries with a combined budget of nine million euros are involved in this call for proposals on emerg-

ing water contaminants. A total of 106 consortia applications involving 595 partners were submitted.

In 2013, the Academy awarded 75 million euros to support research in the fields of biosciences and the environment. More than 480 Academy Project applications and research post applications were submitted to the Research Council for Biosciences and Environment in the autumn 2012 call. The applications were reviewed in nine international panels, one of which was organised jointly with the Research Council for Culture and Society. The panels involved 79 experts from 18 different countries.

The number of Academy Project applications submitted to the Research Council was up more than 20% from the previous call, at the same time as the volume of funding awarded was down 10%. Funding was awarded to 33 Academy Projects. Funding was granted to 15% of all applicants. The total amount of funding made available was 19.4 million euros.

In line with its long-term commitment to support highly qualified researchers on the third tier of the research career, the Research Council awarded funding to 13 young and promising Academy Research Fellows with the capacity to reinvent themselves. A major focus in the application review process was on the upward career trajectories of talented researchers. Great importance was also attached to the researcher's natural aptitude to the research post as Academy Research Fellow and to their ability to perform as a research team leader. Almost one-third or 31% of the Academy Research Fellows funded were foreign nationals. The Research Council appointed 22 Postdoctoral Researchers.

In the September 2012 call, the Research Council had specifically encouraged applications from the field

of bioinformatics. In addition to the research plan and the applicant's scientific qualifications, the experts and the Research Council gave special consideration to the researchers' international and national mobility and to their growth to independence during their Postdoctoral Researcher term. Apart from bioinformatics, mobility and independence were the most important science policy criteria in the Research Council's funding decisions.

CHAIR OF RESEARCH COUNCIL KAI LINDSTRÖM: OPENING NEW AVENUES TO GREATER IMPACT

The Research Council for Biosciences and Environment took a leading role in developing the follow-up of discipline assessments by organising a follow-up of the plant biology evaluation. "We hope that follow-ups can assist host organisations in their decision-making and at once enhance the impact of discipline assessments and indeed that of the Academy itself," says Chair of the Research Council, Professor Kai Lindström from Åbo Akademi University. Ultimately the aim is to improve the system of discipline assessments and to help put their results to better use.

The 2012 report *The State of Scientific Research in Finland* says that Finnish biosciences and environmental research is world-class and in some areas at the very cutting edge of international science. "More and more often, however, science is also expected to demonstrate social impact. We're well placed to promote that impact because more than 90% of the research funded by the Research Council falls under the grand challenge themes, and much of the work is multidisciplinary or interdisciplinary."

In its decisions, the Research Council has given special focus to international exchange and mobility. For instance, all of the applicants who received Postdoctoral Researcher funding in 2013 have plans for international mobility during their funding period. The Research Council is keen to support the internationalisation of young researchers by requiring preferably long-term mobility plans.

The Research Council believes that the arrival of the strategic research council will open up promising opportunities for its clients. "Many of the disciplines that come under our umbrella can contribute to future strategic research council programmes. The arrival of the new council clarifies the division of roles between basic and applied research. Many research programmes today lean heavily towards applied research, which is considered not only by the Research Council but also by many of its clients as a departure from the Academy's fun-

damental mission of supporting basic research. Perhaps the Research Council's programme initiatives can from here on in be primarily science-driven," Lindström says.

Inspired by the international evaluation of the Academy of Finland, the Research Council is continuing its efforts to strengthen the impact of research. In addition to following up the recommendations of discipline assessments, this might be achieved through closer dialogue with researchers and other stakeholders.

Lindström is very pleased with the Research Council's first year in office. The people onboard have wide-ranging and complementary areas of expertise. The climate is positive and open to discussion. The future, however, is clouded by significant cuts to funding authorities. As a result, the Research Council has considered reducing the size of research projects so that it can provide funding for a larger number of projects. "This is a tough decision for the Research Council: on the one hand we are keen to maintain as wide-ranging a field of research as possible, but on the other hand it's crucial that the projects funded are guaranteed adequate conditions for an effective operation."

MEDIA AND COMMUNICATION RESEARCH GETS HIGH RATING

In 2013, the Research Council for Culture and Society commissioned an evaluation of Finnish media and communication research. The evaluation covered twelve units from nine universities. The international panel of experts concluded that Finnish research is a diversely rich field in terms of both subjects covered and perspectives and approaches applied. Many Finnish units are of a high international standard, and Finland has several world-class researchers.

The panel described Finnish media and communication research as a highly diverse field in terms of its background, targets and methods. The field lacks unity and cohesion, comprising a diversity of disciplines with different scientific backgrounds. Much of the research done by the units evaluated is dependent on funding from external sources, such as the Academy of Finland and various foundations. External funding may also direct the focus of research: for instance, the impact of the funding from various foundations is seen on research themes and on the distribution of funding between units in different fields.

The Research Council awarded 21.3 million euros to 43 Academy Projects. It received 311 applications, of which 14% were awarded funding. Most of the researchers working on the funded projects have a doctorate. The Research Council also granted funding to

20 new Academy Research Fellows and 38 Postdoctoral Researchers. Almost 18 million euros was allocated to finance research posts.

More than one thousand applications were submitted to the Research Council in the September 2012 call, up around one-fifth from the figure the previous year. The number of applications for Academy Projects and research posts as Postdoctoral Researcher both increased, whereas the number of applications for research posts as Academy Research Fellow remained almost unchanged. The former increases can be explained at least in part by the large number of doctorate holders in the field of cultural and social research, the current environment of economic austerity in universities, and the difficult employment situation for doctorate holders outside universities.

The applications received in the September 2012 call were mostly evaluated in panels set up according to the Academy's classification of research fields. This is a subject of ongoing debate in the Research Council because more and more applications are genuinely multidisciplinary. Research projects show greater diversity in terms of their methods and materials, for instance, and they draw on several different disciplines. Therefore it is increasingly challenging to evaluate individual applications in any given panel.

One of the Research Council's key roles is to develop scientific peer-review processes. This will help make better funding decisions and ultimately improve the quality of Finnish research in the humanities and social sciences. A high-quality evaluation process will also help Finnish researchers prepare better applications.

The Research Council announced its funding decisions for the Debt and Debt Relations targeted call. A total of two million euros was awarded to four multidisciplinary projects concerned with the economic, political, cultural, legal and social factors associated with debt and debt relations. The aim of the targeted call is to gain a deeper understanding of the forms, sources and significance of debt from the theoretical and historical viewpoints of different disciplines.

The Research Council was actively involved in efforts to strengthen the European and Nordic Research Areas. Among the most interesting programmes under preparation in 2013 were NordForsk's Nordic Research Programme on Health and Welfare and the Societal Security Initiative. The Research Council also launched preparations of its own targeted call focused on societal security.

CHAIR OF RESEARCH COUNCIL OLLI MÄENPÄÄ: INTERDISCIPLINARY DIALOGUE SET TO GAIN INCREASING IMPORTANCE

"The process of preparing the 2012 report on the state of scientific research in Finland made it abundantly clear just how broad and diverse the field of cultural and social research really is. Among the challenges we can contribute to resolving are those thrown up by globalisation and multiculturalism," says Chair of the Research Council for Culture and Society, Professor Olli Mäenpää from the University of Helsinki. The new members of the Research Council set about their work with great relish and enthusiasm, bringing their respective areas of expertise to the table.

In the 2013 international evaluation, the Academy received particularly high marks for the quality and efficiency of its applications review process. The Research Council is determined to ensure the continued high quality and efficiency of that process. Researchers play a pivotal role in the evolution of the disciplines that come under the Research Council.

"That's why it's so important to make sure we continue to attract talented, motivated, tenacious and open-minded researchers into these fields. In this process, the Research Council and its reviews have a crucial role. A rigorous review process at the highest possible level allows us to identify the researchers to whom it is most justified to provide supportive funding," Mäenpää says.

Olli Mäenpää believes the arrival of strategic research is important and beneficial because it will contribute to expanding the funding base of research. The disciplines that come under the Research Council's umbrella produce a diverse range of high-quality research evidence that also has strategic significance in further developing society.

Investigator-driven project funding, Mäenpää says, is the single most important funding stream for the free development and regeneration of research. Indeed, the Research Council aimed in 2013 to earmark as much funding as possible for Academy Projects in order to guarantee the independence and regeneration of research.

As an example of a multidisciplinary approach, Mäenpää mentions the research subject of a newly appointed Academy Professor. Academy Professor Petri Toiviainen from the University of Jyväskylä is studying the role of body and brain in music perception in a project entitled "The Dynamics of Music Cognition". "This is very much a multidisciplinary project that serves the whole field of performative arts research. There are potential applications across disci-

plinary boundaries from music therapy to music education, and further to the public performance of music and dance.”

PROMOTING OPPORTUNITIES FOR INTERNATIONAL RESEARCH COLLABORATION

The Research Council for Natural Sciences and Engineering outlined its major objectives, emphasising the importance of planning for future needs. Council members met with several stakeholder groups, including the science representatives of international research infrastructures funded by the Research Council, representatives of Strategic Centres for Science, Technology and Innovation, and business and industry people. The Research Council completed preparations for the national ICT 2023 programme and continued planning of the Mineral Resources and Substitution research programme.

In 2013, the Research Council made funding decisions worth around 67 million euros. More than 34 million euros was awarded to Academy Projects and more than 31 million euros to promoting research careers in the form of grants to Postdoctoral Researchers, Academy Research Fellows and Academy Professors. Finland awarded more than one million euros to five international research infrastructures in the fields of space physics, geosciences, mathematics and astronomy. The Research Council’s funding decisions also took account of major science projects.

The Research Council awarded funding to 78 Academy Projects. In all, there were 436 applicants. Almost one-fifth of the research plans were submitted as part of research consortia, which received close to one-quarter of all the funding awarded. The researchers involved in these consortia represented at least two different research organisations and often at least two different disciplines. Average consortia funding was 826,000 euros, while the average funding for individual research projects came to 478,000 euros.

The Research Council selected 47 Postdoctoral Researchers and 20 Academy Research Fellows from amongst 305 and 184 applicants, respectively. Funding could only be awarded to one in ten research post applicants. Three-quarters of them were current or former Postdoctoral Researchers.

The Research Council continued to promote opportunities for international research collaboration. All Academy Projects involve such cooperation. Around one-fifth of the researchers funded were foreign nationals. In its decisions, the Research Council placed

heavy reliance on the applicants’ experience of mobility and future plans for mobility. Up to 98% of Postdoctoral Researchers have plans to conduct part of their research abroad. Most Academy Research Fellows had more than six months of postdoctoral research experience abroad.

Cooperation with Nordic funding agencies was continued in the area of international research infrastructures. The Research Council strengthened its European cooperation by participating in the WoodWisdom-Net Plus call in wood materials science and forest products technology. This is a nationally significant call that is funded by 16 organisations from 13 different countries. Funding from Finland comes from the Academy and Tekes. The Research Council awarded 1.3 million euros to support five projects.

The Research Council monitors and evaluates the projects and the people it has financed based on research reports submitted. In 2013, reports were received among others from the eleven projects funded by the Research Council in the embedded systems call in 2008. A good example of the impact of this call is provided by the process architecture toolkit developed in one of the projects. The software was published as open source and it is currently in widespread use around the world to produce several publications. It also has application in business product development. This project has received further funding under the EU ARTEMIS programme. An investment of two million euros yielded 181 publications, with a total labour input of 488 person-months.

The aim of the strategic call was to allow for longer-term research inquiries in this subject area and at the same time to complement the existing technology collaboration between the ongoing Uvicom – Embedded ICT programme administered by Tekes and the FP7 ARTEMIS programme. Some of the projects reported that they had contributed significantly to international standardisation work in this field.

CHAIR OF RESEARCH COUNCIL PAULA EEROLA: A LONG-TERM COMMITMENT TO HIGH-QUALITY RESEARCH

“There’s no question that the priority is free, investigator-driven basic research, but at the same time we must also take a strategic view on the research work done in Finland,” says Chair of the Research Council for Natural Sciences and Engineering, Professor Paula Eerola from the University of Helsinki.

In 2013, the Research Council compiled a constantly updated list of research concepts in the field of natural sciences and engineering, based on the criteria of

research standards, current interest value and relevance to business and industry. “These themes are focused and agile initiatives that allow for quick responses to current challenges and needs.”

As is pointed out in the 2012 report *The State of Scientific Research in Finland*, international engagement remains a problem for Finnish research. “Researchers in the natural sciences and engineering fields have excellent international contacts, but not enough people go abroad to work. The same goes for mobility from universities to business companies and research institutes.”

As for research infrastructures, on the other hand, the Academy has been leading a change for the better, Eerola says in reference to the infrastructure roadmap: “This is an important improvement for us, as research in the natural sciences and engineering often requires an expensive infrastructure. By international comparison the budget is still quite modest, but the increased stability of the funding base and improved predictability are major steps forward.”

The reform of researcher training has by contrast met a contradictory response in the Research Council. National graduate schools were considered a major strength of research in the natural sciences and engineering, but now the situation has changed as they have moved under the university system.

“Harmonising researcher training and ensuring the highest possible quality standards are obviously positive things, but on the reverse side of the coin we have the breakdown of national networks of graduate schools. This means it is now down to each individual researcher to create their own networks. In many fields, there will also be fewer graduate school positions, adding to the pressure on the Academy and other funding agencies.”

The Research Council’s main funding criteria have been the quality of the science and the quality of the researchers. Once these are in place the next thing is to look at other factors, such as the prospects of breakthroughs, the risks of research, the promotion of mobility, impact and the potential for practical application. The field of research in question is also considered.

“Without exception all the research funded by the Research Council has been world-class. That’s really pleasing. But during these times of austerity, one really feels for those projects that lose out by the narrowest of margins.”

Eerola says it is important for the Research Council to constantly work to improve its evaluation and decision processes: “We need to maintain the high standard and diversity of our external reviewers and to increase the proportion of women among the reviewers. It’s also

important that the Research Council handles borderline cases as optimally as possible in order to ensure that our funding decisions are just and fair.”

EMPHASIS ON CLINICAL MEDICINE

In 2013, as in previous years, the Research Council for Health emphasised the role of general project funding in supporting leading-edge research. Furthermore, continued emphasis was placed on promoting clinical medical research and research careers.

Based on an initiative by the Research Council for Health, a new collaboration was started with the Research Council for Culture and Society and the Sports Division of the Ministry of Education, Science and Culture to review research funding applications in the field of sport sciences. The applications were submitted to the Academy in the September call, and they will be panel reviewed during spring 2014. The Research Council’s most important initiative was a joint proposal with the Research Council for Biosciences and Engineering for the launch in 2014 of a research programme on personalised health. In addition, together with the Research Council for Culture and Society, the Research Council for Health proposed the launch of a research programme on the theme “Life-course and Ageing”. The Research Council contributed actively to other ongoing research programmes, seeking to influence their contents and to give the themes of health research maximum exposure.

The Research Council continued its work to promote the impact of health research. In autumn 2013, Academy Research Fellow Kari Kalliokoski received the Academy of Finland Award for Social Impact in the field of health research. His work on the role of physical exercise intensity in health promotion holds great interest to the general public, and it has direct application and important significance for public health. Kalliokoski’s studies on new, scientifically-proven results provide invaluable support to policy-makers to providing safe recommendations on physical exercise.

The Research Council’s domestic collaboration with stakeholders was mainly in the form of visits to and discussions at various research units, particularly in universities that conduct medical research. Out of these visits came the idea to promote clinical medicine research and researcher training together with medical faculties. The Research Council appointed a clinical research working group consisting of the deans of these faculties for 2014–2015. In addition, the Research Council started planning for a consensus meeting on death in old age together with the Finnish Medical Society Duodecim.

The Research Council continued to support the JPND research initiative that addresses neurodegenerative diseases by participating in its joint calls. Another major area of international focus was Nordic collaboration: the Chair of the Research Council started her tenure as Chair of the Joint Committee of the Nordic Medical Research Councils (NOS-M), started work to update the strategy document, and started close collaboration with the Medical Committee of Science Europe. Together with the Research Council for Culture and Society, the Research Council lobbied for joining the NordForsk research programme Health and Welfare in 2014. The Academy of Finland decided to commit to the programme. The major theme of the research programme – socio-economic health inequalities – will provide a suitable platform for implementing the recommendations of the 2011 discipline assessment of sport sciences.

The Research Council's funding decisions in 2013 amounted to 59 million euros. In the September 2012 call, it received more than 480 applications for Academy Projects and for research posts. Funding was awarded to 42 Academy Projects. Funding was made available to 19% of all applications. The total amount of funding awarded was 15.6 million euros.

CHAIR OF RESEARCH COUNCIL TUULA TAMMINEN: FROM DEVELOPMENT PROPOSALS TO PRACTICAL ACTION

“We know for a fact that we have very strong and high-quality health research in Finland. This provides a solid foundation for its further development,” says Chair of the Research Council for Health, Professor Tuula Tamminen from the University of Tampere. She is referring to the 2012 report *The State of Scientific Research in Finland*, which specifically mentions the high quality of research as the discipline's major strength.

Another indication of these high standards of research, according to Professor Tamminen, is that health research has had better success than any other field in securing funding from the European Research Council. In 2007–2012, the success rate of Starting Grant applications from Finland was over 10%, for Advanced Grant applications the figure was as high as 37%.

As is recommended in the report, translational research that combines basic research and clinical research has been further strengthened in Finland. In

line with the priorities set out by the Research Council, the research units of Professor Kari Alitalo, Professor Howard Jacobs, and Professor Juhani Knuuti were selected to take part in the Centre of Excellence Programme.

As most of the assessments and development proposals made in the 2012 report concern the Academy as a whole and a number of stakeholders, the Research Council launched a new model of collaboration with universities to maintain closer contact with its key research fields. A working group was appointed that was charged with developing this model of collaboration between the Academy and universities, starting with the promotion of clinical research. The working group consists of the deans of all medical faculties as well as representatives of the Research Council.

“One of the issues discussed was how, assuming that the researchers concerned give their consent, university faculties could make use of the clinical research assessments made by the Academy. Faculties could themselves provide funding for good research projects left without Academy funding based on their own strategies. The possibilities of joint funding are also being looked into. We're running a small pilot group to see how this kind of cooperation could generate concrete value added for science. If the model works, it will be rolled out to cover all research fields that come under the Research Council's umbrella: all partners who are interested can join in the funding cooperation.”

The Research Council started its three-year term by analysing, evaluating and taking action to develop its own working practices and procedures. Special focus has been given to exploring different ways of organising international peer reviews. Both the Research Council and the Health Research Unit have been working for years to develop the peer review process, but the focus now was to weigh the relative impacts of different approaches.

“We came to the conclusion that the best way to organise the review process is to use panels of experts, although occasionally there is need for targeted one-off evaluations. The savings from virtual meetings are not significant enough to justify the difference in quality,” Tamminen says.

All funding decisions by the Research Council are based on the scientific quality of the applications received. Other aspects considered include the innovative value of the research and its impact.



EVALUATION

INTERNATIONAL EVALUATION GIVES POSITIVE ASSESSMENT OF THE ACADEMY

The Ministry of Education, Science and Culture commissioned an **international evaluation** of the Academy of Finland. The findings show that the Academy has been successful in its mission to finance high-quality scientific research and that its portfolio of funding schemes is well suited to the needs of the Finnish research community. The panel of evaluators recommends that the Academy should play a more active role in science policy.

According to the evaluation, researchers who have been funded by the Academy are satisfied with its processes and feel that the Academy enjoys the trust of the research community. They say the Academy works constantly to develop its processes and deserves praise for imposing only a low level of administrative burden on researchers.

According to the panel's recommendations, the Academy's role should be extended into strategic research funding. This is indeed happening with the creation of the strategic research council. The Academy should also play a more active role in Finnish science policy. In order to increase the impact of Academy funding, the evaluators say, the Board should be strengthened and the chairs of research councils should become observers on the Board with speaking but not voting rights.

It is furthermore recommended that the Academy formulate two strategies. First, it needs a strategy that more clearly specifies the Academy's objectives and the impacts it intends to achieve in research and in society. Secondly, the Academy should develop a strategy for

internationalisation together with the Ministry of Education, Science and Culture, the Ministry of Employment and the Economy, Tekes and, if necessary, with other ministries and institutes. This strategy would be used in discussions at the European level and with national policy-makers in other EU Member States.

The evaluation concludes that the Academy should have a stronger advisory role in science policy field. The Ministry of Education, Science and Culture was encouraged to consider whether it could transfer budget from university core funding to the Academy in order to increase the volume of competitive research funding.

The initial impetus for the evaluation came from a recommendation by the Research and Innovation Council in 2010. The evaluation was conducted by Technopolis Group Ltd and the Research Institute of the Finnish Economy ETLA. The evaluation panel was chaired by Professor Erik Arnold. ETLA's representative was Chief Research Scientist Terttu Luukkonen. The previous international evaluation of the Academy was conducted in 2004.

DISCIPLINE ASSESSMENTS ON PLANT BIOLOGY AND MEDIA AND COMMUNICATION RESEARCH

The Research Council for Biosciences and Environment conducted a follow-up of the 2011 **evaluation of Finnish plant biology**. This was the first such follow-up of its kind. The panel members who conducted the original evaluation were reconvened in order to assess how their recommendations had been put into practice. They found that all the research teams recognised with an excellent rating had continued their good work

and on average had followed the panel's recommendations excellently.

The Research Council for Culture and Society commissioned an **evaluation of Finnish media and communication research**. The evaluation covered twelve units from nine universities. The international panel of experts concluded that Finnish research is a diversely rich field in terms of both subjects covered and perspectives and approaches applied. Many Finnish units are of a high international standard, and Finland has several world-class researchers.

ACADEMY INVOLVED IN PREPARATION OF GOVERNMENT'S REPORT ON THE FUTURE

In 2013, the Academy contributed to a new type of strategic collaboration between the Prime Minister's Office, the Finnish Innovation Fund Sitra and the Finnish Funding Agency for Innovation Tekes. The Academy was involved in preparing the foresight report compiled as background material for the Government's Report on the Future, the first time this was organised as an inclusive **process**. Most of the preparatory work was done in workshops, to which the Academy brought along researchers and their expertise. Citizen participation was encouraged through regional events and a dedicated website.

Drawing on the foresight report and other material, the Government compiled a Report on the Future that was focused on the themes of sustainable growth and wellbeing in Finland. The Report on the Future is a document submitted by the Government to Parliament once during each electoral period. The report also made use of the work of an international research group on Finland's sustainable growth model: the research group's report was published during the year under review.

The Academy was also involved with the same partners in a working group tasked with preparing a proposal for national foresight procedures. Ultimately, the working group is looking for ways in which to develop future reporting processes and how the various partners involved can make better use of the foresight information. The Academy organised discussions on the theme for senior management at universities and research institutes as well as for researchers interested in the foresight perspective. Based on the proposal submitted, the ministerial group responsible for the Report on the Future will decide on possible future action in spring 2014.

NEXT REVIEW OF STATE OF SCIENTIFIC RESEARCH GETS UNDERWAY

In 2013, the Academy started preparations for the next review of the state of scientific research in Finland. The 2014 report consists of three parts. The first part uses statistical data to assess the framework conditions for research as well as research results in individual organisations and disciplines. The statistical analyses make use of the annual data compiled by the Ministry of Education, Science and Culture as well as Statistics Finland's R&D statistics. The bibliometric analyses will be conducted jointly by CSC, the Ministry of Education, Science and Culture and the Academy, drawing on Thomson Reuters materials and possibly in part on the Elsevier Scopus database. The two other parts of the report will be separate reviews based on questionnaire data on professor recruitment and research infrastructures.

PERSONNEL

A photograph showing three people in an office environment. On the left, a woman with blonde hair is smiling. In the center, a man with short grey hair is laughing and pointing towards the right. On the right, a woman with brown hair and glasses is smiling. They are standing in front of a wall with several framed posters or documents, including one with the word 'Science' and another with 'akkoalat'.

NUMBER OF PERSONNEL DECLINED

At year-end 2013, the Academy of Finland's Administration Office had a staff of 137. The average figure for the year was 139. During the year, the number of personnel fell by 2.1%. Women accounted for 71.5% of personnel. The average age of Academy personnel rose slightly to 49.1 years. The proportion of staff with a higher university degree was 61.3%. Doctorate or equivalent tertiary education was the single largest category (33.6%).

The 2013 job satisfaction survey indicates a high level of job satisfaction among Academy personnel. It is higher than in 2009 and 2011, higher than in the state sector on average, and higher than in the Ministry of Education, Science and Culture's administrative branch. Academy staff were particularly pleased with the workplace climate, cooperation within the workplace community, and the challenges of their work.

Based on the results of the job satisfaction survey, the Academy has decided to invest more effort in improving openness in the workplace and in building a stronger team spirit. This means developing communication, improving the preparation of matters and making more effective use of collaboration and expertise. There is also a commitment to develop practices with a view to clarifying responsibilities, processes and

the division of labour and achieving a fair allocation of resources. These areas will be given special consideration in connection with the creation of the new strategic research council. Communication about this project has been open and personnel have been actively involved in preparations.

The results of the assessments of supervisor performance supported the findings of the job satisfaction survey. Supervisor performance remains at a very high level, improving slightly from the previous year. Clear strengths of supervisor and management performance at the Academy are that supervisors are committed to their role and that they trust their employees.

The Academy's gender equality plan was updated for 2014–2017. At the same time, the equality situation was assessed and a survey of wages and salaries conducted. No unfair and unfounded wage differentials were observed between men and women. The Academy is committed to achieving a more balanced gender mix among its employees.

The Academy's strategic aim is to continue in its pioneering role as an attractive employer with the capacity to constantly reinvent itself. Its practices and processes are highly efficient. The workplace climate inspires its skilled and motivated staff. Based on the questionnaires in 2013, these aims have been well met.

APPENDICES

ACADEMY BOARD 1 JAN 2013–31 DEC 2015
ACADEMY MANAGEMENT 2013
RESEARCH COUNCILS 2013
ACADEMY PROFESSORS 2013
FIDIPRO PROFESSORS 2013
ACADEMICIANS
RESEARCH PROGRAMMES 2013
CENTRES OF EXCELLENCE IN RESEARCH 2013
NORDIC CENTRES OF EXCELLENCE 2013
ERA-NETS 2013
EUROCORES PROGRAMMES 2013

For details, visit the website at
www.aka.fi/annualreport2013.

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