

## European Science, Engineering and Technology Highlights<sup>1</sup> JUNE 2013

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<sup>1</sup> Note: If you would like additional information or background, please feel free to contact either Carine Polliotti at [cpolliot@nsf.gov](mailto:cpolliot@nsf.gov) or Ana Helman at [ahelman@nsf.gov](mailto:ahelman@nsf.gov)



## 1 EU, US and Canada Launch Atlantic Ocean Research Alliance

The European Union, the United States and Canada agreed to join forces on Atlantic Ocean research. The agreement focuses on aligning the ocean observation efforts of the three partners. The goals are to better understand the Atlantic Ocean and to promote the sustainable management of its resources. The work will also study the interplay of the Atlantic Ocean with the Arctic Ocean, particularly with regards to climate change. The EU and its Member States alone invest nearly two billion euro on marine and maritime research each year. The 'Galway Statement on Atlantic Ocean Cooperation' was signed today at a high level conference at the Irish Marine Institute in Galway.

The agreement recognizes that Atlantic research will in many areas be more effective if coordinated on a transatlantic basis. Areas identified for potential cooperation under the agreement include:

- Ocean observation
- Sharing of data, such as on temperature, salinity and acidity
- Interoperability and coordination of observing infrastructures, such as measurement buoys and research vessels
- Sustainable management of ocean resources
- Seabed and benthic habitat mapping
- Promoting researcher mobility
- Identifying and recommending future research priorities

The launch event in Galway was attended by Taoiseach Enda Kenny, the Prime Minister of Ireland, Simon Coveney, the Irish Minister for Agriculture, Food and the Marine; Kerri-Ann Jones, United States Assistant Secretary of State for Oceans and International Environmental and Scientific Affairs; Senator David Wells of Canada, who represented Edward Fast, Canadian Minister of International Trade and Minister for the Asia-Pacific Gateway; EU Commissioners Damanaki and Geoghegan-Quinn; other representatives of the EU Atlantic Coastal States; and representatives from research and industry.

Full article available at: [http://europa.eu/rapid/press-release\\_IP-13-459\\_en.htm](http://europa.eu/rapid/press-release_IP-13-459_en.htm)



## 2 European Commission and CERN Support Major Research Facility in the Middle East

The European Commission and CERN (the European Organization for Nuclear Research) agreed to support the construction of SESAME (Synchrotron-light for Experimental Science and Applications in the Middle East), one of the most ambitious research facilities in the Middle East. SESAME is a synchrotron light source, functioning in effect like a giant microscope. It will allow researchers from the region to investigate the properties of advanced materials, biological processes and cultural artifacts. SESAME is a unique joint venture based in Jordan that brings together scientists from its members Bahrain, Cyprus, Egypt, Iran, Israel, Jordan, Pakistan, the Palestinian Authority and Turkey. Alongside its scientific aims, the project aims to promote peace in the region through scientific cooperation.

Construction of SESAME started in 2003. Like CERN, SESAME was established under the auspices of the United Nations Organisation for Education, Science and Culture (UNESCO). A key impetus to launching SESAME was the donation of components from the BESSY laboratory in Berlin. Since then, a growing community of local scientists has been working closely with partner facilities from around the globe, and several other laboratories have contributed to making the SESAME facility world-class.

Full article available at: <http://home.web.cern.ch/about/updates/2013/05/ec-and-cern-support-major-research-facility-middle-east>



### **3 Intergovernmental Agreement on Future Support for the Human Frontier Science Program**

A new agreement on a three year budgetary framework will extend the avenues for interactions within the global scientific community. At an Intergovernmental Conference hosted by the European Commission in Brussels, Belgium on June 11th, representatives from the governments that support the Human Frontier Science Program came together to confirm a financial framework for the Program from 2014-2016. The meeting resulted in a joint communiqué, signed by all participating countries, setting out the financial contributions.

Note: The Human Frontier Science Program (HFSP) is an international program of research support, funding frontier research on the complex mechanisms of living organisms. Research is funded at all levels of biological complexity from biomolecules to the interactions between organisms. U.S. participation is supported by the National Institutes of Health and the National Science Foundation.

Press release available at: <http://www.hfsp.org/about-us/press-and-media-centre/news-items/intergovernmental-agreement-future-support-hfsp>



### **4 Academy of Finland Designated 14 New Centers of Excellence in Research**

The Board of the Academy of Finland has selected the Centres of Excellence in Research (CoE) for the 2014–2019 CoE programme. The new CoE programme will consist of 14 units, involving research teams from twelve universities or research institutes. The Academy has reserved a total of EUR 45 million (USD 59 million) for the first three years of the six-year programme term. The funding negotiations for the new CoEs will be held in autumn 2013. CoEs are the flagships of Finnish research. They are at the very cutting edge of science in their fields, carving out new avenues for research, developing creative research environments and training new talented researchers for Finnish society and business and industry.

A Centre of Excellence is a research and training network that has a clearly defined set of research objectives and is run under a joint management. Funding is provided for a six-year term, which means that CoEs can work to long-term plans and even take risks. CoEs are jointly funded by the Academy of Finland, universities, research institutes, the private business sector and many other sources. The Academy has funded CoEs since 1995.

Centres of Excellence 2014-2019 (director, name of centre, coordinating university, other parties)

- Alitalo, Kari: Centre of Excellence in Translational Cancer Biology, University of Helsinki (UH). Other parties: University of Turku (UTU)/Sirpa Jalkanen, Institute for Molecular Medicine Finland (FIMM)/Olli Kallioniemi
- Aro, Eva-Mari: Centre of Excellence in Molecular Biology of Primary Producers, UTU. Other parties: UH
- Hyyppä, Juha: Centre of Excellence in Laser Scanning Research, Finnish Geodetic Institute. Other parties: UH, University of Oulu (UO), Aalto University (AU)
- Ikkala, Olli: Centre of Excellence in Molecular Engineering of Biosynthetic Hybrid Materials Research, AU. Other parties: VTT Technical Research Centre of Finland
- Ikonen, Elina: Centre of Excellence in Biomembrane Research: From Lipid Protein Interactions to Functions, UH. Other parties: Tampere University of Technology (TUT)
- Jacobs, Howard: Centre of Excellence in Research on Mitochondria, Metabolism and Disease, University of Tampere (UTA). Other parties: UH
- Jernvall, Jukka: Centre of Excellence in Experimental and Computational Developmental Biology Research, UH
- Knuuti, Juhani: Centre of Excellence in Cardiovascular and Metabolic Disease, UTU. Other parties:

University of Eastern Finland (UEF)

- Kulmala, Markku: Centre of Excellence in Atmospheric Science - From Molecular and Biological Processes to the Global Climate, UH. Other parties: UEF, Finnish Meteorological Institute (FMI)
- Kupiainen, Antti: Centre of Excellence in Analysis and Dynamics Research, UH. Other parties: UO, University of Jyväskylä (UJ)
- Mursula, Kalevi: Centre of Excellence in Research on Solar Long-Term Variability and Effects, UO. Other parties: UH, FMI
- Nissinen, Martti: Changes in Sacred Texts and Traditions, UH
- Paasi, Anssi: Centre of Excellence in Research on the Relational and Territorial Politics of Bordering, Identities and Transnationalisation, UO. Other parties: UTA
- Saarinen, Risto: Centre of Excellence in Reason and Religious Recognition Research, UH

Full article and more information available at: <http://www.aka.fi/en-GB/A/Academy-of-Finland/Media-services/Releases1/Academy-of-Finland-designated-14-new-Centres-of-Excellence-in-Research/>  
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## 5 A new innovation policy in France

The French Minister of Higher Education and Research, Geneviève Fioraso, presented on Tuesday, May 21, 2013, the "Strategic agenda for French research, technology transfer and innovation". The goal of the Ministry's agenda is to integrate science and research within the policy for economic recovery. The Minister spoke at the Science, Research and Society forum held at the College de France on Thursday, May 23, where she presented the inter-ministerial program for the development of research and innovation "France Europe 2020 - Tackling societal challenges and contributing to the competitiveness of the country." The new policy offers nine specific actions:

### 1. Mobilizing players on major societal challenges

The program identifies nine challenges such as food security, resource management or development of safe and clean energy. "Citizens must be able to relate to them" said the Minister. According to "France Europe 2020", these challenges require a multidisciplinary approach between basic sciences and technology research. Research in these areas will serve as basis for developing government policies.

### 2. Rebuilding the coordination and orientation of research in France

Two new committees are created: a Strategic Research Council composed of scientific experts, and a Ministerial Steering Committee. Their mission will be to ensure the prioritization of the "Agenda 2020", as well as the coordination and implementation of the work. They will assess the measures' effectiveness a posteriori.

### 3. Promoting technological research

"Technology should not be the poor cousin of basic research in France," said Geneviève Fioraso. She would like to promote technological research as a tool for the application of basic research outcomes in support of industrial innovation. A major project is the creation of 100 joint laboratories between SMEs and academic research institutions.

### 4. Developing training and digital infrastructures

Creation and development of publicly-funded information technology infrastructures that provide better access to supercomputers, as well as data sharing and storage at a national level, to allow for computer simulations that advance knowledge.

### 5. Promoting innovation and technology transfer

Geneviève Fioraso recalled: "We are ranked 6th in the world by the number of scientific publications but only 15th in innovation." In all higher education institutions, courses on innovation and entrepreneurship will be organized, as well as training courses for active researchers.

### 6. Embracing the scientific culture

According to a survey by Ipsos (a market research company) published in *La Recherche* and *Le Monde* magazines in June 2012, 81% of French feel that they are not being sufficiently informed about research issues. The Ministry of Higher Education and Research reached the same conclusion independently. To promote the dialogue between science and society, universities will be encouraged to better disseminate results of their research and doctoral students will be trained to present their work to the general public. The Ministries of Productive Recovery, of Communication, and of National (pre-college) Education will develop each year a strategic policy of scientific, technical and industrial culture.

### 7. Developing a program tailored to priorities in research and innovation

The new strategy in scientific policy will rely on the experience of the National Research Agency (ANR - Agence Nationale de la Recherche) in managing calls for research projects. ANR programming will be defined by the ministerial Steering Committee based on the strategic agenda.

### 8. Supporting national development

"France Europe 2020" does not forget that research can be used as a tool for national development and planning. Expectations of local economic stakeholders should be taken into account in the establishment of higher education policy. "It should also contribute to remove barriers and create better links between higher education institutions and national research laboratories," explained the minister.

### 9. Increasing the presence of French research in Europe and internationally

The government intends to strengthen French participation in international projects. "For one Euro invested by France, French participants receive 0.7 Euros in return. For example, in Switzerland for 1 euro invested, the Swiss receive back 3 Euros", said Geneviève Fioraso. Strengthening the French lobby in Brussels, developing a French web portal of European programs, establishing research activities abroad and encouraging students' mobility are all part of the agenda "France Europe 2020".

Translated and adapted from: <http://www.larecherche.fr/actualite/politique-scientifique/nouvelle-politique-innovation-france-21-05-2013-103309>

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## 6 Norway Says Yes to the EU Program Horizon 2020

The Norwegian Government has announced that it wishes to take part as a full member of the new EU framework program for research and innovation, Horizon 2020.

"European collaboration on research and innovation is important because it enhances the quality of Norwegian research, it enables us to contribute ourselves, and it gives us better access to international knowledge development. This in turn leads to innovation," states Kristin Halvorsen, Norway's Minister of Education and Research, in a press release. "The Research Council of Norway is very pleased that the Government has confirmed that our close research cooperation with the EU is to continue," says Director General of the Research Council, Arvid Hallén, in a comment to the decision.

The Research Council has already started planning how to organize and administer the activities that will best promote Norwegian mobilization efforts and assist research groups and companies with their activities under Horizon 2020. Norway's overall contribution to Horizon 2020 is expected to total close to NOK 16 billion (USD 2.7 billion) over a period which may extend to 2025.

Full article available at:

[http://www.forskingsradet.no/en/Newsarticle/Norway\\_says\\_yes\\_to\\_Horizon\\_2020/1253986729745](http://www.forskingsradet.no/en/Newsarticle/Norway_says_yes_to_Horizon_2020/1253986729745)

Note: Norway is one of very few western European countries not to be a member of the European Union. Norway has held a referendum on the issue of EU membership twice, first in 1972 and then again in 1994. On both occasions, a rather narrow majority of the Norwegian population rejected membership (in 1994, 52% were against and 48% were in favour). As a consequence, Norway is not a Member State of the EU, and the relationship with the Union is based on other forms of co-operation. In the field of

research, Norway is participating in a range of EU programs such as the Framework program for Research and Innovations (FP7) and the European Research Council. *Source:* <http://www.eu-norway.org/>



## 7 UK Scientists Fear Further Cuts

With anxiety rising about what the immediate future may hold for Britain's science funding, the man responsible for the nation's finances is trying to allay researchers' fears. Science "is a personal priority for me", chancellor of the exchequer George Osborne told reporters on 6 June after a ceremony to mark the completion of the roof of the new £650-million (US\$1.1-billion) Francis Crick Institute under construction in London. On 26 June, Osborne is set to unveil the next comprehensive spending review (CSR), which sets spending for government departments. He said that he hoped to make clear the government's "long-term commitment" to research in the new review, but scientists fear another budget freeze. Asked if he could cut science after his supportive statements, the chancellor said that he would not pre-empt the CSR but added: "You can read between the lines that I'm going to do everything I can to make sure Britain has a bright scientific future."

Analysts are especially keen to know what the government will do with the 'ring fence' that was placed around the science budget in 2010, freezing it at £4.6 billion (US\$7.1-billion) a year. The fence spared core spending areas - such as grants that are awarded by the country's research councils - from the cuts inflicted on other public sectors, although the science budget still lost money in real terms each year. The umbrella group Universities UK has calculated that, when inflation is taken into account, the deficit is £600 million (US\$934 million) over the current four-year CSR period.

The 2010 CSR moved capital spending in science - monies allotted to large infrastructure projects such as buildings and facilities - outside the ring fence, away from the core science budget. That made infrastructure vulnerable to cuts, and projects such as the United Kingdom Infrared Telescope in Hawaii face closure as a result. Many policy analysts expect the ring fence around science funding to be retained in the new CSR. But some worry that it may be removed or that additional categories of science money could be moved outside it. One rumour in circulation is that the Medical Research Council (MRC), which is a major funder of UK medical research, will be moved from the Department for Business, Innovation and Skills - the department in charge of the science budget - to the Department of Health, where it might be more vulnerable to cuts or to a change in research focus. In a 6 June statement, Ted Bianco, acting director of the biomedical-funding charity the Wellcome Trust, called the prospect "ill advised and potentially damaging", adding that it would shift the balance "from fundamental to applied research when both are essential to medical progress".

Full article available at: <http://www.nature.com/news/uk-scientists-fear-further-cuts-1.13180>

