

European Science and Technology Highlights National Science Foundation Europe Office 2009



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1 Europe

1.1 OECD lashes out at university 'conservatism'

Published: Tuesday 31 March 2009

Traditional university faculties are too conservative and are standing in the way of progress, as Europe's education system struggles to become more innovative, according to the head of the OECD's Centre for Educational Research and Innovation.

Background:

2009 is [European Year of Innovation and Creativity](#) (EYCI), a year-long program of events administered by the European Commission.

As part of the EYCI, the European Policy Centre is hosting a series of debates on innovation, the knowledge economy, and education.

Several other events have been organized across the member states, including a high-profile 'University Business Forum', which encourages cooperation between the education and enterprise sectors ([EurActiv 6/2/09](#)).

Dirk Van Damme said the current system of dividing knowledge into faculties should be broken up if Europe is to move to a new education system capable of equipping students with critical skills.

"We should abolish faculties in universities. Faculties are the most conservative bulwarks against change. Europe must move to a radically different trans-disciplinary approach. Most of the interesting things happen on the boundaries of the discipline," he said.

Speaking at a European Policy Centre debate entitled 'Beyond chalk and talk: Creativity in the classroom', which is part of the European Year of Creativity and Innovation, Van Damme said Europe's economic and social progress is due to the quality of its educational system.

"Compared to Japan and even China, European schools are much more innovative. Japan teaches hierarchy and respect, whereas European schools teach us to challenge convention."

"We have increased educational achievement in Europe and schools are still digesting the revolution in education. If we are to move to the next stage of development, this has to be reinvented," he said. However, he expressed concern that education ministries in the EU are attempting to "squeeze" ever-increasing amounts of information into curricula when a more balanced approach would be more beneficial.

He also stressed the importance of quality in education and teacher education, warning that the push towards greater innovation in education would result in mediocrity if greater emphasis is not placed on excellence.

Sources: April 2009

1.2 Experts give European Research Council passing grade (Europe)

Published: Monday 27 July 2009

Europe's fledgling scientific funding body is on the right track but has major organizational flaws which threaten its long-term viability, according to a no-nonsense analysis by a panel of experts.

Background:

The European Research Council was officially established in February 2007 to support researchers and raise scientific standards across Europe. Identifying broad scientific trends, boosting industry and knowledge are among its stated aims, with some even proposing the lofty goal of boosting Europe's number of Nobel prizes. It has a budget of €7.5 billion for the years 2007 to 2013.

Internal wrangling over its legal status and governance structures have been a feature of debate on the ERC since its inception, with the European Commission consistently pushing for the body to be an executive agency answerable to the EU executive.

A number of member states favored establishing the ERC as a legal entity separate from the Commission, an idea also backed by the main scientific organizations in France, Germany, Poland, Spain and the UK.

The Commission is concerned that if it loses control of the body, it would ultimately distribute research funds according to national quotas instead of scientific merit ([EurActiv 21/05/07](#)). This was a point stressed by Science and Research Commissioner Janez Potočnik at the launch in 2007 ([EurActiv 28/02/07](#)).

The European Research Council is too bureaucratic and needs more scientists in its management team, but has nonetheless been immune from political interference, according to a report drawn up by a group of research policy experts.

Earlier this year, the Commission appointed the panel, headed by former Latvian president and university professor Vaira Vike-Freiberga, to review the ERC's development ([EurActiv 25/2/09](#)). EU Science and Research Commissioner Janez Potočnik focused on the positive points made by Vike-Freiberga, but the full report offers an unflinching assessment of fundamental problems which threaten to throw the project off course.

The review panel said it was deeply concerned that the present governance structure of the ERC is complex and a "source of great frustration and ongoing low-level conflict".

In her report, Vike-Freiberga stressed that the ERC has "succeeded beyond expectations" in attracting outstanding scientists to serve on its peer-review panels, which have doled out millions of euro to 600 scientists in its first two years.

However, the former psychology professor said there were causes for concern about the long-term sustainability of the scheme under the present operating conditions.

"At the most fundamental level there is an incompatibility between the current governance philosophy, administrative rules and practices and the stated goals of the ERC," the report says.

The panel also called for stronger "leadership and competent professionalism" and suggested involving scientists in the running of the organization.

It says scientists should run research programs in the same way as it seems natural for legal services to be run by lawyers. "This flaw in construction should be urgently remedied," the report says, adding that a permanent committee on conflicts of interest should be set up to ensure that the scientists are not partial to their former research institutions or their own disciplines.

In the report, Vike-Freiberga, who also serves as vice-president of the reflection group on the long-term future of the EU, says the rules designed to prevent fraud and mismanagement should be overhauled. A system based on trust rather than suspicion is proposed in order to cut down on excessive bureaucracy.

Other key conclusions include:

- The roles of secretary-general and director of the executive agency should be merged into one post and a recognised scientist with administrative experience should be recruited. This scientist should report directly to the commissioner.
- The ERC should expand in size and importance in the next framework programme (FP8) and ultimately evolve into a permanent Community structure.
- Another independent review should be conducted of the project in two years' time.
- If the review shows that structural changes are necessary, the ERC could be established under Article 171 of the EU Treaty, which allows research bodies to be set up which are accountable to the European Parliament and the European Council.

Positions:

EU Science and Research Commissioner Janez Potočnik said the ERC is still a young agency and has been an exceptional success to date. He acknowledged that some organizational issues need to be addressed, but stressed that the ethos of the Council is based on building an autonomous research body funded from the Community budget.

He said the ERC should become the "European Champions League" of top researchers.

"We believe strongly in the idea of the ERC as a learning organization. The Commission's objective is to create an autonomous and accountable institution, financed by the Community budget that will increasingly attract the best scientists from around the world. On the basis of early experience, we have already done a lot to develop and improve the operation of the ERC. This must continue and we recognise that we cannot afford to be complacent."

The commissioner has repeatedly stressed that the ERC should operate in the wider European interest rather than be sucked into political haggling over how to allocate funds.

"One fundamental red line for me is the Community nature of the ERC – that is an ERC that works in European interest, an ERC that is resistant to any pressures that would work against scientific excellence. I believe the Commission will always have a role in guaranteeing this European character and with it the autonomy of the ERC. How to best exercise this role can of course be discussed, but the Commission is by definition the one European institution which is mandated and uniquely placed to protect the Community character and the autonomy of the ERC," he said.

Speaking at the launch of the report, panel chair **Vaira Vike-Freiberga**, a former president of Latvia, said the ERC was created just two years ago and has been "a great success story". She praised the agency's peer review system, and the good will shown by the scientific community and the political will shown by the Commission.

However, she said there are difficulties that could endanger the project's future success if not corrected.

"The ERC is of evolving strategic importance to Europe and is already having a substantial positive impact on the European research scene. The sustainability of this success and the aim of building the ERC into a world class agency depend, however, on adjustments to the operating philosophy and a constancy of the vision that led to its establishment in the first place."

"Improvements to the ERC structure are needed to integrate scientific and administrative aspects of governance and to streamline and simplify procedures. We hope that the Commission will act on our recommendations swiftly, as the ERC presents a novel and essential instrument for European research," she said.

Sources: July 2009

1.3 EU-US relation – calls for tenders/proposals 2009

Pilot Projects: Transatlantic Methods for Handling Global Challenges in the European Union and United States 2009 - Application deadline: 2 October 2009

Sources: September 2009

http://ec.europa.eu/external_relations/us/grants/index_en.htm

1.4 EU Invests €6.8m for Academic Cooperation in North America

The European Commission, through its longstanding cooperation with the US and Canada, announces the launch of 33 new and innovative projects involving universities and training institutions on both sides of the Atlantic. Each project is jointly funded and supervised by the European Commission and the governments of the partner countries. Their objective is to promote mutual understanding, transparency and quality in higher education and training and provide students from both Europe and North America the experience of studying abroad. This is accomplished through the establishment of long-term institutional cooperation at the bachelor's and master's degree levels. The 33 projects launched this year involve 154 institutions and more than 1220 student exchanges.

Ján Figel, the European Commissioner for Education, Training, Culture and Youth, commented that "Due to the lasting cooperation within the EU-US Atlantis and the EU-Canada programs we are inviting university professors, and particularly students, from our partners in North America to come to Europe to take part in joint study projects. By participating, students have the chance to work towards joint and

double degrees, helping advanced education hubs in Europe and in North America develop, work closer together and aim higher. Such long-term partnerships are to the benefit of advanced education on both sides of the Atlantic."

EU-US Atlantis Program – 4th edition with new projects. The European Commission and the US Department of Education have jointly launched 25 new cooperation projects. These were selected from a record 75 applications - an increase of 50% from 2008. The projects involve 116 universities and training institutions from the EU and the US. The European Commission and the US Department for Education each contribute €5.7m – an increase of 18% compared to 2008 – to support 840 students in two-way transatlantic exchanges.

The Atlantis Program now focuses on innovative courses and degree structures, such as transatlantic joint or double degrees. It seeks to encourage an innovative and sustainable range of student-centered activities, in both higher education and vocational education and training (VET).

This year's selected projects comprise:

- *Nine Transatlantic Degrees.* These absorb most of the budget and are joint or double Bachelor's or Master's degrees, which see students spend a full academic year on the other side of the Atlantic.
- *Eight Excellence in Mobility projects.* These projects are similar to the EU's Erasmus exchange program in higher education and focus on curriculum development with student mobility for one academic term.
- *Eight Policy Oriented Actions.* These projects aim to enhance transatlantic collaboration through studies, seminars, working groups, and benchmarking exercises that address comparative higher education and vocational training issues.

New EU-Canada projects. Eight new projects have been launched under the EU-Canada agreement in the fields of higher education, training and youth (2006-2013). They will involve a total of 38 universities and training institutions in Canada and Europe. The numbers of applications to the program increased substantially, with a 100% increase over last year for a total 44. The European Commission's contribution of €1,1m , to be matched by Canadian authorities, will support joint projects on curriculum development and joint study or training programs , allowing for the mobility of 384 students over the course of three years. These exchanges will be supported by the necessary mutual recognition of credits, linguistic and cultural preparation and a range of essential services and infrastructure.

This year's selected projects comprise six university-led projects and two VET-sponsored projects involving 18 Canadian universities/training institutions from five provinces and 20 European universities/training institutions from nine Member States. These eight projects are from a variety of disciplines including neuroscience, sustainable development, environmental and earth sciences, cooperative education, and computer intelligence.

Sources: September 2009

Brussels, 1st September 2009

<http://europa.eu/rapid/pressReleasesAction.do?reference=IP/09/1263&format=HTML&aged=0&language=EN&quiLanguage=en>

To find out more:

EU-US Atlantis program European Commission:

http://ec.europa.eu/education/programmes/eu-usa/index_en.html

List of selected projects 2009:

<http://ec.europa.eu/education/programmes/eu-usa/doc/sele09.pdf>

Education, Audiovisual and Culture Executive Agency (EACEA):

http://eacea.ec.europa.eu/extcoop/usa/index_en.htm

US Department of Education/FIPSE:

<http://www.ed.gov/programs/fipseec/index.html>

1.5 European Research Council (ERC) Advanced Grant Funding

About the ERC Advanced Grant funding scheme

Advanced Grants are intended to promote substantial advances in the frontiers of knowledge, and to encourage new productive lines of enquiry and new methods and techniques, including unconventional approaches and investigations at the interface between established disciplines.

The objective of the Advanced Grant is to encourage and support excellent, innovative investigator-initiated research projects by leading advanced investigators across the EU Member States¹ and Associated Countries². This funding scheme targets the population of researchers who have already established themselves as being independent research leaders in their own right and who would like to pursue frontier research of their choice.

The aim is to fund **individual teams** led by established, innovative and active **advanced investigators** - called **Principal Investigators (PI)** in the funding scheme - **regardless of nationality, age or current location**. They will include, for example, leading contributors to research advances in Europe, leading scientists of the European 'diaspora' or non-EU nationals who wish to establish themselves in Europe and pursue ground-breaking, high-risk research that opens new directions in their respective research fields or other domains.

Being highly competitive and awarded on the sole criterion of excellence without restriction to particular areas of research⁴, **these grants will support the very best of research to be conducted in any EU Member State¹ or Associated Country²**, adding value to research investments at the national level.

To encourage interdisciplinarity, when an interdisciplinary Advanced Grant proposal is grounded in the necessary combination of knowledge and skills from more than one discipline, a PI may identify a member or members of his/her individual team, who are active in these disciplines, as Co-Investigators, as an exception to the rule that consortia-style applications are not permitted ('Co-Investigator project').

[Who can apply for an ERC Advanced Grant?](#)

The ERC actions are open to researchers of any nationality who intend to establish and conduct their research activity in any EU Member State² or Associated Country³. The PI may be of any age and nationality and may reside in any country in the world at the time of the application.

¹The EU Member States are: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, and United Kingdom.

²The Associated Countries are: Albania, Bosnia and Herzegovina, Croatia, FYR Macedonia, Iceland, Israel, Liechtenstein, Montenegro, Norway, Serbia, Switzerland and Turkey. Note that the association agreement between the EC and the Faroe Islands is expected to become provisionally applicable as of 1 January 2010. Other countries may become associated during the course of FP7. The latest news will be posted on the CORDIS web site.

Sources: December 2009

<http://erc.europa.eu/pdf/ERC-AdG-2010.pdf>

2 Austria

2.1 Assessment of Austria's Participation in the 7th Framework Program

The Austrian Ministry of Science and Research (BMWF) is examining closely the involvement of Austrian researchers in the 7th Framework Program of the EU. In November 2008, with approximately one-fifth of the 7th FP budget committed, the success in the completed competitions and calls for proposals whose results are not known yet, are as follows:

Austria accounts for 2.6% of the participants, or 758 and is in 10th place among the EU-27 (France ranks 3rd). It has participated in 12.4% (529) of the projects. Austrians account for 3.8% of project coordinators, ranking 9th. This figure is a clear improvement compared to the 6th FP in which Austria coordinated 3.3% of the projects. Austria is particularly well represented in the "ESPACE" and "INCO" program of the 7th

FP, participating in part in 55.6% respectively 48% of the actions. The major Austrian participation, however, is in the fields "ICT" (35%) and "HEALTH" (51%).

The prize for the number of participations by organization again goes to the Technology University of Vienna. The University of Vienna – with four times as many students – is in second place, ahead of the Technological University of Graz with 54, 29 and 28 participations, respectively. The first non-university research organization is ARCS, in 4th place with 26 projects.

Sources: January 2009

- *Electronic Bulletin, January*

- *Mathieu Girerd, Science Counselor at the French Embassy in Austria - Phone: +43 1 5027 5324 - email: mathieu.girerd@diplomatie.gouv.fr*

- *April 2008 report, <http://www.bulletins-electroniques.com/actualites/54551.htm>*

- *[1] information about the PROVISO project, DI Margit Ehardt-Schmiederer, BMWF - Phone: +43 1 53 120 7129 - email: margit.ehardt-schmiederer@bmwf.gv.at*

2.2 Austrian Research Centers to Become Austrian Institute Technology

The reform of the most important non-university research organization in Austria, the Austrian Research Centers (ARC), is nothing if not ambitious. The architects of the reform wished to give a new name to the organization -- the Austrian Institute of Technology (AIT) – a symbolic reference to the Massachusetts Institute of Technology (MIT).

After a period marked by uncertainty, the new coalition government agreed and the research organization will, in the coming months, be able to implement the necessary changes to modernize and remove from the political arena and the threat of the withdrawal of support from industry.

A New Governance

The Austrian Research Centers is owned by the State (50.5%) and forty industries (49.5%). From now on the State (Ministry for Transport, Innovation and Technology - BMVIT) will guarantee 40% of AIT's budget in addition to competitive funds (European and national programs, research contracts, etc.) and the participation of the new ad hoc industry association for the support for research and innovation will supplement the funding, beginning in 2010 and renewed every fourth year.

Moreover, each of the five research departments will be supervised by an external evaluation group charged to evaluate the scientific quality and the relevance of the strategic directions every two years and to make recommendations based on these evaluations. In parallel, the Board of Trustees will be assisted by the Council of Strategy of Research

Five Research Topics

AIT will be organized in the following five research departments (exploratory research will be reduced or eliminated):

- Mobility -- development of technologies and tools to improve transportation safety and to guarantee efficient energy consumption.
- Energy -- development of technologies for the realization savings in construction and energy efficient systems and to guarantee the safety and the sustainability of the energy supply.
- Health and environment -- development of nano-biotechnologies and environmental technologies for the protection of natural resources and the creation of new diagnostic tools in medicine.
- Safety and security -- development of information and communication technologies for the safety and security applications.
- Futurology and policy -- development of analytic methods for complex natural or social systems and support for national or European systems of innovation for entrepreneurial and political plans.

Lastly, AIT will have two subsidiary companies. The first, Seibersdorf Labor, will provide a research infrastructure, and the second Seibersdorf Nuclear Engineering, will be in charge of radioactivity in Austria.

Sources: January 2009

- *Electronic Bulletin, January 14, 2009*
- *Mag. Michael H. Hlava, Communication service at ARC – Phone: +43 (0)50550 2046 - email: michael.hlava@arcs.ac.at*
- <http://www.arcs.ac.at>

2.3 Innovation in Austria

According to the 8th edition of the European Table of Innovation (TBEI2008), a tool to evaluate and compare nation's innovation set up by the European Commission within the Lisbon Framework, Austria is in the 6th place, one step away from the 1st group, but in front of France (10th) and above the European average. Austria thus moves up five places compared to the 2007 edition and confirms a positive appreciation which was then related to working dynamics.

Relative to its average performance, Austria posts its best results in the ability of its companies to take part in networks, in the spirit of its industry ("Linkages & Entrepreneurship") and in its number of innovating companies ("Innovators") whereas human resources continue to constitute a weakness linked to the availability of public funds to support the innovative projects.

Nevertheless, though the human resources picture could be better, it seems that the progress of Austria these last five years is mainly associated with the rise of the number of graduates and their lifelong training.

Sources: February 2009

- *Electronic Bulletin, February*
- *TBEI2008, <http://redirectix.bulletins-electroniques.com/DCM9h>*

2.4 Austria Vies for European Institute of Technology (EIT) Consortium on "Sustainable Energy"

After partnering with Bratislava in 2007 to host with the site of the European Institute of Technology (EIT), Austria has repositioned itself for the first Knowledge and Innovation Communities (KIC). [Note: The original EU proposal to develop a "European MIT" has since devolved into a proposal for a "virtual MIT", due to difficulties in agreeing on a site.]

Last February the EIT, headquartered in Budapest, organized an international meeting in Vienna to inform the European Community about the "Sustainable Energy" program (all projects available at: http://ec.europa.eu/eit/pastseminars_en.htm#energy). A week later, the European National Agency for Applied Research (FFG) organized a workshop to learn about the Austrian mobilization (three FFG experts are charged to help the Austrians assemble their KICs).

Calls for proposals for the first KICs should be launched by the in April. The areas for the themes will be:

- Sustainable energy
- Attenuation and adaptation to climate change
- Innovation and communication of tomorrow

The rather ambitious annual financing for each KIC is 50-100 Million Euros per year for 7 to 15 years, but only 25% of the costs will be covered by EIT. The remainder must be financed by the members of the consortium, European research project (FP7, structural programs), national plans, or the private sector.

Sources: April 2009

- *Electronic Bulletin, April 1, 2009*
- *Brigitte Hasewend, Director - Phone: +43 316 873 5281, fax: +43 316 873 5282 - email: brigitte.hasewend@TUGraz.at - web: <http://www.isp.tugraz.at>*

2.5 Frankreich-Schwerpunkt – The Interdisciplinary Center for French Studies in Innsbruck (Austria)

Q&A

- **What is the role of the center?** Its annual budget allows support for research projects, work, and scientific conferences.

- **Whom does it target?** All scientists, professors, and researchers at the University of Innsbruck, regardless of their field and their faculty (interdisciplinary vocation).

- **What are the requirements for a grant?** The project needs to be scientific and must show clear connections, such as partnerships, with France.

- **What does the grant finance?** It supports transportation and housing costs (an average of 350 Euros for a round trip ticket between France and Innsbruck and 70 Euros per night (with a maximum of 5 nights stay).

- **Other Center support includes:** logistical support and/or financial and co-organization of scientific and cultural demonstrations (mailing lists, press contacts, etc). The center provides help in obtaining access to buildings in the city of Innsbruck. Funded applications receive direct reimbursement for the costs incurred. An activities report of the project and a digital photograph are also required.

The person in charge of the center is Mrs. Eva Lavric (eva.lavric@uibk.ac.at or france-focus@uibk.ac.at). The center benefits from support by the University of Innsbruck and the cultural section of the Embassy of France in Austria.

Sources: July 2009

Electronic Bulletin, July 14, 2009

Eva Lavric - Responsable du pôle - email: eva.lavric@uibk.ac.at ou france-focus@uibk.ac.at

2.6 Austria Releases Research Figures

The Austrian government has released updated figures in a number of categories highlighting cooperation in research and higher education.

A political priority for Austria has been increasing the level of research support. Over the past 10 years the percent of GNP invested in research has gone from 2.66 percent to 2.73 percent, making Austria third in the EU, after Sweden and Finland. The goal is 4 percent by 2020. Currently, 7.5 billion Euros is spent on R&D, 36 percent in the public sector and 64 percent in the private sector. The European Innovation Panel ranks Austria in the 6th place among the European countries, ahead of France (10th) and above the European average. The goal is to reach 3rd place by 2020.

The number of employees working in R&D is 70,000 the ratio between researchers/active populations is 6.1 per thousand, roughly equivalent to the European average. The university sector dominates in public research employing 80% of the researchers. There are three national non-academic public research organizations, the Austrian Institute of Technology (900 researchers), the Academy of Science (1000 researchers) and the state-run Joanneum Research (350 employees). Two-thirds of the researchers work in the private sector, primarily for small and medium enterprises, but also for some larger groups (Siemens).

Approximately 18% of research conducted in Austria is fundamental research, conducted in universities (80%) and Academy of Science (20%). Austria is recognized for the quality of its research, in particular in physics, molecular biology, chemistry, mathematics and medicine. But the direction research policy in recent years has been toward applied research. There exists, at this level, many fields of competence: materials (contribution to aeronautics and aerospace), mechanics (automobile), life sciences (medicine, molecular biology), environment, applied mathematics and information technologies.

Austrian researchers have had very positive results in the 6th and 7th Framework Programs, participating in 715 European projects and receiving almost 300 million Euros from the 7th Framework Program. Austria wants to be a major player in the European Research Area and is very interested in scientific and

technological cooperation with other countries, in particular in joint programs and initiatives from the Institute of Technology and Innovation (EAT).

Austria is interesting for France because of its increasing participation in European programs, the many existing partnerships with countries from Central Europe, and it's a growing know-how in innovation. Its priorities are to increase the cooperation between national funding agencies and institutions dedicated to innovation and competitiveness.

University cooperation

The number of students in the Austrian higher education is of 290,000 including 16% foreign students. Its higher education is divided into the following structures:

- 21 multi-field universities (240,000 students)
- 18 universities of applied sciences or Fachhochschulen (FH) (34,000 students)
- 11 private universities (5000 students)
- 14 Pedagogische Hochschule (~ UFM) (10,000 students)

The share of the global budget devoted to higher education in Austria in 2008 was 2,921 billion Euros or 1.2% of the GDP. Students represent 3 percent of Austria's population and the percentage of the population with a diploma from an institution of higher education is 18%, which is lower than the OECD average. Implementation of the Bologna process in fall 2008, 80% of the formations were in conformity with the LMD (License/Master Doctorate) system.

Two Austrian universities are among the 125 best world universities according to the Shanghai 2008 classification, the University of Vienna and the University of Medicine of Vienna. Four Austrian universities appear among the 300 best world universities according to the Times classification -- The University of Vienna, Technological University of Vienna, University of Innsbruck, and the University of Graz.

There are number cooperative agreements between universities, mainly to encourage the mobility of students. The master agreement on the mutual recognition of diplomas is currently under review. Currently about 600 Austrian students go to France annually, typically for one or two semesters). In addition to these bachelors and masters level students there are about 400 students who are in exchange programs lasting a year or more. France is the second most popular destination for Austrian students, following Spain, but Austria is only the 11th most popular destination for French students. Austria attracts approximately 400 Erasmus students.

Sources: November 2009

Electronic Bulletin, November 10, 2009

3 Belgium

3.1 Innovall: A New Patents Search Engine (Belgium)

Créax, a Belgian office for the study and advocacy of innovation, is in the midst of a European project to create Innovall, a tool to facilitate a cost-effective web search of patent documents. Among its multiple functions the new search engine allows for a more intuitive search. Innovall is currently concluding tests for 60 European small and medium enterprises and eight administrations.

The relevance of this new methodology rests on semantic search. It bases its search on concepts rather than key words. *"If you're looking for a patent concerning a braking apparatus for example,, the engine also will seek answers which use words like deceleration"* explains Alfredo Silva, coordinator of the project. The system first identifies the patents according to its function, then allows a search by company and by product name.

Créax combines its knowledge of innovation methodology with problem solving tools (using methods that allow novel problem resolution). This project unites projects from various European countries such as Italy (Cybion), Portugal (Inova+ and IPN), Spain (University of Alicante) and Lithuania (Infobalt).

The Belgian Office for Innovation offers several services for the international SME or groups: Mentoring Project Innovation, Search for New Applications for Existing Products, Solutions to Complex Problem, Financing Project, and Formations More Inspiration.

Sources: July 2009

- *Electronic Bulletin, July 10, 2009*

- *Innovall, Alfredo Silva - Email: alfredo.silva@inovamais.pt*

- *Sirris, Patents Bureau, Fabienne Windels - Email : fabienne.windels@sirris.be - Phone +32 (0)4 361 87 57*

3.2 Walloon Considers Green Technology Center of Excellence (Belgium)

Following the regional elections in June, the future Walloon government will initiate a "Marshall Plan II, Green" and a sixth pole of competitiveness dedicated to new environmental technologies more in tune with current economic and social trends and with an emphasis on teaching and training. The Green party intends to make a success of the ecological transition in Wallonia and to create thousands of long-term jobs, especially in the green economy.

The Walloon environmental movement, which includes the World Wildlife Fund (WWF), Edora, Greenpeace, Bioforum Wallonia, Nature and Progress, Association for the Promotion of Renewable Energies (APERÉ), Wallonia Inter-Environment, and Natagora, has lobbied for a pole dedicated to renewable energies and energy efficiency. Reorienting the production and consumption of goods should, according to its representatives, create 75,000 jobs in Wallonia by 2015. The outgoing regional government had recommended in its report for orientation for the next legislature, registering Wallonia in the energy revolution and transforming the environmental challenge into economic opportunities, new jobs and improved quality of life. This report proposed to identify the market niches in which Walloon companies could be particularly competitive, to lay down industrial policies intended to develop these niches, and to concentrate strong research budgets to support innovation aimed at sustainable development technologies.

Some have questioned the relevance of such a center. Professor Henri Capron, economist at the Free University of Brussels, confirms that "the challenge of tomorrow is in the rise to power of green technologies" but he doubts that a center of excellence is "a proper tool." This sector has yet to develop a critical mass in Wallonia, he notes, and Green technologies should integrate into the existing poles and to contribute to their development. He thus recommends working across existing poles rather than creating a specific pole.

A call for "Sustainable Development/Climate Change" projects was launched in February 2008 for the Walloon Poles of Competitiveness and Clusters. The Walloon TWEED cluster (Walloon Technology Energy - Environment and Sustainable Development) which works with companies that specialize in renewable energies is currently being rapidly developed.

The poles of competitiveness are a flagship measure of the Walloon Marshall Plan for economic revival. Poles have been identified in life sciences (Biowin), in food and agriculture (Wagralim), in aeronautics and space (Skywin), in transport and logistics (Logistics in Wallonia), and in mechanical engineering (Mecatech).

Sources: July 2009

- *Electronic Bulletin, July 10, 2009*

- *Walloon Ministry of Economy, Employment and External Commerce - Phone: 081/23.41.11 - Email: info@marcourt.gov.wallonie.be*

- *Download the report on Belgian Centers of Excellence format PDF: http://www.bulletins-electroniques.com/rapports/smm09_009.htm*

- *Video "Plan Marshall 2. Green": <http://redirectix.bulletins-electroniques.com/>*

- <http://www.polesdecompetitivite.eu>
- <http://marcourt.wallonie.be>

4 Czech Republic

4.1 Nanotechnology and Nanomaterials Innovation Center Launched (Czech Republic)

The Jaroslav Heyrovsky Institute of Physics and Chemistry in Prague has started construction on a center for innovation in nanomaterials and nanotechnologies. The center is expected to be operational in November 2010. The total cost of the project is estimated at 1,350,000 euros and will be partly financed by the European Regional Development Fund.

This project will exploit the potential of the Czech academic and university institutions regarding the synthesis and application of nanomaterials, while seeking to support synergies between interdisciplinary research and the private sector. A new center completely equipped for research in nanotechnology will be built atop the current building.

The institutions involved in the operation of this new center are institutes of the University and Academy of Science (Institute Jaroslav Heyrovsky, the Inorganic Institute of Chemistry, the Faculty of Science of the Charles University of Prague, as well as the Chemical Institute of Technology of Prague), small and medium enterprises (EuroSupport Manufacturing Czechia, Elmarco) and the industrial research center VUAnCh.

This center's role is to ensure the connection between basic research and production. It will also be a base of information and training for students, young researchers, and industrialists, as well as for the public.

Sources: June 2009

- *Electronic Bulletin*, June 23, 2009

- *Nanotechnology and Nanomaterials Center for Innovation*: <http://www.jh-inst.cas.cz/nanocentrum/detail.php?p=7&lang=en> (web site in English)

- *Institute J. Heyrovsky* : <http://www.jh-inst.cas.cz/http://www/index.php?p=1> (English web site)

- *Prague Daily Monitor* : <http://launch.praguemonitor.com/> (English web site).

4.2 The Czech Republic and Chile Strengthen Antarctic Research Ties

The Czech Republic and Chile have signed an agreement for cooperation in the Antarctic, which provides a legal framework for Czech scientists working in Antarctica in territory claimed by the Chilean government. This agreement was signed by the Foreign Ministers of the two countries, Jan Kohout and Mariano Fernandez, at a meeting of the representatives of the EU countries and the Rio Group, which consists of 23 Latin America and Caribbean countries.

The agreement states that cooperation will concentrate on the preparation of scientific and technological twinned projects, the exchange of information, the support for education and training specialized in human resources, transport, lodging and logistic activities.

The Czech scientists will use their own station for their research tasks, except for the scientific polar station Johann Gregor Mendel in the Antarctic, which has operated since the beginning of 2007 and is intended to house 20 or so Czech scientists who study climate change in the area. They also carry out research on the Antarctic oases and the zones in which life develops in the form of simple plants, algae, sponges, lichens, or others, after the melting of the icebergs.

Sources: June 2009

- *Electronic Bulletin*, June 23, 2009

- pfiala@fss.muni.cz

4.3 Polar Research - The Czech Republic and Argentina Strengthen Antarctic Cooperation

The Czech Republic and Argentina are strengthening their cooperation in the Antarctic, particularly the area of Argentinean claim, which includes the Antarctic and a triangular section extending to the South pole between the meridian lines W 25° and W 74° and south of 60° latitude.

After a similar agreement with Chile last May, the Czech Ministry of Education, Youth and Sports (MSMT) signed an international cooperation and consultation agreement with Argentina. The Argentinean authorities, like their Chilean counterparts, see an advantage in locating the Czech station in the Antarctic near the Argentine stations. The cooperation will relate to the coordination of joint projects, information sharing and logistical support.

The Czech polar scientific station, Johann Gregor Mendel, started operating in 2007. It can accommodate 15 to 20 people and is made up of a main building used for lodging and laboratories and nine technical buildings. The station, used mainly by the researchers from Masaryk de Brno University, will be open to other Czech and foreign researchers. The Czech scientists who each year study climate change in the area also carry out research on the Antarctic oases in which life develops in the form of simple plants, algae, foams, lichens, or ecosystems .

There are currently 48 research stations belonging to seventeen countries operating in the Antarctic.

Sources: October 2009

Electronic Bulletin, <http://www.tyden.cz>

5 Denmark

5.1 Outline and Conclusions of the Copenhagen Scientific Congress (March 10-12, 2009) (Denmark)

In March 2009 the University of Copenhagen, in collaboration with the International Alliance of Research Universities, organized an important scientific conference entitled "Climate Changes: Total Risks, Challenges and Decisions." This meeting, with more than 2,000 participants, was divided into 6 main themes and 58 sessions. Nearly 1,600 abstracts were submitted, from which 600 speakers representing 70 countries were selected.

1- Objectives and positioning regarding to the IPCC Back to the Table of Contents

The conference took place under the umbrella of the COP 15 which will be held in December 2009 in Copenhagen. It will provide members with the most recent scientific data on problems they will confront and will ensure that they can access current data on climate change. The organizing team views the 4th report of the GIEC as the "unique and obvious base for discussion" for the negotiations of the COP 15. The current version was published in 2007 with data going back to 2005.

2- Results of Return to the Table of Contents

Two documents will be published:

- A 30 page synthesis published in June 2009, with the principal conclusions of the conference intended for political decision makers and general public. The Danish Prime Minister has pledged to forward this document to all representatives attending the Cop15. <http://climatecongress.ku.dk/pdf/synthesisreport>

- An academic research document, published in 2010 after scientific peer review. Already six key messages, worked out by the organizing team and under its sole responsibility, have been established.

The following messages, underlining the urgency of the problem, are particularly noteworthy:

- Recent observations confirm the very probable move towards the worst scenario imagined by the IPCC. The study of many key parameters raises fears that these trends will accelerated and confirms the existence of thresholds beyond which climate change will be abrupt and irreversible.

- Even a modest rise in the global temperature will lead to social upheavals particularly difficult to manage especially among the most vulnerable zones and people.
- Any delay in action strongly handicaps the likelihood of containing climate change at a sustainable level and increases the economic and social costs and social mitigation and adaptation.
- Inaction is inexcusable: on one hand tools are already available to address the challenges posed by climate change, on the other developing a low carbon economy will bring many opportunities.

3- Media impact of Return to the Table of Contents

The meeting benefited from an exceptional media visibility. The opening and closing sessions mobilized many personalities, among which Danish Prime Minister, Anders Fogh Rasmussen, as well as three of his ministers, the president of the IPCC Rajendra Pachauri and Lord Nicholas Stern. Many Danish and international media covered the event.

France placed 5th among countries contributing abstracts. Its visibility was reinforced by the presence of Jean Jouzel, French climatologist and glaciologist, CNRS Golden Medal winner and vice-president of Group 1 of the IPCC. In addition to his participation at the meeting, he gave two conferences in Copenhagen and an interview to the Danish press.

4- Extracts of some Contributions to Return to the Table of Contents

Connie Hedegaard, Danish Minister for Climate and Energy, declared that the economic crisis did not constitute an excuse to delay the action but constituted an opportunity to reorganize the economy and to build a "green growth" source of employment.

Stefan Rahmstorf, Professor at the Research Institute of Climatic Impacts in Potsdam, affirmed that the rise in sea level (which was the focus of the first session) had been underestimated by the IPCC (the report does not take into account the melting of the icecaps in the Antarctic and Greenland). According to him, the rise in the sea level will range between 75cm and 190 cm by 2100. He also pointed out (in agreement with the IPCC) that this rise will continue in future centuries regardless of what measures are taken, because of the inertia of oceanic behavior. He estimates that we can already anticipate a rise of several meters in the centuries to come.

The British economist Nicholas Stern has asserted that the economic consequences of inaction on global warming have been underestimated, indicating that forecasts of his 2006 report were in fact underestimated. According to him, it would be necessary to devote the equivalent of 1 to 2% of the world GDP per annum to the fight against the warming to avoid an economic and ecological catastrophe.

Sources: August 2009

- Electronic Bulletin, July 29, 2009

- Conference Report: <http://climatecongress.ku.dk/pdf/synthesisreport>

- Additional information: Thomas Caniard, Scientific Counsel – French Embassy in Denmark

6 France

6.1 First 20 French Universities Selected Under Law of Autonomy

As of January 1, 2009, 20 universities will become autonomous

The 20 universities becoming autonomous as of on January 1, 2009 will benefit from widened competences (management of the budget, wage and human resources) envisaged by the law on the autonomy. These twenty universities, representing a quarter of French universities, are comprised of nearly 315,000 students and just over 19,000 teacher-researchers. The selection of autonomous universities was based on their financial accounting and management, their human resources management, their management of information systems and their property management.

Les 20 premières universités autonomes au 1er janvier 2009
Loi sur les libertés et responsabilités des universités



Sources: January 2009
<http://www.enseignementsup-recherche.gouv.fr/cid23302/11-aout-2007-1er-janvier-2009-de-la-loi-a-l-autonomie-des-20-premieres-universites.html>

6.2 Agreement Signed with Vatican (France)

(Official statement by Valerie Pécresse - January 6, 2009)

The Ministry for Foreign Affairs and the Ministry of Higher Education and Research specified that in signing an agreement with the Holy See regarding the Bologna Process, that it conform with the agreements with the other European States. The Conference of University Presidents was informed of the agreement prior to its being signed in December 2008. The agreement will standardize recognition for diplomas awarded by Catholic institutions by recognizing the university's level. This will clarify the status of students' continuing education by granting universities authority over recognizing these diplomas.

The two ministries are reminded that this agreement provides that canonical diplomas delivered by Catholic universities and establishments of higher education are duly recognized by the Holy See as well as the ecclesiastical diplomas directly delivered by ecclesiastical faculties under the authority of the Holy See.

Sources: January 2009

<http://www.enseignementsup-recherche.gouv.fr/cid23357/precisions-sur-l-accord-signe-avec-le-saint-siege.html>

6.3 New Training for Teachers (France)

In his desire to reinvigorate the role of teachers, the President of the French Republic has determined to renovate the university training of Elementary teachers by recognizing and enhancing the starting pay of Master Teachers. The Minister for Education, Xavier Darcos, and the Minister for Higher Education and Research, Valerie Pécresse, provided for implementing this reform in the agreement to extend the charter with the Conference of the Presidents of Universities (C.P.U.) and the Conference of the Directors of Academic Institute of Training of Masters (C.D.I.U.F.M.).

Sources: January 15, 2009

<http://www.enseignementsup-recherche.gouv.fr/cid23459/la-nouvelle-formation-des-maitres.html>

6.4 Physical Institute of the Earth in Paris to Get New Building (France)

Valerie Pécresse, Minister for Higher Education and Research, laid the cornerstone of a new building which will house the Physical Institute of the Earth in Paris (IPGP) and the Science Library of the Universe. This project is part of a total restoration of Paris VI University, (Jussieu). It demonstrates the

desire to make of Paris an internationally attractive university city while providing future students and Parisian researchers with working conditions worthy of great French research in the 21st century. This operation, totaling nearly 40M€, is financed by the State (10.6 M€) and by the Region (29.2 M€) for the Sciences Library of the Universe. The delivery date of the building is planned in the first quarter of 2010, with an opening in the fall of 2010.

Sources: January 20, 2009

<http://www.enseignementsup-recherche.gouv.fr/cid23488/un-nouveau-batiment-pour-l-institut-physique-du-globe-de-paris.html>

6.5 New mission on the evolution of the Parisian universities (France)

Valerie Pécresse, Minister of Higher Education and Research, charged Bernard Larroutou, General Engineer, former chairman and managing director of INRIA as well as former managing director of CNRS, of a mission on the evolution of the Parisian universities, in particular within the framework of the implementation of the law on autonomy of the universities. Official statement - Valerie Pécresse - January 6, 2009

This mission follows the inventory of the audit of university real estate which clarifies all the difficulties rising from bursting of the university landscaping, and the particularly detrimental aspects of this situation, to the students who encounter great difficulties to find places where to work peacefully, to locate themselves among offer of formations or to find lodging or food. The Committee of the Campus Operation had also underlined the difficulties of setting up stable and structured cooperation between the Parisian establishments.

Bernard Larroutou will have to propose, in close link with all actors concerned - local government agencies and establishments - a scheme of a strategic plan for higher education in Paris supporting the teaching and the scientific projects of the establishments. The recommendations will relate in particular to:

- improvement of the living conditions coed in Paris;
- the structuring and, if necessary, the regrouping of the establishments of higher education and research, in the logic of the poles of research and higher education and Campus Operation, in order to reinforce their international visibility and to reduce the current parceling out;
- priority real estate transactions to be engaged as of 2009.

He will also propose a device making it possible to control, in time, the implementation of the scheme for a strategic plan which will be approved by the State, in bond with the local government agencies, and to accompany and coordinate the establishments concerned, in the framework and the respect of the law on autonomy of the universities. The recommendations will be presented in March 2009 for the questions related to the students' life, and in May 2009 for the overall file.

Sources: January 2009

<http://www.enseignementsup-recherche.gouv.fr/cid23358/installation-de-la-mission-sur-l-evolution-des-etablissemments-universitaires-parisiens.html>

6.6 Law for Teachers Makes Additional Guarantees (France)

Valerie Pécresse, Minister of Higher Education and Research, addressed the teacher-researchers, by the means of a letter to University Presidents in which she specifies and explains the modifications made to the statutory decree of 1984, and points out that she took care that all the guarantees be given in order to avoid concerns that had been expressed.

Sources: February 2, 2009

<http://www.enseignementsup-recherche.gouv.fr/>

6.7 375 million Euros for University of Strasbourg Project (France)

Valerie Pécresse, Minister of Higher Education and Research, inaugurated the unified University of Strasbourg, born from the fusion of the three universities of Strasbourg (Louis Pasteur, Marc Bloch and Robert Schuman) last January 1st. With this occasion, she announced that the project "University of

Strasbourg" retained within the framework of the Campus Operation will receive a capital donation of 375 million Euros.

Sources: February 5, 2009

<http://www.enseignementsup-recherche.gouv.fr/>

6.8 Higher Education and Research are Main Recipients of the Renewal Funds (France)

Valerie Pécresse, Minister of Higher Education and Research, presented the next phase of the revival program dedicated to higher education and research. This plan for 731 million Euros represents 20% of the investment announced by President Sarkozy, boosts the funds already allotted to higher education and research in 2009, and underlines that they are more than ever a priority to prepare for the economic recovery.

Sources: February 3, 2009

<http://www.enseignementsup-recherche.gouv.fr/>

6.9 Increase of 17% of the budget 2009 devotes to the infrastructures of research (France)

Patrick Devedjian, Minister in charge for the Implementation of the Revival Program and Valerie Pécresse, Minister of Higher Education and Research, presented the phase of the revival program devoted to the very great infrastructures of research. They stressed that the revival program will allow a take-off without precedent to equip research laboratories. Lastly, Valerie Pécresse specified that the budget 2009 devoted to the great infrastructures of research will be increased by 17% thanks to the revival program, passing from 273 M€ initially budgeted to 319 M€.

Sources: Sources: February 2009

<http://www.enseignementsup-recherche.gouv.fr/>

6.10 The revival within the service of housing for students (France)

Within the framework of the revival program, 47 million Euros are devoted to accelerate the effort in favor of student housing, with the rehabilitation of 2,000 additional rooms and the construction of 1,200 others before the re-entry 2010. This is equivalent to an increase of 70% of the means for housing studied compared to 2008 instead of 18% envisaged at the beginning.

Sources: February 2009

<http://www.enseignementsup-recherche.gouv.fr/>

6.11 CNRS Launches First Large Operation in Africa (France)

The agreement signed in Paris on January 15 by Catherine Bréchnignac, President of CNRS, Basile Guissou, General Representative of the National Centre of the Scientific Research and Technique (CNRST) of Ouagadougou (Burkina Faso), Abdou Salam Sall, Vice-chancellor of the University Sheik Anta Diop of Dakar (Senegal), and Ginette Siby Bellegarde, Rector of the University of Bamako (Mali) is a first. It makes official the creation of the International Mixed Unit (UMI) on "Environment, Health, and Societies" (ESS). The objective of this program is to build an effective interdisciplinary scientific tool between researchers of the South and the North which addresses the questions about the environmental transformation in Western Africa and its medical and social impacts.

"A glance at the charts of foreign scientific cooperation shows that CNR is, frankly, the first research organization in France and Europe to state that although cooperation is present in differing degrees in Europe, America and Asia – it is non-existent in sub-Saharan Africa," noted anthropologist Gilles Boetsch, director of the UMI ESS and president of the Scientific Council of CNRS. His view is that this situation is unacceptable given France's history in this part of the world. In this context, several researchers have for a long time thought that it was necessary to create a program of research specific to Western Africa. This has resulted in a difficult internal debate within CNRS, but Catherine Bréchnignac has supported the project from its beginning and did not spare her efforts to convince the skeptics.

An original unit represented on four geographical poles

"Our African colleagues are our counterparts" declares Gilles Boetsch. Consequently, the governing idea the UMI ESS program is to develop a scientific community in Africa to answer not just the specific problems of the African populations, but scientific problems of interest to all researchers, whatever their country origin." *Imagine for example that within the framework of climate change, the average temperature of the planet increases of 3° C. It won't be long before diseases known as tropical will be appearing in more northern climes,"* says, Boetsch. In an era of globalization, the South and North are confronted by common problems. The new International Mixed Unit will not only focus on environmental, health, and society problems, but also on interactions among the three domains. *"We will need to work at the local level to be able to lay out examples, but with a goal of building general models"* noted the French researcher.

With this in mind, the UMI ESS has been structured with four geographical sites located at Marseilles, Ouagadougou, Bamako and Dakar, with the rotating director initially located in Dakar for a four-year period. Another characteristic of this new tool is its Franco-African joint management, ensured by an assistant director of persons overseeing the four geographical poles. "We want each of the four country partners to be able to assign 6 to 10 permanent researchers. Associate researchers, doctoral and post-doctoral students will also be part of the team. One of the objectives is to train young researchers so that research increases notably in the African countries.

Five themes

Concerning the research programs to be developed within this program, Gilles Boetsch explains that they will articulate around five sets of themes: Pollution, health and society; Environment, health and society; Pathogenesis, dynamic social preventions and society; Technical spaces of care and society; and finally Lifestyles and health, the influence demographic migrations and transition. This demonstrates that the creation of the UMI ESS is "a major CNRS operation in Africa" as noted by CNRS President Catherine Bréchnignac at the signing ceremony.

Sources: March 2009

Electronic Bulletin, February 27, 2009

Gilles Boetsch - email: gilles.boetsch@univmed.fr

6.12 R&D Projects Selected for 7th Framework Funding (France)

Ninety-one of 190 proposals from 53 centers of excellence will be funded at 107 millions Euros. The regional governments indicated their intention to co-fund the majority of these projects with a commitment of up to 67 million Euros. Small and Medium Enterprises (SME) should directly profit from 30 million Euros from the Interministry Unique Funds (FUI).

The center of excellence System@tic Paris-Region has 11 projects compared to 9 for Minalogic, and 7 each in the Aerospace Valley and the Astech pole. Taken together, they total 645 projects worth 3.6 billion Euros (1.3 billion from public financing and 830 million from the central government) supporting 13,000 researchers since 2005. An eighth call for projects was launched last February 27. The selected projects will be known at the end next of July.

Sources: March 2009

Electronic Bulletins, March 23, 2009

<http://www.competitivite.gouv.fr>

6.13 ParisTech ENSTA Continues International Development (France)

Twelve! It is the number of dual-diploma agreements signed with foreign universities by the National Superior School of Advanced Techniques (ENSTA). The two last were signed mid-February with the State University of Novossibirsk (Russia) and the Technical University of Wroclaw (Poland). The University of Novossibirsk, which consists of 38 research institutes with 2,000 teachers and 7,000 students is noted for its higher education, particularly in the fields of physics, mathematics, and mechanics. The university, one of the most competitive in Russia, has 44 (out of a total of 500) members of the Russian Academy of Science conducting research. The reputation of the Technical University of Wroclaw needs no further mention.

The signature of these two agreements testifies of the dynamism of ENSTA, which seeks to offer its pupils an opportunity to study abroad and to allow foreign students to be trained at the school. At the end of the 2nd year of training, the pupils - engineers of ENSTA will be offered two years to study in Novosibirsk. At the end of their stay, they will obtain the two engineering diplomas. Reciprocally, as of September 2009, the students of these two foreign establishments having successfully finished the 4th year of training will be able to integrate the ENSTA to take up their 2nd and 3rd year engineering courses.

Sources: March 2009

Electronic Bulletins, March 23, 2009

ENSTA - Valérie Toomeh : Phone +33 (0)1 45 52 54 58 - email : valerie.toomeh@ensta.fr

6.14 Carnot Meetings – Where the Research Community Meets the World (France)

On May 13 and 14, the 2009 Carnot Meeting will be held at the Congress Center in Versailles, just outside of Paris. Organized by the Initiative of the Association of the Carnot Institutes Carnot [1] and supported by the General Council of the Yvelines region, the ASCR (industrial association from the Lyon region), the ANRT (*Association Nationale de la Recherche et de la Technologie* – National Association for Research and Technology), the ANR (*Agence National de la Recherche* – National Agency for Research) and the INPI (*Institut National de la Propriete Industrielle* – National Institute for Industrial Property).

Boosted by its success of last year, with more than 1,200 visitors and nearly 3,000 appointments organized between the 400 exhibitors and more than 700 projects, these 2009 Carnot Meetings will gather 500 research laboratories covering a broad spectrum of research areas. Their audience: the economic players from across France. The Carnot Meetings offer a unique opportunity for these two communities to meet with the aim of finding the perfect match between researchers and small and medium size businesses in search of innovative ideas.

Also on the program of these 2009 Carnot Meetings are seven conferences to make known the competences of the Carnot Institutes themselves as well as 0 roundtables to explore such topics as the financing of research projects, regional innovation models, the role of clusters of clusters of excellence, and the role of research and innovation in post-crisis economic renewal.

Animated by the Association of the Carnot Institutes, the network of the same name consists of 33 institutes gathering 13,000 researchers committed to developing research partnerships with companies by guaranteeing attention and professionalism. This multidisciplinary network addresses grand economic and social challenges and by mobilizing 6 great fields of competence:

- Micro- and nanotechnologies
- Materials and engineering
- Energy and environment, propulsion, chemistry
- Construction, civil engineering and town and country planning
- Earth Sciences
- Life Sciences

Sources: March 2009

- Electronic Bulletin, March 31, 2009

- Les Rendez-Vous Carnot 2009 : <http://www.rdv-carnot.com>

- Instituts Carnot : <http://www.instituts-carnot.eu>

6.15 Biennial Assessment for Nanosciences Foundation (France)

A cooperative scientific foundation was created by ministerial decree in February 2007 to support a Network of Advanced Research Themes (RTRA) "*Nanosciences for Nanoelectronics*." The RTRA brings together 32 laboratories and approximately a thousand of researchers from the CEA, CNRS, Joseph Fourier University (UJF) and the Grenoble Group INP. Since its inception the Nanosciences Foundation has chosen to invest in shared research tools. Thus 2.5 million Euros were devoted to the coordinated development of new equipment for the technological platforms, making it possible for researchers to use

sophisticated means of nano-fabrication and nano-characterization in ultra controlled environments such as clean rooms.

In parallel, Nanosciences devoted 1.2 million Euros to the creation of nine Chairs of Excellence offered to world famous scientists for a duration of three to four years. The holders of these chairs can constitute their own research team and equip their laboratory with the necessary equipment to their work. Moreover, their presence in Grenoble enables them to teach courses in the region's universities and to participate in local and national scientific conferences. The Foundation also welcomed six post-doctoral students and established 20 work contracts for young foreign PhDs. Nearly 400,000 Euros were required to finance these theses as well as the installation of seminars and specialized workshops. These 35 scientists, from more than 15 countries around the world, have successfully integrated into one of the premier centers of French research to add their expertise in the field of nanoscale research.

Sources: March 2009

- Electronic Bulletin, March 31, 2009

- Nanosciences - Stéphanie Monfront : Phone: +33 (0)4 56 52 96 03 - email :

Stephanie.Monfront@fondation-nanosciences.fr - <http://www.fondation-nanosciences.fr>

6.16 Strikes cripple French universities

France's public universities are overcrowded and under-funded

Staff and students at almost a quarter of France's state-run universities remain on strike over government plans to overhaul the higher education system.

The protests are now in their 14th week and may mean that some pupils, who have missed out on months of teaching, will have to miss their exams and repeat an entire academic year, the BBC's Emma Jane Kirby in Paris says.

In 1968, the then French education minister, Alain Peyrefitte, said the French university system was "like organizing a shipwreck to find out who could swim".

Forty years on and you get the feeling that an awful lot of people in higher education here are not swimming but drowning.

Despite concessions by the education ministry, students and lecturers at around 20 of France's 83 state-run universities are still on strike this week, barricading classrooms and paralyzing faculties.

Last month, statistics students from the technical college in the southern town of Avignon took their final exam in a local branch of McDonald's because their faculty had been shut by protesters.

The government has warned that if lectures do not resume quickly, students across the country will have to miss their exams and may have to forfeit an entire undergraduate year, damaging France's academic reputation abroad.

But students like Loan, who is studying English at the University of Paris-Sorbonne, says that will not put them off.

"I've been on strike for three months now," she told me as she sat on the steps of the Sorbonne attending an "outdoor" lecture as part of a publicity stunt for the protest.

"And missing some exams is nothing compared to this attack on our public services."

Unwelcome reforms

The row was originally sparked by plans to change the status of academic researchers and to give university presidents more say over how staff spend their time.

But it has since escalated into a much more general dispute over President Nicolas Sarkozy's promise to completely overhaul the higher education system.

The French leader wants to give individual universities more autonomy to run their faculties along the lines of successful commercial businesses and to make them more competitive.

Students and lecturers, however, have interpreted his proposal as an ultra-capitalist attempt to privatise the education system which will simply force up fees.

"Competition is just a right-wing ideology - in the case of humanities, competitiveness doesn't even make any sense," says Sorbonne English Professor Barbara le Lan.

"French universities are the least demanding universities as far as results go."

Everyone in France who passes the Baccalaureate or "Bac" has the right to take up a state university place.

The result is that the France's public universities are overcrowded, under-funded, have high drop-out rates and fail to make any international league tables. So would a little competition really hurt?

"We have a republican conception of universities," explains Sandra Nossik, a student who has now spent eight years in the French university system and who was demonstrating last week in a Paris train station. "They have to be open to everyone," she added. "We don't like this neo-liberal view of knowledge... and we don't want to have to answer to the government or businesses."

'Marking' teachers

About 4% of French students make it into the well-funded, small and elitist graduate schools or Grandes Ecoles, such as *Institut d'Etudes Politiques* (Sciences Po), where a bright future is pretty much guaranteed.

In those schools, students even have the right to "mark" their teachers on the quality of their lessons.

Teachers who are deemed to be performing poorly are given a polite kick up the backside.

One of President Sarkozy's demands is that lecturers at the state universities, who are paid to research as well as teach, should be monitored a little more closely to make sure that they are indeed researching and are not simply doing nothing or spending their spare time giving private lessons.

He wants to set targets for the number of academic papers they publish. Professors like Ms Le Lan are simply horrified at the idea that academics should be subjected to quotas.

The government is determined to shake up the terms of employment for lecturers.

France is the only European country, and in fact one of the last countries in the entire developed world, where teachers are civil servants.

Those that support the government's reforms feel that the current higher education system is geared very much towards the teachers' needs and very little to the students'.

Unprecedented strike

Last year, I attended a psychology class at Montpellier University, where students were crammed into a grubby lecture hall and where the acoustics were so bad that the pupils on the back three rows had given up trying to catch the wise mumblings from the distant podium and had either nodded off altogether under a copy of Liberation or were simply listening to their iPods.

With such huge class sizes, a close teacher-pupil relationship is just not possible.

And state universities are also chronically under-funded - the prestigious Sorbonne spends scarcely 3,000 euros (£2,650; \$4,000) on each student per year - compare that to the 110,000 euros (£97,000; \$147,000) spent on each undergraduate at Princeton in the US.

Almost everyone agrees that the crumbling French higher education system desperately needs a revamp, but university reform has always been an explosive issue here.

The Higher Education Minister, Valerie Pécresse, has already backed down on several aspects of the planned reforms, but the blockades and strikes persist.

And in terms of the numbers of academic staff who have gone on strike, this protest, now in its 14th week, surpasses even the protests of May 1968.

Sources: May 2009

<http://news.bbc.co.uk/2/hi/europe/8038512.stm>

6.17 DREAM, a European Project to develop food models (France)

Foods, at the level composition and structure, is a very complex object. If their composition is well understood, their structure is much less so. The latter is necessary to understand the effects of food in the human body. This is where the need for researchers to have realistic generic models that allow replicating this complexity. These will allow for an understanding of the effect of changing the composition, or the way in which the structure is transformed, on the nutritional and medical properties of food. This is the objective of the European project DREAM, recently launched with total costs of 8.6 million Euros, including 6 million Euros financed by European Union. Coordinated by INRA, this project unites 18 private and public partners from nine European countries.

This project will allow the development of standard procedures for manufacturing real food through computer models as well as mathematical models. To approach the broadest product range of food, four major categories are being characterized by structure and will be studied -- solid type cellular models (fruit and vegetables), network type of protein fiber models (meats), combined models of gel /emulsions/foams (dairy products) like yoghourts, creams and cheeses, and solid foam models (cereals products) like bread.

The objective of DREAM is to improve knowledge on the process-functionality relations by exploring the models from the molecular scales to the macroscopic level. The data collected will allow researchers to envisage for example, the effect of the texture of bread on the glycemic index, and more generally the effect of the structure on the bio-availability of the nutrients. The development of these real models and their manufacturing protocols will occur in close cooperation with technical centers in order to be diffused in small and medium enterprises which, in France, as in the remainder of Europe, constitute the main network of agribusiness industry.

Sources: June 2009

- *Electronic Bulletin*, June 24, 2009

- *Inra Nantes Center- Monique Axelos, DREAM Program Coordinator, Phone +33 (0)2 40 67 51 45 - email: monique.axelos@nantes.inra.fr*

6.18 OECD Conference on Potential Environmental Benefits of Nanotechnology

Paris, 15-17 July, 2009

The purpose of this OECD conference was to examine environmental challenges that could benefit from the application of nanotechnology (e.g., reducing pollution, purifying water, environmental remediation, energy conservation and storage, etc.) while giving consideration to health and environmental aspects (potential toxicity, persistence of manufactured nanoparticles in the environment; workplace exposure standards, etc.)

A conference on safe nanotechnology is likely to be fairly divisible into two camps – the curious researcher camp which wishes to pursue possibilities of materials the nano scale wherever they may lead, and the accountability camp, seeking assurance that the public is fully aware of all the risks inherent in releasing manufactured nanoparticles in the environment before scaling up.

Generally, these two groups talk past one another, failing to even understand the language or *weltanschauung* of their counterparts and although many words are exchanged, few ideas flow from one side to the other. Thus, it would come as no surprise that despite the attempt of the conference organizers to include as wide a range of participants as possible, the members of the two camps were clearly obvious by the end of the first day. It was interesting that presenters from both camps used the same study and the same illustration to buttress their case that nano-tubes are, on the one hand, safe and unlike similarly sized asbestos fibers and, on the other hand that they are just as dangerous as asbestos.

The Conference began with a series of keynote presentations, followed by a day and a half of parallel workshops, and concluded with summaries of those workshops. The keynote presentation was by Edward Manning from Tourisk, Inc. an ecotourism consulting firm in Ottawa, Canada. He pointed out that technological solutions to problems as varied as water purification and energy production have often failed to consider the cultural and human dimensions of the end-users. His was a plea to those assembled to give early consideration to societal and cultural issues before rushing headlong to develop applications that ultimately generate backlash to technology (e.g., GMOs) rather than sustainable solutions.

One of the best-received of the keynote presentations was from **Dr. Vicki Colvin, Rice University**, PI on the NSF **Nanoscale Science and Engineering Center for Biological and Environmental Nanotechnology**. Dr. Colvin discussed the Center's work in using readily available reagents for a water purification project in rural Mexico, as well as the Center's website for improving the accuracy of new accounts of nanotechnology applications, which are often filled with headline grabbing but incorrect

interpretations. As an aside, Dr. Colvin mentioned to me that she was pleased NSF was finally giving consideration to international collaborations. She had apparently unsuccessful in getting a small amount of additional funding from NSF for some international work in the past.

Another NSF Awardee, **James Hutchison, University of Oregon**, provided an assessment of "green chemistry" approaches to nanotechnology, which seeks to reduce hazards at each stage of the life-cycle of the nanomanufacturing and utilization process. The life-cycle analysis concept was evident in a number of presentations, but one presenter suggested that given the potential costs and unknown hazards of nanoscale materials development and disposal, society should require that we first conduct an assessment of all practical existing alternatives before proceeding. Prepare for an extended debate and discussion on this topic, particularly as various interpretations of the EU Precautionary Principle are invoked.

The abstract and session materials is available at [OECD Conference on Potential Environmental Benefits of Nanotechnology](#). An OECD database on the safety of nanomaterials is available at www.oecd.org/env/nanosafety/database
Sources: July 2009

6.19 The Ecole Centrale of Lyon Launches a Master's Degree in Nanosciences/Nanotechnologies (France)

Next October, Ecole Centrale of Lyon will launch a newly established "Nanoscale Engineering" program. The two-year Master degree is targeted to holders of bachelors' degrees in Physics, Chemistry, or Biology who plan to make a career in research or industry. Nanostructure theory and practice and the characterization and structure of nanoscale systems will be covered in courses that will be taught in English.

Co-located with the Ecole Central of Lyon, the INSA of Lyon, and the University Claude Bernard Lyon 1, this new research Master's degree has the support and access to three Lyon laboratories as well as a network of state-of-the-art companies of the Rhone-Alps area. The program expects that approximately half of the Masters' candidates will be foreign participants.

On November 30 and December 1, the Ecole Centrale of Lyon will host a conference entitled "*Connecting to the Nanoworld*" to convene specialists in nano-fabrication, nano-characterization, and nanoscale chemical and biological components and systems to explore applications in the fields of information and nano-biotechnology systems.

Sources: August 2009

- Contact: [Jean-Pierre Cloarec](mailto:Jean-Pierre.Cloarec@ec-lyon.fr), Research Associate at the Ecole Centrale de Lyon - Email: Jean-Pierre.Cloarec@ec-lyon.fr

- *Electronic Bulletin*, July 31, 2009

- Ecole Centrale Lyon - Master Nanoscale Engineering - Magali Phaner - email: Magali.Phaner@ec-lyon.fr - <http://www.master-nanoscale.org>

6.20 Despite Calls for More English Language Education in Schools, France Lags Behind

The French may mockingly call English-speakers "roast beefs" or "yanks," but the latest results of an international language test show that the Brits, Americans, Australians and Co. may have a little more leverage to hurl their insults back at the "frogs."

In an article entitled "French Students Still Get a Zero for English", French daily *Le Monde* [reports](#) that an annual Europe-wide language test revealed just how bad French youngsters are at picking up what the journal describes as "the language of Shakespeare."

In total, 109 countries sat down for the English as a Foreign Language (TOEFL) test, compulsory for foreign students wishing to study in an English-speaking country. France came in 69th in the ranking while Denmark, the Netherlands and Belgium headed up the leaders' board.

The paper tried to recover some pride, stressing, "this does not, however, represent the entire student population. It only provides information for the 200,000 students wishing to study in an Anglo-Saxon country."

It did not comment about the English language abilities of the remaining students who did not opt to take the test.

Internationally, the French are known to be fiercely proud of their language and its various dialects, refusing to anglicise as is commonly the case in other European countries like Germany and Italy.

While Germans have no qualms about taking the word "comic" into their mouths, the French prefer to use "bande dessinée" or colloquially, "BD" to describe their cartoons. Hundreds of people living in the western region of Brittany, stand by their traditional Breton language, refusing to give way even to French -- let alone English.

In 1996, the French government famously adopted a law ruling that at least 40 percent of music played on private radio stations should be sung in French, a move which aimed to combat what the government described as the "English-language influence," especially from rap, rock and hip-hop from the US.

But as the English language slowly but surely emerges as the lingua franca of business and other areas, many in France may now well want to polish their skills in "the language of Shakespeare."

Sources: September 2009

Der Spiegle, on Line August 28, 2009

6.21 France's Minister of Research and Higher Education Outlines Strategy

Minister for Research and Higher Education, Valerie Pécresse has targeted 29 projects within six broad categories for France in an ambitious research program for the coming year. None of the research areas would come as a surprise, but the specific projects are certain to generate discussions among French researchers about how priorities were determined.

Examples of the projects proposed in the categories are:

Health, well-being and biotechnology

- Ten centers of excellence in health to address the greatest health threats;
- Development of microbial processes for energy and industrial chemistry production;
- Doubling the capacity to assess the potential of natural biodiversity for economic exploitation.

Observation of the environment and eco-technologies

- Innovative ecosystem observation technologies to correlate satellite observations with ground based measures.
- Strengthening data analysis from observations to ecosystem modeling to assess the impact of the human activity on the environment.

Climate and energy

- Establish a center of excellence for research on climate and environment at the Saclay Campus.
- Double research on solar energy.
- Establish a new research program for electric vehicle batteries.
- Create a marine energy research platform.
- Develop a prototype 4th generation sodium-cooled nuclear reactor.

Sustainable transportation

- Create a network of centers and research platforms on urban mobility and intelligent highways.
- Develop industrial prototypes of low energy consumption hulls and propulsion systems.

- Demonstration of next generation launcher for ARIANE

Information, communication and nanotechnologies

- Create three sites for distributed internet research platforms to test technologies for the Internet of the future.
- Deploy an economically competitive internet satellite system.
- Develop next generation of supercomputers and parallel computing systems.
- To develop a platform of shared calculation.
- Build better connections between business and mathematics research community
- Accelerate tech transfer of scientific data.

Nanotechnology

- Build centers of excellence for nanotech transfer at Saclay, Grenoble, and Toulouse.
- To develop infrastructures for nanoscale research, expanding access for researchers and students.

Technology transfer and emergence of university campuses

- Accelerate emergence of university laboratories that bring together students, researchers, and the private sector to conduct joint projects.
- Use the twelve major university centers for speeding up technology transfer.
- Make research organizations more accessible to the private sector.

Sources: October 2009

Official statement - Valerie Péresse, October 6, 2009

<http://www.enseignementsup-recherche.gouv.fr/cid49165/29-projets-issus-de-la-strategie-nationale-de-recherche-et-d-innovation-pour-le-grand-emprunt-national.html>

7 Germany

7.1 Welcome Center Awards to Facilitate Researchers Coming to German Universities

Awards for the second Welcome Centers competition to support international researchers at German Universities were made on January 15, 2009. The winners of the 125,000 Euro prizes are the universities of Bayreuth, Brunswick, and Greifswald. The winners can use the awards to implement their innovative ideas to help visiting or returning researchers to concentrate completely on their work.

Thirty one candidates submitted proposals to the contest which was organized by the Alexander von Humboldt Foundation, the Deutsche Telekom Foundation, and the Federation of German Donators to Science (*Stifterverband für die deutsche Wissenschaft*). Certificates of merit were awarded to the universities of Cologne and Heidelberg.

Highly qualified international researchers often receive offers from worldwide organizations and that allow them to choose among universities of various countries. Their decision does rest not only on scientific factors but also on administrative support and support for their families. The universities competing in the "Welcome Centers" program help these researchers to focus on research and not on large and small problems of adapting to their new environment. Universities also support and assist German researchers who return to Germany after stays abroad. The awards can be used for university programs that support the mobile researchers and their families, such as communication within the university, services for the family, or support networks.

Sources: January 2009

- Electronic Bulletin, January 14, 2009

- Press release from the Alexander von Humboldt Foundation – January 8, 2009

7.2 Two Foundations Work to Improve Education (Germany)

The Mercator Foundation and the Volkswagen Foundation launched a common initiative on January 13th to reinforce teaching in German universities. Specifically, the two foundations set forth the objective of improving the education system by reducing the failure rate, improving mobility between universities, and improving of relations between teachers and students. Both foundations will finance this initiative with up to 5 million Euros each. All German universities can compete for funding and all the disciplines are included.

The initiative has three different approaches. The first focuses on the development of new courses at the bachelor's level, with the objective of re-examining the content of these courses. The second supports the creation of expert groups or centers of competences for higher education in order to provide best-practices regarding improving teaching quality in the various disciplines. The third encourages conferences, workshops and international symposiums on how to improve teaching.

For the first two measurements, the deadline to submit proposals is July 31, 2009. The procedure of selection will take place in two stages. For the third measurement, proposals can be submitted at any time.

Sources: February 2009

Electronic Bulletin, February 2, 2009

Christiane Reusch, Director of Communication - Stiftung Mercator - Phone: +49 201 245 2242 - email: reusch@stiftung.mercator.de

7.3 Rhineland of North-Westphalia 2008 Innovation Report (Germany)

On January 27th the Minister of Innovation, Science, Research and Technology for the Rhineland and North-Westphalia (RNW), Professor Andreas Pinkwart, presented, as in prior years, the 2008 innovation report. The report describes the current status of universities and industry of the state as well as the challenges to come. This study is carried out by the Economic Research Institute of Rhineland-Westphalia (RWI), the Federation of German Donators for Science, and specialists from Cologne and Stralsund. It is based on data covering the period 2000-2005 and their extrapolation for 2006.

According to Pinkwart, "we have more and more signs indicating that the RNW is ahead of the curve": the expenditure for research and development (R& D) passed from 1.8% of the GDP of the Land in 2005 to 1.83%, the strongest value since 1991. The weakest share of this expenditure was reached in 1997 with only 1.65% of the GDP. The Achilles heel of the Land remains in the weak financial position of companies that support R& D.

The high point of the report is the level of participation of higher education in the innovation process. Based on three indicators, namely patents, the formation, and the financing of private businesses showed a mixed result. With regard to patents, RNW is far behind Bavaria and Bade-Wurtemberg. The two other indicators place RNW in good position on the national scale.

According to recent figures, positive development with regard to outside financing continues in 2007 and 2008. The share of the finances brought in by industry to support higher education increased by 28% between 2006 and 2008. The report also analyzes the impact of the law which has liberalized universities and created the alliance for innovation, sources of deep changes in the landscape of German higher education. In the long run these are expected to bring positive effects for innovation in RNW.

However, Mr. Pinkwart warns that, "We should not rest on these results. In particular in these times of economic crisis, characterized by the many imponderables, policies must provide direction. Investments in innovation, science, research and technology are the best policy to have to support the growth".

Sources: February 2009

Electronic Bulletin, February 5, 2009

- Report available at <http://www.innovation.nrw.de/downloads/index.php>

- Prof. Dr. Christoph M. Schmidt, Director – Institute for Economic Research of Rhineland of North-Westphalia, Hohenzollernstrasse 1, D45128 Essen - Phone : +49 201 8149 228, fax : +49 201 8149 236 - email : schmidt@rwi-essen.de - <http://www.rwi-essen.de/>

7.4 Heinz Maier-Leibnitz Prizes 2009: Six Young Researchers Recognized for Outstanding Achievements (Germany)

Female Prizewinners in the Majority for the First Time

Four women and two men have been chosen to receive this year's Heinz Maier-Leibnitz Prize, Germany's top research award for young scientists. This is the first time in the history of the prize, which has been awarded annually by the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) and the German Federal Ministry of Education and Research since 1977, that the majority of the recipients have been young women.

The winners of the Heinz Maier-Leibnitz Prize 2009, named after the former President of the DFG and atomic physicist Professor Heinz Maier-Leibnitz, are:

Dr. André Bornemann, geosciences, University of Leipzig

Dr. Ina Bornkessel-Schlesewsky, linguistics, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig

Dr. Patrik L. Ferrari, mathematics, University of Bonn

Dr. Heike Kriebler, molecular biology, University of Marburg

Prof. Dr. Ing. Gisela Lanza, mechanical engineering, University of Karlsruhe

Dr. Angelika Lohwasser, Egyptology, Free University of Berlin

"Promoting young researchers is one of the DFG's top priorities," emphasised the Vice President of the DFG, Professor Luise Schorn-Schütte, chair of the selection committee for the Heinz Maier-Leibnitz Prize, on the occasion of the announcement of this year's prize winners by the funding organisation's Executive Committee. As Professor Schorn-Schütte highlighted, there were also "a very pleasing number of women" amongst this year's proposals and nominations for the prize. The selection committee received 118 nominations, 35 of which were for women. Of the 118 nominees, 56 were short-listed, 22 of whom were women. "The four female prize recipients and their two male counterparts have all done impressive research work and have a proven scientific track record, which they have developed from an early age," said Professor Schorn-Schütte.

The Heinz Maier-Leibnitz Prize is intended to further promote the recipients' scientific careers. From the DFG's point of view it is both a form of recognition of past achievements and an incentive, and aims to help the prizewinners to continue pursuing their scientific career along the same course. With this objective, this prize is held in high esteem in the scientific community. In a survey conducted by the magazine "bild der wissenschaft", the major German research organisations voted the Heinz Maier-Leibnitz Prize Germany's third most important research prize - behind the DFG's Gottfried Wilhelm Leibniz Prize and the German Future Prize - the President's Prize for Technology and Innovation, which is awarded by the German President. Each Heinz Maier-Leibnitz winner receives 16,000 euros in prize money. The award is funded by the German Federal Ministry of Education and Research.

The award ceremony for this year's Heinz Maier-Leibnitz Prize will be held at 4 p.m. on 4 June in the Arithmeum Bonn, Lennéstraße 2, in Bonn. Media representatives are welcome to attend the ceremony.

The recipients of the 2009 Heinz Maier-Leibnitz Prize in brief:

Dr. André Bornemann (36), geosciences, University of Leipzig

Through his work on micropalaeontology and palaeoceanography, André Bornemann already developed fundamental new theories in the geosciences, which were widely debated both nationally and internationally, at an early age. These theories concentrate primarily on the late Jurassic and the Cretaceous periods, and his research work addresses areas such as micropalaeontology, the carbonate budget and the conditions for the formation of black shale, through to palaeoclimate research. His theory that glaciation was possible during the Cretaceous, in spite of the high concentrations of greenhouse gases that existed at that time, which he developed in close cooperation with renowned scientists and researchers, was particularly sensational. His unusually broad methodological approach led to the idea that the very warm Cretaceous period could be used as a model for the Earth's future.

Dr. Ina Bornkessel-Schlesewsky (29), linguistics, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig

Ina Bornkessel-Schlesewsky is studying how languages function and how they are processed in the brain. Her work focuses on the interaction between morphosyntactic and semantic factors in the comprehension of sentences, with the main emphasis being on the "argument structure". In addition to factors such as word order and case marking, she is also using neuroscientific processes to analyse semantic properties such as popularity - a factor that can be of entirely different significance in different languages. Through her research work, this young researcher - who already received her doctorate at the age of just 22 and became the leader of a Max Planck junior research group at the age of 26 - has made a substantial contribution to the field of human speech processing, which has also received international recognition.

Dr. Patrik L. Ferrari (31), mathematics, University of Bonn

Patrik L. Ferrari is acclaimed as one of the best young researchers in the world in the field of probability theory and statistical physics. In his studies of anomalous fluctuations of processes in the so-called KPZ universality class, he is working in one of the most active and exciting fields of research at the interface between mathematical stochastics and statistical physics, to which his work to date has made a lasting impact and major contribution. The KPZ class includes very important and interesting growth models such as directed polymers, percolation models and the Eden cluster. The KPZ class is also closely related to the theory of random matrices. Ferrari has also demonstrated the fluctuation behaviour for important processes in the KPZ class and studied the space-time correlation, thus making a significant contribution to confirming an important universality assumption in the field, which is yet to be proven.

Dr. Heike Krebber (42), molecular biology, University of Marburg

Heike Krebber is seen as an exceptionally original scientist in the field of molecular biology. She has made a name for herself, in particular, through her publications on nucleus-cytoplasm transport and mRNP biogenesis. Building on her studies on intracellular transfer of genetic information, done while working as a postdoc at Harvard, she has discovered new factors that are essential for the export of messenger-ribonucleic acid (mRNA) from the cell nucleus. Also, she has, for the first time, been able to demonstrate that nuclear export factors play a decisive role in the translation of mRNA for protein synthesis. Krebber and her research team have identified a factor that is very important for the termination of protein synthesis, and have proposed a new model for the mechanism of translation. This work by Krebber - who has led her own research group at the University of Marburg for the past nine years - has been published in highly respected journals, causing an international sensation.

Prof. Dr. Ing. Gisela Lanza (35), mechanical engineering, University of Karlsruhe

Gisela Lanza is working on new solutions for handling complex relationships at the start-up of industrial production processes. In her work, she is attempting to simulate and evaluate unstable production processes as early as the planning stage and during the start-up phase in order to arrive at effective countermeasures that will ultimately make cheaper and higher quality production possible. The models and simulation methods developed by Lanza are both scientifically relevant and economically significant in industrial practice. Since 2008 she has held a "shared professorship", which has allowed her to combine her teaching and research work with work in corporate management. Since taking up this post, her research has focused, in particular, on the highly topical field of global production, allowing her to benefit from her international scientific cooperation projects and from her keen understanding for topics unrelated to her own subject such as IT or statistics.

Dr. Angelika Lohwasser (41), Egyptology, Free University of Berlin

Angelika Lohwasser is seen, in German-speaking countries, as one of the most outstanding researchers in the field of Sudanese archaeology. Taking a very broad subject-specific and also inter- and transdisciplinary approach, she analyses artefacts from this ancient intercultural region, and in so doing has developed new stimuli and pioneering methods. One of these pioneering methods, for instance, is her markedly sociological methodology, with which she literally brought about a new approach in Egyptology, without losing sight of the field of traditional Egyptology. In terms of the subject matter addressed she has also tackled innovative topics, for example the previously underestimated role of women in the Kingdom of Kush. With this work, Angelika Lohwasser has given her subject a new status

in Germany, both in the scientific community as well as amongst the general public. Her many lectures, in Germany and internationally, which gave her the opportunity to prove herself as a successful science communicator, have contributed to this achievement. In addition she has also received numerous distinctions for her teaching work in academia.

Further Information

The next call for nominations for the Heinz Maier-Leibnitz Prize 2010 is expected to be announced in May 2009.

Detailed information on the Heinz Maier-Leibnitz Prize and former prizewinners is available at: www.dfg.de/en/news/scientific_prizes/leibnitz_preis

Information on Professor Heinz Maier-Leibnitz, the former president of the DFG, after whom the prize is named, is available at:

www.dfg.de/en/dfg_profile/history/history_of_the_dfg/presidents_of_the_dfg/heinz_maier_leibnitz

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DFG Press Release No. 9 - 13 March 2009

Sources: March 2009

7.5 German Universities Gain 4,200 Researchers, Thanks to Excellence Initiative

According to figures from a new assessment of the Excellence Initiative, German Universities stand to gain 4,205 scientists, including 326 professors and young researchers.

At the federal level, more than 87% of the jobs resulting from the Excellence Initiative have already been filled. For the professor positions, the figure is only 63%, which is explained by the fact that there are insufficient qualified applicants, especially in the natural sciences. Nevertheless, universities are attempting to recruit recognized professors rather than settle for candidates judged as average. Approximately a quarter of the positions created were given to researchers with international collaborative experience. Professor Matthias Kleiner, President of the German Research Agency (DFG), sees this as proof that the Excellence Initiative has reinforced Germany's place of in the international research landscape.

Currently, thanks to a total of 1.9 billion Euros in funding, the program supports nine universities designated as Elite, 39 doctoral schools, and 37 research alliances, or *Clusters of Excellence*. The initial five year period of support will end in 2012. The universities must recruit quality researchers as quickly as possible. For that reason they have set up an unusual procedure in which potential candidates are contacted directly rather than waiting for them to submit their applications.

In several Länders, the ministries in charge of the universities have allowed greater flexibility in order to shorten recruitment times. Until now, filling jobs in the German universities often took a very a long time because of the lack of coordination between various structures. The Excellence Initiative seeks to reduce this lack of flexibility.

Sources: April 2009

- Electronic Bulletin, April 1, 2009

- <http://www.exzellenz-initiative.de/>

7.6 The DFG opens a new office in Tokyo (Germany)

On April 15, 2009, the President of the German Research Foundation (DFG), Professor Matthias Kleiner, inaugurated a new office in Tokyo. After Beijing, Washington/New York, Moscow and New-Delhi, Tokyo constitutes the fifth overseas office of the DFG. The office is located in the German Arts Center of Tokyo, next to the German Office for University Exchanges (DAAD) and the Fraunhofer Institute office. It will be

directed by Dr. Iris Wiecek, who studied Japanese and who has a solid background in Japanese innovation.

Japan has long been a strong partner for German research. The bilateral research cooperation has progressed in recent years, primarily via initiatives supporting scientific exchanges and thanks to the installation of German-Japanese doctoral schools for women. Three international doctoral schools with Japanese partners already exist which focus on the following topics: "Complex chemical systems" (Münster, Nagoya), "Molecular genomic network analysis and system biology" (Berlin, Boston, Tokyo/Kyoto) and "Change in forms of the civil society -- Comparisons between Germany/Japan" (Market-Wittenberg, Tokyo). A fourth doctoral school, implying the University of Darmstadt and the Waseda University in mathematics, will be inaugurated on the occasion of the visit of the DFG delegation.

The DFG seeks to reinforce and intensify the scientific cooperation which exists between Japan and Germany. The new office of Tokyo will help German researchers to develop their collaborations with Japanese colleagues and, reciprocally, Japanese scientists going to Germany. In addition to analyzing and evaluating Japanese research policies, one of the missions of the office will be to translate these research policies in a form adapted to the German scientific world.

An agreement ("Initiation and Intensification of Bilateral Cooperation") in place since the beginning of 2009 provides for, among other things, support for research visits up to three months in a German or Japanese partner research institution and to organize joint meetings (workshops, seminars, etc.).

Sources: April 2009

- Electronic Bulletin, April 16, 2009

- <http://www.dfg.de>

7.7 Good Professional Prospects from University and Specialized Higher Education Degrees (Germany)

Ten years after obtaining their diplomas, the graduates from universities and schools of higher education have more satisfying and higher paying jobs (editors note: duh). Their employment rate reaches 90% and involuntary unemployment is only 1%. This is the conclusion of a new study from the System of University Information (HIS GmbH), which follows the professional paths of 5,400 graduates who completed their studies in 1997. This is the first analysis carried out by the Federal Ministry of Education and Research (BMBF) to cover an extended period – more than a decade beyond graduation – of professional development

The Federal Minister of Education and Research, Annette Schavan, reported the results of the study, which shows according to her that "it is worth studying. In crisis period particularly, a good foundation is the key for good professional prospects. We wish to motivate more young people for higher education. This is why we must continue to improve educational conditions, in order to reach an enrollment rate of 40% of age cohorts at the university. With the reform of BaföG¹, the extension of merit grants and the pact for higher education, we have taken great strides toward this objective. The reorganization of allocation of student placement and the new version of the Compact for Higher Education are the next stages which we must to accomplish".

The survey highlighted that the high employment percentage (91% of the graduates from higher education schools and 89% of those from universities are employed ten years beyond their studies), a rate of employment clearly above the population average. The study also found that professional success does not exclude starting a family. Sixty percent of female and male graduates have children 10 years after the end of their coursework. This proportion should continue to grow, because half of the graduates without children indicated plans to start a family. The study reveals, however, important differences between men and women. Though almost all the men interviewed have a job, one woman in five does not, a fact explained by parental leave.

¹ System of scholarships and student loans

A marked finding of the study lies in the particularly low unemployment rate. Only 1% of the graduates is unemployed and in the majority of the cases, a result of transition often observed upon graduation and lasting generally less than six months. Moreover, short term contracts and employment corresponding to a lower education level are relatively rare. Only 5% of graduates from schools of higher education and 10% of the graduates from universities have a short term contract and only one tenth occupies a job which is not appropriate for their qualifications.

In addition, gross annual incomes are relatively high and are, ten years after the degree, around 60,000 euros. Important differences, however, occur among the disciplines. While social workers earn on average 38,000 euros gross per year, the engineers have an average gross salary of more than 85,000 euros. The graduates from higher education schools earn, on average, 5,000 euros less than their colleagues from the universities. Generally, graduates can hope for a faster progression of their wages during the first ten years of their career.

The authors of this study estimate that the economic crisis will have few consequences on employment of the graduates.

Sources: April 2009

- Electronic Bulletin, April 16, 2009

- <http://www.his.de>

7.8 Shortage of Graduates in Germany?

Following a study published by OECD in 2008 on universities, the German Federal Institute of Professional Training (BIBB) analyzed the indicators used by OECD to understand the extent to which Germany's surprisingly low rank in this international classification may have resulted partly from characteristics of the German educational system and job market that were not specifically addressed in the OECD indicators.

Figures published last fall by OECD gave Germany low marks in higher education. According to OECD, only 21.2% of German young people finish their university studies on time, compared to the average of 37.2% for OECD countries. This study caused a ruckus in Germany.

Looking at the results of the new study, Prof Manfred Kremer, President of the BIBB, noted:

"It seems unjustified to speak of a looming lack of college graduates, even if indeed, in certain technical fields as well as natural science, there is a shortage of highly qualified personnel [...]. The rate of graduates from universities is not an appropriate measure for assessing the technological capacity of a country or the basis for making political recommendations in this domain". Thus, according to the BIBB, looking at the number of graduates in the total population is a more appropriate measure. Indeed, it helps to understand the job market of each country by looking at its educational system. Unlike the graduation rate, the number of degree holders between 25-64 years old in Germany is 24%, slightly below the OECD average (27%). *"Some of the skills acquired in universities in countries lacking a system of continuing education are often acquired in Germany through on-going professional training,"* Prof. Kremer emphasized. Jobs requiring a high education level are not only filled by degree holders, but also by highly trained technicians engaged in continuing education. This seems to be a characteristic in Germany.

Fears over the lack of college graduates in the short-term can be tempered, according to the analysis of the BIBB, but the training of high level specialists must be encouraged. According to Prof. Kremer, not only must university training be attractive, but also continuing professional education, which must be expanded to include stringent degree requirements. Moreover, the permeability between these routes must be increased.

In order to avoid a shortage of highly qualified specialists in the future, the experts of the BIBB recommends making the educational system more effective and improving the match between supply and demand and strengthening cooperation between businesses and training institutions.

Sources: April 2009

- *Electronic Bulletin, April 22, 2009*
- Full article available in German at : <http://www.bibb.de/bwp/akademikerquoten>
- Normann Müller - Bundesinstitut für Berufsbildung - Phone: +49 228 107 1022 - email : normann.mueller@bibb.de

7.9 Minister Schavan Presents German Research and Innovation Report

The Federal Minister of Teaching and Research, Annette Schavan, presented a report on Research and Innovation at the Council of Federal Ministers on April 22, 2009. The report provides a positive assessment of the research and innovation policy of the German Federal government and discusses the Commission Report of the Experts for Research and Innovation (EFI), which had been addressed to the government at the beginning of March 2009.

"During this mandate, we have placed research and development firmly in the center of our policies" affirmed the minister. *"Since 2005, we have given priority to investments in research and development, increasing them from 9 million to 12 million Euros this year"*. The two programs include heavy investments in education, research, and innovation. *"If we want to preserve and consolidate our position on a world level, we cannot allow ourselves to rest on our accomplishments,"* continued Mrs. Schavan. Indeed, many other countries have seen their research and development budgets increase rapidly.

For the Minister, the government achieved its ambitious objective: to animate a new dynamics in the research and development activities. Accordingly, the high-tech strategy of the Federal government developed a new approach, thanks to many cross-cutting initiatives, in order to move quickly from research results to products in the marketplace. Annette Schavan stressed that private sector investment in research and development was also on the increase before the crisis. The minister encouraged companies to continue to emphasize the importance of research and innovation in their plans. *"I am convinced that attempts to save on research and innovation today will waste a piece of the future"* underlined Mrs. Schavan.

The report presented clearly highlights that future oriented research and innovation has a double effect. It brings a competitive advantage to German companies on the international markets and at the same time provides real contributions to solving problems. *"We are located at the beginning of new waves of innovations,"* said Minister Shavan, *"which will strongly affect the coming decade, in technical and social changes and in global challenges"*. The new technological tendencies are, in this context, an opportunity for the society and the economy.

Minister Schavan stated that a national innovation policy should be developed widely. On May 6, 2009, this strategy will be discussed at an international conference entitled "What is the Source of New Growth?"

Sources: *May 2009*

- *Electronic Bulletin, May 4, 2009*
- <http://www.bmbf.de>
- <http://www.hightech-strategie.de>

7.10 Germany to Set Aside 18 Billion Euros for Universities and Research

During a special session of the Common Scientific Conference (GWK) [1] on April 22, Federal and State science ministers set out the future path of three main science programs: the Compact for Higher Education, the Excellence Initiative, and the Pact for Research and Innovation. Together, these programs allocated 18 billion Euros by 2019, two thirds of which will come from the Federal government.

The three programs will be better financed than their predecessors. The second round of the Excellence Initiative (2013-2017) will increase from 1.9 billion Euros to 2.7 billion Euros. The current structure of the program will be preserved with the three focal points: doctoral schools, clusters of excellence and strategies of the future. Improving the connection between teaching and research will be a major component of this program.

The universities already recognized in the first round may compete in the upcoming round. A maximum of twelve universities will be selected, compared to 10 in the first round. Among these twelve institutions, five not selected in the first phase can be included in the second. The filing of nominations will be in the summer of 2010 in order to allow a selection by summer 2012.

The compact for higher education II (2011-2015) will also be increased to accommodate an additional 275,400 students, with a stipend of 6500 as compared to 5,500 euros. Finally, within the Pact for Research and Innovation, which relates to extra-mural research, there will be a 3% increase (5 billion Euros), through 2015.

The Minister-Presidents of Länder and Angela Merkle must still give their agreement in order for the decision of the GWK to be actually implemented.

Sources: May 2009

- *Electronic Bulletin*, May 4, 2009

- <http://www.gwk-bonn.de>

7.11 Construction of a Research Complex in Rostock (Germany)

The German Scientific Committee (Wissenschaftsrat, WR) has given approval to begin construction of a facility attached to the department for research on Light, Life and Matter (Licht, Leben und Materie, LLM) at the University of Rostock. According to Prof Kark-Heinz Meiwes-Broer, chief of the LLM department, this will allow world class research to be carried out at the facility. By 2013, a highly modern 20 million Euro center for research on the "complex molecular systems" will also be created. Financing for the project will be shared by the State and Federal governments.

"This investment allows researchers, engineers and physicians to work together on new materials and biosensors, modified laser, micro- and nano-systems, and problems in energy and the environment" noted Prof. Meiwes-Broer. It will serve to train internationally competitive doctoral students in unique laboratories and on innovative methods and open possibilities to transfer research results and technical applications that will support the creation of new companies.

With an area of 2,400 m², it will house laser, microscope, surface analytics, mass spectroscopy, and nuclear magnetic resonance resources available for use by all researchers. *"This is a great success for establishing interdisciplinary research projects at the University"* says Prof Wolfgang Scharek, director of the University.

Sources: May 2009

- *Electronic Bulletin*, May 4, 2009

- Prof. Karl-Heinz Meiwes-Broer, Universität Rostock, Phone: +49 381 498 6800 - email : meiwes@uni-rostock.de - <http://www.physik.uni-rostock.de/cluster/llm.htm>

7.12 The Center of sciences of maritime environment of Bremen receives a support of 25 million Euros for 4 years (Germany)

The German research Agency (DFG) has just renewed, with an envelope of 25 million Euros, its support for 4 years (2009-2013) to the Center of sciences of maritime environment of Bremen (MARUM).

According to Prof Matthias Kleiner, president of the DFG, Center MARUM has *"its place among the best world centers in marine research and geosciences"*. The objective of the center is better to understand the role of the ocean in a total terrestrial system.

The support for the young researchers is also an important approach of the scientific policy of the MARUM. The best elements of the scientific changing are thus quite naturally attracted by the advantages that the research center offers them. The MARUM constitutes moreover, a platform of research for groups coming from other institutes, where they are accommodated to continue their research in the sailor fields and geosciences. The German Institute Alfred Wegener of Polar and Marine

Research (AWI), the Institute Max Planck of Marine Microbiology and the University of Bremen count among the partners of the MARUM.

The MARUM named in autumn 2007 "cluster of excellence" moreover enjoys a great national and international visibility and carries out many cooperation outside Germany.

Sources: May 2009

Electronic Bulletin, May 4, 2009

Albert Gerdes, Press Contact - Phone: +49 421 218 65540 - email : agerdes@marum.de -

<http://www.marum.de>

7.13 The DFG Inaugurates 18 New Priority Programs (Germany)

In April the Senate of German Research Agency (DFG) established 18 new priority programs (SPP) that will begin in 2010. It is expected that these coordinated, interdisciplinary approaches will provide a boost to German research. The new SPP cover a broad spectrum of scientific disciplines, including social sciences, life sciences, geosciences, physics, mathematics, data processing, materials sciences, electronic engineering, and production technology.

The new programs were selected from among 61 submitted projects and will benefit from 32.3 million Euros in the first year. Twelve of the new programs will initially be funded for three years, while the remaining six will receive two years of support. A total of 86.3 million Euros will be allocated to these SPPs, which are typically funded for six years. The 18 new programs will bring to 99 the total supported by the DFG in 2010.

One of the characteristics of the SPP, which is also a fundamental reason of their success, is that they bring together expertise available in Germany and elsewhere to address new research questions. The SPPs seek high quality research based on the careful selection of themes, their methodology, or the cooperation that they generate. Support of young researchers is one of the key components of the SPP and one of the conditions of their funding.

Sources: May 2009

- Electronic Bulletin, May 6, 2009

- <http://redirectix.bulletins-electroniques.com/vCIfO>

- List of the new SPP and their coordinators (in German): <http://redirectix.bulletins-electroniques.com/W4KrZ>

7.14 Fourteen New Graduate Schools in Germany's Excellence Initiative

As part of its policy to support the scientific revival in Germany, The German Research Agency (DFG) has set up fourteen new doctoral schools. These will make it possible for students to work on their thesis within the framework of a research program and high level structured education and in excellent conditions.

Four of these new arrangements are international doctoral schools in which the students work in close cooperation with foreign universities. For the first time, Mexican, New Zealand, and Estonian institutions are included and will join institutions from Sweden and the Czech Republic. A broad spectrum of themes will be covered by the fourteen new doctoral schools, including sociology, chemistry, physics, biology, linguistics, geography, history, pedagogy, theology, electronics, and data processing.

These programs will receive a total of 39.3 million Euros over the next four and a half years. In addition to launching the fourteen new schools, the DFG also voted to extend the support of 23 doctoral schools. Currently, the DFG supports a total of 229 doctoral schools, including 58 international partners.

In addition, the commission decided that doctoral schools could request funding intended to facilitate the transition between the thesis and the scientific career. This financing will help doctoral students just completing their thesis to define and extend their own research topics and to develop a research proposal

for a project. The aim is to motivate promising researchers to remain in research beyond the completion of their thesis.

Sources: May 2009

- *Electronic Bulletin, May 20, 2009*

- <http://redirectix.bulletins-electroniques.com/08qlf>

7.15 135 million Euros for research of excellence in ex-East Germany

The Federal Minister of Teaching and Research (BMBF) reinforces in a targeted way the forces of the actors of research in new East Länder and supports from now on 11 additional sites within the framework of its program "Research for excellence and innovation in new Länder".

The federal Minister of Teaching and Research, Annette Schavan, as well as the president of the jury, Professor Hans NR. Weiler (Stanford University), made public, on May 18, 2009, the list of the eleven prizes winner of the second session of support of the program. The winners see themselves allotting between ten and fourteen million Euros each one receiving 135 million Euros being available on the whole for this second session.

For Annette Schavan, this program supports the universities and the institutions of research in the construction of their profile and helps the innovating companies implied to reach technological markets, a particularly important action in times of crisis. The objective is the installation of durable cooperation of research in East Länder. Forming integral part of the high-tech Strategy of the Federal government, the program consolidates the essential relations between science and industry.

Within the framework of this second session of support, the five new Länder and Berlin, initially, had selected and transmitted to the BMBF a list of projects. These concepts, 24 on the whole, then were examined by an independent jury composed of 20 people, who decided in retaining eleven. The program supports alliances of several partners, whose piloting is necessarily anchored in a university or an institution of extra-academic research located in ex-East Germany. It addressed to all themes. The initiatives must be interdisciplinary and also imply interesting institutions of research located elsewhere. *"The sites and areas selected have the necessary potential to develop structures and competing capacities of research with the international and to connect them with the economic world, on the regional and inter-regional scales"* commented Prof. Hans NR. Weiler.

The eleven prizes winner are distributed in the following way:

- two in Saxony: Chemnitz, Freiberg;
- one in Saxony-Anhalt: Market-Wittenberg;
- two in Thuringe, in Iena;
- three in Mecklembourg-Poméranie Western, in Rostock and Greifswald
- one in Berlin;
- two in Brandebourg in Potsdam.

With the six pilot projects chosen within the framework of the "first tour", the program supports from now on 17 initiatives for research of excellence and innovation in new Länder.

Sources: May 2009

- *Electronic Bulletin, May 20, 2009*

- <http://www.unternehmen-region.de>

- <http://www.bmbf.de/press/2552.php>

7.16 Germany Shows the Way for Women-owned Companies

The European Commission considers the Federal Agency of Support for Women Creating Companies (BGA) [1] to be an exemplary project. Financed mostly through the Ministry of Teaching and Research (BMBF) the "Power für Gründerinnen" (Power for Women Entrepreneurs) [2], was established in 2005 to provide support for women wishing to start their own businesses. At the upcoming October Conference on Small and Medium-sized Enterprises the European Union, the BGA will be presented as a model of success.

The program aims to increase the number of qualified women creating companies and to support creative female entrepreneurs in financing and developing their projects. The BGA is the first federal level program to advise seeking to work on their own from creation of a company through consolidation and succession. It regional representatives in the sixteen German Länder (states) and manages an interactive internet site [3]. The program is co-financed by the BMBF, the Federal Minister of Economy and Technology (BMWi), the Federal Minister of the Woman, Elderly, Family and Youth (BMFSFJ) as well as by the Social European Funds (FSE).

The Small and Medium Enterprises Charter is a European Union initiative whose objective is targeted support for the small and medium-size companies. During its annual conference exemplary initiatives of the Member States that take account of the specific needs of SMEs are presented. This year, the support for the women creating companies is one of the priorities.

Sources: June 2009

- Electronic Bulletin, June 10, 2009

- [1] Federal Agency of Support to Women Creating Companies : bundesweite Gründerinnenagentur

- [2] Power für Gründerinnen : "Power to creative women"

- [3] <http://www.gruenderinnenagentur.de>

7.17 German Universities Focus on Women Professors

The second round of a program to support women professors (Professorinnenprogramm) highlighted the activities of 45 universities whose approaches for gender equality have been positively evaluated. Sixty universities had applied for this recognition.

This program, adopted in 2007 by the Federal and Länder government, supports the creation of structures favorable to gender equality in universities and aims at increasing the share of women in the important positions in the sciences. Selected universities can request financing for a maximum of three professor-level posts for women for a maximum of five years.

As in the initial round, a committee of independent evaluators composed of well-known representatives from research and higher education, examined the proposals. This jury, chaired by Prof. Susanne Baer of the Humboldt University of Berlin, considered the sustainability and contractual nature of their support for equal opportunity. The program in favor of the women professors plays a strong role in reinforcing structural equal opportunity in German universities. Almost half of German universities have submitted proposals during the two competitions.

Sources: June 2009

- Electronic Bulletin, June 10, 2009

- Informations sur le soutien aux femmes scientifiques du BMBF : <http://www.bmbf.de/de/494.php>

7.18 Prolongation of three large programs for science: 18 billion Euros for research and higher education (Germany)

On June 4, 2009, Angela Merkel and the heads of government of Länder ratified the decision of the Common Scientific Conference (GWK) to extend beyond 2010 the three large programs for science which are Initiative for Excellence, the Pact for Research and Innovation and the Pact for Higher Education II. On the whole, these programs must profit from 18 billion Euros by 2019 carried approximately at two thirds by the Federal State.

Thus, the heads of government finally followed the recommendations of the GWK. They had discussed on March 30, 2009 the continuation of the three initiatives but fault of an agreement at that time, they had finally decided to continue the programs during the course of a special session on April 22, 2009. Meanwhile, Ministers for Finance, also consulted, were pronounced in favor of an adjournment of the decision after the elections at the Federal Parliament on September 27, 2009, position that the heads of government finally did not retain.

The three programs will be better equipped financially than their previous models. The second round of Initiative for Excellence (2013-2017) will profit from 2.7 billion Euros, against 1.9 currently. The current structure of the program will be preserved, with the three following axes: doctoral schools, clusters for excellence and strategies for the future. The first should lie out approximately 60 million Euros per annum (either 1 to 2.5 million Euros by school), the second approximately 292 million Euros per annum (either 3 to 8 million Euros by cluster) and the third 142 million Euros per annum. The quality of teaching in bond with research from now on will be more taken into account in the selection of the strategies of the future.

The universities already crowned for their strategies in the first phase can be represented again. A maximum of twelve universities will be selected for the strategies for the future, against ten before. Among these twelve establishments could be up to five establishments not selected at the time of the first phase of initiative. The deposit of the candidatures will begin summer 2010 in order to allow a selection by summer 2012. The Pact for Higher Education II (2011-2015) intended to finance the surplus of students entering university, will profit of means increased compared to Pact I (2007-2010). The new pact is based on a number of additional students of 275,400 compared to 2005. Each additional student must be equipped with 6,500 euros, against 5,500 euros before, and this during 4 years. The Länder, in addition, will take of their own responsibility the necessary measures for the mathematical disciplines, data processing, natural science and technical and for the support for the scientific women. Lastly, within the framework of the Pact for research and innovation, which relates to research extra-academic, the research organizations will profit of an annual increase of their financial support of 5%, instead of 3% until now. This measurement represents 5 billion Euros by 2015.

Sources: June 2009

- Electronic Bulletin, June 10, 2009

7.19 Next Phase of Excellence Initiative (Germany)

Professor Matthias Kleiner, President of German research Agency (DFG), announced in July the schedule and procedures for continuing Germany's Excellence Initiative.

By the autumn of 2010, German universities must submit outlines of proposed new research projects. Those will be evaluated and an initial decision provided early in 2011. The most promising pre-proposals will be invited to submit a more detailed request by the autumn 2011. In parallel, current Excellence Initiative institutions will be able to submit a request for an extension of their projects. By early 2012 proposals for both old and new projects will be evaluated in a single competition. Public officials and researchers will decide during the summer 2012 which universities will receive 5-years of support for their projects and programs.

The next phase of the Excellence Initiative will receive 2.7 billion Euros (~\$3.8 billion), an increase of 30% over the initial two rounds. Three quarters of the funds are provided by the Federal government with the remainder financed by the Länder. The Excellence Initiative is one of the three programs supporting research and innovation (along with the Compact for Higher Education and the Compact for Research and Innovation) that Federal and state officials decided to extend in June. Taken together these three programs have a budget of 18 billion Euros through 2019, five billion of which will go to the DFG and for basic research.

Sources: July 2009

Electronic Bulletin, July 9, 2009

7.20 Research Organizations Receive a Freer Hand in Setting Pay (Germany)

The Budget Committee (Haushaltsausschuss) of the Bundestag has determined new rules allowing pay-for-performance plans that can exceed the ceilings provided in federal pay scales. In the near future German research organizations could pay their personnel more than is currently possible. The Helmholtz Institute, the Max Planck Society and the Fraunhofer Institute thus achieve greater independence. Concurrence by the Länder (states) is still necessary for the Leibniz Institute to benefit from this new scheme.

Thanks to this change, research organizations will be able to pay individual researchers bonuses without requiring the authorization of the ministries. Similarly, greater flexibility will be required in determining the overall compensation, which is currently limited. The latter was criticized by the President of the Max Planck Institute who noted that "the current compensation framework requires that we choose to pay a less expensive young person rather than an expensive foreigner." In the near future, research organizations will be able to pay premiums to certain researchers outside the pay scale. This rule applies to researchers from other countries, international organizations, or the private sector.

According to the decision of the commission, priority over seniority will be given to those stationed in foreign. A law announced in 2007, would have given research organizations more latitude in salaries, but it was withdrawn in 2008 (Wissenschaftsfreiheitsgesetz). Now, individual measures will test the effect of the new law on freedom of research.

Sources: July 2009

Electronic Bulletin, July 9, 2009

7.21 Franco-German Genomic Research Projects Funded

The German Federal Minister of Research and Teaching (BMBF) and the National Agency of Research (ANR) in France are expanding their cooperation in genomic research. At the beginning of 2009 a joint Franco-German call was issued for proposals in "Genomics and the physiopathology of cardiovascular and metabolic diseases" with an aim of promoting cooperation between France and Germany on these research themes.

An international committee consisting of experts in these fields selected the eight most promising projects from approximately fifty candidates. Of these, five concentrate on cardiovascular diseases, two on obesity and one on diabetes [1]. These projects focus on the improvement of diagnosis, prognosis, and treatment of these diseases.

"These Franco-German projects are at the heart of the European research initiative. They will increase collaborations between research laboratories and participating companies within the European countries" specified Meyer-Krahmer, Secretary of State at the BMBF. Twelve European countries as well as Canada have already expressed interest in joining this new initiative.

Sources: August 2009

- Electronic Bulletin, July 30, 2009

[1] All listing of winners candidates at: <http://redirectix.bulletins-electroniques.com/pLy5R>

- Request for application full text published by the BMBF (German) and by the ANR (French): <http://www.gesundheitsforschung-bmbf.de/de/2074.php> and <http://redirectix.bulletins-electroniques.com/wmDgU>

7.22 New Technical Institute in Karlsruhe (Germany)

Annette Schavan, the Federal Minister for Teaching and Research, and Peter Frankenberg, the Minister for Sciences of Bade-Wurtemberg, have signed an agreement to create the Institute of Technology of Karlsruhe (KIT), by combining the Helmholtz Research Center and the University of Karlsruhe. This strategic partnership, which brings together a research centre financed largely by the Federal government (Bund) and a university whose funds come from the state (Land), is a first in Germany. The two establishments bring together 8,000 employees with an annual budget of approximately 700 million Euros.

"In recent years the Helmholtz community has set up successful cooperative activities with universities. But when the cooperation grows to the extent seen at KIT, we reach a new level of research policy. This represents a different level of cooperation between two strong partners - a concept that heightens respect both in Germany and in other countries," declared Prof Jürgen Mlynek, President of the Helmholtz Association of German Research Centers. At the same time, the KIT provides a sufficient critical mass in basic research using large instruments to become an international leader, capable of attracting world-class scientists.

As with other universities in Baden-Württemberg, the KIT becomes a statutory body. According to constitutional law, the state cannot take part in the financing the establishment of universities as the funding streams for the federal and state governments must remain separate. The KIT's basic research is financed 90% through the Bund (federal) and 10% for the Land (state), as is the case for the Karlsruhe Research Center. The university part of the KIT will continue to be financed by the Land.

Sources: September 2009

Electronic Bulletin, August 27, 2009

- Thomas Gazlig, Helmholtz-Gemeinschaft - Anna-Louisa-Karsch-Straße 2, D10178 Berlin - phone: +49 302 0632 957 - fax : +49 302 063 2960 - email : presse@helmholtz.de - <http://www.helmholtz.de>

- Dr. Elisabeth Zuber-Knost, KIT - Kaiserstraße 12, D76131 Karlsruhe - phone: +49 721 608 7414, fax : +49 721 608 3658 - <http://www.kit.edu>

7.23 The Land of the Rhineland of North Westphalia sets up a unique system of grants (Germany)

Starting the next semester, universities of the West Germany will somewhat become American. Indeed, the Land of the Rhineland of North Westphalia has just been equipped with an individual system of grant in which private donations will support starting the next semester 1,200 university students, which constitutes a first at the federal scale. The selected students will receive a total grant of 300 Euros from which the half will come from the industry and the other from the Land. According to the Minister for Innovation, Science, Research and Technology for NRW, Professor Andreas Pinkwart: "this new system could constitute the starting point of a new culture of the students' grants". Until now, there were certainly in Germany a big number of subsidies which were financed by the industry, political parties or Church. However, they were not supplemented by an additional help from the State.

For the attribution of the grant for studies, the Land of the Rhineland of North Westphalia offers a great freedom to the companies. "These last must set up their own criteria with regard to the choice of the recipients of the grant. It can for example allot the grant according to the migratory source or according to the social status of the family" explains Prof Pinkwart.

Sources: September 2009

Electronic Bulletin, August 27, 2009

"Berliner Zeitung" – August 14, 2009

7.24 Four new private universities specialized in the Land of the Rhineland of North Westphalia (Germany)

Next semester, the Land of the Rhineland of North Westphalia (NRW) will count 27 private universities. Professor Andreas Pinkwart, Minister for Innovation, Science, Research and Technology for NRW and Karl-Josef Lauman, Minister for Health and Work of NRW, allotted to the specialized university "Mathias-Hochschule-Rheine" the legal statute of a private college education establishment. Proposing studies in the fields of health, care, diabetes, food and medical help, this new entity intends to take up the challenges which the demographic development in the sector of health presents.

The "Mathias-Hochschule-Rheine" is in fact part of the four new private specialized schools of higher education which will obtain in the days to come the recognition by the State of the private statute. Among them, the specialized school of applied sciences of Neuss, the international school of management of Düsseldorf and the national college of business of Cologne.

With 27 private universities, the Rhineland of North Westphalia is the Land having the greatest number of private establishments in Germany. Among the 478,000 students accounted by the Land, more than 36,000 are registered in a private establishment. In comparison to 2005, this represents in 2009 an increase of more than 40%.

Sources: September 2009

Electronic Bulletin, August 27, 2009

Bildungsklick.de – August 12, 2009

7.25 Germany and U.S. Join in Neurosciences Initiative

"We have prepared the ground for a closer scientific collaboration with the United States" declared the Federal Minister for Teaching and Research, Annette Schavan, on September 3, 2009, in announcing the new neurosciences partnership between the Federal Minister of Teaching and Research (BMBF) and the National Science Foundation (NSF).

Computational neurosciences seek to understand the operation of the brain by modeling data processing in the brain. This interdisciplinary approach requires not only close cooperation between scientists of various fields, but also the consolidation of international research structures. According to Schavan, Germany and the United States, both leaders in this field, can improve their collaboration by setting up a structured system for financing cooperative research. Based on the new agreement the two countries will jointly support German-American research projects starting in 2010.

Although there exist ongoing research collaborations between the two countries, these were the result of individual initiatives. The new program will raise collaboration to a new level of coordinated German-American research projects.

The Federal Minister of Teaching and Research explains that Germany is an attractive partner because it is among the best in this field of research, thanks to the strong financial support from the BMBF. The National Bernstein network of computational neurosciences has a total funding of 100 million Euros.

Sources: September 2009

Electronic Bulletin, September 10, 2009

7.26 German Universities Get New Rankings

On September 10th the German Agency for Research (DFG) published a new report on financial support for German Universities. The report classifies German universities and institutions of higher education according to the financing they received between 2005 and 2007, both from DFG and from various Federal Ministries and the European Union.

For the first time, the Ludwig Maximilian University of Munich (LMU) (249 million Euros) yielded its top rank to the Technical University of Aachen (RWTH) where funding had grown to 257 million Euros. These were followed by the University of Heidelberg with 215.4 million Euros, the Technical University of Munich with 200.4 million Euros, and the Free University of Berlin with 194.4 million Euros.

In addition, the report presents an analysis which goes well beyond the total sums received by the various establishments. It analyzes the origin of these funds and their distribution according to themes, making it possible to identify the growing specialization within the German institutions of higher education. For example, the University of Mannheim, which with 20 million Euros places only 51st in the ranking, obtained the greatest share of financing in the social and behavioral sciences. Similarly, other universities have also developed more specialized profiles -- veterinary medicine at the University of Hohenheim, micro- and nano-scale systems at Ilmenau, and non-European foreign languages, cultural anthropology and religious studies at Bayreuth. The Berlin and Münster universities lead in literature; LMU and the universities of Heidelberg and Freiburg-in-Brisgau in the life sciences; and LMU, along with Bonn and Hamburg, in the natural sciences, with Aachen, Darmstadt and Karlsruhe leading in engineering.

The geographical distribution for financing external research is concentrated in Munich, Berlin and Aix-Bonn-Koeln, with more than 500 million Euros each. Notably, 20 institutions of higher education received 60.5% of the total funds. This concentration of financing has not changed significantly from 1991 to 1995, when 20 institutions received 59% of total. The DFG finances university research to the tune of more than 2 billion Euros per year. In recent years a large part of the financing came from the 6th Framework Program of the European Union. German universities and research institutes obtained more than 3 billion Euros, or 18% of the total volume of the Framework Program.

Sources: September 2009

Electronic Bulletin, September 16, 2009

- <http://www.dfg.de/ranking/ranking2009/index.html>

- Dr. Miriam Henseler, DFG, Kennedyallee 40, D53175 Bonn - Phone: +49 228 885 2011 - email: miriam.henseler@dfg.de

7.27 German Universities Enroll Record Numbers

According to the Federal Office of Statistics in Wiesbaden, German Universities registered a record number of first-year students last year. A total of 455,300 students started the first semester of the year (winter semester 2008/2009) either in a university or other higher education institutions. This is an increase of 12% over the previous year. Between 2003 and 2006 the number of beginning students declined slightly, but it has been growing since 2007. Two thirds of students are enrolled in Bachelor degree programs, which represent a 25 percent increase compared to the winter semester 2007/2008. The reorganization of the German university system, from the "Diplom" and "Magister" diplomas to the international "Bachelor" (equivalent of License 3) and "Master" diplomas represents accommodation to the requirements of the Bologna Process.

The reasons for this growth are not yet clear from the data collected by the Federal Office of Statistics. The curricular reform, particularly for the "Bachelor" degree, which allows entry to the job market after 6 semesters, might explain the increase. The number of students entering indicates that the new model is quickly becoming the standard. The old Diplom and Magister diplomas have almost been eliminated as a result of the reform of the higher education system. Of the 156,000 students entering institutions of higher education, 83% were registered in Bachelor degree programs.

-- [1] In German: Statistische Bundesamt

Sources: October 2009

Electronic Bulletin, September 29, 2009

Süddeutsche Zeitung - So viele neue Studenten wie nie - 22/09/2009

7.28 Enrollment Outside of the Baccalaureate Program Rare (Germany)

Beginning ones higher education without to having obtained the equivalent of the baccalaureate degree (*Abitur*) remains the exception in Germany. Although the share of the students lacking the traditional "ticket" to enter universities has doubled in the last decade, it still represents less than one percent of students. According to a study of the Center for the Development of Universities [1], the situation is very heterogeneous in the German states (Länder), with the percentage approaching 3% in Berlin, 2.7% in Hamburg and 2.4% in Hessen, but for Bavaria, the Saar, and Saxony the share is only about 0.2%.

During the Summit on Teaching in 2008, the German Federal government and Länder decided that in the future, a greater number of people equipped with a professional diploma would be have access to universities. This solution, however, would contribute to the lack of academics deplored by German industry.

In spring 2009, the regional ministers of Cultural Affairs and Education agreed to grant craftsmen and other qualified people the right to access the universities by allowing them to combine a professional activity with a course of studies in their field. This decision is not, however, obligatory. According to Sigrun Nickel and Britta Leusing, authors of the study, "this practice is not applied uniformly. Certain universities require an entry examination and others a minimum six-month probation period. Alongside a process for more uniform access, however, is the need for better support for these students, who are often older and already have a family. It is also important that universities themselves not consider this category of students as a group of outsiders."

The study views England or Sweden as a model on this topic, where 15% and 6% of the students, respectively, did not follow the traditional path to the university. England succeeded in achieving this goal

thanks to the installation of a national office which interacts directly with the universities. Moreover, it comes in addition to subsidies allotted to the students. "These two elements are currently missing in the German qualification initiative", note the experts at the Center for the Development of the Universities (CHE).

-- [1] in German: Centrum für Hochschulentwicklung (CHE)

Sources: October 2009

Electronic Bulletin, September 29, 2009

Handelsblatt - Studieren ohne Abitur ist noch immer der Ausnahmefall in Deutschland - 25/09/2009

7.29 German Government Outlines Plans for Research and Innovation

The German Bundestag elections (September 27, 2009) have resulted in a coalition of right of center parties. After three weeks of internal negotiations, the new government has made public its priorities in a report entitled "*Growth. Training. Social Cohesion.*"

Even if the financial climate post-crisis do not result in increased investments, the new government decided to provide 12 billion Euros over 4 years for research and training in order to reach the goal of 10% of the GDP by 2013 instead of 2015 (compared to just over 8% currently).

To deal with the effect of the economic crisis, the federal government considers research and innovation as the engine of growth and the source economic success. The High Tech strategy which has give priority to German research since 2006 will be extended, with a particular emphasis on themes that include climate protection/energy, health, mobility, communication, and safety. The desire of the government to support the small and medium-size companies in their research efforts is clearly indicated, without however, a specific program for using tax policy as an incentive for research (standard credit tax-research), a policy which remains under study.

The following themes have been specifically identified as components of the innovation policy:

- Innovative materials research;
- Biotechnology, genetic engineering;
- Research in preventive medicine and personalized medicine;
- Stem cells research through a "German network of stem cells."

The government also plans to continue supporting three programs in research and higher education (Initiative of excellence, pact for research and innovation, and pact for the universities), such was endorsed by the Federal and State (Länder) last June.

Some additional, more general policies are also addressed regarding "freedom of the research" (Wissenschaftsfreiheitsinitiativ); providing greater autonomy to research organizations (global budgets, possibilities of acquisitions of holdings in companies, etc) as a way to attract international researchers; closer connections between research and business; and greater internationalization of German research.

Sources: October 2009

Electronic Bulletin, October 29, 2009

7.30 Assessment of Germany's "Junior Professors"

Beginning in 2001, Germany instituted an alternative way to become a professor at a German university - becoming a "junior professor". German law requires a maximum of six years for the junior professor contract (for universities in Berlin, this period is only five years). Junior professors can then apply for a traditional chair at the university. The creation of a junior professor position requires a three stage evaluation: at the time of application, at mid-contract, and finally immediately before the title of professor is bestowed.

Defenders of the "junior professor" system cite among its benefits the fact that junior professors immediately assume academic responsibilities. (S)he can train a research team and thus learn how to manage a group of collaborators, manage a budget, and delegate responsibility, all the while enjoying

autonomy. A junior professor is exempted from work related to the regular "habilitation" process (an extended training period during which aspiring professors are required to publish before they can advance their careers). The originator of the "junior professor" project, Edelgard Buhlmann (SPD), Minister of Education until 2005, saw it as a way to revitalize and facilitate access to university faculties.

This system has succeeded in certain fields, such as the natural sciences and medicine (50% junior professors), social sciences, economic, cultural studies, languages, and law (20%), but not in engineering sciences (9%). Overall, women are well-represented, accounting for 28% of the junior professors. The responsibilities attached to the position of junior professor (management of a team, teaching within the university) leave little time for basic research. In the scientific disciplines, the traditional system of scientific assistant is preferred, as it leaves more time to undertake research in preparation to assuming the title of professor.

The law seeks the creation of 6000 positions by 2010. To date, however, only 15% have been created.

Sources: November 2009

Electronic Bulletin, November 12, 2009

"Sie sind jung und erfolgreich - aber zu wenige", der Tagesspiegel - 04/11/2009

7.31 German Women Increasingly Interested in Engineering

In the 2008/2009 academic year, 22% of the new science students in engineering were women. At the beginning of the 90s, this figure was only 16%. Germany follows a policy of encouraging scientific careers among women through advertising campaigns or events like Girls-Day (a day of promotion of the technical and scientific trades to the schoolgirls). In addition to supporting parity in a very male sector, the German authorities also hope to limit the impact of the future retirements from the baby-boom generation.

Most experts stress that approaches to meeting the demand for women in scientific fields (mathematical, data processing, natural science and technology) are upstream from elementary and secondary school. Girls are not sufficiently encouraged to show interest in these fields. Lack of self-confidence in technical fields seems to be another reason for the disaffection of women in these areas, according to a study undertaken by the German Academy of Technical Sciences (Acatech).

Women are also poorly represented at the university level -- in scientific fields only one student in thirteen is a woman. This, however, is three times as many as at the beginning of the 90s. In higher education only 16% of the chairs are occupied by women, according to the most recent report on equal opportunity in sciences and research published by the common scientific conference (GWK). Change will certainly come from dynamic young female engineers females. In 2007, more than one fifth of engineers were female.

Women represent half of the university students and more than 50% of the graduates. In biology and mathematics, 40% are women and in the social sciences and foreign languages they represent nearly the three quarters of the students. Within the large research organizations (Max Planck, Fraunhofer, Leibniz and Helmholtz), up to 30% of the professional research staff are women. The Fraunhofer Institutes, with only 17% women among its researcher, has the lowest female participation rate of German research institutes. This is mainly due to the large proportion of engineers working in the Fraunhofer institutes. Finally, while women occupy only one tenth of the leadership positions in research, that is still five times more than in 1992.

Sources: November 2009

Electronic Bulletin, November 12, 2009

<http://www.girls-day.de/>

7.32 German R&D Sector Awaits Policies to Follow Encouraging Rhetoric

Chancellor Angela Merkel's statement to the Federal Government was clear: "We have many companies with good ideas, whether for new products or innovation. We need to highlight the strength of the

Germany". With the coalition government providing a 4-year package of increased support for teaching and research of about 12 billion Euros, a sum, which may seem daunting at first glance, some still view it as insufficient. After the publication of the coalition government plan, Hans-Peter Keitel, Chairman of the Federation of German Industry (BDI), regretted that research is not sufficiently supported. Support for innovation, he feels, is crucial for the success of Germany in international competition.

Overall, the government's policies for innovation remain unclear. Only the nation-wide extension of loans for innovation was clearly spelled out. This provision is intended to help SMEs (Small and Medium Size Enterprises) develop their capacity and production and reflects a policy already in place in North Rhine-Westphalia. Companies can expect up to 6,000 Euros from the state if they invest a minimum of 6,000 Euros on their own.

ETA, a company located near Köln that produces plastic tanks, has benefitted from this help. According to ETA project manager Robert Michels, this amount, which comes without excessive red tape, has helped to advance a project in partnership with the University of Duisburg.

The "Enterprise-Region" program of the Federal Ministry of Education and Research (BMBF) and the "Innovation Program Central for SMEs" (ZIM) of the Federal Ministry of Economics and Technology (BMWt) will be maintained in the future and will have significant funding.

The "Business-Region" initiative aims to increase the innovation capacity of enterprises in the former East Germany. In the 15th year of support, the BMBF has chosen 5 innovation networks. Support of 85,000 Euros will be awarded to establish an innovation forum, bringing together business, science, policymakers, and potential partners from Germany and abroad. Central Germany's Media Center Hall ("Mitteldeutsche Multimediazentrum Halle, MMZ) brings together 46 companies under the theme of "Digital Technologies for Cinema and the Internet." In addition, a new research center for raw materials is planned for the former East Germany, although no specific timetable has been established.

The ZIM is aimed at companies with fewer than 1,000 employees and in cooperation with other companies and research organizations, they may expect a contribution of up to 2 million Euros. In 2009, 2,750 enterprises have benefitted from this aid, which amounts to 1.5 billion Euros. The BMWt has granted an aid package in 2009 of 2.2 billion Euros for innovative SME projects

Erwin Lamberts, spokesperson for the Economic Council of the CDU in Germany, wants to go even further and see the development of tax incentives for research in SMEs where innovation is already adequately supported. Robert Michaels also welcomes tax incentive: "The research expenditure should be deductible. In our discussions with our foreign partners we note that they already benefit from several years of tax incentives."

Sources: December 2009

Electronic Bulletin, December 9, 2009

"Viele Entwickler verhaaren im Wartestand", das Handelsblatt - 2/12/2009

7.33 Cooperation between Germany and Israel in Life Sciences

Germany and Israel share a long tradition (since 1959) for cooperation in research. To honor the scientific cooperation between the two countries, the BMBF established the Award for Research and Cooperation Highest Excellence" (ARCHES) during the Germano-Israeli year of science in 2008. This prize rewards best young teams in Germany and Israel that cooperate on common research themes.

The ARCHES award was awarded for the second time in 2009 for the second time. Two projects between Germany and Israel, one in cellular research and one in cancer research, were awarded this year:

"Understanding the dynamics and actomyosin network architecture" was awarded to the team of Dr. Stephan Grill Max Planck Institute of Physics of Complex Systems (MPI-PKS, Dresden) and molecular biology and Genetics (MPI-CBG, Dresden), and that of Dr. Ohad Medalia Department of Life Sciences of Ben Gurion University of the Negev in Beer-Sheva.

"Involvement of splicing factors in the development and maintenance of hepatocellular carcinoma" by Dr. Rotem Karni, Faculty of Medicine of the Hebrew University of Jerusalem and Prof. Lars Zender Helmholtz Center for Infectious Diseases Research (HZI) in Brunswick (Lower Saxony) collaborate.

Each year, the ARCHES awards, alternate among the following research areas: social sciences, natural sciences, engineering sciences and life sciences. The prize is 400,000 Euros, with each team receiving 200,000 Euros. The organization and management of the selection process (calls for applications, etc...) are supported by the Minerva Stiftung Foundation GmbH.

[1] *"Insights into the dynamics and architecture of tension generating actomyosin networks*

Sources: December 2009

- Electronic Bulletin, December 9, 2009

- Sieglinde Reichardt - Minerva Stiftung, Gesellschaft für die Forschung mbH, Hofgartenstr.8, D80539 Munich - Phone: +49 89 2108 1242, fax: +49 89 2108 1222 - email: reichardt@gv.mpg.de - <http://www.minerva.mpg.de>

7.34 Germano-Brazilian Science, Technology and innovation to Begin in April

For nearly 40 years, Brazil has proven to be an important partner of Germany in science and research. Chancellor Angela Merkel and Brazilian President Luiz Inácio Lula da Silva have strengthened cooperation between the two countries by announcing the launching of the Germano-Brazilian year of science, technology and innovation in April 2010.

The Secretary of State of the BMBF, Helge Braun, and the Brazilian Minister of Research, Sergio Rezende, signed the Memorandum of Understanding defining the nature of the cooperation during the Germano-Brazilian year of science, technology and innovation covering the period 2010-2011 and whose launch will take place in Brazil in April 2010.

"Cooperation with international partners can help us solve the major challenges of the future", said Federal Minister of Research, Annette Schavan, during the signing of the MoU. "We want to cooperate even more with Brazil. To achieve this, the exchange of young scientists seems to be the basis for cooperation in scientific research. I am certain that the Germano-Brazilian year of Science, Technology, and Innovation 2010/2011 will give momentum to sustainable scientific cooperation between our two countries".

Cutting-edge research, innovation, sustainability, technology and cooperation between universities will be a thematic priority during this year in Germany and Brazil. Many events will take place in Germany and in Brazil. The various organizations relay, and science education in both countries are called upon to engage in the preparation of the year between Germany and Brazil.

The German Federal Ministry of Education and Research (BMBF) is responsible for the organization of international science years (International Wissenschaftsjahre) which generally involves Germany and other strategically important partners such as China, Israel and Brazil. The "Internationalen Wissenschaftsjahre" is intended to highlight cutting edge research and excellence in both countries. This event demonstrates perfectly the implementation of the strategy of internationalization (Internationalisierungsstrategie) of the German Federal Government.

Sources: December 2009

Electronic Bulletin, December 9, 2009

7.35 DGF to Fund 11 New Life Science Research Centers (Germany)

Last November the DFG announced that it will finance a new series of coordinated research programs (SFB) emphasizing the life sciences. Eleven of the 17 SFB for 2010-2013 focus on topics in biology/medicine. According to the DFG, this represents 88 million € out of the total 132 million € budget.

The DFG has also decided to extend the funding period of 9 other SFB. The number of coordinated research programs funded by the DFG will be 244 on 1 January 2010.

The themes of the 11 new biology/medicine SFBs are:

- Development of a diet without antibiotics in pigs (SFB 852) - Coordinator: Prof. Jürgen Zentek, Free University of Berlin
- Molecular mechanisms of metastasis (SFB 850) - Coordinator: Prof. Christoph Peters, University of Freiburg im Breisgau
- Function and regeneration of endothelial cells (SFB 834) - Coordinator: Prof. Ingrid Fleming, Johann Wolfgang Goethe University of Frankfurt
- Origins and mechanisms of inflammation of the liver (SFB 841) - Coordinator: Prof. Ansgar Lohse, University of Hamburg
- Force Measurement of biomolecular systems (SFB 863) - Coordinator: Prof. Matthias Rief, Technical University of Munich
- Liver cancer (SFB/Transregio 77)
- Protein-lipid interactions in biological membranes (SFB/Transregio 83)
- Interfaces for biomagnetic recording of cardiac or cerebral activities (SFB 855)
- Molecular Communication of the immune system (SFB 854)
- Analysis of signal integration in neural circuits (SFB 870)
- Understanding systemic of the Roseobacter group (SFB/Transregio 51)

Sources: December 2009

Electronic Bulletin, December 17, 2009

7.36 Länder Provide Additional Support for Innovation (Germany)

With support from the Federal Ministry of Education and Research (BMBF), 6 centers for innovation skills (ZIK) [1] located in the former East Germany are becoming internationally competitive research centers. In order to support the work of these centers over time, the BMBF will grant them a total of 70 million Euros through 2016. The Minister for Education and Research, Annette Schavan highlights the successful model represented by these centers and their influence in the former East Germany.

The ZIK program began in 2005 in Saxony, Thuringia and Mecklenburg-Western Pomerania. Centers that were candidates for new financial support have convinced the independent panel of experts, chaired by Dr. Klaus von Dohnanyi, former Federal Minister of Research, of their balance and their strategic vision. For example, the OncoRay center [2] of Dresden is one of the world's top ten research institutions in radiation oncology. OncoRay has made the first measurements of the biological impact on tumor cell of particles accelerated by a laser. The center has also opened the first master's program combining clinical training with medical physics. The center FunGene [3] Greifswald ranks 16th worldwide among the proteomics institutes [4] and has received over 2,300 applications for 113 openings last semester.

The ZIK program, established in 2002, aims to create in the new Länder centers of advanced research with an international impact and to attract the best young researchers, nationally and internationally. During the year following their creation, each center has added a strategic consultant and 200 million € have been invested in 14 ZIK after two calls for projects.

Sources: December 2009

- Electronic Bulletin, December 17, 2009

- [1] Six Centers: CELISCA (Center for Life Science Automation, Rostock), FunGene, ICCAS (Innovationszentrum für Computerassistierte Chirurgie, Leipzig), MacroNano (Illmenau), OncoRay, Ultra Optics (Jena)

- [2] OncoRay: <http://www.oncoray.de>

- [3] Fungene: <http://www.medizin.uni-greifswald.de/fungene/>

*- [4] Proteomics refers to the science that studies the proteome, that is to say all cell proteins, organs, tissues, or organisms at a particular time and under given conditions
<http://fr.wikipedia.org/wiki/Prot%C3%A9omique>*

7.37 The End of German Dipl.-Ing. Title?

The world of German Engineers is poised to change. Within the European Bologna process, the transition to Bachelor and Master (or in France the LMD reform) is about to upset the protocols of German engineering.

The academic title of "Diploma-Engineer" (Dipl.-Ing.) has been the goal of every student pursuing an engineering degree at a German university. This simple acronym that translates as a graduate engineer in French, represents in Germany a standard of excellence and quality recognized by any recruiter. This title is not only a recognition of technical skills but also a mark of the status and knowledge that "made in Germany" carries worldwide. This academic degree was created over a hundred years ago with the approval of the German Emperor Wilhelm II and therefore has additional historical cachet.

Several university presidents, including Wolfgang Herrmann, the current Chairman of the Technical University of Munich (TUM), are opposed to the disappearance of this academic title. At TUM the diploma now includes the following wording -- "Master of Science" with "Equivalent Akademischen Grad der Diplom-Ingenieur (Dipl.-Ing./TUM) [1]. The engineer then has the choice between the new title of Masters or the former classic German title. The conservation of the former name is also favored by academics and students. In fact, when recruiting, it has a definite advantage. Currently 95.4% of employed engineers in Germany are "Dipl.-Ing.", 8.3% have a master's degree and 10.8% a bachelor's degree. The master has yet to be imposed in the areas of R&D and the construction field as the equal of "Dipl.-Ing.". However, for SMEs the latter remains the main criterion for recruitment of new engineers.

[1] equivalent of academic degree Diploma-Engineer

Sources: December 2009

Electronic Bulletin, December 17, 2009

Article from the newspaper "Die Welt" – December 12, 2009

7.38 Innovation Office Opens at the Paul Ehrlich Institute (Germany)

A few days after the appointment of Prof. Klaus Cichutek as President of the Paul Ehrlich Institute (PEI) [1], the Institute has formally announced the creation of an Office of Innovation. The goal of this office is to accelerate the marketing of drugs developed in Germany for new therapies, ATMP ("Advanced Therapy Medicinal Products") , including drugs related to cell and gene therapies and tissue engineering.

The new office provides academic research groups and small and medium enterprises (SMEs) information and advice on specific regulations and scientific requirements to help to expedite patients' access to safe and innovative treatment. The Office of Innovation centralizes all requests for ATMP. It is the second partner of SMEs wishing to contact the Office of SMEs in the European Medicine Agency EMEA.

It is anticipated that other pathways will be created to focus, for example, on clinical studies. Relevant information and specific contacts must be made available to meet demands for repayment terms. The office has been established with support from the Federal Ministry of Health, after development and organization phases.

[1] Paul Ehrlich Institute is a government institution affiliated to the German Federal Ministry of Health. The PEI is responsible for national implementation of clinical studies and approval of marketing of biomedical products such as vaccines (for human and animals), medicinal products containing antibodies, allergens (for therapy and diagnosis), blood and blood products, and more recently, tissues and drugs for gene and cellular therapies. The experts serving the PEI are also members in various committees of the European Medicine Agency (EMEA).

Sources: December 2009

Electronic Bulletin, December 17, 2009

Bettina Ziegele and Eva Maria Müller, Innovation Bureau - Institute Paul Ehrlich - email :

innovation@pei.de - <http://www.pei.de/innovation>

8 Hungary

8.1 Adding Value to R&D (Hungary)

At a recent Hungarian Academy of Science conference, Mr. István Kolber, Secretary of State in charge of Research and Development, underlined the importance of support for research and development in setting priorities during Hungary's upcoming presidency of the Council of the European Union. Spain, Belgium and Hungary, which will be the three member states leading the Council, consider it necessary to face the new challenges confronting society, such as the energy and economic crises, the ageing of the population, and the need for more sustainable development without increasing social inequalities. The best answer to these societal problems lies in supporting research and development and innovation. This support would take the form of financing for research infrastructure, collaborations, and by credit incentives.

During the Hungarian presidency (in 2011), the EU Council will carry out an evaluation of the Lisbon Strategy and determine its future. At the same time, the European Institute of Technology and Innovation, established in Budapest, should be completed. Negotiations among the three member states are underway and it is envisaged that a ratification of a common program will be approved prior to the European Council session in December.

The Hungarian government allocates 1.16 million Euros to R&D. Mr. Karoly Molnar, Minister of Research and Development, has allocated an additional 350 billion Forint (1.16 million Euros) in support of research and development activities for 2009-2010.

Last year, 250 million Forint (825 million Euros) in subsidies from the State were allocated to finance innovation activities. For 2009, this sum is increased to 208 billion, including a grant of 170 billion (561 million Euros). This sum will increase by 180 million Forint in 2010 (that is to say 594 thousand euros) in order to reinforce the European and international relations around scientific projects based on R&D

Sources: April 2009

- *Electronic Bulletin, April 16, 2009*

- *Report from the Prime Minister's Office and from the Communication Service of the Ministry in charge of the Research and Development Affairs.*

- *MTI web site: <http://english.mti.hu/default.asp?menu=1&theme=1&cat=8>*

8.2 Using the Results of Scientific Research (Hungary)

On June 23, 2009, Misters József Pálincás, President of the Hungarian Academy of Science, and János Pakucs, President of Curatorial of the Innostart Foundation, engaged in a cooperative agreement to better use the research from Academy Institutes for economic growth.

This new agreement follows a three-year contract signed in July 2008 to make the Hungarian economy more innovative. The idea is to set up a "project filter" in which the Academy identifies a certain number of projects that will be evaluated on their technical and economic feasibility. The most promising of these will be selected and managed in part by the Academy, which will also take part in the manufacture of prototypes and the search for financing, especially through calls for tenders, but also by identifying risk capital and other sources of private funding.

Since February 2008, seven projects had been selected among fifteen proposals. The July agreement should strengthen cooperation as it envisions assessing about twenty projects during the next six months and selecting the 5-10 that represent the best prospects. At the same time, the financial participation of the Academy and the institutes involved in the process will be increased.

Sources: August 2009

8.3 Mobility Program (HUMAN-MB08) (Hungary)

Objective of the call

The aims of the MOBILITY program, co-financed by NKTH-OTKA-EU 7th Framework Program (Marie Curie actions), include promoting the scientific careers of researchers with PhD degree or at least 4 years of full-time research experience by

- supporting their mobility and international experience-gaining,
- promoting the exploitation of experience acquired in international, non-European countries by supporting researchers returning to Hungary.

Why is it worth submitting a proposal?

- because the call contributes to Your successful career-building,
- because the funding stimulates Your professional development and experience-gaining inside and outside Europe,
- because You can work together with the best researchers from all over the world,
- because you can receive funding for continuing your research career in Europe after having returned from a non-European country,

Who can submit a proposal?

Researchers with PhD degree or at least 4-years of full-time research experience are eligible to submit a proposal in case of all thematic priorities.

Which science fields are covered by the program?

The call is open for every science field:

- technical sciences
- natural sciences
- life sciences
- social sciences

The main evaluation aspect is the scientific excellence.

Submission deadlines:

The call is open for continuous submission from its publication until its budget is exhausted, but no later than 1st October 2010.

20th November 2009 (submission by e-mail)

25th November 2009 (submission by post)

More information about the program

For more information please contact the OTKA Office (Hungarian Scientific Research Fund).

Phone: 219-8700

E-mail: otka@otka.hu

www.otka.hu

The Information package of the call ("Call for proposals" and Guide for applicants) and the detailed description of the program is available on the following website:

www.nkth.gov.hu/mobility

Sources: October 2009

8.4 Hungarian Education System Debated

At his September 1 speech marking the beginning of the University New Year's Day in Hungary, the physicist József Pálinkás, President of the Academy of Science, created a stir in the Hungarian political community. In his remarks he provided a harsh diagnosis of the Hungarian education system, stressing that it has undergone a moral crisis on all levels. Noting that the current education policy was actually an

absence of education policy, Mr. Pálincás concluded that blaming the difficulties on the world economic crisis was only a pretext advanced by politicians to mask their errors.

This not very flattering portrait immediately caused reactions throughout the political community. Unlike the government, however, the media generally sided with Mr. Pálincás, although they consider that the crisis in the education system is the result of overpopulation in universities and not a moral problem. Opposition party media particularly approved the description made by the president of the Academy and underlined his courage.

Sources: November 2009

Electronic Bulletin, November 2, 2009

8.5 The Academy of Science Seeks to Limit Brain Drain (Hungary)

In an attempt to limit Hungary's brain drain, the Academy of Science has set up a program allowing young Hungarian researchers to lead their own research teams. Twenty-eight scientists in all have proposed state-of-the-art research plans and among these applicants, five were chosen by an anonymous committee of scientists. The five awardees will be offered a five-year grant to set up their research project and at the end of this period a committee of experts will evaluate the progress of each program and recommend whether or not to continue the work.

The researchers selected will work on the study of planets, resistance of bacteria, treatment for epilepsy and memory disorders, and the development of data security technologies.

Several companies such as Gedeon Richter Pharmaceuticals, Trigranite Constructions, Technological Institute of Aquincum, and the association of Hungarian employers (MGYOSZ), aware of the importance of this program, have committed to contribute to the program.

Sources: November 2009

Electronic Bulletin, November 2, 2009

9 Ireland

9.1 Public Investments Favor R& D in Ireland

Despite an alarming economic situation with significant implications for all public funding, a series of R&D investments has been announced for universities and the private sector.

The Irish government has just set aside 45.7 million Euros for three Centers for Science, Engineering and Technology or CSET. These research centers will be hosted by universities and aim to develop collaborations between public research and industry. They will unite several companies, primarily technological multi-nationals, and academic research centers to work in a particular field. The three selected centers are: the Alimentary Pharmabiotic Centers in Cork, specializing in human nutrition; the Center for Research on Adaptive Nanostructures and Nanodevices in Dublin, which works on the nanotechnologies; and the DIGITAL Enterprise Research Institute of Galway, whose research relates to the evolution of Internet and Web-semantics. Public finance will be spread out over the five next years and will be supplemented by 14.5 million Euros brought by private companies. The program envisages hiring 200 researchers and technicians.

The government also announced 300 million Euros for the PRTL (Program for Research in Third Level Institutions), which finances research infrastructures in institutions of higher education. These sums will be allotted to the universities over a five year period.

Lastly, a venture capital fund of about 500 million Euros will be created. The objective is to ensure financing for the creation and/or development of technology companies. The government will allocate 25 million per annum over 10 years. This sum will constitute 49% of the entire amount of the venture capital

fund, the remainder will be provided by financial institutions. In particular, three American venture capital companies will engage in this activity and will benefit from tax incentives.

These measures aim to make Ireland an economy based on knowledge and to provide incentives for investment in R&D. Ireland profited during the past decade from productive investments, in particular from American pharmaceutical and data processing companies, which established production centers in Ireland. To maintain these connections, Ireland would like to encourage long-term relationships with university laboratories. The year 2008 saw encouraging results with nearly 420 million Euros of investments in R&D by foreign companies, in particular Boston Scientific, IBM, or Business Objects. Note that this investment is far from compensating the loss of jobs and closings of sites which has afflicted the Irish economy in recent months.

Sources: February 2009

- *Electronic Bulletin*, February 20, 2009

- <http://redirectix.bulletins-electroniques.com/qSk65>

- <http://www.hea.ie/en/node/1219>

- <http://redirectix.bulletins-electroniques.com/nFeWk>

- <http://redirectix.bulletins-electroniques.com/MvjCa>

9.2 University of Limerick - University of Limoges: Thirty Years of Collaboration (Ireland/France)

On May 19, in the buildings of *l'Ecole Nationale Supérieure d'Ingénieurs de Limoges*, the president of the University of Limoges gave the title of *Doctor Honoris Causa* to Stuart Hampshire, professor in Materials Sciences and Director of the Irish Materials Research Centre at the University of Limerick.

This honorary distinction rewards a long-lasting cooperation between the Irish and French laboratories. In the eighties, Stuart Hampshire, then a young researcher at the University of Limerick in Ireland spent time at Higher National School of Industrial Ceramics in the capacity of invited researcher. This stay enabled him to transform a meeting carried out at the time by the Faculty of Science of Limoges into a profitable and rich scientific collaboration in the field of the science of ceramic materials. Durable bonds were thus established and extended to include other researchers and many industrial partners. Today and for many years, the University of Limerick accommodates students of Limoges within the framework of the EU-Erasmus, Socrates, and Leonardo programs.

Sources: June 2009

- *Electronic Bulletin*, June 25, 2009

- Contact: Stuart Hampshire - email: stuart.hampshire@ul.ie

10 Italy

10.1 Italy Expands High-Tech Scientific Park

The Minister of University Research and Teaching, Mariastella Gelmini, inaugurated two new buildings in Bergamo, Lombardy, which will be added to a state-of-the-art scientific complex called "Kilometro Rosso." This complex, dedicated to connecting scientists and entrepreneurs, was created in 2004 and has been growing ever since. It is ideally located and draws its name from a kilometer-long red wall decorated by drawings of Jean Nouvel that separates the complex from the A4 motorway to Milan. The project seeks to establish a connection between new technology and innovations by developing the economic potential of the technological research supported there.

The new buildings are the "Business Center" and the "Innovation Center." The first is intended to serve as the "gate" or reception for the entire complex, and includes postal and banking services, as well as specialized libraries. The second will be a 13,000 square meters center that will accommodate interdisciplinary training for contractors and managers.

The two new centers were designed by a group of Italian architects to respect of the environment and provide a model of sustainable architecture. They obtained an "A" grade in the Lombardy area classification and a designation of "CasaClimaé."

Today nearly 1,500 people work at the Kilometro Rosso site, but the goal is to double the capacity over the next five or six years. In these times of economic crisis, according to Minister Gelmini, it is important to provide "a significant investment in human capital, innovation, and research".

Sources: October 2009

Electronic Bulletin, October 6, 2009

<http://www.kilometrorosso.com/>

10.2 Italy Signs Three MOUs with Israel

Three MOUs were signed between Italy and Israel that anticipate the creation of a number of joint laboratories between important Italian research centers and organizations and Israel's most prestigious universities.

The first joint laboratory will address solar and renewable energies and will connect ENEA (National Agency for New Technologies, Energy and Sustainable Economic Development) and the Ben Gourion University of Negev. The second will involve the European Nonlinear Spectroscopy (LENS) Laboratory in Florence and the Weizmann Institute of Science to investigate the physics of low-temperature atoms, which has, among other applications, the improvement of atomic clocks. Lastly, the National Research Council (CNR) and the University of Tel Aviv will create a joint Neuroscience Laboratory focused on research for the treatment of diseases such as Alzheimer's and Parkinson's. These three laboratories will allow the participation of approximately 15 Italian researchers on joint projects that connect R&D centers with world-class universities

At the signing, the Italian Foreign Minister, Franco Frattini, announced that the bilateral agreement has a budget that grows from 1 to 3 million Euros. As a result of this supplemental financing, 17 new joint projects have been approved and the Italo-Israeli Biennial Years of Science and Technology for 2010 and 2011 was launched with support from both presidents. *"It is, according to Mr. Frattini, a significant result which makes Italy the premier scientific partner of Israel among the European countries, exceeded only by the United States"*.

Sources: November 2009

Electronic Bulletin, November 9, 2009

- Massimo INGUSCIO (LENS-Florence) - Email: inguscio@lens.unifi.it - Phone: +39 055 457 2465

- Marilena ROSSANO (CNR) - Email: marilena.rossano@cnr.it - Phone: +39 081750262 1

- International Relations (ENEA) - Email: relint@sede.enea.it

10.3 Italian Winners of the 2009 Nano-challenge and Polymer-challenge

Of a total of eight finalists, two prizes of 300,000 Euros each were awarded to Italian start-ups in the fifth anniversary of the 2009 International Business Plan Nano-challenge and Polymer-Challenge, organized by Veneto Nanotech technological districts [1] and Imaste [2]. It is the fifth edition of this competition, the first global competition for nanotech-oriented businesses.

Nanto Paint was first in the category for Nanotechnology and has developed an innovative anti-corrosive coating whose components contain nanoparticles. This innovation could be applied in heavy industries such as shipbuilding and civil engineering (bridges, pipelines) where the problem of corrosion is very costly. The coating should also improve thermal resistance and could find applications in the oil sector as well. The winning team has an Italian partner from Trieste and a Israeli partner. It is expected to open an office in the Veneto region and launch the product, already patented ready for the market.

Nice Filler won in the category of polymer-based materials. This team from Salerno has developed new polymeric compounds used in the production of next generation food packaging. This patented

technology can be integrated with any plastic wrapper and can improve mechanical and thermal properties. In addition, it offers new antimicrobial, antioxidant, and antibacterial features for food packaging.

[1] Veneto Nanotech, district technology for the development of nanotechnology, was created in 2003 and headquartered in Padua. Website: <http://www.venetonanotech.it>

[2] Imaste, Technological District on engineering polymer materials, compounds and structures, was created in 2004 and is headquartered in Naples. Website: <http://imast.biz>

Sources: December 2009

- Electronic Bulletin, December 11, 2009

- Nano Challenge and Polymer Challenge : Elisabetta Talarico - Email : elisabetta.talarico@venetonanotech.it - <http://www.nanochallenge.com>

- Nanto Paint : Massimo Merlino - Email : massimo.merlino@unibg.it - Phone: (+39) 0352052024.

- Nice Filler: Scientific Responsible Pr. Vittoria Vittoria - Email : vvittoria@unisa.it - Phone: +39 089964114 - Business Representative: Pr. Roberto Parente - Email : rparente@unisa.it

11 Latvia

11.1 Latvia Sets Research Priorities

Prime Minister V. Dombrovskis and the Minister of Education and Science, T. Koke, delivered a short note to Latvian research organizations establishing 5 priority areas for Latvian research through 2013.

The 5 priority directions are:

1. Energy and environment (technologies for extracting and using renewable energy, technologies for reducing climate change and the loss of biodiversity).
2. Innovative materials and technologies (data processing, information and signal processing, nanostructured multipurpose materials).
3. National identity (Latvian language, history, culture and wellbeing of the people).
4. Public health (prevention, therapeutic methods and diagnostic tools, biomedical technologies).
5. Sustainable use of the local resources (underground, forests, food and transport) and new products and technologies.

Sources: October 2009

Electronic Bulletin, October 30, 2009

Ministry of Education and Sciences: Valnu street 2, Riga, LV-1050, Latvia - Phone: +371 67226209, Fax: +371 67223905 - Email: info@izm.gov.lv

12 The Netherlands

12.1 Dutch Scientific System Makes a Mark (The Netherlands)

When Stuart Blume, British professor of scientific policy and adviser at the OECD, came to Amsterdam for the first time, he first thought that Dutch research and its organization were rather strange. He was particularly struck by the presence of so many collaborative groups and by the great attention paid to the integration of social questions into research activities. Now, however, Blume recognizes that this originality is in fact an advantage in the international research community.

In his book "A Country of Colorful Variety", Blume analyzes the Dutch system of higher education and research. According to him, the famous "polder model" has always marked the organization of the scientific activities, taking into account the opinion of each participant in the decision-making process. Community responsibility based on competition, for Blume, at first appeared to be disadvantageous.

Blume noted a few years later, however, that this system was perfectly adapted to global changes in research. Multidisciplinarity and international collaboration have increased, and, especially in the non-academic subjects, has taken on an increasingly important role. Research "mode 2" is a good example of these transformations – this method tends to take into account, from the beginning, the external interests in the research itself, and to work more on its outcomes. This implies a greater cooperation with the social actors, in order to know their needs and expectations. Netherlands, thanks to the "polder model" has adapted very easily to this collaborative approach to research, especially since it has existed for a long time, especially at the universities for applied sciences (hogescholen).

Sources: July 2009

- *Electronic Bulletin, July 24, 2009*

- *Full book version pdf at: <http://www.scienceguide.nl/pdf/VSNUstaalkaartENG.pdf>*

- *<http://www.scienceguide.nl>, June 3, 2009*

12.2 Support for Science/Industry Exchanges (The Netherlands)

The NWO, Dutch organization for scientific research, launched a new program for “Research and Creative Innovation in Smart Creative Contexts.” It helps support creative industry launch its products and services on the market and develop new research approach by an increasing collaboration among various disciplines.

Several approaches have been identified, including “Services and Design for Health” and “Interactive Virtual Worlds.” By implementing new technologies for the end-user, useful products are developed, such as a virtual play in the snow to relieve the burned patients. Similarly, new simulation models are being developed for training soldiers, police officers, and firemen to prepare them for crisis situations in their jobs with the help of video helmets equipped with combinations of sensors. This type of application requires creativity and the cooperation of various disciplines such as psychology and sociology.

The idea of “Creative Economic Systems” seeks to motivate researchers at the center of these systems to interacting in groups or virtually as a way of transforming new ideas into projects, companies, and economic growth.

Another line of inquiry is dedicated to the development of artistic research, as artists have a different approach to problem solving and can establish unexpected links rather than simple reference to scientific theories. An artist working within the framework of interdisciplinary research in a laboratory can bring another vision to the effort and will be able to translate rather abstract laboratory research into a work of art that is accessible to the general public. Meta-research on the role, the possibilities, and the results of artistic research will also lead to new designs.

Sources: July 2009

- *Electronic Bulletin, July 24, 2009*

- *Drs. Marja Berendsen - Phone: +31 (0)70 344 06 91 - Email: m.berendsen@nwo.nl -*

<http://www.nwo.nl/creativeindustrie>

12.3 Saw teeth Reduces wind turbines' noise (The Netherlands)

The noise from a wind turbine can be reduced by half without energy loss if you equip the blades of the turbines with saw teeth. These results were obtained by Stefan Oerlemans, PhD, at the University of Twente and the National Aerospace Laboratory (NLR). Initially, Oerlemans studied the source of the noise emitted by wind turbines then used these observations to design the saw tooth and reduce the noise by half.

The rotating blades of the turbines are accompanied by a constant buzz. Because this noise is often a nuisance to people nearby, not only are the turbines never used at full capacity, but the proposed sites of new turbines are often rejected. Oerlemans studied the causes of noise and has developed a solution to reduce the noise by half without affecting energy production. To achieve this, the ends of blades have been fitted with serrated edges.

Oerlemans initially investigated the causes of the noise and the source of the rotor murmur. To do this he used an acoustic antenna system which requires many microphones mounted on flat surfaces. By measuring and comparing the time required for sound to be recorded by different microphones, he was able to accurately calculate the original sound. These measures have shown that the murmur of the rotors is, for the most part, produced by the air flow between the blades. The mechanical noise from the gears is minimal. Specifically, this study has demonstrated that most of the noise was produced by the outer parts of the blades, particularly on their rotational descent. The noise is caused by airflow over the blades. When teeth are set on the edges of the blades, the noise is reduced by half.

This innovation and the ensuing results are part of a broader program of research on aviation noise and turbines. Oerlemans has planned to continue his research and hopes to be able one day to develop a silent turbine. For his research, he draws extensively from the flight of the owl which is rendered silent by the soft feathers attached to the ends of the wings of the bird. Therefore, a row of teeth on the rear edge of the rotors should reduce the noise generated by their operation. Laboratory tests have already been made, but further testing is still needed

Sources: November 2009

- *Electronic Bulletin, November 25, 2009*

- *Rianne Wanders - email: r.r.wanders@utwente.nl - Phone: +31 53 48 92 721*

- *Joost Bruysters - email: j.c.p.bruysters@utwente.nl - Phone: +31 53 48 92 773*

- *Technish Weekblad, September 5, 2009*

- *University of Twente, September 3, 2009: <http://www.universiteitwente.nl/news/quieter-wind-turbines>*

12.4 In the footsteps of Charles Darwin (The Netherlands)

Charles Darwin was away for five years, around the world aboard the sailing ship The Beagle. It was during this trip that he developed his theory of evolution. From this trip which took him on Oceans, Darwin brought back observations, sketches, notes, experiences from which he published two major books: The Beagle Voyage, and most importantly, twenty years after his return The Origin of Species. On his return, the young stranger had become the man that the world wanted to meet and interview on his fantastic journey.

To mark the bicentenary of his birth, a dozen scientists and artists will travel to key locations where Charles Darwin visited almost two centuries. For this, they embarked on September 1st in Plymouth aboard the sailboat Stad Amsterdam for a voyage of eight months following the traces of Darwin.

Currently everyone can take part in this journey through the multimedia project of two public groups, one Dutch VPRO and the other Flemish VRT. Scientists aboard the ship have their own laboratory, but also a television and radio studio as well as continuous access to messages sent to them via the websites Beagle, Facebook, Flickr and Twitter. It's a logistical nightmare but a real opportunity for those who remained in port.

The two key figures of this project are Dick Draulans, Flemish biologist specializing in the evolutionary theory and Sarah Darwin, biologist and great-great granddaughter of Charles. If the latter remained vague on the fallout of the trip before departure, it has nevertheless agreed to meet everyone in eight months, the return of the ship.

Sources: November 2009

- *Electronic Bulletin, November 25, 2009*

- *<http://beagle.vpro.nl/>*

13 Norway

13.1 US-Norwegian Expedition Reaches the South Pole

Norwegian and American scientists linked their efforts to widen our knowledge of the effects of climate change in the Antarctic. Eastern Antarctica is the least explored area of the continent and the locale of the oldest and thickest layer of ice. Ice cores from this region provide data on the climate and the composition of the atmosphere in the past. The challenge remains, however, to understand the ways in which the regional scale signals of climate variability have been locked in the ice.

The US-Norwegian expedition, which reached the Amundsen-Scott base at the South Pole last December 11, made it possible to collect data over a distance of 2,800 km from Donning Maud Land to the South Pole, as well as to assess the variability of the climate present and past, and to obtain a chronological connection among the East Antarctic ice core sites. The project offers the opportunity to explore the unknown parts of our planet and will help to answer crucial questions related to sea level changes, variability of the past, present, and future climate, and cryosphere-atmosphere interactions.

This stage is very important for the expedition itself, but also for exploration and Norwegian scientific research. This is the first expedition supported by the Norwegian government to reach the pole since that of Roald Amundsen in 1911. It marks the end of the outward journey and the beginning of the return to the Troll station. By leaving the pole around December 20, 2008, the team hopes to reach the Troll station around February 20, 2009.

Sources: January 2009

- *Electronic Bulletin, January 9, 2009*

- *Stein Tronstad, University Center of Svalbard - Address: 9171 Longyearbyen, Norway -*

Phone: + 47 77 75 05 64 - Email: stein.tronstad@npolar.no

- <http://traverse.npolar.no/expedition-diary>

- Norsk Polarinstitutt, 15/12/2008 - <http://npweb.npolar.no/english/1229337486.12>

13.2 Record Number of Graduate Students in Norway

In 2008 a record number of 1,244 doctorates were awarded in Norway, an increase of 40% over the ten past years and an increase of 21% over 2007. Nine doctorate theses out of 10 are written in English.

The distribution by field of study is as follows: 24.6% in physical sciences; 24% in medical sciences; 19.4% in social sciences; 14.8% in sciences of engineering and technology; 10.7% in humane sciences and 6.5% in agricultural and veterinary sciences.

The proportion of women earning a doctorate (45%) has grown steadily in recent years. The variations across disciplines is significant, with women accounting for 55% of the new doctors in medicine and 47% in agricultural and veterinary sciences, while on the other hand accounting for only 37% of the new doctors of physical sciences and only 21% in technology.

The University of Oslo provided the greatest number of doctorates (435), ahead of Trondheim (314), Bergen (233) and Tromsø (104). These four universities made up nearly 90% of the doctorates delivered in 2008. The universities of Åce (67) and Stavanger (12) are far behind and all of the other establishments together totaled only 79 doctorates.

Sources: March 2009

Electronic Bulletin, March 20, 2009

Terje Bruen Olsen, NIFU STEP – Phone: + 47 22 59 51 41 - Email : terje.b.olsen@nifustep.no

13.3 Scientific Cooperation - Antarctic Crossing Completed by US-Norwegian Scientific Group

This weekend, the members of the US-Norwegian scientific group who crossed the Antarctic from the South Pole, will arrive at the Troll Research Station. Their arrival will mark the end of one of the most important Norwegian scientific projects.

Trans-Antarctic Scientific Expedition off East Antarctica will be welcomed in Troll by many Ministers of the Environment and climatic experts, who will accomplish a two-day journey to study the Antarctic.

Sources: March 2009

Electronic Bulletin, March 20, 2009

Stein Tronstad, University Center of Svalbard – Address: 9171 Longyearbyen, Norway – Phone: + 47 77 75 05 64 - Email: stein.tronstad@npolar.no

- Expedition's Report: <http://traverse.npolar.no/expedition-diary>

13.4 Second part of Norway's Far North Strategy

Prime Minister Jens Stoltenberg and the ministers for Finance, Transportation, Foreign Affairs, and Fishing and Coastal Business have introduced the second part of the government's strategic plan for the Far North for the next 10 to 15 years.

They announced their intention to invest in infrastructure development - airports, ports, fish breeding (especially cod) - and to develop a system of maritime surveillance. Moreover, they announced construction of a new ice-capable research ship and an international research center on climate and environment, located at Tromsø. They stressed that the environmental aspect constitutes a priority for the plan for the Far North.

Newspaper editorials in the *Aftenposten* indicated that the contents of this plan are already mainly known. He noted that the relationship with Russia is a key factor, but that there are many uncertainties, particularly the dividing line on the Barents Sea. The visits of Ministers Stoltenberg (in May) and Støre (in March) in Moscow will provide an opportunity to follow an active policy towards Russia, stated the newspaper.

Sources: March 2009

- Electronic Bulletin, March 20, 2009

- Office of the Prime Minister of Norway, March 16, 2009 - <http://redirectix.bulletins-electroniques.com/sF1IE>

- MAE of Norway : <http://redirectix.bulletins-electroniques.com/ks4ob>

- First Part of the Far North Strategy of the Government of Norway (in French): <http://www.regjeringen.no/upload/UD/Vedlegg/strategifir.pdf>

- Second Part of the Far North Strategy of the Government of Norway (in Norwegian): <http://redirectix.bulletins-electroniques.com/QmMgq>

13.5 Norway Invests in Research Infrastructure

The Norwegian Research Council recently granted NOK 181 million (approximately \$30 million) to finance research equipment. Twelve projects were selected last spring in the areas of energy and environment, nutrition, oceans, health, technology of information and communication, geology, space physics, technology of materials and biotechnology. Each project will receive between 2 and 30 million NOK (\$330,000 to \$5 million) with the total invested in research equipment this year to reach NOK 400 million (\$68 million). Both small and large scale equipment and databases will be supported, as well as the availability of large-scale data storage capacity for the scientific community.

This represents the first global Norwegian investment project for research infrastructure. Starting in 2008 and running until 2017, it provides a pool of funds of \$3.3 billion, of which \$660 million has been provided to date. The interest on the total will provide financing for the new projects.

This program will also ensure Norway's participation in the ESFR (European Strategy Forum on Research Infrastructures) projects. ESFR is a group of EU countries and associated states (such as Norway) whose purpose is to encourage the installation of research infrastructures in Europe by having a strategic and coherent approach. Its goal is to promote multilateral initiatives allowing for a better development of research infrastructures.

Norway is responsible for the operation of two ESFR projects:

- SIAEOS (with an initial budget of \$70 million), an observation platform for studying the environment and climate of Svalbard; and

- ECCSEL (total cost of \$120 million), a research platform to study CO₂ storage.

Norway also takes part in the EISCAT project (European Incoherent Scatter Scientific Association), a collaboration devoted to study the upper atmosphere and ionosphere. Two receiving radar antennas are located in Sweden and Finland, and two are in Norway. Finally, Norway proposed to develop and maintain a data archiving system for social sciences (CESSDA).

Sources: October 2009

Electronic Bulletin, October 1, 2009

European Programs:

ESFRI: ftp://ftp.cordis.europa.eu/pub/esfri/docs/esfri_roadmap_2008_update_20090123.pdf

SIAEOS: <http://redirectix.bulletins-electroniques.com/mFkh2>

ECCSEL: <http://www.ntnu.no/eccsel/>

EISCAT: <http://e7.eiscat.se/>

13.6 Norway and India Cooperation Takes a New turn

The Norwegian Council for Research has launched a new program to promote collaboration between Norway and India. This program will have 2 million Norwegian kroner (~\$350,000) per year over 5 years (with a possible extension for an additional 5 years).

This program is part of the broader strategy of cooperation with India launched last August by the Norwegian government and named "Opportunities in Diversity." In addition to research and higher education, this cooperation involves many actors such as public and private sectors, non-governmental organizations, and cultural institutions.

By establishing this special partnership, Norway seeks to strengthen its ties with India in the following key areas: climate change, environment and energy, efforts of peace and democratic issues and human rights, equality between the sexes, working conditions, and health issues. More broadly, this strategy of cooperation with India is an important commitment of Norway in South Asia.

In the health field, Norway aims to help India achieve the objectives of the UN MDG (Millennium Development Goals). A NIPi (Norway-India Partnership Initiative) partnership was signed in 2005 with the aim of significantly reducing the infant and maternal mortality by 2015. Toward this end, Norway is investing 80 million US dollars over the period 2006-2011.

Another major focus of this collaboration is in the areas of climate, environment, and clean energy, with the aim of promoting sustainable development. The energy needs of India will increase significantly in coming decades and, at the time of a real awareness about this issue, it appears crucial that this energy come from clean sources. In this context, India has launched a comprehensive plan to promote renewable energies and the country is fast becoming the world's largest market for these technologies. Other units, after making considerable investments in Indian hydropower (through the national company SNPower), Norway is now seeking a partnership for the development of this energy, but also solar and other types of renewable energy. It could be a wider cooperation between authorities, the private sector, academic research and civil society. A pilot project is underway including 30 villages which will be provided access to solar electricity. Norway hopes that these experiences are a springboard for assistance to developing countries at larger scale.

In addition, the two countries will also cooperate in the field of polar research. The Norwegian competences in this area are recognized globally. The research base located on Svalbard will be the center for scientific cooperation in the field. The two countries already cooperate on a project to model climate and the establishment of a warning system for natural disasters. This could be a starting point for cooperation focused on problems related to ice melt in the Himalayas and the impact it can have, not only for Indians but also for all peoples of this region of Asia.

Sources: December 2009

Electronic Bulletin, December 9, 2009

<http://redirectix.bulletins-electroniques.com/pjQ04>
<http://redirectix.bulletins-electroniques.com/dPrrN>
<http://www.un.org/millenniumgoals/>
<http://redirectix.bulletins-electroniques.com/whleb> (NIPI)
<http://www.snpowerinvest.com/>

13.7 The Norwegian Institute for Air Research Celebrates 40 Years

NILU (Norwegian Institute for Air Research) held October 15 a seminar on the occasion of its 40th anniversary with the theme "Challenges Without Borders." Based in Kjeller (Norway), NILU also has centers in the polar region of Tromsø, the United Arab Emirates, Poland, and South Africa. Many political and scientific dignitaries were present for this event, including the Norwegian Minister of Ecology and the Secretary of State for Foreign Affairs, reflecting the national importance of this research center.

The theme of the seminar "Challenges Without Borders" is an expression which corresponds exactly to the challenges facing today both politicians and scientists in their fight against pollution.

Without borders between different actors

This seminar, invited to address both the Minister of Ecology and Secretary of State for Foreign Affairs insisted on the need for different actors in environmental protection to work together. In his speech, the Secretary of State for Foreign Affairs noted in particular that much of the Norwegian policy for the far north was intended to help increase knowledge about various subjects in the region by promoting research in the field. On the other hand, J.M. Pacyna, of the Center for Ecology and Economics made his presentation on "The role of science in policy making" using the case of mercury pollution.

Without borders between countries

Air pollution can be regarded as a national problem and must obviously be viewed holistically. Stakeholders have particularly emphasized this point. The issue of pollution in the Arctic is a particularly good example: Andreas Stohl stressed the need to address invisible pollution, which originates thousands of miles from our cities. He presented the results of studies showing the impact of certain events sometimes very distant, such as agricultural fires in Eastern Europe. The residue, called black carbon, is transported by wind and ends up deposited in the Arctic region. Hence the danger posed by the development of shipping in the Arctic (e.g., in the Barents Sea), which would increase pollution in this region. On a more positive note, David Fowler also noted that the reduction in incidences of acid rain due to emissions of SO₂, have largely been resolved through strong international collaboration that has taken drastic common measures against such discharges.

Without borders between pollution and global warming

Although they are two different phenomena, several studies now show a close connection between pollution and global warming. Markus Amann included a presentation on the linkages between pollutants and greenhouse gas emissions and the need for co-control of both phenomena to obtain a co-benefit.

While the issue of pollution is currently under discussion and can be compared to the climate issue (with the approach of the Copenhagen Summit), the seminar was an opportunity to review the current research in the field and glimpse the challenges facing the international community.

Sources: December 2009

Electronic Bulletin, December 9, 2009

<http://redirectix.bulletins-electroniques.com/rllqj>

http://www.nilu.no/index.cfm?lan_id=3

13.8 Strong increase in student population expected in the coming years (Norway)

Recent studies have shown that the number of students will rise steeply in Norway in the coming years. It could indeed be between 30,000 and 80,000 additional students by 2013 (for a current population of about 200,000 students).

This will cause problems at the university home of students and cause the need to increase the number of teachers in particular and personal in general. The Rector of the University of Oslo, Ole Peter Ottersen, had also alerted the government demanding a budget increase granted to universities by 2010 in order to anticipate this "student boom". The new budget provides funding for 5,600 additional students at the university, in addition to the amounts allocated to the scholarship scheme. But it is insufficient: Ole Peter Ottersen stated that "there is not much to say except that the budget is surprising and disappointing".

The Minister of Research and Higher Education, Tora Aasland, said she is waiting to see if the planned increase in student numbers is a reality in enrollment before funding new spaces. Several other tracks are also envisaged by the government from funding of places in universities abroad, a better orientation of students to universities in the provinces and shorter courses. Meanwhile, management at the University of Oslo seems to have decided to remove part of the research budget to fund education.

In addition to education funding, increasing the number of students could also pose a housing problem. Student associations NSU and StL recently published a survey indicating that only 14.6% of students currently have access to housing in student residence (away from the target of 20%). According to them, it missed 10,000 housing units already. This situation may therefore worsen in the coming years, with the risk that this could increase the prices of private homes due to rising demand.

Sources: December 2009

Electronic Bulletin, December 9, 2009

<http://universitas.no/news/53974/-the-students-will-not-suffer/>

<http://www.egovmonitor.com/node/29578>

<http://redirectix.bulletins-electroniques.com/1Ahf7> (budget 2010)

http://isu-norway.no/docs/ART_090803_NSU-STL_HOUSING.pdf

Dagsavisen November 28, 2009

14 Poland

14.1 French-Polish Collaboration in Applied Mathematics

Mathematicians from the University of Wrocław and a French group located at Paris-Dauphine University have been developing a close collaboration in applied mathematics for a number of years. This collaboration focuses on the study of certain models of cell movement in mathematical biology (aggregation of bacteria, description of angiogenesis in the development of the tumors, etc.), and the modeling of propagating crystalline defects in solid mechanics (dislocation theory). These models, resulting from biology or physics and based on fractional diffusion, were approached from the point of view of partial derivative equations.

As is often the case in applied mathematics, the objective consists in studying simple fundamental systems to understand the basic mechanisms within a particular nonlinear framework. The results make it possible to propose more detailed modeling in the fields of application.

Sources: September 2009

Electronic Bulletin, September 2, 2009

<http://www.ceremade.dauphine.fr/~dolbeaul/Polonium/13886SG.html>

14.2 A 675 Million Euro Loan for Polish Science

The European Investment Bank (EIB) will lend 675 million Euros in Poland to finance research undertaken by Polish universities and institutes. This sum, split between the Polish Ministry of Science and Higher Education, national research institutes, and universities, will be used for construction or modernization of infrastructure and equipment to help scientists working on high priority national projects.

Sources: September 2009

Electronic Bulletin, September 2, 2009

14.3 European Funds Aid Construction of New Technology Center (Poland)

The University of Warsaw will receive 270 million zlotys (approximately 68 million Euros) from the European Union for the construction of a new technology center. "It is a special day for Polish science," declared Barbara Kudrycka, Minister for Science and Higher Education. "This investment will offer scientists and students privileged access to state-of-the-art modern technology infrastructure."

The future center, a three-building campus, will consist of laboratories, classrooms, and conference rooms for biology, chemistry, biotechnology, environment, and physics and will be located on the Ochota campus. The campus will bring together the 6 institutes of the PAN (Polish Academy of Sciences) to form an internationally visible BioCentrum consortium (a scaled-down version of the Warsaw Biocentrum). Financing comes from the EU's Infrastructures and Environment program with additional funds (282 million zlotys) from the EU's Economy and Innovation program. The first phase of the new center will be inaugurated in 2013.

Sources: September 2009

Electronic Bulletin, September 2, 2009

14.4 French Micro-Satellite Studies Polish Lightning

A sprite is luminous phenomenon which accompanies an electrostatic discharge between the top of a storm cloud and the bottom of the ionosphere (90 km). It generally takes place a few milliseconds after a flash of a very intense lightning. These events, discovered by accident only twenty years ago, are currently the object of studies to understand how they are generated, since they correspond to a formidable exchange of energy between the atmosphere and the ionosphere.

For the first time Polish and French researchers have studied waves emitted by sprites observed during the night of July 20, 2007 via a camera located on Mount Sniezka in Poland. At the same time, the French micro-satellite DEMETER, which was 1500 km away from the stormy area, collected waves emitted in a frequency band between 0 and 20 KHz. By using data from network sensors on the ground which provides the position, time, and intensity of the flashes, the researchers could characterize the waves emitted by the sprites. This work was carried out thanks to a Hubert Curien "Polonium" partnership between CNRS and PAN.

Sources: September 2009

Electronic Bulletin, September 2, 2009

<http://www.ann-geophys.net/27/2599/2009/angeo-27-2599-2009.pdf>

14.5 Cracow University Maintains Ranking Over Warsaw (Poland)

The University Jagiellonne in Cracow remains ahead of the University of Warsaw in the annual classification of Polish universities conducted jointly by the Rzeczpospolita daily newspaper and the Perspektywy weekly magazine. Adam Mickiewicz University of Poznan and the Technological University of Warsaw (Politechnika Warszawska) placed 3rd and 4th. The University of Wroclaw, which had seen a meteoric rise last year, fell from 3rd to 7th place.

Sources: September 2009

Electronic Bulletin, September 2, 2009

14.6 Make or Break Time for Polish Research, Warsaw, Poland - Field Report October 1-2, 2009

Poland is moving rapidly on a number of fronts to improve its research and higher education capacity and infrastructure, recognizing, as one observer noted, that if things don't change dramatically Poland will shift from talking about emulating Germany to talking about how *not* to emulate Albania.

Like a number of Central and Eastern European countries, Poland is burdened with an academic system that rewards longevity rather than productivity, a lack of political commitment to research, and universities that compete for government funding based on enrollment numbers rather than excellence. At 0.57 percent of GDP spent on R&D, Poland not only falls far short of the Lisbon Agreement goal of 3%, it is a long way from the 1.87 percent that is the current average of the 27 European Union countries.

The Polish government recognizes the need for reforming universities (triggered by the infamous [Shanghai Jiao Tong University rankings](#)) and has recently held a competition to develop a 10-year plan for restructuring higher education. The winner, Prof. Krsysztof Rybinski, an economist who is a member of both the academic and private sectors (a faculty member at Warsaw University and a partner at Ernst & Young), put together an international team of education and research experts which beat out a team made up of Polish University Chancellors. Not surprisingly, the latter were stunned that someone outside the club could be asked to make recommendations on how to reform "their" institutions. The losers have already publicly questioned the credibility of the winners, before a draft set of recommendations has even been produced.

Reform is never easy, but the energetic and creative Foundation for Polish Science, a two-decade old private foundation, has already provided a head start for transforming Polish research. Funded through a public endowment that generates about \$14 million annually, it supports a variety of innovative ventures, all predicated on competition and excellence. One example is its WELCOME project, a competitive program to recruit world-class researchers to Poland by offering a \$2 million, five-year pay and start-up package to lure the best available scientific talent to Polish institutions.

Professor Stanislaw Karpinski was one of three winners of the first WELCOME competition, held last year. A top-notch plant geneticist and biotechnologist, he has put together a team of post-docs and graduate students of his own choosing (unheard of in Poland) to work in a newly equipped state-of-the-art laboratory at the Warsaw University of Life Sciences just outside the city. The 25,000 student campus, representing a tenth of Warsaw's college students, is unremarkable in its Soviet-era architecture, but Karpinski's enthusiasm and commitment to change is that of a rock-the-boat reformer, not an apparatchik lab rat.

Trained in Sweden, where he was full professor at Stockholm University, and schooled in the ways of both university and governmental politics, Karpinski is an active and vocal advocate for reform. Writing in an editorial on the reform proposals put forward by the chancellors of Polish universities, he noted that these were akin to a patient trying to perform heart surgery on himself.

Prof. Karpinski has good company in his reform-minded thinking. The new Minister for Science and Higher Education is Prof. Jerzy Szwed, is brand new to his post. A former professor of theoretical physics at Jagiellonian University in Krakow, he is already looking for lessons from other research agencies that can be imported to Poland. He has requested a half-day briefing on NSF's organizational structure, processes, and programs that can serve as fodder for his staff as they begin drafting legislation to establish a new Polish research agency. Among the pending actions expected to be addressed by Parliament early in 2010 are the creation of an independent research funding organization, liberalization of a tech-transfer program supporting small businesses, and a series of reforms for higher education.

None of the proposals being discussed are lacking in controversy, but the Poles I met spoke with pride of their ability to pull together when the odds are greatest.

Sources: October 2009

14.7 "In 20 years Polish universities will be among the leaders"

Warsaw, November 23, 2009

"In 20 years, Polish universities will be among the leaders," assured Barbara Kudrycka, Polish Minister of Science, summing up her last 2 years in the government of Donald Tusk. "Within the next 20 years, the best Polish universities will be in the top 50 in Europe. To succeed, we must change the management of our universities," she told the Polish Press Agency (PAP) at a forum on higher education in Warsaw. Ms. Kudrycka recalled that since 2007 her department had prepared a two-stage reform of the university system, and it has introduced new implementing legislation. The Vice-Minister, Maria Orłowska also said that more European funds were being used to finance these reforms. She added that this year Poland had increased its spending on science from 3.9 to 5.1 billion zlotys. (950 to 1,243 million Euros).

The only Polish universities appearing in the 2009 "Shanghai classification" (Academic Ranking of World

Universities) are Warsaw and Krakow (Jagiellonian), which were ranked between 300 and 400 globally and between 126 and 170 in Europe. In the annual ranking of Polish universities conducted by the periodical "Perspektywy," these two universities ranked at the top with scores nearly equaling the maximum (100). The next two universities (Adam Mickiewicz University in Poznan and Warsaw Polytechnic) trailed appreciably behind (77.7).

Sources: December 2009

- *Electronic Bulletin, December 16, 2009*

- *The Shanghai Classification - Academic Ranking of World Universities* : <http://www.arwu.org>

- *2009 Classification from the Newspaper Perspektywy (in Polish)* :

<http://redirectix.bulletins-electroniques.com/rVuHH>

14.8 Franco-Polish High Energy Nuclear Physics Laboratory

On the 35th anniversary of Franco-Polish collaboration in nuclear physics and high energy, a review of the cooperation between the two countries has been provided by the Joint IN2P3 - Copin. Established under an agreement signed November 27, 2008 in Paris between French partnership CNRS/IN2P3 - GANIL (National Large Heavy Ion Accelerator) CEA and the Polish consortium COPIN, LEA COPIGAL, the partnership coordinates and develops advanced nuclear physics between the signatory parties.

The GANIL [2] is a very large instrument for French and European research with an international impact. Developed as an Economic Interest Group (GIE) between CNRS/IN2P3 and CEA, the "Spiral2" (In line Radioactive Ion Production System) is the proposed new particle accelerator GANIL. It is the result of collaborations among many French, European, and international research laboratories and already involves 12 countries, including Poland. As part of the ESFRI (European Strategic Forum for Research Infrastructure) roadmap, the facility will be a unique source of high performance fast neutrons for the next ten years.

Sources: December 2009

- *Electronic Bulletin, December 16, 2009*

- [1] "35ème anniversaire de la coopération franco-polonaise en physique nucléaire et physique des hautes énergies" : <http://www.bulletins-electroniques.com/actualites/61575.htm>

- [2] *Site du Ganil* : <http://www.ganil-spiral2.eu>

14.9 Five Polish Scientists Honored with L'Oréal – UNESCO Awards in 2009

The award ceremony honoring "Polish Women in Science" co-sponsored by L'Oreal and UNESCO, was held in Warsaw on November 27, 2009. This scholarship prize is awarded every year to 5 Polish women for their excellent scientific work in two categories -- 20,000 PLN (about € 5,000) for doctoral students and 25,000 PLN (EUR 6,250) for post-doctoral and certified Ph.D.s.

The jury consisted of 10 highly recognized scientists, including Andrzej Legocki, director of the biology division of the Polish Academy of Sciences, including 3 representatives of UNESCO (in particular Mr. Maciej Nalec, director of the Basic Sciences and Engineering Division).

The 2009 winners were Ms Anna Czarnecka, Agnieszka Korkosz, Joanna Kowalska (all of Warsaw) in the Doctoral Category and in the post-doctorate and certified category the winners were Mrs Sylwia Rodziewicz-Motowidlo (Gdansk) and Ewa Zuba-Surma (Krakow). Note that Ms. Agnieszka Elzbieta Sadowska, neurobiologist, received the international L'Oreal - UNESCO prize (regardless of nationality) in 2005.

This award is aimed at promoting the image and status of women in science. "Girls of the Future - In the footsteps of Marie Curie Skłodowska", a competition of the Polish Ministry of Science and Higher Education (MNiSW) in partnership with the Polish edition of the magazine "Elle", is a similar effort. The competition aims to promote and help young women who are conducting scientific research in the fields of engineering, life sciences, technical sciences, and mathematics. The main prize is 15,000 PLN (EUR 3,750). Publication of results will take place in the first quarter of 2010.

Sources: December 2009

- *Electronic Bulletin*, December 16, 2009

- *L'Oréal Prize- UNESCO - English* : <http://redirectix.bulletins-electroniques.com/wc7Vn> - *en polonais* : <http://www.lorealalakobietinauki.pl>

- *MNiSW Prize- Elle (in Polish)* : <http://redirectix.bulletins-electroniques.com/CtDTb>

15 Romania

15.1 French-Romanian Math Cooperation

On March 17, 2008, the Academy of Science of Romania, the CNRS, and the University Paris-South created a French-Romanian European Associated Laboratory in Mathematics bearing the name of MATH-MODE [1]. This new laboratory without walls was initially tested in mathematics and it is also the first partnership between French and a Romanian laboratories.

The creation of this laboratory highlights a very old French-Romanian connection in mathematics. It builds on the deep relationship between the mathematical communities of the two countries, as shown by the large number of Rumanian post-doctorates and mathematicians working in France in laboratories and other organizations. This connection has grown over the past twenty years, as demonstrated in the biennial French-Romanian Conference in Applied Mathematics, held last September in Brasov, Romania, and scheduled for 2010 in Poitiers, France.

Since 1990, a large number of young Romanians have completed their training at the Ecole Normale Supérieure de Paris (Higher Education School of Paris, ENS-Ulm) and are now researchers in French or Rumanian centers. In 2001, a college [2] was created in Bucharest with the support of the French ENS-Ulm and French mathematicians. In 2008, the Brasov conference confirmed that a many young men and women mathematicians, some of whom had benefited from stays in France thanks to the Tempus Program, expressed a desire to become involved in French-Rumanian cooperation.

This LEA (Langues Etrangères Appliquées – Applied Foreign Languages) program is support by the Institute of Mathematics of the Rumanian Academy (IMAR) in Bucharest and the Laboratory of Mathematics of Orsay. The LEA has the mission of supporting French-Rumanian projects run by small mixed teams created within laboratories, institutes, or universities in all the fields of mathematics. It encourages the scientific and geographical diversity of the projects and, beyond research, seeks to become a center for European institutions likely to attract a greater number of young high level researchers to Romania and to become a regional pilot in this part of Europe.

The laboratory is directed by co-directors Bernard Helffer (Paris-South, France) and Radu Purice (IMAR, Romania) who organize the scientific activity of the LEA with the support of a Committee of Experts. The Committee provides annual scientific guidance and allocates resources. The priorities set of themes chosen for 2008-2009 are Geometry, partial derivative equations and modeling, and stochastic analysis. Funds for 2008 were used for a series of presentations on the "Applications of Stochastic Calculation to Finance", a workshop on "Stochastic Analysis and Potential" and for the 9th French-Romanian Conference on Applied Mathematics in Brasov (financing grants to young researchers and organization of a half-day of presentations with the help of the French Embassy).

The main aim of the LEA is to support research projects. Ten were financed in 2008 on varied topics including the homology of Koszul, the partial stochastic derivative equations without viscosity, the behavior in ferroelectric hysteresis of materials, the variation methods in micro magnetism, multilevel filtering, the spinor geometry and the methods of field decomposition. For 2009, half of these programs were extended for another year and new programs were launched. Another set of themes is cooperation in mathematical physics, which had other sponsorship in the past two years but which should be the focus of a new program at the College of Bucharest in 2009-2010.

Sources: August 2009

Electronic Bulletin, August 26, 2009

LEA Math-Mode Co-directors:

- Bernard Helffer (University of Paris-Sud) - Bernard.Helffer@math.u-psud.fr

- Radu Purice (IMAR Bucarest) - Radu.Purice@imar.ro

- [1] Associated European Laboratory MATH-MODE: <http://www.imar.ro/math-mode/>

- [2] Higher Education School of de Bucarest: <http://www.imar.ro/~aprodu/snsb/index.html>

15.2 NSF CAREER Award to Romanian Researcher (Romania)

Last September Mrs. Diana-Andra BORCA-TASCIUC received the CAREER Award granted by the National Science Foundation (NSF) to young researchers identified as future leaders in their fields. It is one of the most prestigious prizes the National Science Foundation awards to academics and researchers at the beginning of their careers and it particularly encourages high level research and innovation in teaching. Mrs. Borca-Tasciuc will use this \$425,000 prize to continue her research on nanoparticles heated by an alternating magnetic field and its applications to oncology. Because of their high energy consumption, the cancer cells absorb the nanoparticles more quickly than the healthy cells, and heat destroys them.

"We are very proud and congratulate her for this accomplishment" said Mr. David Rosowsky, Rector of Rensselaer' School of Engineering. "The CAREER Awards are granted to the best and most promising researchers. I am confident that her research will be a success and I am eager to see the impact this research will have for cancer therapies", he added.

D.A. BORCA-TASCIUC graduated with a physics degree from the University of Bucharest in 1996. She obtained a masters and a doctorate in Mechanical Engineering at the University of California -- Los Angeles. She is currently an assistant-professor at Rensselaer Polytechnic Institute. Her fields of research relate to the following topics: - the conversion of energy

- heat transfer

- biomedical engineering

- microphone-electro-mechanical systems (MEMS)

- heat transfer in bio-nano systems, as well as the electromechanical micro- and nano-systems (MENS and NENS) for applications in medical fields and for the conversion of the thermoelectric energy.

Sources: October 2009

Electronic Bulletin, October 29, 2009

<http://http://www.hotnews.ro>

Institut Polytechnique Rensselaer :

[&&&http://news.rpi.edu/update.do?artcenterkey=2621&setappvar=page\(1\)](http://news.rpi.edu/update.do?artcenterkey=2621&setappvar=page(1))

15.3 Romania to Co-Host 21st century Laser Facility

On October 1, 2009 the Coordinating Committee of European Extreme Light Infrastructure (ELI) met in Prague, led by professors Gerard Mourou (coordinator), Georg Korn (assistant coordinator), Jean-Paul Chambaret (project manager) and Sandro de Silvestri.

The Romanian delegation was led by professor Marius Enachescu, in charge of the ELI project in Romania and vice-president of the National Authority for Scientific Research in the Ministry of Education, Research, and Innovation. The Romanian bid to host ELI has strong government support and the three applicant countries for ELI -- Romania, the Czech Republic and Hungary --have been selected to house, develop, and build the facility with a target of 2015 for its completion.

According to Enachescu, ELI represents the greatest project ever conceived and implemented in the field of the lasers. It anticipates beams 1000 times stronger than those currently available. Such a beam will pulse at extremely short durations (some atto-seconds, billionths of billionths of second), with a power 10,000 times larger than the power produced by all the power plants of the world. This will allow exploration of new physics in energy fields impossible until now. Among investigations include the interaction of laser/matter at energies where the relativistic laws may no longer be operational; research on the dynamics of the electrons inside atoms, molecules, plasmas and solids; and the creation of the particle - antiparticle pairs in a vacuum. Applications with great scientific, economic and social impact will be possible, such as the realization of small particle accelerators with performances comparable to

current accelerators, anticancer therapy, and even the significant reduction of the lifespan of the radioactive waste.

In the unanimously adopted final resolution, the Coordinating Committee expressed satisfaction with the progress made by the Preparatory Consortium ELI-Phase (ELIPP) and the integrated proposal submitted by Romania, the Czech Republic and Hungary, which will share equally in the development and construction of ELI.

Romania is responsible for building a complex of lasers and particle accelerators on the Magurele - Bucharest scientific campus. The facility will offer unique capabilities for exploring a new frontier in science -- the point at which nuclear physics intersects with the physics of matter. Building and operating the ELI-Romania, will require collaboration in every field of research and innovation in Romania, including the facility at Magurele - Bucharest, the National Institute of Physics and Nuclear Engineering Horia Hulubei, the National Institute of Lasers Physics, Plasma and Radiation, the National Institute of Physics of Materials and the Institute of Atomic Physics.

Discussions within the Coordination Committee emphasized that the extraordinary scientific research related to ELI and its revolutionary applications would require 10 or 20 years. For this reason, the ELI project will attract more and more young people and provide the motivation for critically needed scientific careers for Europe's young people.

Sources: October 2009

- *Electronic Bulletin, October 29, 2009*

- *G. Mourou, Professor at the French Ecole Polytechnique, European Coordinator of the ELI - ENSTA program - Email : Gerard.Mourou@ensta.fr*

- *M. Enachescu, Research Under Secretary of Romania - Vice-president of the National Authority for the Scientific Research of the Ministry for Education, Research and Innovation - Email : marius.enachescu@ancs.ro*

- *Romanian National Agency for Research : <http://www.ancs.ro>*

15.4 Membranes at the top of European research: 20 years of Franco-Romanian cooperation

Research on the membranes made work, in Montpellier or Bucharest, more than sixty researchers and teacher-researchers during the twenty last years. The international projects were numerous, for most important we can quote the European project INCO-Copernicus (1998-2001); The recycling of heavy metals and the organic molecules of biological interest by membrane systems innovators with 6 European partners; the installation (with the M.A.E and the French Embassy in Bucharest) of the Module French Teaching "Processes with Membrane in the Protection of the Environment" (1996-2001) or the Program Brancusi "Engineering of Adaptive Materials for Membranes and Bio-captors" - University Politehnica of Bucharest, Faculty of Industrial Chemistry with European Institute of Membranes - IEM of Montpellier [1].

The success of this cooperation is far from being the result of chance. During years Professors Louis Cot, Andre Ayrat, Mihail Barboiu (Montpellier) or Georgeta Popescu, Gheorghe Nechifor and Constantin Luca (Bucharest) strongly contributed to the development of the various sets of themes around the science of the membranes. Today one of the teams of the European Institute of Membranes (IEM) of Montpellier "Supra-molecular Adaptive Nanosystems" is directed by Dr. Mr. Barboiu. This Romanian chemist integrated CNRS by proposing a global research project with for basic idea to take inspiration of the biological membranes in order to better know them. This fundamental network regularly resulted in discovering materials with the innovating properties and the applications as unforeseeable as various. The proof laid by the number of patents registered: the team of Mr. Barboiu developed a material ten times more conducting than the membranes used currently in the combustible batteries.

Two patents were also submitted for materials which allow the separation of CO₂. Moreover, work on dynamic systems biomimetic of ionic channels type or enzymatic receivers, carried out most of the time in cooperation by young Romanian doctorates (Dr. Adinela Cazacu, Dr. Andreea Banu, Dr. Florina Dumitru, Dr. Anca Meffre) largely opened the way to new collaborations in Romania with the Institute P. Poni de Iasi (Prof Bogdan Simionescu) or the Center of Organic Chemistry of Bucharest (Dr. Calin Deleanu).

All this work was rewarded by the European Young Investigator Award - EURYI by European Science Foundation and the EUROHORCs Directions of which the CNRS [2]. The Romanian Company of Chemistry or Romanian Academy was also rewarded for these activities with interdisciplinary vocation. At the time of a visit in the French laboratory in Montpellier one cannot miss the photographs of the professors who inspired this work like Constantin Luca, Georgeta Popescu, and Louis Cot. One should have no doubt; the new comers will walk in the steps of their mentors. In 2010, the European Company of Membranes - EMS decided to celebrate the 20 years anniversary of the scientific venture, testifying to the recognition of all these European researchers who communicate their passion in the science of the membranes.

-- [1]: UMR-CNRS 5635/ENSCM Montpellier/University Montpellier 2

Sources: October 2009

- *Electronic Bulletin*, October 29, 2009

- Dr. Mihai-Dumitru Barboiu – *European Institute of Membranes, Montpellier, France* - Email : mihai.barboiu@iemm.univ-montp2.fr

- [2] : Additional information can be found at:

- http://www.cnrs.fr/inc/communication/direct_labos/barboiu.htm

- http://www.cnrs.fr/inc/communication/direct_labos/barboiu2.htm

- <http://www2.cnrs.fr/presse/journal/4286.htm>

- <http://redirectix.bulletins-electroniques.com/pvg93>

- EMS Summer School-2010 – June 14-20, 2010, Bucharest, Romania : <http://www.emsoc.eu>

15.5 Decades of cooperation between the French Universities and the Technical University of Iasi (Romania)

Very recently, the first European Doctorate degree was awarded within the Faculty of Chemical Engineering and Protection of Environment following a joint doctorate directed by Mr. Prof Gerard RIESS of the University of High Alsace, Mulhouse (France) and Mr. Prof Marcel POPA of the Technical University "Gheorghe Asachi" of Iasi (Romania).

Mrs. Dr. Mihaela Hamcerencu received this diploma at the occasion of the European Conference on the Biomaterials of Lausanne, Switzerland. This event reflects the permanent concern of the Faculty of Chemical Engineering and the Protection of Environment of Iasi for an improvement of the quality of the training of the students, collaborations between the known universities of the EU which makes it possible for fast compatible programs of studies of the Faculty with those which exist in European Universities.

Collaborations between teachers of Faculty of Chemical Engineering and the Protection of Environment of Iasi and their French colleagues have always been very narrow, even before 1989. Such an example could be the excellent relations between Prof Georges Champetier, director of the University of Industrial Physics and Chemistry of Paris and Prof Cristofor Simionescu of the Technical University of Iasi, both being able to be considered in their countries of origin as the founders of modern macromolecular chemistry.

Collaborations between the French Universities and the Technical University of Iasi were concretized in time by the granting of three titles of *Doctor Honoris Causa* to French colleagues: Prof Gerard RIESS of the University of Mulhouse, Prof Jean-Marc ABADIE of the University Montpellier 2 and Prof Jacques DESBRIERES of the University of Pau and the Adour Region. With the framework of the programs Socrates - Erasmus, much exchanges were carried out with the following French universities: University Montpellier 2, University "Joseph Fourier", Center for Studies and Research of the Vegetable Macromolecules - Grenoble, University of Provence, University of Rouen, University of High Alsace, National School of Chemistry Mulhouse, University of Pau and the Adour Region, University of Toulon and Var, and University Claude Bernard of Lyon.

The scientific performances of the collective of Faculty of Chemical Engineering and the Protection of Environment of Iasi increased year after year, with in 2008 more than 150 articles published in international reviews (treated on a hierarchical basis by Thomson ISI), meaning 2 articles per teacher on an annual average. These scientific performances were possible following the important investments made these three last years, the equipment of synthesis and characterization bought during this short period costing more than 3,000,000 Euros. The teachers of the Faculty are supported in their research activity by 165 doctorate students and 150 master students. The fields of research approached are very diverse, covering several current zones of interest. Among those, most important are: the immobilization and controlled sale of drugs, the storage of energy, the evaluation of the risk factors for the protection of the environment, biotechnology, supra-molecular chemistry obtaining bio-nano-materials for leading-edge technologies, molecular liquid crystals, modeling and simulation of the properties, catalyses heterogeneous, etc.

All that made of the Faculty of Chemical Engineering and Protection of Environment of Iasi a potential invaluable partner within the framework of the future European competitions of 7th Outline program (FP7).

Sources: October 2009

Electronic Bulletin, October 29, 2009

European Conference on Biomaterials in Lausanne : <http://www.esb2009.org/welcome/>

Professor Nicolae Hurduc, Technical University "Gheorghe Asachi" Iasi, - Email : nhurduc@ch.tuiasi.ro

Professor Jacques DESBRIERES, Physics and Chemistry of Polymers IPREM – University of Pau and Adour Region - Email : jacques.desbrieres@univ-pau.fr

15.6 ELI first pan-European project in Eastern Europe (Romania)

On December 3, 2009, the Competitiveness Council, composed of 27 Ministers of Research of the European Union, approved the declaration of the Czech Republic, Hungary and Romania concerning the plan ELI (Extreme Light Infrastructure) é- the first pan-European project in Eastern Europe.

On this occasion, Romania, the Czech Republic, and Hungary have made a statement concerning the joint construction of the pan-European ELI research infrastructure, according to a multisite model to be distributed among the three countries. These countries confirmed at the Competitiveness Council their agreement to complete the steps that the ELI Steering Committee had imposed in October 2009.

This should lead to an integrated ELI infrastructure, with legal corporation in the form of an ERIC (European Research Infrastructure Consortium) with a single direction. All member states were invited to participate in this project.

For Romania, in addition to a very high level laser infrastructure, it means "a significant impact on the economic and health and for our society in general" noted, Professor ééMarius Enachescu, vice-president of the National Authority for Scientific Research (ANCS) .

Sources: December 2009

- Electronic Bulletin, December 21, 2009

- National Romanian Agency for Research (ANCS): <http://www.ancs.ro>

16 Russia

16.1 The Arctic is Beginning to Resemble the Antarctic (Russia)

Studies of recent modifications in the biological communities of the Arctic ices by Igor Melnikov, a Russian researcher of the Institute of Chirchov Oceanology, (Russian Academy of Science) has led to the conclusion that these changes can be related to changes in the Arctic glacial layer and in particular the reduction in the surface occupied by the permanent ice.

"What we previously regarded this as a desert of ice actually bubbles with life" explains Igor Melnikov. "deep in the ice, but also on its surface, live algae, and a host of small shellfish and other invertebrates. However, in the last decade, the qualitative and quantitative composition of this glacial population has clearly been modified compared to what it was in the middle of the seventies." These changes, according to Igor Melnikov, are related to the state of the ice cover".

What is known is that due to global warming, the surface of the permanent ice (which does not melt during the summer) has been decreasing in the Arctic since the beginning of the 1980s. In the mid 70s this surface was about 8.43 million km². It shrunk to 7 million in 2000, 5.32 million in 2005 and 4.14 million in 2007. Forty year ago 70 to 80% of the ice-sheet was occupied by permanent ice; today it represents no more than 30%.

"That does not mean that the ice cover is completely disappearing" Igor Melnikov underlines. "this is the loss the permanent ice. There is simply more interstitial waters, which freezes during the winter. But this prevalence of the seasonal ice on the permanent ice has serious consequences." In the seas of the southern hemisphere, the ice cover disappears almost completely during the hot season, before being reconstituted at the cold season. During the 8 months of the cold season, the seasonal ices occupy more than 80% of the ice cover.

In the Arctic, the conditions are now much tougher and 90% of the organic substances in the central areas of the icy Arctic Ocean are synthesized by algae coming from the permanent ice. But in the current ice-barrier of the Arctic seas, two different ecological systems coexist, from their composition and their operation – those in the eternal ice and those in the seasonal ice. The share of first one is constantly shrinking, while the second is increasing. If this tendency continues, the Arctic seas will over time become identical to the seas of the Antarctic. "It could generate", concludes Igor Melnikov, "a reorganization of all the lower trophic structures of the ocean, which could in turn have effects on all higher trophic links and affect fish, birds and others animals."

Sources: May 2009

Electronic Bulletin, May 5, 2009

Igor Melnikov, Research Director, P.P. Shirshov Institute of Oceanography, Russian Academy of Sciences, Moscow -email : Migor@online.ru

17 Slovakia

17.1 European Science Week in Slovakia

The European Science Week has celebrated its 18th observance. This event demonstrates to young Europeans how science and technology can exert real and positive influences on their daily lives. Successful projects mobilized a wide range of national and European partners -- museums and scientific centers, research institutes, schools and universities, news outlets, and local and regional authorities. Among the initiatives envisaged area trade shows, exhibits, conferences, publications, debates, virtual and real scientific villages, Web sites, and visits to research centers and laboratories.

In her fifth year of participation, Slovakia was a full partner in this event. Science Week, which took place on November 24-28, 2008, attracted hundreds of people throughout the country where various actions and conferences were scheduled. The Slovakian Academia of Sciences proposed for this event more than 40 open houses in laboratories and institutes and some 70 exhibits.

In addition, major events were organized by the Ministry for Education, including a visual art contest for the elementary and secondary schools, a journalism contest for the secondary schools and universities, an international conference, and a ceremony during which awards were presented to scientists and research teams. Silvia Pulmannova of the Academy of Science Institute of Mathematics was elected scientific personality of the year for her work in quantum mechanics, while the Institute of Mechanical Engineering of Kosice received the prize for scientific team of the year for its contribution to the European

nuclear research. Martin Hrasko of the Institute of Electrical Engineering of Nova Dubnica, was elected young scientist of the year for his research in mathematics. Lastly, scientific cooperation between the Academy of Science Institute of Physics and the Josef Safarik de Kosice of Pavol University, was singled out for research on cryogenics.

Sources: January 2009

Electronic Bulletin, January 23, 2009

17.2 Research and Higher Education Policy - Slovakia Opening to Global Economy and Foreign Universities (Slovakia)

A recent initiative put forth by the Slovak Ministry of Education that will encourage Slovak universities to connect with the private sector and would authorize closer connections with foreign universities.

This initiative is intended to bring the academic world closer to the business community, similar to what is happening in the United States and in certain European countries. Last January, the Minister of Education, Jan Mikolaj, passed an amendment to the law that governs the operation of the Slovak universities. The amended law will allow public universities to create joint ventures with commercial companies, either as limited liability companies, or in the form of joint stock companies. Moreover, these companies will be able to receive state subsidies if they have a direct link with science and research.

In addition, the amended law authorizes foreign universities to establish campuses in Slovakia and to be treated like local universities, including having access to state subsidies, if their academic requirements conform to the accreditation rules under Slovak law.

Creation of bonds between universities and business world

This legislative evolution was accommodated positively by the contractors and the academics. This new amendment stipulates that only the real estates of the universities which come from the State cannot return under the legislation and thus cannot cover the liability of joint undertakings or any third party. It should be known that all the estates of the State managed by universities with the exception of certain very specific ones were transferred to the universities by the law from January 1, 2003. The amendment implies that the universities which invest their real estates in joint undertakings can recover it in exchange of compensation if the aforementioned company is in liquidation. Moreover, the real estate own by the universities can be used by the mixed companies on the basis of leasing agreement.

This evolution introduced by this amendment is not properly spoken a revolution since the universities are already authorized to tie bonds with the business world. But, the possibility to invest their real estates is new and it will give them an additional room for maneuver. In a sense, this amendment offers margins financial operations while protecting housing stock from the universities. Lastly, the amendment allows the universities to invest financial resources that they received from the State budget.

The purpose of this initiative is also to offer a legislative framework supporting the bonds between university and company mainly to increase the transfer of knowledge and to support R&D. According to the strategy of Lisbon, the countries of the EU must carry their investments in research and development to a total value of 3% of the GDP by 2010. Two-thirds of these investments must come from the private sector. This evolution will allow offering subsidies and tax reductions to the companies which invest in science and research making it possible Slovakia to be put in conformity with the objectives of the strategy of Lisbon.

Open door for foreign universities

The amended law will also make it possible for foreign universities to receive subsidies from the State under certain conditions. Initially, it makes it possible for Slovakia to be put in conformity with the European principles which force the universities of the various Member States to be leveled promoting equal opportunity within the European space.

Nevertheless, risks exist according to certain observers. Indeed, two possibilities are proposed: the arrival of foreign universities which would choose to make a "dumping" on registration fees by sacrificing the

quality of the diplomas; and/or the arrival of good universities which would push the Slovak universities to make "dumping" producing the same effects: a decrease of the quality of the diplomas. To obtain subsidies from the State the universities will have to acquire accreditations of their programs of studies. This process should not take more than two or three months, according to the Minister.

The modification of the law allows, moreover, widening the possibilities of student mobility. As an example, the students will be authorized to finish their courses in another university that where they began and the students which spend one six-month period or two in a foreign university will be able to transfer their appropriations in their universities of origins.

Sources: May 2009

Electronic Bulletin, May 6, 2009

17.3 Innovation - Slovakia in the European Instrument Panel of 2008 Innovation

The European instrument panel of innovation (TBEI) published by Pro Inno Europe is a reference as regards to performance in innovation for all European Union States. Pro Inno Europe is an action of the General Direction of Enterprise to support the innovation in Europe. The last 2008 report indicates that the gap between the EU and the United States decreases, and it is the same with Japan. For Slovakia, one of the countries on the verge of correction (with Malta, Hungary, Romania, Poland, Lithuania, Latvia, Bulgaria, Turkey and Croatia), the performances of innovation are in the lower part of the average of EU, but the rate of growth is higher than EU.

During five last years, Human Resources, Finance and notable production capacities were the engine of the Slovak performances in innovation. One records, in particular, a strong progression of graduates in Engineering Sciences and Social Sciences (8.7%), a broad access of the companies to innovation (32%), an increase in the European patent fillings (European Patent Office, EPO) (12.5%), a progression of the community societies (27.4%) and community models (14.4%). Paradoxically, the performances in investment worsened due to a strong reduction in the expenditure in R&D (- 13.4%).

Sources: May 2009

- Electronic Bulletin, May 6, 2009

- <http://www.proinno-europe.eu/>

17.4 Biology of High Mountains Research Institute (Slovakia)

The Research Institute for the Biology of High Mountains was created by the University of Zilina in 2000 with the aim of developing research in the West Carpathian Mountains. The Institute is in Tatranska Javorina in the north of the "Vysoke Tatry Centrales" (Tatras). The institute's focus is on the influence of climate changes and atmospheric pollution on the ecosystem of the Alps.

Other missions relate to the fields of microbiology, zoology, and ethnology. Facilities at the institute include laboratories, conference rooms, support for microbiological, zoological, botanical, molecular and environmental research, and facilities for hosting 20 researchers and 20 students. Moreover, local researchers and other scientific organizations (Slovak or foreign) have the possibility of coming to work within the Institute.

Current projects

- Study on the lead cycle in the Alpine biotope of the high mountains in Slovakia and on the characteristics of certain species on high lead levels.
- Ministry of Education program for the development of the work places 2005-2007.
- Installation of a molecular biology laboratory within the Research Institute of Biology of High Mountains of the University of Zilina.

Completed projects

- Project of rescue of the chamois *Rupicapra Rupicapra tatra* 2000 (Ministry of Environment) (in cooperation with: VUVB, Instituto Nazionale per Fauna Selvatica (Ozzano), Institute of Physiology of the Animals of the Academy of Science of Slovakia)

- Analysis of DNA mitochondriale at Rupicapra Rupicapra.
- Project N. 82-070 of scientific and technical assistance Czechoslovakian 2000-2001 (in cooperation with: VUVB, University Veterinary and Pharmaceutical of Brno)
- Study of the Co-evolutionary relationship between parasite and host by exploiting the "parasites models" (Collyricum faba, Philopterus emiliae, Ricinus subpallidus) and birds of the alpine ecosystems and high mountains.
- Vega Grant 2/1003/21 2001-2003 (in cooperation with: VUVB, Institute of Physiology of the Animals of the Academy of Science of Slovakia)
- Molecular Diagnosis of the microflora in the digestive system of the animals.
- Research and development 2002-2004 Project (in cooperation with: Institute of Physiology of the Animals of the Academy of Science in Slovakia, the Council of the National Park of Tatry)
- Diagnosis of the fragmentation of vertebrate populations in protected natural reserves.

Sources: July 2009

Electronic Bulletin, July 13, 2009

- <http://www.vuvb.uniza.sk/page.php?f=kontakt.htm>

- Doc. RNDr. Marián Janiga, CSc. ihmb@utc.sk

- Rectorat: vzdelavanie@utc.sk

17.5 Creation of the National Research Centre and Applied Sources of Renewable Energy (Slovakia)

With the support of the Ministry of Education, the Technical University of Bratislava has inaugurated the National Research Centre and Applied Sources of Renewable Energy. The Center is the first such center of excellence in Slovakia. The center was founded by Frantisek Janicek, Vice-Rector and Louis Jelemenskoe, Professor at the university. According to them, environmental events in recent years have necessitated a re-examination of current approaches to energy. This center embodies a vision of sustainable development as a solution for the environment.

The project will include faculty in the areas of Chemistry and Food Technology; Electronic Engineering and Data Processing; Mechanical Engineering and Civil Engineering.

"We want to be a small research institute and council for small and medium-size companies and agricultural cooperatives that would like to use renewable resources," explains F. Janicek. Another objective of the Center is to organize a network of scientific teams on the subject and to place at their disposal the center's facilities, particularly its computational capacity. The Center's goal is to increase R&D and the potential of technological innovation of the university, thus ensuring a greater competitiveness and the success of the university with foreigner countries.

Sources: July 2009

Electronic Bulletin, July 13, 2009

18 Spain

18.1 Reform of Spanish Universities: Towards More Modernity

Since 2008 the Spanish government has engaged in a program called University Strategy 2015 (Estrategia Universidad 2015), with the purpose of modernization the Spanish universities.

This plan of action has as its starting point the adaptation of the Spanish university system to the European Higher Education Area. The three goals that plan are internationalization, innovation and excellence.

"It is an ambitious plan, which would allow", according to Màrius Rubiralta, State Secretary, "Spanish universities to position themselves among the 10 most advanced European countries in the realm of higher education, science, and technology and to place its activities at a competitive level within Europe,

guaranteeing that the Spanish university system as a whole continues to consolidate and move toward excellence in an international context".

Since last October, Màrius Rubiralt has visited Spanish universities, describing this program like "a challenge of the government, headed by the Ministry for Science and Innovation, to allow a fuller engagement of the Spanish university system, noting the social challenges and the economic changes of our society". The initiative was presented to the universities of Saint Jacques de Compostelle, of Alicante, Oviedo, Vigo, Salamanca, Extremadura, Seville and Valence. Spanish universities have a visibility problem. Spain's foremost university, the Universitat de Barcelona, was ranked 194th in an international classification based on competitiveness at international level and the appeal of their departments. The goal would be to move within the top 100 universities.

The University Strategy's main aim is to improve the quality of universities training and research activities and to engage them in the transfer of high quality knowledge to make them competitive both at the European and international level. The Secretary of State for Universities believes that a successful implementation of this program would have positive repercussions by providing greater university autonomy and reinforcing award policies. In addition, it would have strong implications for the student body, make the university more accessible and more adapted to present needs, as well as develop a competitive university with a greater production of knowledge and technology transfer. This new program revolves around two axes: the Campus for International Excellence (Campus of Excelencia Internacional) and the Integral Plan of Transfer of Knowledge and Technology (Integral Plan of Transferencia de Conocimiento there Tecnología).

The Campus for International Excellence program corresponds to the desire of the Ministry for Sciences and Innovation to modernize the Spanish university system by adopting the concept of university campus. It would act to gather various institutions (technological universities, centers, organizations dedicated to research...) in the same campus so they can develop a common strategic vision, focusing on the quality of teaching, scientific excellence, international vocation and transformation of knowledge into innovation.

This program would be divided into subprograms in close cooperation with other ministries: the creation of university residences with the Ministry for Housing; rehabilitation and restoration of the historical university buildings with the Ministry for the Culture; modernization of the university sporting installations with the Ministry of Education, Industrial Relations Policy and Sport; improvement of security conditions and health with the Ministry of Labor and Immigration; and better consideration of the environmental requirements and energy efficiency with the Ministry of Environment, Rural Environment, and the Oceans.

The Integral Transfer of Knowledge and Technology plan will provide for a system of effective transfer of knowledge research groups oriented toward the private sector. It will act to reduce the time between the generation of knowledge and its specific application. For this purpose, the plan seeks to promote the formation of working groups to promote mechanisms that will facilitate knowledge transfer and incorporate management techniques to implement the results. In order to realize these objectives, an expert working group for Valorization and Knowledge Transfer has been created.

University Strategy 2015 is an ongoing program, subject to change as new findings from the various groups accumulate. As its name indicates, it is not expected to bear fruit until 2015, which will give the Spanish university system time to calmly face the challenges of globalization.

Sources: January 2009

- *Electronic Bulletin*, January 22, 2009

- *Estrategia Universidad 2015* - <http://foro2015.fecyt.es/>

- *Estrategia Universidad 2015* - <http://universidades2015.fecyt.es/>

- *Ministerio de Ciencia e Innovación* - <http://web.micinn.es/>

- *Universidades España* - <http://www.universia.es/index.htm>

18.2 R & D profits from the revival program of the Spanish government

Launched in 2005, Ingenio 2010 is an engagement over five years, between the Ministerio de Ciencia E Innovación (MICINN), the companies, the universities as well as the various public agencies of research, in order to consolidate R& D and by this skew, the economic weight and policy of Spain.

It includes two programs to help R& D: Consolider and Cenit.

The program Consolider with 47 million Euros intended to support 12 projects in 2008 by financing of groups of research and their project. As for the program Cenit (Consortios Estratégicos Nacionales in Investigación Técnica / strategic national consortia in technical research), the purpose is to support the public and private cooperation of R& D in the industrial sector by the means of financial aids and loans without interest. Cenit distributed 377 million Euros in 2008.

In addition to Cenit and Consolider, Ingenio 2010 also includes two plans: Avanz@ and Euroingenio.

Avanz@ aims at ensuring the good use of the TIC within Spanish SME and Euroingenio aims to obtain 8% of the funds of the seventh outline program of the European Union. With 2010 at the horizon, the two ambitious objectives of Ingenio 2010 are that Spain devotes 2% of its GDP to R& D and that the share of the companies in this effort would reach 55%. In spite of the 6 billion Euros already injected since 2005, Spain dedicated 1.27% of the GDP to R&D in 2007. With the context of the crisis, these objectives seem quite difficult to reach.

The Garmendia Minister of the MICINN nevertheless swept the fears emitted at the end of 2008, on the suspension of the calls for application to Cenit and Consolider. These programs will however perceive financial aids lower than the previous years. These assistances register within the framework of the 490 million Euros in R&D intended by the Plan E, set up by the government at the beginning of January, to reactivate the economy and to support employment. This sum will be distributed between the programs Cenit and Consolider, the equipment of research on energy that are the solar platform Almería [3] and the National Center for Renewable Energies (CENER) [4], as well as the two future scientific infrastructures which are the Center of Lasers of Salamanca (Central of Láseres Pulsados Ultraintensos in Salamanca [5]) and the Large Marine Engineering Tank in Cantabrie [6]. Assistances will also be intended for health with 30 million Euros allocated to the International Alliance of Research in regenerative medicine of the California Institute for Regenerative Medicine [7] of which the objective is to impel research on original cells and, 15 million Euros for the creation of the Center of Massive Sequencing in Barcelona in order to undertake research on the genome of leukemia within the framework of the International Consortium Genome of Cancer (International Cancer Genome Consortium - ICGC).

Sources: January 2009

- *Electronic Bulletin, January 22, 2009*

- [1] *Ingenio 2010 - <http://www.ingenio2010.es/>*

- [2] *Ministerio de Ciencia e Innovación (MICINN) - <http://web.micinn.es/>*

- [3] *Plataforma Solar de Almería - <http://www.psa.es/>*

- [4] *Centro Nacional de Energías Renovables (CENER) - <http://www.cener.com/es/index.asp>*

- [5] *Centro de Láseres Pulsados Ultraintensos en Salamanca - <http://redirectix.bulletins-electroniques.com/WJJx/>*

- [6] *El Gran Tanque de Ingeniería Marítima en Cantabria -*

http://www.ihcantabria.unican.es/es/instalaciones_GTIMC.asp

- [7] *California Institute for Regenerative Medicine - <http://www.cirm.ca.gov/>*

18.3 Launching of the Spanish Scientific Culture and Innovation Program

Initiation and creativity are two key words for Spain's Minister for Sciences and Innovation, Cristina Garmendia. The Strategic University Program, approved in the Council of Ministers, the minister requested 13 million Euros for the Scientific Culture and Innovation Program, up 18 percent from the previous year and the largest sum ever invested in this sector.

In her presentation, Cristina Garmendia noted that this program represents the "materialization of Ministry policy in a field which, together with higher education policy, research and development, and support for

industrial innovation, constitutes our fourth work axis -- creation of a social environment more inclined to scientific activity, innovation, and the spirit of initiative.“

This program will provide an opportunity to consolidate scientific organizations set up during the previous legislature. The Scientific Information Service and the Network of Museums of Science and Technology saw their budget growing considerably compared to preceding year, following the commitment of the Ministry to integrate science and industry. The Spanish Foundation for Science and Technology, as a repository of scientific information, is in charge of the diffusion and promotion of the scientific culture and innovation.

The program for Scientific Culture and Innovation also introduces new structures and initiatives such as the Observatory for Innovation and Knowledge, or the Futuro Network which aims at encouraging scientific careers among young people.

Principal actions of the Program for the Scientific Culture l' Innovation (financing in million euros):

- Government Aid: 4.4
- Futuro Network, conventions, events, price and other activities: 4.6
- National Museum of Science and Technology: 2.5
- Service of Scientific Information: 0.9
- Activities of disclosure of the Observatory for Innovation and Knowledge: 0.6

Finally, the launching of this program coincides with the European year of the Creativity and Innovation, inaugurated in Prague last January 7th. Within the framework of this celebration, Madam Minister announced a conference (March 16th) of the European leaders with an agenda focusing on the importance of research and development in these critical times.

Sources: February 2009

- *Electronic Bulletins, February 24, 2009*

- *Ministerio de Ciencia e Innovación - <http://redirectix.bulletins-electroniques.com/dUb1s>*

- *Año Europeo de la Creatividad y la Innovación 2009 - <http://redirectix.bulletins-electroniques.com/1sIPV>*

18.4 New Spanish center for the Social and Humane Sciences

A new research center for Humane Sciences was inaugurated in Madrid on February 23 by the Minister for Science and Innovation, Cristina Garmendia, and the President of the Consejo Superior de Investigaciones Científicas (CSIC), Rafael Rodrigo. It is the premier Spanish research center in these disciplines and it should be the most important one in Europe, hosting seven laboratories and a specialized library which can accommodate more than 700 people.

Among its many installations are laboratories for archaeology, phonetics, spectro-radiometry and cybermetrics. The specialized library will display a million books, 700,000 monographs, 11,000 reviews and 300,000 freely accessible works.

The Minister commented on the essential character of the Social and Humane Sciences and the importance of research for deepening the knowledge of languages, history and society, and rejecting the idea that competition could exist between these disciplines.

This center which depends from the CSIC economic stimulus and employment funding, received an allocation of five million euros. Within the framework of this allocation, the goal is to index the scientific publications of the Iberian Peninsula which are not published in Castilian and which are called the American Spanish Index for Information and Knowledge. Once finalized, this project will allow the installation of a system for information open to all researchers through a common virtual platform.

The objective of this center is to concentrate in a single place researchers in the Social and Humane Sciences in order to carry out interdisciplinary projects and to be more competitive at the international level. The seven laboratories of this specialized library are devoted to history, languages, Mediterranean

and Middle East cultures, literature, anthropology, philosophy, economy, documentary geography, demography studies on science and technology, as well as the public Policy and goods.

The researchers will study in particular human behavior from antiquity to today, in addition to various projects which will be carried out in the social and demographic changes in the current society, science, the Middle East, and traditional Jewish and Islamic studies.

Sources: March 2009

- *Electronic Bulletin, March 26, 2009*

- [1] CSIC: Consejo Superior de Investigación Científica

- [2] Plan E: <http://www.plane.gob.es/>

- [3] Advanced grants- European Research Council:

<http://erc.europa.eu/index.cfm?fuseaction=page.display&topicID=66>

18.5 Spanish "Antártica" Campaign Concludes

The return, this month, of the oceanographic research vessel, *Mow Palmas* (Spanish Armada), marks the end of the "2008-2009 Antártica" campaign.

This important campaign was made possible through the collaboration of the Spanish bases "Juan Carlos I" (Livingston Island - CSIC) and "Gabriel de Castilla" (Deception Island – Army) and the Bulgarian base "Sant Kliment Ohridski" (Livingston Island). The 100 day mission was financed by the Spanish Ministry for Science and Innovation (MICINN) and included 3 million Euros for 25 projects undertaken by more than 300 people (144 researchers, 24 engineers and technicians, a hundred soldiers). An additional 12 million Euros allowed for the rehabilitation of the Juan Carlos base (11.6 million) and the upgrade and enlargement of the Gabriel de Castilla base (600,000 Euros).

The majority of the research projects were submitted by universities focusing on the impact of climate change on the Antarctic. The participants studied Antarctic fauna, volcanic and seismic activity, glacial retreat, geomagnetism, and the impact of tourism on the Antarctic Peninsula.

Data analysis is currently underway, but early results show a reduction of 40% of the population of penguins in the vicinity of the Gabriel de Castilla base. A possible explanation could be increased tourism -- more than 37,000 people visited the Antarctic Peninsula in 2007-2008. On the other hand, the study of the retreat of the glaciers provided some reason for optimism. The ice on the Shetland Islands archipelago (Livingston and Deception Islands) seems to be less sensitive to climate change than expected. The *Hesperides*, a ship chartered by the Spanish Armada, carried out biological samples in the Weddell and Bellingshausen Seas and could noted that the melting glaciers contributed, in a surprising way, to stimulating biological productivity, whereas one might expect the contrary.

From the 21 Antártica campaigns, this edition 2008-2009 is the most ambitious to date, considering the objectives, the number of projects and associated researchers, the material mobilized as well as average logistics deployed.

Sources: March 2009

- *Electronic Bulletin, March 26, 2009*

- *Press release from MICINN, October 14, 2008 : <http://redirectix.bulletins-electroniques.com/zdlxn>*

- *Press release – Ministry for Spanish Research Science and Innovation (Ministerio de la Ciencia e Innovación - MICINN), Prensa.investigacion@micinn.es*

18.6 Andalusia: New Economic Model for R&D (Spain)

Andalusia, the most populated Autonomous Community in Spain, but also the second of poorest, is particularly affected by the global crisis. To improve the local economy, it will be necessary to balance an economy that has been too dependent on agriculture, tourism, and construction and move to a new model of adding value by supporting R&D in sectors where Andalusia has an advantage. The goal is to improve the share of GDP devoted to R&D from 0.96% in 2007 to 1.8% in 2010, and 2% in 2013.

This is the direction of R&D in Andalusia as the region prepares for the time when structural support from the EU ends in 2013. The full plan is available at:

http://www.bulletins-electroniques.com/rapports/smm09_035.htm

Sources: June 2009

Electronic Bulletin, June 2, 2009

18.7 Joint Franco-Spanish Agreement Signed

The Franco-Spanish Summit, which was held last April 28 in Madrid, was the occasion of cordial and profitable talks between the French Minister of Higher Education and Research, Valérie Pécresse, and the Spanish Minister for Science and Innovation, Cristina Garmendia. These exchanges have confirmed the challenges facing the two countries, and Europe generally, in adapting to the "the new knowledge economy." The talks also served as an occasion to examine common interests in reinforcing and developing cooperative and mutually beneficial research and innovation.

The principal points addressed in the joint statement signed by the two Ministers included:

Exchanging experiences relevant to developing synergy between university research centers of the universities and government labs;

Strengthening collaboration between the public agencies of research of the two countries;

Joint initiatives, particularly within the framework of the Spanish Presidency of European Union during first half of 2010, regarding the construction of the European Research Space (EER).

Cooperating with Mediterranean Union and with the Lebanese initiative to create an Agency for Research and the Science for the Union for the Mediterranean (ARSUM) with the possible implementation of a Euro-Mediterranean Association of Agencies for Innovation (AEAI), The objective would be to promote various innovation activities in the Mediterranean region.

Sources: June 2009

Electronic Bulletin, June 2, 2009

18.8 Spain's International R&D Policy

A special call was launched by the Spanish Ministry for Science and Innovation in an effort to boost the internationalization of R&D. It aims at allocating financial assistance in the areas of health, renewable energy and other key sectors of research for a budget of 72.7 million Euros. These funds will be allotted to projects carried out by universities, public research agencies, technology centers and the private sector. This initiative is part of the Plan to Stimulate the Economy and Employment, the so-called plan "E" that provides about 54 million Euros for this effort. The recipients will be public universities, research agencies, private R&D centers, and public non-profit R&D entities.

These funds will be allocated according to the guidelines in the National Development, Research and Innovation National plan for 2008-2011. Three sub-programs will allocate the funds – the Fomento para Cooperación Científica Internacional (development of the international scientific cooperation), Euroinvestigación, and the subprogram for Integrated Actions.

These funds are intended to support actions which support the international participation of Spain in sectors such as health, renewable energies, and technologies having an important socio-economic impact. Among the supported actions are initiatives undertaken by the Ministry for Science and Innovation such as the International Program of Regenerating Medicine, cooperation with Japan, large national and international scientific infrastructures, ENIAC (European joint Initiative of Nanotechnology), or PLANT KBBE (Vegetable Research Development program in Genomic.)

This call, published in the Official Journal of the State (BOE) on June 3, will provide for increasing job and economic growth associated with the emergent research fields and those with a strong social impact.

Sources: June 2009

- Electronic Bulletin, June 29, 2009

- Ministry for Science and Innovation (micinn) Press: Marta Gómez Ramirez, Phone: 91 603 75 09- E-Mail: dircom@micinn.es

18.9 R&D in Spain: interrogations (at least three)

"Waiting for the new productive model?" such was the title of an article published on June 26 in the daily newspaper el Pais. The answer to the question is not given in the text but it is clear that the journalist paints a rather pessimistic picture of the economic situation of his country: in the current world-wide crisis, Spain is particularly touched, consequence of an economic model based on the sector of the construction and an insufficient development of R&D, of the patents, of the exports of high technologies and education and this, in spite of recurring speeches on the need to go towards a society of knowledge and to support its transfer. Concerning these growth factors, the table below shows some of the figures given in the article in question.

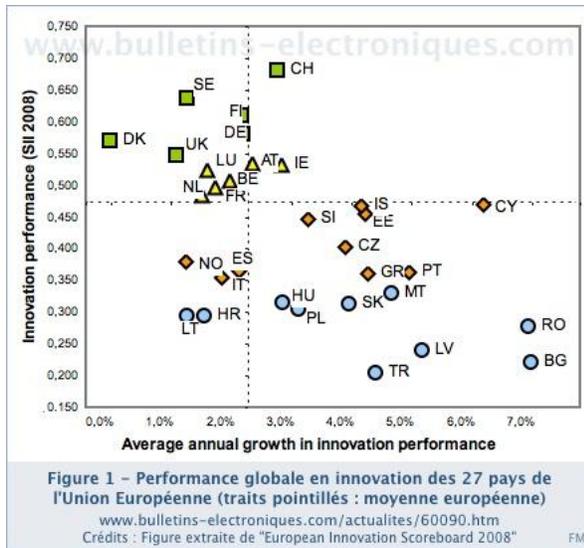
R&D Investments (% of GDP 2007)		High technology exportation (% , 2006)		Young of 20-24 yrs old having finished high school or a professional training (% , 2007)	
Sweden	3.64	Ireland	29.01	Slovakia	91.3
Finland	3.47	UK	26.48	Sweden	87.2
Germany	2.53	Netherlands	18.27	Ireland	86.7
France	2.08	Finland	18.12	Finland	86.5
EU-27	1.83	France	17.88	France	82.4
UK	1.76	EU-27	16.65	UK	78.1
Netherlands	1.70	Germany	14.06	EU-27	78.1
Ireland	1.31	Sweden	13.39	Italy	76.3
Spain	1.27	Portugal	6.99	Netherlands	76.2
Portugal	1.18	Italy	6.35	Germany	72.5
Italy	1.14	Slovakia	5.43	Spain	61.1
Slovakia	0.46	Spain	4.92	Portugal	53.4

Spanish R&D: Comparison of a few elements [Sources: www.bulletins-electroniques.com/actualites/60090.htm French Embassy in Spain based on the data from El Pais newspaper]

In spite of its richness (2008 GDP equal to 104% of the average GDP of the European Union), Spain is clearly in lower part of the European average in terms of investment in R&D. On the patents level, the variation with the European average is also important: the ratio of the number of patents recorded in Europe per million of inhabitants between Spain and the EU was of 1 per 4 in 2005 (exactly 26.4 against 101.3). As regards to export of high technologies, Spain is far from the European average. As for the rate of young people who leave the education system with a completed formation, it is also relatively weak.

These figures can encourage moroseness and it is not the last report "European Innovation Scoreboard 2008", published last January that invites to more optimism.

Each year since eight years now, the University of Maastricht works out on behalf of the European Commission a report, which analyzes a series of indicators of the capacities of innovation of the countries of the Union. The Figure below summarizes the total results of this study. The 27 countries of the Union are placed according to their capacities of innovation measured based on the Summary Innovation Index (SII) which was obtained by summarizing the 29 selected indicators. In X axis, these same countries are positioned according to the average annual evolution over the period 2003-2007 of these same capacities of innovation.

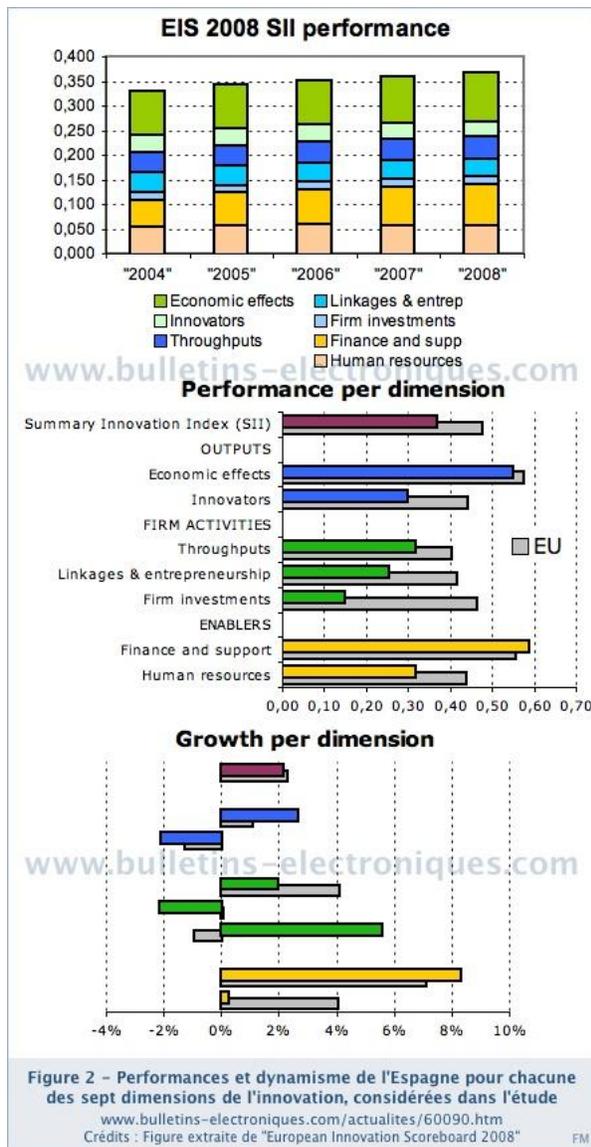


The four symbols/colors chosen to locate the countries correspond to the four categories of country that the study defines according to the performance levels measured by the SII: the "leaders in innovation" countries (green squares), the "followers" countries (yellow triangles) to which belonged France, the "moderately innovators" countries (orange diamonds) among which is Spain and finally, the "catching up" countries (blue rounds). All in all, Spain is in the lower part of the average of the 27, very clearly with regard to its total performance in innovation, less marked as regards for the evolution on the matter. In its group, Spain is either not very well placed since it belongs to the four countries (Italy, Greece, Portugal, Spain) with the weaker SII, and of the three countries (Norway, Italy, Spain) at the rates weakest of evolution too.

In this study, 7 dimensions of the growth were defined, gathered in three blocks: means, business activities and restitutions. Figure 2 presents the Spanish case compared with the European average, both for the performances concerned as well as their dynamics.

> The relative force of Spain in innovation is thus in the availability of financial means to support innovating projects and in the government support. It is them which, over the five years 2003 to 2007, were the main motors of the improvement of the Spanish performances as measured by the study. On the other hand, the weakness of the country is in the investments of the companies and the effort of those to cooperate between them and to work with the public sector. Also let us note that in terms of growth, the human resources prove to have been very weak.

In regards to such statistical data, former Minister of the Industry Joan Majó signed an article in El Pais of June 27th whose title was another interrogation, "Crabs?" in which he wondered whether Spain advanced "walked" right well in innovation. And it is true that many experts who warned on these indicators or others, revealing the weaknesses of a country which is considerably enriched at the point to assert its place in G20 but whose growth, in certain connections misleading, was stopped clear by the international crisis. If one wants to see the half glass, one will be able to notice that the efforts in R&D have grown at intervals of 10-12% per annum for five years, that the ratio of the number of patents which was of 1 per 4 in 2005 as stated above, was of 1 per 6 ten years earlier. But it is true that considerable efforts, financial in particular, are to be achieved: it misses for example not less than 6 billion Euros of investment in R&D per annum to reach the European average of 1.83% of GDP.



To continue and conclude on the interrogative mode: "The crisis, and afterwards?" to take the title of the last book of Jacques Attali.

The budgetary constraints imposed by the crisis are in Spain such that one fears that it is not in this moment that one would prepare the afterwards.

Sources: July 2009

- Electronic Bulletin, July 25, 2009

- European Innovation Scoreboard 2008 Report at: http://www.proinno-europe.eu/EIS2008/website/docs/EIS_2008_Final_report.pdf

18.10 Is Spanish R&D Funding in Crisis: *Deteriora sequor?*

We are cautiously using the Latin expression in its interrogative form, but in his article in *El País*, Javier López Facal, a researcher at the Spanish Research Center (CSIC) uses the affirmative. He quotes Ovide about the myth of the princess Medea who betrays her father and his people with her love for Jason: "*Video meliora proboque, deteriora sequor*" (I see the good, I approve it, and I make it evil)". According to him, the president of the Spanish government is in the same situation -- he would be convinced of the importance of R&D but would prepare a cut of public matching funds.

The construction sector in Spain accounts for 11% of GDP, approximately double the European average. It is easy to understand why Spain has been hit by the financial crisis and the bursting of the speculative real estate bubble. When the European Commissioner of Economic Affairs, the Spaniard Joaquín Almunia, announced in mid-September that the principal European countries will recover from recession during the second half of this year, he specifies that Spain will be exception and continue to show negative growth of its GDP. In short, the Spanish economy is doing badly, with the OECD predicting 20% unemployment by the end of 2010, a record for industrialized countries, and a growing deficit (4.9% in September alone, compared to a surplus of 2.2% in 2007).

Under these conditions, the government prepares its 2010 austerity budget with the recurring theme is that it is necessary for Spain to put a lid on the economy and restart R&D funding at the end of the crisis. A drastic cut has been announced in the competitive funds of the National R&D plan -- a plan at the heart of the research and innovation policy of the government -- which would drop by 37% (-600 million Euros). The scientific community views this with understandable alarm, pointing to the inconsistency between words and deeds. The researchers, among others, want to believe that no final decision has been made.

An incredulous J. Guinovart, president of the Confederation of the Spanish Scientific Companies (COSCE), asks if it is possible "To run science for the price of six Ronaldos?" referring to the 95 million Euros the Real Madrid football team paid for the famous Portuguese player.

The final plea in Javier López Facal's article was: "*President, please, dissipates our doubts and shows us that we are malicious.*" To be continued . . .

Sources: October 2009

Electronic Bulletin, September 28, 2009

18.11 Spanish EU Presidency to Highlight Science

In her closing remarks at the European Research Area Conference in Brussels, Cristina Garmendia, Minister for Spanish Science and Innovation, noted Spain's broad interest in focusing on science during its presidency of the Commission during the first half of 2010.

A special effort will focus on the role of science in social cohesion and the fight against poverty and exclusion. The Minister stated that science and technology will be used to reduce inequalities and that Europe has a duty and an opportunity to power a movement. Spain will have the job of focusing efforts on common initiatives supporting sustainable growth in the European Union and such challenges as energy sources, climate change, health, and the ageing population. Similarly, the Minister views the free circulation of knowledge within the European Research Area (ERA [1]) as a priority.

Lastly, the 192 members of the United Nations identified eight objectives in 200 as part of the Millennium for Development, including the eradication of the extreme poverty. In three of these objectives, science and technology play a significant role -- the reduction of infant mortality by two-thirds among children under five, the improvement of maternal health by reducing maternal death by 75 percent, and the fight against the AIDS virus, malaria, and other diseases by reducing their incidence by 2015.

Sources: November 2009

- Electronic Bulletin, October 28, 2009

- [1] European Research Area (ERA) :

http://ec.europa.eu/research/conferences/2009/era2009/index_en.htm

- Objectifs du Millénaire pour le Développement (OMD) : <http://www.un.org/french/millenniumgoals/>

18.12 Spain and Catalonia Winners in ERC Starting Grants Competition

Spain found success in the European Council of Research (ERC) "Starting Grants" competition. In the second round of grants announced last month, Spain ranked 4th in the number of successful applicants. Seventeen grants were awarded to young people seeking to carry out their project in a Spanish institution. Of this group, 12 are Spanish, 3 are European are currently living in Spain and 2 are new comers to Spain. In first place was Great Britain with 43 grantees, followed by France with 31 and Germany with 28. With a relatively low per capita R&D expenditure (\$308 dollars compared to \$765 in Germany, \$647 in France and \$584 in the United Kingdom [2]), this performance is notable.

With just under 9000 pre-proposals and 2,503 applications, the total number of awards this year was 237. Of these, 37% of grants were in the life sciences, 44% in physical and engineering sciences, and 19% in social sciences. The Spanish distribution is respectively of 5, 8 and 4 grants.

The distribution by region shows 9 grants awarded in Catalonia, 3 in Madrid, 2 in Aragon, 1 in Asturias, 1 in the Valencia Community and 1 in Andalusia. This prevalence of the centers in Catalonia, already

apparent in the initial competition, was not missed by the local government, which is seeing the results of policy of concentrating talent and financing research through the Catalan Institutes of Recerca.

The researchers selected have 3 to 8 years of post-doctoral experience and will receive on average 1.5 million Euros over 5 years. The results of the "advanced grants" will be published soon and in this category of funding experienced researchers, the Spanish applicants have been less successful, but time will tell.

Sources: November 2009

- *Electronic Bulletin, October 28, 2009*

- [1] http://erc.europa.eu/pdf/Press_release_StG-2_results.pdf

- [2] *Main Science & Technology Indicators, volume 2007/2, OCDE 2007*

18.13 Science and the Spanish EU Presidency

The Secretary of State for Spanish Research, Carlos Martinez Alonso, explained this week to the governments of France and the United Kingdom the scientific plans supported by his country during the next EU Presidency which begins its six month term in January. Spain has made this same approach to other European countries in recent months such as Austria, Poland, and Sweden.

On 25 November the Secretary of State submitted the Spanish Ministry of Science and Innovation (MICINN) plans to Science Minister Lord Paul Drayson (UK) and Philippe Gillet, Chief of Staff for Valéry Pécresse, the French Minister for Higher Education and Research .

The measures announced are those expected by the Spanish Ministry to develop a scientific system that allows Europe to face the challenges of poverty and social inequality. The goal is to find ways for Research, Development, and Innovation (*I+D+i in Spanish*) to become the engine that moves us to a sustainable economic model in which growth would not exclude any group.

Other topics discussed in Paris concern the development and strengthening of the European Research Area (ERA), signifying more concrete meeting points among the diverse businesses, and improving the mobility of researchers.

Currently, nearly 95% of the resources available to ERA are managed by member states, and MICINN considers that the Presidential term will be a good opportunity to propose measures to encourage better synergies between the various national actors.

Sources: December 2009

- *Electronic Bulletin, December 3, 2009*

- *Ministerio de Ciencia e Innovación (Micinn) : <http://web.micinn.es/>*

- *European Research Area (ERA) : http://ec.europa.eu/research/era/index_en.html*

18.14 The 10 Most Productive Spanish Research Universities (and how we can make things look better than they are)

When we speak ranking of universities, it is difficult to ignore the annual rankings produced by Shanghai University, even as many experts denounce the methodology used. The Shanghai ranking for 2009 place the University of Barcelona as the top Spanish university (ranked in the group 59-79 at the European level, and between 152-200 in the global rankings). The next Spanish University, the Autonomous University of Madrid, Complutense of Madrid and the University of Valencia is in second place (rank 80-125 at the European level and globally at 201-302). One note of caution: when a university has several functions (training, research, and knowledge transfer) and only research is considered among the different activities, using only one parameter in the overall weighting is unreasonable.

The research group SCImago from the CSIC and four universities in Spain and Portugal [2], focuses attention on one aspect: the research. They look at 2,124 research institutions in 84 countries that have produced over 100 papers in 2007. The study focuses on production (publications), citations per document, international collaborations, the importance of the journals and the impact on science. The

ranking produced is based on the absolute number of publications [3]. According to this criterion, the top ten universities in Spain are:

	Universities	World ranking
1	Univ. Pompeu Fabra (Barcelona)	179
2	Univ. of Barcelona	667
3	Univ. of Girona	758
4	Independent Univ. of Madrid	783
5	Univ. of Rovira I Virgili (Tarragona)	791
6	Independent Univ. of Barcelona	821
7	Univ. of Valencia	843
8	Univ. of Alicante	875
9	Univ. of Lleida	879
10	Polytechnic Univ. of Catalonia	900

Scientific production of the 10 first Spanish universities by the SIR 2009 ranking

Note that in this ranking CNRS is in first place, ahead of the Academy of Sciences of China, the Russian Academy of Sciences, and Harvard University in the United States. CSIC, the Spanish counterpart of the CNRS is 11th, INSERM 14th, etc...

Such a classification, based on a purely quantitative measure, emphasizes the large research facilities at the expense of smaller one, without taking into account the quality of scientific production. It is unfortunate that this classification is not accompanied by rankings of the four other parameters that the researchers were careful to analyze and identify. But they give us the data for us to analyze, thus to our drawing boards and spreadsheets!

Sources: December 2009

- *Electronic Bulletin, December 3, 2009*

- [1] <http://www.larecherche.fr/content/recherche/article?id=25327>

- [2] <http://www.scimago.es/>

- [3] http://www.scimagoir.com/pdf/sir_2009_world_report.pdf

18.15 R&D Statistics 2008 (Spain)

INE, the Spanish counterpart of INSEE (National Institute of Statistics and Economic Studies), recently published the provisional statistical results for R & D in Spain [1].

With 14.7 billion Euros, the Spanish share of GDP devoted to R&D was 1.35% in 2008, with spending up by 10.2% over the previous year. In the past four years, this percentage has increased steadily from 1.06% in 2004 to 1.35% last year. The share of the business sector in this result was 54.9% (0.74% of GDP), one point less than in 2007 (in absolute terms, private investment increased by 8.3% when those public progressed by 13.8%).

Looking at the regional distribution, there are no surprises: Madrid (2.00%), Basque Country (1.96%), Navarre (1.92%) and Catalonia (1.61%) are the four Independent Communities leaders above the average. Castilla-La Mancha (0.72%), Canaries (0.62%), the Balearic Islands (0.35%) and Ceuta and Melilla (0.20%) are near the tail. Note that Castilla-La Mancha (+24.2%), Extremadura (21.3%) and

Cantabria (+19.9%) show the greatest growth.

With the 2008 figures, Spain is still significantly below the average of the 27 EU countries (1.85% in 2007) and far from the original target set by the Government -- 2% in 2011. And with the tight budget in 2010 it is unlikely that we will have the opportunity to reduce the gap.

Sources: *December 2009*

- *Electronic Bulletin, December 3, 2009*

- [1] http://www.ine.es/en/prensa/np575_en.pdf

19 Sweden

19.1 New Managing Director Named for VINNOVA, Swedish Innovation Agency

On May 4, 2009, the government named Charlotte Brogren, Director of the Swedish Agency for Systems Innovation (VINNOVA: Forskning och Innovation för Hållbar Tillväxt) for term ending in 2015. Charlotte Brogren is a Ph.D who has worked since 1995 for ABB (Asea Brown Boveri), a company specializing in energy technology and automation). During the past ten years she has filled research and development management positions within ABB.

Sources: *May 2009*

- *Electronic Bulletin, May 18, 2009*

- <http://www.vinnova.se>

19.2 French-Swedish CLUSTERS 2009 Seminar

VINNOVA and the French Ministry for Enterprises are organizing a French-Swedish seminar on centers of competitiveness at the Royal Academy of Engineering Sciences on June 4, in Stockholm. This seminar follows a meeting organized in Paris last fall by the DGCIS (former Director General for Enterprise). At that meeting the representatives of the French and Swedish biotech and automotive clusters summarized their activities and considered possible areas of cooperation.

This year the seminar would be extended to eco-technology and renewable energy. The meeting will include a plenary session with specific topics on the financing of innovation and on the concept of "Junior Ambassadors" for innovation. This will be followed by roundtables for each of the three industrial sectors concerned and a day of visits to life sciences, transportation and clean technology clusters in Sweden.

Sources: *May 2009*

- *Electronic Bulletin, May 18, 2009*

- *Information and registration: Michelle Hays – Phone: +33 1 53 44 95 79 - email : michelle.hays@finances.gouv.fr*

- *Pole of Competitiveness Conference, Paris, October 8 2008 :*

<http://www.competitivite.gouv.fr/spip.php?article484>

- *Clusters, Cluster Policy, and Swedish Competitiveness in the Global Economy, reported by Christian Ketels (Stockholm School of Economics & Harvard Business School) -*

<http://www.regeringen.se/sb/d/5146/a/121795>

- *2007 Listing of Pole of Competitiveness in Sweden published by AFSR :*

<http://www.afsr.se/polesintro.html>

19.3 Sweden Heats up Competition for Future European Spallation Source

Lars Leijonborg, Swedish Minister of Higher Education and Research, remains cautiously optimistic regarding Sweden's chances of Sweden to host the European Source of Spallation (ESS) in Lund. The main competitor, Spain, however, has just increased its bid to accommodate the center.

During a meeting in Prague on May 4, representatives from Bilbao announced that Spain would be ready to cover at least 58% of the entire investment (approximately 1.2 billion Euros). In addition, the Spanish

government announced a negotiation between ES Bilbao and the European Investment Bank to provide financing for up to 50% of the total cost. Spain is "an extremely strong competitor," explained Mr. Leijonborg. "Spain can make such a proposal thanks to the help provided by the European Structural Support -- they have this right," added the minister. Hungary also remains in the competition with its proposed site at Debrecen.

Sources: May 2009

- *Electronic Bulletin, May 18, 2009*

- <http://ess-scandinavia.eu>

19.4 Countdown Begins for Sweden's Presidency of the European Union

Sweden is ready for its presidency of the EU. With the global economic slow-down, climate change negotiations and the approaching institutional reforms within the EU, the six month Swedish presidency promises to be intense. From July 1 until the end of the year, Sweden will be in charge. "*We will face important challenges, and undoubtedly with some difficulties. Our capacity to coordinate work and to lead the Union during these six months will answer important very strong impending demands*" says Fredrik Reinfeldt, Swedish Prime Minister.

The web site (www.se2009.eu) was officially launched on June 1, 2009. Entirely trilingual (Swedish, English and French), it will be the internet gateway to the presidency from where it will be possible to follow the work of the presidency and all the meetings which will take place in Sweden, in Brussels, and elsewhere. Transparency and accessibility are the key words for the site. It should facilitate access to basic information on the questions which will be in the center of the concerns during the six-month period. The site also includes transmissions by Web TV or text messages. The site is different from the preceding European presidency Web sites since it uses a domain name <.eu>. The idea is to stress that the EU presidency represents not the country of the President, but European cooperation.

The site is continuously updated and other functions will be added, in addition to further information on the questions considered to be of importance to Sweden. Beyond the representation of the EU during the United Nations negotiations on climate change in December and ongoing efforts to attenuate the recession, other important matters are also on the agenda for Sweden. "*These six next months promise to be very exciting, but the task which is in front of us will not be easy. I am looking forward to challenges which we will take up together this fall*" says Swedish the Prime Minister Fredrik Reinfeldt.

Until July 1, 2009, the Czech Republic remains the presidency of the EU.

Sources: June 2009

- *Electronic Bulletin, June 17, 2009*

- <http://www.se2009.eu>

19.5 French-Swedish Prize For Scientific Excellence is Launched

For the first time the France-Swedish association for Research and the Embassy of France in Sweden have organized a national competition to recognize the work of young researchers, doctoral students, or post-docs.

Sponsored under the patronage of the College de France, the France-Swedish Prize for Scientific Excellence is funded by L'Oreal. It focuses on the intersection of basic and applied research and aims to encourage and promote scientific research and vocations among young researchers in Sweden and to reinforce the bonds between the Swedish and French scientific communities.

Three prizes will be made, with monetary awards ranging from 5,000 to 30,000 SEK (500 euros to 3,000 euros) and one month grant for research in France.

Sources: June 2009

- *Electronic Bulletin, June 17, 2009*

- *Poster of presentation, registration information: http://ambafrance-se.org/france_suede/spip.php?article2448*

- http://ambafrance-se.org/france_suede/spip.php?article2448

19.6 Number of Foreign Ph.D. Students Grows in Sweden

In 2009, one-third of the doctoral students in Sweden are from a foreign country. About half remain in Sweden after finishing their studies, according to a recent report of the Swedish Agency of Higher Education (Högskoleverket).

The number of foreign doctoral students doubles. During the eleven last years, the number of foreign doctorates more than doubled, increasing from 11 percent to 33 percent in 2008. More than a third of the foreign doctoral students are found in two establishments -- the Polytechnic Royal School (KTH) and the Karolinska Institute of Stockholm (KI), according to a new Högskoleverket report covering changes between 1997 to 2007.

Origin and profile of the students. The number of Asian doctoral students has increased while the number of students originating from European countries is decreasing. A majority (62 percent) of the foreign students in 2007 are men, compared to 50 percent of the Swedish students.

According to Högskoleverket, this increase is due in part to the efforts of the universities and Swedish higher establishments to recruit young foreign researchers. Additionally, the universities offer more and more programs at the master level in English, allowing for continuity in research fields. Certain establishments report difficulties in recruiting Swedish doctorates in sciences and technology and foreign students thus became a means of maintaining research at this level.

Economic situation and evolution of the students. More than half of the young researchers remain in Sweden. Anders Flodström, the chancellor and director of Högskoleverket (National Agency for Higher Education), estimates that both those who remain in Sweden and those who return to their country of origin become a resource for Sweden. The former directly by entering the Swedish job market, the latter by allowing Sweden to develop a network of invaluable contacts for Swedish companies around the world.

Of the total number of foreign doctorates graduating between 1997 and 2001, 44% remained in Sweden after five years. They obtained their doctorate more quickly than their Swedish counterparts -- 55% completed their studies in five years, compared with 34% for the Swedish students. This can be partly explained by their financial position. The foreign doctorates live from grants and/or allowances and loans. This constitutes a reason to finish studies more quickly, but also allows them to concentrate on the studies without having to work in parallel. More often the Swedish doctorates undertake their studies part-time, or stop their studies for a parental leave.

Sources: June 2009

- Electronic Bulletin, June 17, 2009

19.7 Sweden Assumes EU Presidency, Makes Science a Priority

On July 1 Sweden succeeded the Czech Republic in the rotating presidency of the European Union. Although the six-month term makes the position largely a formality, the EU Presidency does provide heads of state a pulpit from which they can push a specific agenda.

With the theme **New Worlds-New Solutions**, the Swedish government has made the application of science to European and global challenges a top priority. Following a series of preparatory workshops in Berlin, Madrid, Brussels, and Tallinn, Estonia, the July 7-8 conference in Lund, Sweden, resulted in the [Lund Declaration](#), a document formalizing the EU strategy for addressing Global Challenges. Not coincidentally, Lund has been chosen as the site for the new [European Spallation Source](#).

In addition to the perennial call for more resources for research, the Lund Declaration focuses on the need to meet Grand Challenges and build greater public trust in science. The document emphasizes the importance of excellence and trans-disciplinary research in addressing these challenges. The Lund

Declaration also echoes a theme common in the U.S. research policy community – the need for greater risk-taking in research – and connecting that high-risk research to innovation.

The Declaration made note of the fact that, despite major reforms in higher education, Europe still has a long way to go in providing more uniform standards for both undergraduate and graduate degrees across the member countries. This is particularly true if the goal of greater mobility for both faculty and students is to be achieved.

Gleanings:

- Much was made of the fact that in the European Research Council, program officers are held personally liable for any funds misused by a grantee. Although I was told that there has never been a case in which a program officer's paycheck was docked under this rule, there is a pervasive sense that it results in an overly cautious and tortuously bureaucratic funding process.
- The Czech Republic presidency was interrupted when the president was replaced in March, half-way through the term. That presidency didn't resonate with the research community after President Vaclav Klaus was quoted as saying "Global warming is a myth and I think that every serious person and scientist says so."
- Best quote at the Conference: What the world needs is more humble geniuses. We are too few left – *Oscar Wilde*.
- By 2050 it is projected that two thirds of the world's middle class will live in China and 70 percent of the world's energy demand will be in Asia.
- Nokia has enlisted over 4.3 million of its customers as developer/users. It has established open innovation research centers in Finland, Switzerland, U.S. (4), China, India, Kenya and its website, which welcomes new ideas for designs, applications, or services, has over 1.5 million unique hits monthly.
- "[The world] cannot sustain a "more is better" lifestyle – we need to move on to a new humanism that values community more than accumulation". *Professor Neville Edward Alexander, University of Cape Town, speaking on Africa's global role in the future.*

Sources: July 2009

19.8 Financing Strategic Research in Sweden

Sweden's research agencies have presented their recommendations for funding strategic research for the 2009-2012 period as adopted by Parliament last October.

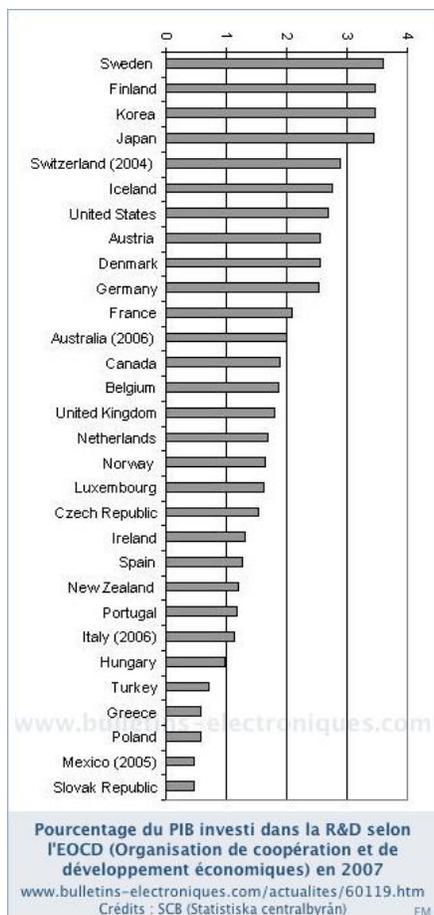
The six agencies are:

- the Swedish Energy Agency (Energimyndigheten),
- the Scientific Research Council (Vetenskapsrådet),
- the Research Council for the Environment, Agricultural Sciences and Rural Planning (FORMED),
- the Research Council for Work Life and Social Sciences (FAS),
- the Agency for Systems Innovation (VINNOVA),

Twenty strategic research fields will receive an additional 5,270 million SEK (approx. 481 million Euros) in the coming four next years.

"This announcement will have major consequences in the long run for the chosen universities" declared Arne Johansson, General Secretary at the Swedish Research Council (Vetenskapsrådet). They will have the possibility of seeing their financings renewed in the five years following their evaluation. Among the 112 requests examined by international experts, 43 were recommended for funding. Most of the proposals include collaborations between several institutions.

Strategic research areas in the universities will increase gradually to approximately 120 million Euros per annum in 2012 of which 150 million Euros will be reserved for research infrastructure to be determined at a later date.



The University of Lund is a clear winner in the competition, receiving 600 million Euros, which will place it among the world leaders in nine of the strategic areas. The Technological University of Chalmers is a close second with more than 500 million Euros in five strategic areas, and the University of Uppsala, the Karolinska Institute (KI) and the Royal Polytechnic School (KTH) were also recipients of additional support.

An investment of approximately 70 million Euros will finance research infrastructure across the strategic areas. That corresponds to 150 million annually by 2012, with the major recipient being the Max IV synchrotron radiation source being built in parallel to the European Spallation Source (ESS) at Lund. Also worth noting is that the ESS is not represented in these figures. Sweden is committed to pay 30% of expenses of the construction (either approximately 1,500 million Euros distributed over 10 years) and 10% of the operation costs (evaluated to 103 million Euros per annum) of ESS. Many institutions announced need for infrastructure at both the national and international scale. "Investing in research infrastructure is essential for the development of the Swedish research" says Arne Johansson.

Sweden is undertaking an effort to redistribute part of the basic financing of university research in order to reallocate it into pre-identified strategic domains. Thus, the bill envisages redistributing 10 percent financing over the next four years based on the quality of the research conducted. The quality standards will be reflected by the ability of the researchers to attract external support, and by the number citation counts of their publications (Crown Index).

With the framework of this law, the amount of the Swedish public investments in research will represent one percent of the GDP by 2012. Sweden will thus reach one of the objectives of the Lisbon strategy. It should be noted that in terms of level of public and private investments devoted to research in 2007 Sweden was number 2 in the world (behind Israel), with 3.6% of GDP (France was approximately 2.1%).

Sources: August 2009
 Electronic Bulletin, July 28, 2009

19.9 The European Council of Research (ERC) Funds Five in Sweden

The European Council of Research (ERC) has just published the names of the researchers selected for the prestigious ERC Young Investigator Awards and the five winners working in Sweden are:

- Christian Forssén - Chalmers Technological University of Chalmers in Gothenburg,
- Rickard Sandberg - Karolinska Institute in Stockholm,
- Qiang Side-Hammarström - Karolinska institute in Stockholm,
- David Sumpter - University of Uppsala,
- Deniz Kirik - University of Lund.

This is the second year of ERC "starting grants" to high-level European researchers and a total of more than 3,300 million Swedish Crowns (approximately 325 million Euros) will be distributed.

Some figures:

- Average age of the prize winner is 36 years.
- One researcher in 4 is female.
- Number of applications submitted: 2,503.
- The announcement of "starting grants" is addressed to researchers at the beginning of their career.

At this point, 296 million of the 325 million Euros have been distributed to 219 researchers, with the remainder to be distributed soon, which could increase the number of Swedish prize winners.

Sources: September 2009

- *Electronic Bulletin, September 22, 2009*

- <http://www.kth.se>

- <http://erc.europa.eu>

19.10 Eight Universities Open Innovation Offices (Sweden)

The government has decided to grant 60 million SEK (approximately 6 million Euros) to establish innovation offices in the 8 following universities: UU (Uppsala) Lu (Lund); Umu (Umeå) LiU (Linköping); KI and KTH (Stockholm), CTH (Gothenburg); Mittuniversitet (comprising the universities of Karlstad, Orebro and Växjö).

Their role will be market research results and assist in the patenting process. In the future the office will have 50 million SEK per year.

Sources: November 2009

Bulletin Electronic, November 18, 2009

19.11 Euro-Arctic Barents Council (Sweden)

Maud Olofsson, Deputy Prime Minister and Minister of Industry, presented the priorities of Sweden during its Presidency of the Barents Council from 2009 to 2011. The Barents Council includes Denmark, Finland, Iceland, Norway, Russia, Sweden and the EU.

The priorities include:

- A "green economy"
- Products and services dedicated to the environment (e.g. in the field of construction and transportation)
- Investments in new technologies,
- Measures concerning the identification of environmental problems in Russia's Northwest

Maud Olofsson is also planning a meeting with colleagues from the Ministers of Industry next year in Umeå)to discuss, among other topics, renewable energy.

Sources: November 2009

Bulletin Electronic, November 18, 2009

19.12 ClimateWell - Using the Sun for Air Conditioning (Sweden)

The Swedish company founded by Göran Bolin and Dr. Ray Olsson, has already rewarded by several awards, including the "Technology Pioneer 2007" Economic Forum in Davos, and has developed an innovative system capable of storing energy and converting hot water for cooling or heating without the need for electricity. This system uses solar heat and has the ability to produce heat or cooling continuously, night and day, regardless of the weather, .

The technology is based on three absorption states, for which ClimateWell has filed a worldwide patent. It consists of a closed system whereby two connected tanks, one of which is filled with salt ("reactor") and the other with water ("evaporator"). When the water evaporates it cools and absorbs energy from the salt. A maximum temperature difference, depending on the qualities of salt, is reached. By connecting this

system to heat exchangers that allow water to transport the energy (heat or cold) outside the system, a heat pump is established.

Hot water and cold water are simultaneously generated, the user can heat the pool and freshen the air in his house at the same time. For heating, simply swap the pipes so that the hot tub is connected to the heating system. Energy storage is accomplished by bringing hot water from solar heat to the reactor and closing the connection between the two tanks. The design invented by ClimateWell creates an effective heat exchange between the salt and water.

A home equipped with the ClimateWell technology and 30 m² of solar panels will save 100 to 200 Euros per month on its energy use and reduce CO₂ emissions by 15.000 kg per year.

Are you tempted?

*Sources: November 2009
Bulletin Electronic, November 18, 2009
<http://www.climatewell.com>*

19.13 Three New Scientific Secretaries at the Swedish Council for Scientific Research (VR) (Sweden)

The Swedish Council for Scientific Research (VR Vetenskapsrådet) announced three new scientific secretaries for three-year terms.

Mats Ulfendahl has been professor of experimental otology and audiology in the Department of Clinical Neurosciences at the Karolinska Institute (Karolinska Institutet - KI) since 2004. On 1 January 2010 he assumes the office of Principal Secretary of the Committee on Issues Related to Medicine and Health, to which he has been an alternate member since 2006. The 50 year old Ulfendahl has been chairman of the Center for Hearing Research and Communication at the Karolinska Institute since 2002.

Juni Palmgren has been professor of biostatistics at the University of Stockholm and the Karolinska Institutesince 1997. On July 1, 2010, she becomes the Secretary of the Committee on Research Infrastructures, which she joined in 2005. Juni Palmgren is 50 years old and previously worked at the National Institute of Public Health of Finland and University of Helsinki.

Sven Stafstrom is Professor of Computational Physics, Department of Physics, Chemistry and Biology at Linköping University, a post he has held since 2000. As of July 1, 2010, he becomes the Secretary of the Committee on Natural Sciences, where he has been an alternate member since 2007. Aged 52, he held various positions at Linköping University since 1981.

The management of VR has also extended the term of Professor Arne Jarrick, Principal Secretary to the Committee on Literary Theory and Political Science until 2012. Dr. Elisabeth Nihlfors, Chief Secretary of Education will be extended until 2013.

*Sources: December 2009
Electronic Bulletin, December 18, 2009
Web site of the Swedish Council for Scientific Research (VR, Vetenskapsrådet) : <http://www.vr.se>*

19.14 Swedish Antarctic Expedition - 2009/2010 Season

The Swedish Polar Research begins a new season in Antarctica as the icebreaker Oden left Sweden and headed toward the sixth continent where activities at the Wasa station will resume shortly. For the fourth consecutive year, the Swedish icebreaker Oden will also be used as part of a Swedish-American cooperation to ensure access to the scientific research station at McMurdo.

Major logistical work will also be conducted this season on the Queen Maud Land to maintain the stations Wasa and Svea, and to conduct research projects on atmospheric physics. Other research supported by

the Secretariat for Swedish Polar Research (Polarforskningssekretariatet) during this season in Antarctic includes the microbiologists studying antibiotic resistance in different bird populations.

Sources: December 2009

Electronic Bulletin, December 18, 2009

Follow the expedition Swedarp 2009/2010:

http://www.polar.se/expeditioner/swedarp2009_10/english/index.html

20 Switzerland

20.1 The Swiss to Head EuroHORCs and EUA

Two Swiss were elected in October to key European policy positions in higher education and research.

Dieter Imboden will be the first Swiss to head EuroHORCs (European Heads of Research Councils).

This science policy platform consists of the persons in charge of more than forty national research organizations encouraging in Europe. Elected officially last October 8, Dieter Imboden will chair EuroHORCs for three years effective January 1st, 2009. A former professor of physics of the environment at the Federal Polytechnic School of Zurich, since 2005 he has chaired the National Council of the Research of the National Swiss Funds (FNS). It is the principal institution encouraging the scientific research in Switzerland, with an annual budget of approximately 500 million Swiss Francs.

Dieter Imboden sees in this nomination a recognition of the active role played in research policy by a relatively small country such as Switzerland, and in particular the engagement of the national Funds.

On October 23, **Jean-Marc Rapp** was elected the head of another organization of the European scientific policy, the European University Association (EUA). It convenes the vice-chancellors from more than 800 universities of 46 European countries. Its mission is to promote the development of a coherent system for teaching and research within the European level.

A law professor, Rapp was vice-chancellor of the University of Lausanne from 1999 to 2006 and chaired the Conference of the Vice-chancellors of the Swiss Universities (CRUS) from 2002 to 2006. He will assume the chairmanship of the EUA starting in April 2009 and its mandate will last three years.

Sources: February 2009

Electronic Bulletins, February 9, 2009

Swiss National Funds (Fonds national Suisse) - Press information - Phone +41 (0)31 308 23 77 -e-mail: aknaus@snf.ch

- CRUS : Raymond Werlen, Deputy General Secretary of CRUS - raymond.werlen@crus.ch

20.2 MIND: France and Switzerland bind their efforts to develop the microtechnologies

On October 14, 2008 the platform Franco-Switzerland MIND (microtechnologies for the industry) was inaugurated on the Technopolis of Archamps.

MIND is an interface between research and industry. It joins together research centers and Swiss and French laboratories. Its objective is to help the companies of the Rhone-Alps area and the French-speaking Switzerland region to develop and diffuse the microtechnologies in their line of productions and/or their products. Concretely, MIND intervenes at various levels. It advises the companies and proposes technological solutions to them to develop products they would wish to develop without having the techniques to do so. It produces prototypes, carries out technological survey and organizes seminars and formations to inform the companies and to support the exchanges between the laboratories.

MIND continues the mission of C4i (Center of competences in Design of Integrated Circuits). C4i had been founded in 1992. This change is the occasion of new partnerships with on the Swiss side, the CSEM (Swiss Center for Electronics and Microtechnics of Neuchâtel), the School of French Engineers in

Geneva, and on the French side, the Laboratory of Electronics and Technologies of Information of the CEA in Grenoble (LETI).

MIND is supported by IN2P3-CNRS (60%), by the CSEM (20%) and by a grouping of public interest (constituted by companies such as Lem, Tefal, Sensorex, Somfy, SNR...) (20%). Its work finds mainly applications in the sectors of car, aeronautics, aerospace industry and electric household appliances.

Sources: February 2009

Electronic Bulletin, February 9, 2009

<http://www.mind-microtec.org/>

20.3 Swiss Universities Lack Women!

With 14.6% women professors in 2007, Swiss universities are about average for OECD countries (15% in 2006). Most of the scientific disciplines, however, lack women. Although women account for 65.3% of social scientists, they make up only 37% of the physical and natural sciences and 26.7% of engineering and technical sciences. The Swiss Confederation considers these numbers to be too low and programs have been set up to attract women to the scientific disciplines and to provide incentives for hiring them.

At the national level, the "Equal Opportunity in Universities Program" was launched in 2000. It has three components. The first provides incentives for hiring women professors, the second establishes mentoring (support among women for information exchange, network building, functioning in the academic culture, etc.) and the third is devoted to child-care for women professors. The goal is 25% of professorships to be filled by women in 2012. The intermediate objective, which was to double their proportion between 2000 and 2006 (from 7 to 14%), was achieved.

Another federal initiative is the Marie Heim-Vögtlin Program to promote women in research. Each year, funds are provided to women with doctoral or post-doctoral degrees whose research has stopped or slowed down due to family reasons (e.g., having children or becoming the trailing spouse).

This will promote women in research centers and universities, especially in scientific disciplines, to engage in various university and scientific roles. Thus, since 2002, all universities are equipped with Equal opportunity programs. The Federal polytechnic school of Lausanne (FPSL) created last February the SwissUp chair, with the objective of encouraging vocations in engineering, data processing, and communication systems, particularly among women.

And for young people, each year, the "Take your Daughter to Work Day" allows schoolgirls to accompany their close relatives to their work place. The objective is to interest them in the work world. A particular stress is placed on technical sciences and data processing. The projects "Girls and Technical Topics – Let's Go!" and "Girls and Data-Processing – Let's Go!" allow girls to spend the day with a woman engineer, technician, architect, or data processing specialist.

Sources: July 2009

- *Electronic Bulletin, July 6, 2009*

- *Conférence Suisse des Déléguées à l'Egalité entre Femmes et Hommes :*

<http://www.equality.ch/f/home.htm>

- *Conférence des déléguées à l'égalité auprès des universités et hautes écoles suisses :*

<http://www.kofrah-codofuhes.ch/>

- *Commission fédérale pour les questions féminines : http://www.frauenkommission.ch/home_f.htm*

20.4 In Brief: Two New Research Centers Open (Switzerland)

Swiss Institute for Applied Ecology On June 5th an agreement was signed establishing the Delinat Institute of Ecology and Climate Farming. It will be based in Mythopia, a wine-producing center in the Valais region of Switzerland. Research in applied ecology will be conducted at the Institute with the objective of reducing the ecological impact of agriculture, which is currently responsible for 20% of green house gas production as well as for the disappearance of certain species.

Research on ecology, bio-coal, undertaking climatic and ecological assessments, and the development of agricultural machinery will be among the research activities at the Institute. The foundation will also have a mission to inform specialists, the general public, and policy-makers.

A New Center Dedicated to Human Toxicology The Swiss Confederation launched a new Center of Applied Human Toxicology, the first of its kind devoted to this topic. It is formed by a network of research groups at the Universities of Basle, Geneva, and Lausanne and will be directed by Dr. Martin F. Wilks. Its four research orientations are biomarkers, male infertility, drug allergies, and idiosyncrasic reactions [1] to specific pharmaceuticals. In addition to applied research and training in toxicology, the center will inform the authorities in risk management and will conduct analyses for third parties.

[1] *An idiosyncrasic reaction indicates the unforeseeable reaction, sometimes serious, that a drug can cause at an individual.*

Sources: September 2009

- Electronic Bulletin, September 18, 2009

- Foundation Delinat : <http://www.delinat-institut.org/>

- Center for Applied Human Toxicology: Martin F. Wilks – Phone: +41 61 323 57 23 <http://www.scaht.org/>

- Press release from the Swiss Confederation May 26, 2009

- Press release from the University of Geneva May 20, 2009

- Press release from the Foundation Delinat June 5, 2009

20.5 Opening the borders of knowledge (Switzerland)

A choice of paths -- humanities or hard sciences -- often confines students as they transition from high school to prospective university students subsequently see a single path only path to choose from. Few universities encourage their students to take subjects beyond the spectrum of their main discipline.

A particularly original collaboration between the University of Lausanne (UNIL) and the Ecole Polytechnique Fédérale de Lausanne (EPFL) tries to break down these barriers. In 2004 the College of Humanities (CdH) was created within the EPFL and the College of Sciences (CdS) within the University of Lausanne. The goal of each of these colleges is to provide students with learning materials outside of their main field. The CdS suggests to the students in the Science curriculum 2, a scientific program including courses in biology, genetics, neurology, quantum physics or the history of cosmology, taught by professors from the EPFL. The HRC offers courses in humanities articulated around five areas: "Cultures and Civilizations", "Productive Systems", "Art and Aesthetics", "Reflexivity and Knowledge" and "Individuals and Societies". These classes, completely revised last fall, are also taught by teachers from the University of Lausanne, University of Geneva (UNIGE), Ecole Cantonale d'Art de Lausanne (ECAL) and the University of Art and Design in Geneva (HEAD).

The CdH is for students of EPFL to "develop reflectiveness, critical thinking and openness, and to master social, political, historical and cultural contexts which are today part of science and technology as well as engineering".

The Director of the CdH, Francesco Panese stresses the importance of such teachings: "*Our idea is that, far from providing a kind of cultural veneer, we offer the opportunity for students to build the real skills they need and making them more efficient in the exercise of their profession.*" The undergraduates are free to choose their modules within a single cluster or diversify. At the masters level, students are encouraged to conduct an interdisciplinary research project to transgress the frontiers of knowledge.

Sources: December 2009

- Electronic Bulletin, December 7, 2009

- Web site of the IEPFL College: <http://cdh.epfl.ch/page80464.html>

- Web site of the Unviersity of Lausanne, School of Science:

<http://www.unil.ch/collsciences/page16474.html>

21 Turkey

21.1 Cultural Dialogue: Alliance of Civilizations Partnership (Turkey)

The Alliance of Civilizations was created in 2005 by the Spanish and Turkish governments under the aegis of the United Nations, with the aim of improving mutual comprehension and cooperation between the nations, the people, and their religions. It supports several projects and initiatives within this framework.

Through its department of scientific research grants, TUBITAK (Scientific Council and Technology Research for Turkey), supports researchers on the following topics:

- Living Together: Experiments from the Ottoman Empire to the Republic of Turkey
- Common points between the various religions, cultures and civilizations, including those of the Ottoman Empire and the Republic of Turkey
- Factors and values for dialogue and tolerance between cultures and civilizations
- Social and scientific exchanges and interactions between the various cultures and civilizations
- The role of the religious and cultural values in mutual comprehension and the cooperation in the current society

The grants are open to all. The foreign citizens wishing to pursue their studies in Turkey will receive 1500 TL (approximately 750 Euros) per month for a period of 12 months maximum. The deadline for the candidatures is March 7, 2009.

Sources: February 2009

- *Electronic Bulletin, February 4, 2009*

- *Alliance of Civilizations: <http://www.unaoc.org/>*

- *TUBITAK - Phone: + 90 312 468 53 00 - Address: TUBITAK Tunus Caddesi No:80 06100 Kavaklıdere / Ankara / TURKEY - email : <http://www-adm@tubitak.gov.tr>*

21.2 Innovation: Assessment of Turkey's Innovation Policy

The most recent report submitted to the General Directorate of Commerce of the European Commission, provides an assessment of the innovation policy in Turkey. Despite the impact of unfavorable macroeconomic conditions (long-term high inflation, high interest rates) and the global economic crises on innovation, Turkey's economic situation has been slowly righting itself since the end of 2003.

The major challenges identified for the coming years are the following:

- *Increase investments in human resources for innovation*
Turkey needs to reinforce the number and the level of its tertiary education in order to encourage domestic innovation. In this respect, the report recalls that Turkey took certain measurements in this direction by integrating innovation into the secondary school program and by encouraging master and doctorate programs to meet industry needs and finally, by committing to create 32 new public universities.
- *Reinforcing cooperation between the academic and industrial worlds*
The report emphasizes the need to establish strong connections between the private sector and the scientific community insofar as the majority of the research and development is carried out by the universities. The universities represent 58.9% of the national expenditure in research and development and employ 73.2% of the researchers. It is regrettable that the production of these high-level researchers is not transformed into innovation. The government seeks to answer these challenges by taking significant measures such as establishing technological development centers (TEKMERS) and support for establishing technological parks by means of the law on the zones of technological development.
- *Increase financing*

The low level of development of venture capital investment constitutes a sizable obstacle for companies to increase innovation in Turkey. Investors rarely target small and medium sized businesses, and as a result, these suffer of a lack of funds, particularly during their first years. The European Investment Fund seeks to resolve these gaps of the Turkish market by cooperating with the KOSGEB (General Directorate Office of Support and Development to SME) and the TTGV (Foundation of Technological Development of Turkey).

Sources: April 2009

- *Electronic Bulletin, April 14, 2009*

- *Site du TUBITAK (Conseil de recherche scientifique et technologique de Turquie) :*

<http://redirectix.bulletins-electroniques.com/IYxFp>

- *Site du KOSGEB (Direction générale du soutien et du développement des PME) :*

<http://www.kosgeb.gov.tr/>

- *Site du TTGV (Fondation du développement technologique de Turquie) :*

<http://www.ttg.gov.org.tr/en/?PHPSESSID=a457837b054e49868378d6c77fdd3cff>

22 United Kingdom

22.1 The United Kingdom Publishes First Annual Report on Innovation

Responding to a recommendation made by Lord Sainsbury in his report devoted to public policies on innovation, the Department for Innovation, Universities and Skills (DIUS, the British Ministry for Innovation, Universities and Competences) published on its first annual report on innovation. December 4. The report was launched at 10 Downing Street by Prime Minister Gordon Brown, illustrating the importance the British government has attached to the innovation as a central tool in ensuring the long-term prosperity of the country.

The report compares the progress made compared to the commitments in the White Paper for Innovation and provides an inventory of fixes for British innovation as well as a description of activities already undertaken by the British ministries and the regional development agencies. Two of the broad objectives of White Paper were the transformation of public services through innovation and the use of government contracts (£175 billion in 2006-2007) as a source of innovation and profit for British companies. The annual report will constitute an essential tool for understanding the British environment for innovation. It begins with an interesting framework for British performance.

The NESTA (National Endowment for Science, Technology and the Arts), created in 1998, is an independent organization whose mission is to enhance innovation in the UK. It invests in companies in their early developmental stages and fashions and implements policies to assist innovators. The NESTA finances its activities through the interest it draws from its £300 (approximately \$400) million endowment, from returns on investments and other private and public sources of revenue.

Sources: January 2009

- *Electronic Bulletin, January 12, 2009*

- *Annual Innovation Report, December 2008):* <http://redirectix.bulletins-electroniques.com/lcxwQ>

- *Sainsbury Report: "The Race to the top", October 2007) :*

http://www.rsc.org/images/sainsbury_review051007_tcm18-103116.pdf

- *Innovation Nation, March 2008:* <http://www.dius.gov.uk/publications/ScienceInnovation.pdf>

- *Attacking the Recession:* <http://www.nesta.org.uk/attacking-the-recession/>

- *The Observer, December 7, 2008,* <http://redirectix.bulletins-electroniques.com/wN1vH>

22.2 44 new doctoral schools created by the Council of Research Engineering and Physical Sciences Research Council (EPSRC) (UK)

The council of research EPSRC announced at the beginning of December 2008 that it was going to devote 250 million Pounds over five years (approximately 286 million Euros) to 44 new doctoral schools

(Centers for doctoral training). Rightly approximately ten students per annum and by center, the initiative should make it possible to form a total of more than 2,000 students.

The centers present a multidisciplinary character and also have the role of developing bonds with the industry: in fact, this initiative is largely supported by the industry and 17 of these new centers will be industrial training centers which will collaborate narrowly with the companies and will deliver Engineer diplomas. The objective is thus really to create an interdisciplinary community of researchers, by creating bonds between the research teams of different disciplines and by forging partnerships with industrialists.

It is expected that the doctorate fellows follow with their research tasks, a formal program to develop and improve their interdisciplinary technical training and to widen their competences. In addition to the technical and specialized scientific skills generally acquired at the time of training, the EPSRC wishes that the doctorate students be familiarized with other disciplines as well as with the world of the industry.

This approach of the doctoral formation was already implemented by the EPSRC through a small number of pilot doctoral schools, of which some are devoted to the doctorates in engineering. These pilot schools are centered on systemic biology, the science of complexity and interface with the life sciences.

The list of the 44 new centers which are financed for five years is available at the following addresses:
<http://www.epsrc.ac.uk/PostgraduateTraining/Centres/NewCentres.htm>.

They will focus on big challenges to which is confronted the current society, the development of clean and renewable energies, the fight against high-tech crime, while passing by the reduction of the emissions of carbon and the search for new solutions of the health for the growing old population.

The EPSRC Engineering Doctorates: An Engineering Doctorate is an alternative to the traditional doctorate, intended for the students who wish to continue a career in the industry. A four-year program combines a research project with courses. The students devote approximately 75% of their time to work directly with a company. Students being sponsored by an industrial partner, this one being implied in the selection of the candidate and the development of his/her program of course. The Engineering Doctorate program operates within the university doctoral schools (Engineering Doctorate Centers) which recruit students to work in a field of research or a precise industrial sector. The program is opened to all the graduates in sciences of engineering.

Sources: January 2009

- *Electronic Bulletin, January 12, 2009*

- *EPSRC, December 5, 2008, <http://www.epsrc.ac.uk/Content/News/NewCDT.htm>*

- *Engineering Doctorate, EPSRC,*

<http://www.epsrc.ac.uk/PostgraduateTraining/Centres/EngD/default.htm>

22.3 The Research Council of UK (RCUK) opens an office in India

The British Research Council, an organization which federates the seven British councils of research, opened at the end of October 2008, an office in India. This permanent representation comes in addition to those already existing in Brussels (UKRO), Beijing and Washington. The opening of the office, which is hosted in British High Commission of New Dehli, was greeted by a personal message of Gordon Brown, Prime Minister, who illustrates the high importance which the United Kingdom attaches to scientific and technological collaboration with India. It is the Prime Minister himself which, in January 2008, had announced the creation of the office.

It is expected that the representatives of RCUK in India will collaborate with the Indian finance agencies to share strategies, to increase the dialogue on the priorities of financing and to promote the possibilities of collaboration in research. The activities of the office, staffed by three people employed by RCUK, will be concentrated on three priorities:

- **influence:** to develop durable and influential relations with the major Indian actors;

- **excellence:** to facilitate collaborations of research for very great quality between India and the United Kingdom;

- **impact**: to increase the capacity of influence of this office.

They should lead to the five objectives stated in the international strategy of RCUK namely:

- to encourage collaborations between the British researchers and the best Indian researchers;
- to promote the movement of researchers between India and the United Kingdom;
- to allow to the British researchers to reach resources and systems of data;
- to influence the research programs on the international scene;
- to promote the United Kingdom as a world center for research and innovation.

Professor John Beddington, scientific adviser of the Prime Minister, present at the time of the inauguration, declared that *"the opening of the office of RCUK in India shows once more that the United Kingdom recognizes the value of international collaborations to face the challenges of the future. It is vital to work with emergent economies partners to obtain the best results of research. In these times of economic moroseness, it is important that we preserve a common view and that we work with our international partners to find solutions"*. Professor Beddington had just participated on October 17-18 to a workshop of Indo-British work devoted to the food crops and gathering more than 50 British and Indian academics. They shared their recent research in the field and explore future possibilities of collaboration.

Sources: January 2009

- *Electronic Bulletin, January 12, 2009*

- *Research Councils UK, October 20, 2008, <http://www.rcuk.ac.uk/news/081020.htm>*

- *RCUK Office in India, <http://www.india.rcuk.ac.uk>*

22.4 Footbridges between private and public sectors for British researchers (UK)

The Research Council the U.K. (RCUK), an organization which oversees the seven British councils of research, announced mid-November 2008 the creation of a new device intended to help the universities and the research institutions to engage scientists successfully having carried out a career in the private sector. Equipped with a budget of 5 million Pounds (approximately 6 million Euros) and supported by Lord Drayson, Secretary of State for Science, this initiative is entitled Skills Gap Awards. Its object is to recruit very qualified people to occupy a certain number of senior positions in research or technology transfer in the universities and the British research institutions. The financing will apply to a range of sectors in which recruitment was traditionally difficult. They will address to "talented individuals" currently working in the private sector and which would wish to join the public sector. The government gives them its support because it sees a means there to retain scientific talents in difficult economic times.

Skills Gap Awards will be managed by the Medical Research Council (MRC). In addition to the MRC, the Biotechnology and Biological Sciences Research Council (BBSRC) and the Engineering and Physical Sciences Research Council (EPSRC) will take part in this provisional device which is designed to last six months and finance 10 to 15 strategic recruitments as well as a certain number of grants. The objective is that the nominations take place quickly: the decisions should be taken in four weeks and the funds will be granted to establish installations or to give an initial support for the project. The holders of the position will seek alternative financing to support their research project by the traditional ways. Co-financing with industrial partners will be welcome.

In addition, the EPSRC will finance approximately 30 grants in order to retain postgraduate students in economy, priority in macro-economy and quantitative methods. The BBSRC will also bring additional funds intended to finance 20 grants of four years in the four priority fields that are research on ageing, bioenergy, bioprocedure and environmental change.

Permanent devices intended to encourage the movement of qualified people between universities and research institutions towards the private sector, and vice versa, will be implemented in 2009 through exchange programs. Lord Drayson is congratulated on this initiative and declared: "many companies and industries in the United Kingdom employ excellent scientists. In the current economic decline, certain very qualified people face a dubious future and we must offer all the possibilities; they continue to work in research or in broader roles founded on science. These initiatives are a big part of this effort. By preserving talents in British research, we ensure that the universities and the British research institutions

have the broad range of appraisal which they need to support the innovation. To always forge close links between university and industry will be a key factor for the future growth of the innovating companies. The councils of research host some of the best and most brilliant scientific talents of the country and it is completely justified that they identified fields to be reinforced and acted rapidly".

Sources: January 2009

- Electronic Bulletin, January 12, 2009

- DIUS, November 14, 2008 - <http://redirectix.bulletins-electroniques.com/cez0s>

22.5 British Science and Europe

Sometimes characterized as "Eurosceptic," the United Kingdom nonetheless remains involved in all aspects of the European structure, in particular in the field of R&D. The relationship between British science and Europe is characterized by its successful competition within the European programs and a good alignment of the priorities of research.

Conscious of the European stakes, the United Kingdom has developed an effective presence near the European institutions as well as professional and dedicated structures within the institutions of research and higher education.

This profile aims at establishing a place for British science with respect to Europe—What role does the United Kingdom grant to Europe in its international R&D policies? What is British scientific community's role with respect to European research facilities? What devices set up to support these objectives? Lastly, regarding Brussels, which is always open to the opinions of its Member States, it is relevant to identify the British actors who put forward the scientific interests of their country, their mode of action as well as the European institutions with which they work.

Authors: PROST Anne - Le BEUX Yann Embassy of France in the United Kingdom - 17 pages - 31/01/2009 Download free this report with format pdf: http://www.bulletins-electroniques.com/rapports/smm09_015.htm

Sources: February 2009

Electronic Bulletin, February 19, 2009

22.6 Science and Technology in the United Kingdom

The Prime Minister stated on February 27 in Oxford at the annual Romans conference that science and technology was an essential component to maintain the British economic power. Gordon Brown is convinced that the answer to the grand challenges of climate change, the fight against pandemics, water management, the food crisis, or the defense of the environment will call more and more upon science. It is time to consider re-orienting our intellectual resources to better meet the societal requirements and to move away from an economy too centered on financial services in order to build on broader bases, more focused on science and innovation.

After recalling many examples the scientific and technological excellence in the United Kingdom, the Prime Minister proposed three initiatives to maintain Great Britain as a country noted for the best scientists:

- To make investment in R&D a national priority, in particular through a partnership research partnership with industry. Mr. Brown pointed out that the effort to revitalize research started in 2004 and over 10 years would be protected, both in basic research funding and its applications. Science can not be victim of the recession and is being called upon to become a key component in finding a way out of the crisis. Beyond this it will be appropriate to invest particularly in the sectors already providing a clear competitive advantage, namely carbon technologies, pharmaceuticals, higher education and numerical industries. He also called on the Research Councils for a reinforced cooperation with the United States, seeing an opportunity to benefit from

President Obama's recovery program. This bet on investment in science will pay off only if science is able to nourish applications that add value and feed economic growth.

- This is only possible if the nation has a sufficient supply of scientists and engineers. Several projections show that science and technology may involve nearly three million more jobs by 2017. Today, the secondary education system cannot fulfill this requirement, quite simply because only a few schools offer specialized training in mathematics, sciences, and technology. The government has set up a dual goal by 2014 of increasing to 90% the number of public schools offering this separate training while doubling the number of pupils to 100,000 per annum. The coaching of these students will be facilitated by an increase in qualified manpower in these disciplines arriving on the job market due to increased unemployment in the coming years. To raise the level of education in the sciences also guarantees a better scientific culture to define the societal limits society for scientific and technological activities;
- To better inform and educate the population on the important role played by science in response to the challenges and problems confronting society. Mr. Brown asks the scientific community to explain to the public the stakes of science, its role and its prestige in our society. It is in this spirit that the government launched last month the campaign called "Science [So what? So everything]", aiming at praising the importance of scientific discoveries and to increase interest in scientific careers. To restore social recognition for the scientific and technical trades is required to create a true scientific culture. In parallel, Mr. Brown underlined the importance of the ethical debate on the applications of research, a British tradition, which made it possible for this country to continue research on GMO, the use of the stem cells (a position of world leadership) and genomic or animal experimentation.

In this speech in which Europe is not unlike the United States and Asian powers because of the deep economic crisis, but which reflects real convictions, it is also necessary to note first the reference to the public health system, considered best in the world, benefiting from 15 billion pounds of support for medical research over the last ten years, and second, the announcement by Mr. David Milliband of the nomination of the first scientific adviser of the Foreign Office, who will work directly, in particular, with his counterpart in the Department of State.

Sources: April 2009

Electronic Bulletin, April 14, 2009

22.7 The United Kingdom and Canada Sign Polar Research Agreement

Thanks to an agreement signed between the two countries in February 2009, the United Kingdom and Canada will share their polar infrastructures and logistics (polar boats, planes and bases) and will increase their scientific cooperation in polar research. This agreement was reached following negotiations between Natural Environment Research Council (NERC) and Canadian agencies. It was signed by Lord Drayson, Deputy Secretary for Science and Innovation and Chuck Strahl, Minister for the Indian and Canadian Northern Affairs.

This agreement should make it possible for the two countries to accommodate their relative weaknesses - in the Arctic for the United Kingdom and the Antarctic for Canada -- while maximizing their strengths. The United Kingdom is not on the Arctic circumference but manages a research station in Ny-Alesund on the Norwegian island of Svalbard. For historical and strategic reasons, the British presence in the Arctic is less than in the Antarctic, despite the United Kingdom's history of exploration and research in this area. Financing is also less than in the Antarctic, although British researchers undertake high quality research in the Arctic in the fields covered by the NERC. The British Antarctic Survey carries on activities there as well.

Canada, as a signatory of the Treaty of The Antarctic, does not have a research infrastructure in the Antarctic. Until now, the Canadian scientists in the Antarctic used British, American, New Zealand, Argentinian or other nations' installation on the continent, but at the price of very complicated arrangements. Canadian scientists have encountered difficulties in obtaining financing for these activities.

At the same time, it was difficult for British scientists to reach the Canadian Arctic bases due to complex administrative procedures in dealing with different government and ethnic groups in the Arctic.

The recently signed agreement provides that the NERC offers Canadian scientists increased access to the Antarctic installations of British Antarctic Survey. In return, Canada will offer scientists financed by the NERC access to its bases, ships, and planes. Initially, the two nations will be able to divide the use of the five planes (four Twin Otter equipped with skis and Dash-7) and two British boats (RRS James Clark Ross and RRS Ernest Shackleton) and the Canadian research base Resolute, located at Nunavut. The new agreement should not only simplify this situation but Canada could also agree to pay the costs of logistics, transport, and the stay of the British scientists visiting the Canadian Arctic while the United Kingdom can reciprocate for Canadian scientists carrying out research in the Antarctic.

This agreement meets a British need to rectify the imbalance of its polar research tasks which have focused strongly on the Antarctic. The North Pole is geographically nearer to the United Kingdom and changes which influence the climate and sea level and the retreat of the ice cover has implications for energy, transport, and fishing and on general natural resources.

Sources: June 2009

- *Electronic Bulletin, June 3, 2009*

- *Indian and Northern Affairs Canada, Feb 02, 2009, <http://www.ainc-inac.gc.ca/ai/mr/nr/j-a2009/nr000000183-eng.asp>*

- *NERC, Delivery Plan 2007, Update 2009, <http://redirectix.bulletins-electroniques.com/lp8N8>*

- *NERC, Mar 3, 2009, <http://planetearth.nerc.ac.uk/news/story.aspx?id=367>*

22.8 The BERR and DIUS are Dead! Long Live BIS! (United Kingdom)

A cabinet reshuffle at the beginning of June saw the disappearance of the DIUS (Department for Innovation, Universities and Skills) and of the BERR (Department for Business, Enterprise and Regulatory Reforms) which are now joined together in a single ministry, BIS (Business, Innovation and Skills) held by Lord Peter Mandelson, First Secretary of State and at the second tier in the British government. This large ministry includes ten deputy secretaries including - Pat McFadden and Lord (Paul) Drayson, both of whom attend the Council of Ministers regularly. The new ministry is to some extent a reconstitution of the old DTI (Department for Trade and Industry) to which university education and research were added.

The mission of the BIS is to help the United Kingdom, its businesses, and its citizens excel and to open up the future global economy to have an impact in seven areas: business, economic growth, markets, higher education, training, science and innovation, and trade. What is new for science and innovation, is the political and administrative impact that this new grouping provides, assuming it doesn't take resources from its parent organization, because even if its budget is specifically protected, it can be affected by economic, financial or commercial events. It also unites the needs of the realms of higher education, research, innovation and business, hopefully to foster competitiveness. In this new ministry, those in charge of science and innovation (Lord Drayson) and the universities (David Lamy) keep their positions, but the research priorities and how they are organized and carried out are not decided by the ministry as such, following the well-established Haldane principle. Lastly, the role and the operation of the Global Science and Innovation Forum, chaired by John Beddington, the government's scientific advisor, remains unchanged.

The international research and innovation role of BIS remains in a sub-directorate, similar to DIUS. Composed of thirty-one people in London and an annual budget of 2.7 million Pounds, this unit supports a network of ninety people distributed in forty cities across twenty-five countries (sixteen in Europe), with access to resources from the BIS and the FCO (Foreign and Commonwealth Office). These posts deploy work with the British Council, UKTI (United Kingdom Trade and Investment) and the representatives of the Research Councils the U.K. recently opened in Delhi, Beijing, and Washington.

This new ministerial entity, in addition to being made to measure for Lord Mandelson, reinforces the coherence of government action in a time of recession by linking upstream knowledge to their

applications, marketing, and successful exports. At least two things are required if this mechanism is to be successful -- ensuring a certain level of permanence and guaranteeing, even raising, the level of excellence of British R&D via this reorganization.

Sources: August 2009

Electronic Bulletin, July 28, 2009

22.9 The Scottish European Green Energy Centers (SEGEC)

A new center intended to support the financing of Scottish renewable energy technology projects and to develop closer relations with European institutions and companies was officially inaugurated on August 17 in Aberdeen, by the Scottish Prime Minister Alex Salmond. During his visit to the Scottish European Green Energy Centers (SEGEC) on King's campus at the University of Aberdeen, the minister announced the £1.6 million (\$2.67M) award from the European Fund for Regional Development. The SEGEC will also be financed at up to a million Pounds over three years by the Scottish government.

The SEGEC will be sponsored by the Scottish government and by companies such as Scottish Enterprise, Highlands and Islands Enterprise, Scottish Power, and Scottish and Southern Energy. The University of Aberdeen is a co-founding member of the center. The SEGEC will serve as a catalyst by accelerating RD&D and deployment of new energy technologies through its work in Scotland and with partners throughout Europe.

The objectives of the SEGEC reflect the priorities of the Scottish government regarding sustainable economic development and the fight against climate change. The priorities of the center include sectors such as marine energy, offshore wind energy, transport of electrical energy, intelligent distribution networks, capture and storage of CO₂, and renewable production of heat. The center will provide a team of specialists as a contact point for the Scottish organizations seeking to influence the European policy to reach European financings. This will allow these organizations to undertake research tasks in collaborations with other institutions or companies and to set up demonstration projects for low carbon technologies.

Although based in Aberdeen, the SEGEC will offer its services to all companies and institutions located in Scotland. According to Duncan Botting, president of the SEGEC, no less than three large projects financed by the European Funds of Rebuilding were delivered to the European commission mid-July. The SEGEC partners are impressed with the high quality and excellence of service offered by the center. The center will also seek to support Energy Technology Partnership, an alliance with Scottish universities in partnerships with British and international energy R&D projects.

Sources: September 2009

- Electronic Bulletin, September 7, 2009

- New Energy Focus, August 17, 2009, <http://redirectix.bulletins-electroniques.com/3Phdd>

- University of Aberdeen, August 18, 2009, <http://www.abdn.ac.uk/news/details-4087.php>

22.10 2009 International Ranking of the British Universities

The 2009 ranking of universities published by the Times Higher Education (THE) in October -- a reference increasingly gaining the same worldwide recognition as the Jao Tong University of Shanghai ranking -- confirms the dominance of American and British universities. Judge for yourself: 54 U.S. universities are ranked in the top 200, as are 29 UK institutions, which also have 18 in top 100, compared to 11 Dutch, 10 German, 7 in Switzerland, 5 in Belgium, 5 Swedish, and 4 French. At the top of the list are six leading U.S. universities -- including number one ranked Harvard -- and 4 UK universities: Cambridge, University College London (UCL), Imperial College London and Oxford, respectively ranked 2nd, 4th and tied for 5th. Compared to 2008, UCL improved 3 places, rising to the rank of Cambridge and Oxford, which dropped one place in the rankings. Other top rankings went to the University of Edinburgh, King's College London, and Universities of Manchester, Bristol and Warwick. The ranking also shows a marked improvement in several Asian universities.

The methodology favors larger Anglo-Saxon universities and those which emulate the high-level research

conducted in them. It places at a disadvantage those schools that provide high quality education but which generally view advanced laboratories as inconsistent with their original purpose. The calculation of rankings is based on five factors: 20% for the quality of research produced (citations of articles published in refereed journals), 20% on the quality of education as indicated by the ratio of teachers to students, 10% on the international attractiveness of the institution (5% attributed to the proportion of foreign students, and 5% in the proportion of foreign teachers), 40% to a peer evaluation, and 10% to an evaluation by a representative sample of recruiters on the job market.

Among the top 50 universities ranked according to major disciplinary categories, 4 are British universities in engineering and information technology - including 3 in the top 11; 6 in the life sciences and biomedicine - Cambridge and Oxford rank 2nd and 3rd rank respectively; 3 in Sciences - Cambridge, Oxford, and Imperial College London 1st, 5th and 10th respectively; 8 in social sciences, and 8 in arts and humanities. For the record, the molecular biology laboratory in Cambridge, created in the early fifties, has "generated" 14 Nobel Prize in chemistry and physiology and medicine.

If this ranking has obvious limits, it can be justified as a reference for policy makers, employers, researchers, and students. Regarding British universities, it reflects the importance attached by the government to higher education and research, which has received a doubling of funding in the past ten years for institutions of higher education to 23 billion £ in 2007-08. These universities now attract nearly 12% of students around the world who choose to pursue higher education outside their home country, behind American universities, which are the first choice.

Finally, although it represents only 1% of the population, British institutions conduct 5% of global research and have the best performance of the G8 countries in terms of articles and citations per researcher and per pound invested.

Sources: November 2009

Electronic Bulletin, November 25, 2009

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