



Preparing the EU Innovation Plan

With the continuing comparative growth of the Asian economies, ever more research will be carried out outside the European Union. Europe needs, therefore to consolidate the development of the knowledge-based society, fostering the European Research

Area and launching a renewed effort on innovation. For these reasons the Spanish Presidency wants to promote the 'three Is' that define our priorities: Integration, Involvement and Inclusion.

By Integration we mean placing R&D and innovation policies at the centre of the European project and improving the ERA governance structures and synergies. By Involvement we mean that research and innovation programmes— whether Community-wide, national, or intergovernmental— should get into action quickly to respond to the Grand Challenges we face —energy and climate change, pressure upon natural resources, healthcare and ageing population— in an efficient way, simplifying the work of researchers and companies. By Inclusion we mean that science and innovation should have a more high-profile role in the promotion of social cohesion and the fight against poverty. These elements should be also at the heart of the EU 2020 Strategy to put Europe on the path of recovery and sustainable growth.

"The Spanish Presidency wants to foster the 'three Is' that define our priorities: Integration, Involvement and Inclusion"

There are around 25 million companies in Europe and for many of them innovation means a continuous process of evolution. However, the bulk of the European private R&D is carried out by a limited number of companies and there are also a number of technology leaders for whom research is at the heart of their entrepreneurial success. Through their R&D investments and their innovation performance they not

only improve their own productivity but also contribute to improving Europe's economy.

The European Conference on Corporate R&D – An engine for growth, a challenge for European policy (3-4 March 2010, Seville, Spain) has been one of the Spanish Presidency highlights in the area of research and innovation. The conference aimed at identifying policies that help increase the positive impact of R&D on business performance and on employment. Particular attention was paid to policies that can help SMEs to grow and become the large companies of the future and to policy approaches for meeting the challenge of internationalisation of corporate R&D.

The conference took place over two days; with the first being a forum for academic discourse and the practitioners view and the second being devoted to the policy dimension of corporate R&D. Thus, the most policy relevant outcomes of the first day were the subject of the discussion in the course of the second day, by high level policy makers and CEOs from leading companies. Economist Prof. Eric S. Maskin, 2007 Nobel Laureate, participated as key note speaker.

The European Conference on Corporate R&D is the result of a fruitful collaboration between the JRC's Institute for Prospective Technological Studies (IPTS) and the Spanish Centre for Development of Industrial Technology (CDTI), Spanish Ministry of Science and Innovation.

Hereby, I thank all those involved in the organisation of the event for their valuable contribution and all the participants of both the Academic Forum and the Policy Forum for their active participation in the discussions, noting that the conference conclusions will be presented to the European Union's Competitiveness Council and will feed into the preparation of the EU Innovation Plan.

CRISTINA GARMENDIA MENDIZÁBAL
Spanish Minister for Science and Innovation

EUROPEAN COMMISSION

http://ec.europa.eu/commission_2010-2014/geoghegan-quinn

New European Commissioner for Research, Innovation and Science

On 9 February 2010, the European Parliament approved the new European Commission with Máire Geoghegan-Quinn holding the portfolio for Research, Innovation and Science. In her tasks, the Commissioner is supported by the Commission's Research Directorate-General and the Joint Research Centre.

"I am delighted that the European Parliament has now approved the new European Commission and I am very excited about the next five years as Commissioner for Research, Innovation and Science. I want to make sure we make full use of Europe's research excellence, Europe's talent and Europe's entrepreneurial spirit," she said and continued: "Those qualities will be decisive in creating the green, hi-tech economy of the future and in making the 21st century a European century". During her mandate, Mrs. Geoghegan-Quinn also wants to make sure that more people are aware of the enormous value that research and science have for our lives in Europe.

As one of her first engagements, the Commissioner visited the JRC Institute for Reference Materials and Measurement (IRMM) on 25 February, where she was briefed on food safety and quality research as well as the activities at the IRMM's Linear Accelerator.

Before becoming the Commissioner for Research, Máire Geoghegan-Quinn was a member of the Court of Auditors in Luxembourg and, among other political mandates, Minister of Justice in 1993-1994 in Ireland.



Máire Geoghegan-Quinn visiting the food safety laboratory at JRC-IRMM on 25 February

JRC MANAGEMENT

<http://www.jrc.ec.europa.eu>

Robert-Jan Smits appointed Deputy Director General of JRC



Robert-Jan Smits, new Deputy Director General of the JRC

The European Commission has appointed Robert-Jan Smits as Deputy Director General of the JRC. He follows Anneli Pauli, who left the JRC to become Deputy Director General of the Commission's Research Directorate-General.

Robert-Jan Smits is the Director for the European Research Area: Research Programmes and Capacity at the Commission's Research Directorate-General, where his current responsibilities include: joint programming, coordination of national

research programmes, cooperation with intergovernmental research organisations (EIROforum, EUREKA, COST), research infrastructures, regions of knowledge, research potential and the relations with the European Investment Bank (EIB).

Previous assignments of Robert-Jan Smits in the Research DG included Director "Structuring the European Research Area", Head of Unit of "Legal Affairs", "SME Unit" as well as "Strengthening research cooperation and Europe's science base". From 2003-2006, Robert-Jan Smits was responsible for developing the European Research Council (ERC), the European Technology Platforms (ETPs) and for the shaping of the Joint Technology Initiatives (JTI).

Robert-Jan Smits was born in 1958. He has degrees from Utrecht University in The Netherlands, *Institut Universitaire d' Hautes Etudes Internationales* in Switzerland and Fletcher School of Law & Diplomacy in the United States.

ACCESS TO SCIENTIFIC PUBLICATIONS

<http://publications.jrc.ec.europa.eu/repository/>

JRC Publications Repository goes online

On 1 March, the JRC launched the Internet version of its Publications Repository. Bibliographic data of almost 10000 articles and papers representing a wealth of knowledge are now available to the public. In addition, more than 1700 technical reports (EUR series) are freely available for download.

Publications can be found by free-text search, or advanced search based on bibliographic data. The publications can be

browsed by JRC Institute, publication year, author, or title and cross-links are supplied to find all works of a particular author.

The JRC Publications Repository is based on the open source software DSPACE, which has been developed at MIT and is already used by more than 500 organisations for building open repositories.

EUROPEAN RESEARCH AREA

<http://www.jrc.ec.europa.eu/enlargement/action2010>

Launch of the JRC Enlargement and Integration Action 2010

In support of the EU enlargement and integration, the JRC promotes the integration of organisations and experts from the two new Member States Bulgaria and Romania as well as candidate countries, potential candidate countries and non EU countries associated to FP7 within its research and technical activities. To some extent, partner countries under the European Neighbourhood Policy can participate as well.

The JRC Enlargement and Integration Action is promoting training, mobility and joint projects addressing specific needs of these countries and regions. Focus is on complex scientific and technical (S&T) issues underpinning EU legislation in areas such as sustainable energy,

biotechnology, nuclear safety and security, food safety and quality as well as environment.

The scheme includes two instruments:

- a call for expression of interest to work as seconded national expert or grantholder in one of 28 positions at JRC Institutes in S&T areas of EU policy relevance;
- some 50 specific workshops and advanced training courses on advanced methods and techniques in support of EU policies.

INTERNATIONAL COLLABORATION

<http://www.nauka.gov.rs/eng/>

Enhanced scientific cooperation with Serbia



Roland Schenkel and Božidar Đelić at the signature on the Memorandum of Understanding on 11 February 2010

The JRC promotes, as part of its mission, collaboration with organisations and researchers from potential EU candidates. In this context, the JRC has signed a Memorandum

of Understanding with the Serbian Ministry of Science and Technological Development. A Serbian delegation, led by the Deputy Prime Minister and Minister of Science, Božidar Đelić, attended the signature of the agreement at the JRC headquarters in Brussels on 11 February.

The aim of this collaboration is to co-ordinate as far as possible the research activities in the fields of common interest, such as environment, food safety and quality, energy, agriculture and nuclear safety.

To achieve this objective, the EU and Serbian counterparts will exchange information and share results. Serbian research organisations will also be able to request access to large infrastructures and user laboratories at the JRC.

In addition, the JRC welcomes the possibility of hosting Serbian post-doctoral students to carry out research at the different Institutes, granted by the Serbian Ministry of Science and Technological development. Candidates will be nominated by the Ministry and approved by the JRC.

ENERGY

<http://setis.ec.europa.eu/>

Smarter power grids needed

A recent report by the JRC Institute for Energy (IE) on transmission network planning and grid controlling underlines that a radical change, in coordinated network planning and operation, is needed to accommodate market liberalisation and the increasing integration of renewable power sources. Smarter power grids have a central role in moving Europe towards a low carbon energy economy, as underlined by the European Union's Strategic Energy Technology Plan Information System (SETIS), led by the JRC.

The recent JRC review of existing methods for transmission planning and for grid connection of wind power plants is state-of-the-art in this field and leads the way for future developments. The report's findings and recommendations include:

- Grid expansion should focus on achieving better coordination between Transmission System Operators (TSOs) through integrated strategic planning and cross-border cooperation;
- Transmission planners should take a smarter approach in integrating 'variable' power sources such as wind, solar, hydro and wave, which do not generate consistent levels of power (e.g. by balancing the variable power with storage technologies);
- TSOs should prioritise the emerging challenge of integrating the future transmission system (hosting large-sized generation, both conventional and renewable) with smart distribution grids (embedding dispersed small sized energy sources and storage);
- A more harmonised and market-based framework is required to overcome planning and regulatory differences at national level, and to realise the potential synergies between offshore energy projects and cross-border trade in electricity.
- Transmission planning must change drastically to accommodate market liberalisation and increased integration of wind and other sources of renewable power;



Smarter power grids play a central role in moving Europe towards a low carbon energy economy

ENVIRONMENT

<http://www.atmos-meas-tech.net/3/79/2010/amt-3-79-2010.pdf>

A better protocol for measuring atmospheric carbon

Fabrizia Cavalli and Jean-Philippe Putaud from the JRC's Institute for Environment and Sustainability (IES) have co-authored the peer-reviewed article "Toward a standardised thermal-optical protocol for measuring atmospheric organic and elemental carbon: the EUSAAR protocol", which was published in *Atmos-*

pheric Measurement Techniques in January. The article presents an optimised protocol for determining organic and elemental carbon in particulate matter, which was developed in collaboration with eight partners of the FP6 competitive action European Supersites for Atmospheric Aerosol Research (EUSAAR).



Particulate matter has potentially high impacts on human health and climate change

It describes the advantages of this method compared to existing protocols. Carbonaceous species are important as they make up a 15-45% of the particulate matter (PM) in the size class 'PM₁₀' and up to 55% in the size class 'PM_{2.5}' for all of Europe, from rural areas to pollution hotspots. They have potentially high impacts on human health and climate change. However, they are not measured by many air pollution monitoring stations because reference methods for sampling and analysing these species are not available.

The use of the EUSAAR protocol is already recommended by the European Monitoring and Evaluation Programme (EMEP), underpinning the United Nations Economic Commission for Europe (UNECE) Convention on Long-range Transboundary Air Pollution. It is also under evaluation by the European Standardisation Committee (CEN) as a possible standard method in Europe.

ENVIRONMENT

<http://epi.yale.edu/>

Reliability of the 2010 Environmental Performance Index

The JRC's Institutes for the Protection and Security of the Citizen (IPSC) and for Environment and Sustainability (IES) have provided input to the 2010 Environmental Performance Index (EPI) released by Yale and Columbia University at the World Economic Forum Annual Meeting, 27-31 January 2010 in Davos.

With its expertise on composite indicators and sensitivity analysis, the JRC-IPSC has contributed to the EPI by evaluating the uncertainties underlying the index and the sensitivity of the country rankings to the methodological choices made during the development of the Index. This is the third edition of the EPI, which has been revisited biannually since 2006 with the collaboration of JRC-IPSC.

The results show that for the majority of the countries (103 of the 163), the 2010 EPI rank can be considered reliable or highly reliable. However, the EPI ranks for the remaining 60 countries (including Brunei, Cyprus, Japan, Luxembourg, Malta, Peru, Spain, UK, USA) depend strongly on the original methodological assumptions made in developing the Index and any inference on those countries rank should be formulated with great caution.

The EPI ranks 163 countries on their performance across 25 metrics aggregated into ten categories including:

environmental health, air quality, water resource management, biodiversity and habitat, forestry, fisheries, agriculture, and climate change.

The 2010 EPI results suggest that Iceland leads the world in addressing pollution control and natural resource management challenges. Iceland's top-notch performance derives from its high scores on environmental public health, controlling greenhouse gas emissions, and reforestation. Other top performers include Switzerland, Costa Rica, Sweden, and Norway – all of which have made substantial investments in environmental infrastructure, pollution control, and policies designed to move toward long-term sustainability. Occupying the bottom five positions are Togo, Angola, Mauritania, the Central African Republic, and Sierra Leone – impoverished countries that lack basic environmental amenities and policy capacity.



The 2010 Environmental Performance Index has been released at the World Economic Forum in Davos

With its expertise on global emissions of air pollutants, the JRC-IES has contributed to the EPI by providing the data for three indicators related to air pollution (emissions of sulfur dioxide, nitrogen oxides and non-methane volatile organic compounds) based on an evaluation of existing datasets including the JRC-IES Emission Database for Global Atmospheric Research as well as official emission inventory reports.

NUCLEAR SECURITY AND SAFEGUARDS

<http://itu.jrc.ec.europa.eu>

Nuclear verification: new facility for trace analysis

To further strengthen its activities in the detection of single uranium particles, the JRC and Euratom Safeguards have decided to jointly establish a high-sensitivity particle analysis laboratory.

The new laboratory's core facility will be a large geometry secondary ion mass spectrometer (LG-SIMS) for trace analysis of aerosol particles. It will allow the detection speed and sensitivity of nuclear material to be increased by at least a factor of ten. The minor isotopes of uranium will become accessible, which is important for identifying the source of the material.

The JRC is among the few laboratories in the world that can provide the highly specialised analytical methods and techniques needed for nuclear safeguards and forensics purposes. The JRC's Institute for Transuranium Elements (ITU) supports Euratom Safeguards to ensure that within the EU, nuclear material is not diverted from its intended use and that safeguarding obligations agreed with third parties are complied with.

Nuclear safeguards also include environmental sampling to verify the absence of undeclared nuclear activities. The JRC provides the safeguards authorities with experimental evidence

by analysing micron-sized particles in dust material, thus enabling the detection of a single uranium particle among millions of ordinary dust particles.

The JRC's capabilities in this field were the basis for the recent agreement concluded with the American Association for the Advancement of Science (AAAS) to work together on science and technology for safety, security and sustainability. In particular, nuclear forensics and safeguards technology for combating illicit trafficking of nuclear material is a primary area of common interest.

NUCLEAR SAFETY

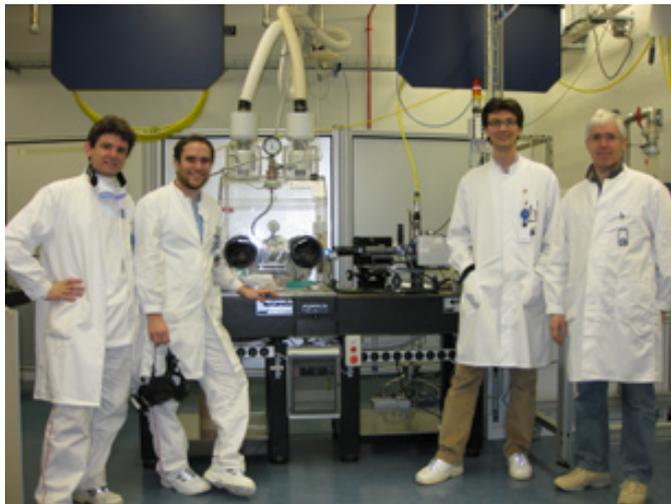
<http://itu.jrc.ec.europa.eu>

New assessment of the melting behaviour of plutonium dioxide

In their latest research on plutonium dioxide (PuO₂), scientists from the JRC Institute for Transuranium Elements (ITU) investigated the melting point of the nuclear fuel, one of its fundamental properties, with a new experimental approach: laser heating under containerless conditions and controlled atmosphere.

The results obtained are casting doubt on older values measured by traditional methods. Interestingly, important limitations of these methods had already been highlighted in the scientific literature for decades, such as the fact that the PuO₂ sample they could not be prevented from vaporisation or reaction with the containment at high temperature. Because of this particular experimental issue, the accepted melting point of PuO₂ was most probably underestimated by as much as some hundreds degrees K, as was also suggested by a recent series of experimental studies performed by a Japanese research group.

The new approach used by ITU allows the problems encountered by researchers so far to be solved, and has demonstrated that the actual melting point of pure uncontaminated PuO₂ exceeds the previously accepted one by about 350 K, i.e. even considerably more than predicted by the most recent investigations. It can be concluded that at very high temperature, e.g. above 2500 K, results obtained by traditional thermal analysis methods can be affected by an enormous uncertainty, up to the point that



The ITU research team involved in the study of nuclear fuel at high temperature shows the setup employed for laser heating of radioactive materials: from left to right D. Manara, F. De Bruycker, K. Boboridis and R.J.M. Konings (Head of Unit).

experimental data lose all their physical meaning. The ITU study shows the high potential of the new experimental approach, which in this particular application permits a much more accurate investigation of the nuclear fuel behaviour at very high temperature. This research subject is of great relevance to the safety analysis of nuclear power plants.

NUCLEAR PHYSICS

<http://ancient-charm.neutron-eu.net>

Nuclear physics unveils secrets of Bronze Age sword

Physicists at the JRC Institute for Reference Materials and Measurements (IRMM) have helped unveil the secrets of a Bronze Age sword with neutron beams otherwise used to study ma-

terials for nuclear reactors. The work was carried out by a team of European researchers investigating the application of modern scientific methods to cultural heritage objects.



The Buggenum sword, dating from 1300-1100 BC

Scientists at the IRMM studied the composition of the Buggenum sword using pulsed neutron beams as part of the European-funded project ANCIENT CHARM. In close collaboration with scientists from the Delft University of Technology, ten scientific institutes and museums collaborated to improve and develop certain neutron-based non-destructive analytical and imaging methods for cultural heritage objects.

By precisely measuring the ratio of copper to tin along the length of the sword, scientists gained an insight into the craftsmanship of the sword, and determined that the blade and the hilt were cast separately with different bronze compositions. The presence of cobalt in the composition supports the assumption that the sword originates from the North Alps-Danuba region. Other results indicate that although the sword is considered a ceremonial object, it was manufactured as a potentially functional weapon.

The sword was found near the village of Buggenum (the Netherlands), during the dredging of a lateral canal of the River Meuse, and belongs to the collection of the National Museum of Antiquities in Leiden (the Netherlands).

FOOD SECURITY

<http://mars.jrc.ec.europa.eu/mars/About-us/FOODSEC>

Detecting food crises

Satellite observation is the key instrument that will allow the number of countries monitored in real time for detecting first indications of adverse agricultural outcomes to double in 2010. The new Integrated Phase Classification (IPC) system facilitates and accelerates the reaction time in responding to food security crises by providing a common and internationally recognised classification of their severity.

The JRC's Institute for the Protection and Security of the Citizen (IPSC), the Food and Agriculture Organization of the United Nations (FAO) and the American Famine Early Warning Systems Network (FEWS NET) are working to innovate and reinforce their food security monitoring systems and to develop more efficient early warning tools. These efforts come as a response to the 2007-2008 global food crises that significantly increased the number of countries under threat of famine.

This year the JRC will extend the real time monitoring system it has developed to forecast food crises. The monitoring will not only cover the Horn of Africa but all of the most food-insecure countries in Sub-Saharan Africa. As the Earth observation and agroclimatic data regularly received by the JRC-IPSC is global, other countries outside Africa can also be monitored in case of food security crises.

The new IPC system, recently developed by seven organisations (JRC, FAO, FEWS NET, Care International, Oxfam GB, Save the children and World Food Programme) will facilitate the donors' response in case of food crises. This common classification, in fact, will allow policy makers to have clear and reliable information integrating all dimensions of food security (climate data, economic analysis, nutritional and health data) and a common language on the basis of which all stakeholders can agree on the analysis of the food security situation and possible response options.



Earth observation is becoming an increasingly important tool in fighting hunger

CHEMICALS

<http://www.jrc.ec.europa.eu/nanotech>

Policy support on assessment of nanomaterials under REACH

The current EU chemicals legislation REACH (Registration, Evaluation, Authorisation and Restriction of Chemical substances) and the related guidance documents apply to, but do not specifically address nanomaterials. Therefore, the European Commission's Directorate General for Environment requested the JRC Institute for Health and Consumer Protection (IHCP) to coordinate three projects to develop advice for possible future modifications in the REACH guidance documents.

The new projects deal with Substance Identification, Information Requirements and Chemical Safety Assessment. The projects' steering group

consists of the JRC, the Commission's Directorates General for Environment and for Enterprise & Industry as well as the European Chemicals Agency (ECHA). The final output of the projects will be considered by ECHA, responsible for potential REACH guidance updates.

The Substance Identification project aims at developing a number of case studies and an advisory report suggesting how the "Guidance for identification and naming of substances under REACH" could be complemented in relation to nanomaterials. This project is lead by JRC-IHCP chairing an expert group nominated by the Member States' competent authorities, by

industry and by NGOs. Work started in October 2009 and will be finalised by the end of 2010.

The other two projects tackle the areas of information requirements, exposure scenario development, exposure estimation and risk characterisation of nanomaterials. They will be carried out in direct cooperation with a consortium composed of the UK Institute for Occupational Medicine (IOM) and associated researchers of its initiative SAFENANO, as well as the Nanotechnology Industries Association (NIA) and the European Chemical Industry Council (CEFIC). These projects were launched in January 2010 and will run for 12 to 15 months.

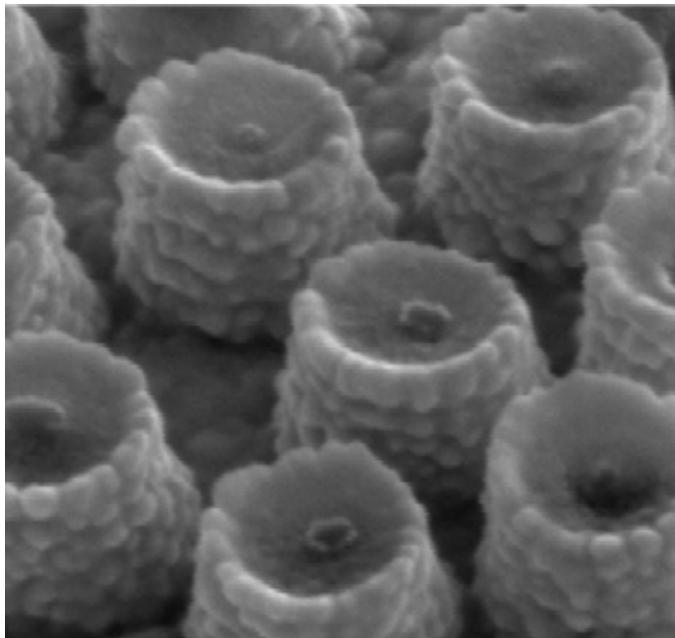
SAFETY OF FOOD AND CONSUMER PRODUCTS

<http://nmi.jrc.ec.europa.eu/documents/pdf/ENRHES%20Review.pdf>

Further studies of health effects of nanomaterials

On 15 January, the European Academies Science Advisory Council (EASAC) and the JRC Institute for Health and Consumer Protection (IHCP) launched a working group to study and discuss the mechanism of nanoparticles' toxicity in order to assess the possible impact on human health. The high level expert group is composed of 10 external members and coordinated by Prof. Peter Gehr from the University of Bern in Switzerland and Hermann Stamm, Head of the IHCP Nanobiosciences Unit.

Concurrently, the report "Engineered Nanoparticles: Review of Health and Environmental Safety (ENRHES)" was published. It is the result of a collaborative review involving researchers from Edinburgh Napier University (ENU), the Institute of Occupational Medicine (IOM), the Technical University of Denmark (DTU), JRC-IHCP and the Institute of Nanotechnology (IoN). The ENRHES report provides a comprehensive summary of current knowledge about the health and environmental safety for four types of nanomaterials (fullerenes, carbon nanotubes, metals and metal oxides). The project was funded by a grant under the Seventh Framework Programme (FP7).



Nanofabrication process of a polymer prepared with colloidal lithography in order to produce a sensor for the study of protein interaction

REFERENCE MATERIALS

<http://irmm.jrc.ec.europa.eu>

Testing prothrombin gene mutation: three new reference materials listed



For the first time, three reference materials for genetic testing of the JRC Institute for Reference Materials and Measurements (IRMM) have been nominated and approved to be listed in the database for higher-order reference materials of the Joint Committee for Traceability in Laboratory Medicine.

These materials are needed for quality control for the detection of a single point mutation in the gene coding for the human prothrombin. The gene mutation has been identified

as one of the risk factors in venous thrombosis events. As they also fulfil the criteria laid down in ISO standard 15194:2009, they are considered as higher order reference materials and contribute to internationally recognised measurement standards.

In related news, the IRMM recently carried out a review of the web site of the Eurogentest network, which aims at the harmonisation of genetic testing across Europe, checking the accuracy and completeness of the information concerning reference materials for genetic testing. The site promotes the use of well-validated reference materials and delivers support to end users, such as genetic testing laboratories, diagnostic kit manufacturers and external quality assessment scheme organisers.

AAAS ANNUAL MEETING 2010

SAN DIEGO, 18 – 22 FEB USA

<http://www.AAAS.org>

The theme of this year's AAAS annual meeting was "Bridging Science and Society", calling on scientists to make their work both beneficial and understandable, and on society to discover again the excitement and hope that research and its findings offer. By contributing nine sessions to the scientific programme, the JRC covered a wide range of related topics.



Smart and secure transmission grids to realise US and EU renewable energy potentials

This session, organised by Gianluca Fulli from JRC-IE, drew an attentive and participative audience of around fifty, among them the Irish Chief Scientific Adviser Patrick Cunningham. The speakers, representatives from both the EU and US scientific communities, gave an overview of the grid situation in the two regions and concluded that the challenges are similar: how to integrate the developing low carbon technologies in future smarter grids?

Better planning was highlighted as one of the key issues. Smarter grids will be needed to exploit the full potential of renewable energy. The need for adaptations in consumer behaviour also triggered debate amongst the audience. For instance, the enhanced use of renewable sources might have an impact on the way we use energy, as these might not be always available.

Nuclear verification

Klaus Lützenkirchen from JRC-ITU and his colleagues from the IAEA and Lawrence Livermore National Laboratory presented the challenges of nuclear verification as part of the combat

against illicit trafficking of nuclear materials. The topics raised a series of specific questions by a well informed audience.

In particular, Klaus presented the new high-sensitivity particle analysis laboratory, jointly established by the JRC and Euratom Safeguards (see p. 5).

Nuclear waste management

Speakers from the EU and US presented both journalists and a larger audience with the state of play on nuclear waste management in both regions, where important developments and changes are occurring in the field of geological disposal. The advantages and challenges of this option were highlighted and the way to increase public acceptance was discussed.

More than 40 journalists attended the corresponding news briefing and their questions demonstrated their breadth of interest: European perception on the recent changes in the US concerning nuclear energy, the existence of new materials for waste repositories, whether municipalities hosting repositories should be compensated, the risk of terrorism or how to increase public acceptance.

Scientific rationality and policy making: making their marriage work

This session, organised by JRC- IPTS, included the participation of Nobel Prize winner Robert Solow (Economic Sciences in 1987).

The speakers dealt with how science informs policy-making and the effects it can have on it. For them, a clearer understanding of this relationship can help explain what science can and what it cannot be expected to do. A mature rapport between science and policy making is not automatic, and needs to be nurtured.

Food allergies: the enemy within

This session, with around 70 participants, was opened by JRC-IRMM Director Krzysztof Maruszewski who gave an overview of the JRC's contribution in this field, namely providing the food industry and authorities with reliable analytical methods to detect food allergens.

The session went on to highlight the importance of truthful labelling of food products to avoid allergic reactions. Stefano Luccioli from the US Food and Drug Administration explained how US authorities are working to ensure that major allergenic ingredients in food are accurately labelled, in accordance with the Food Allergen Labelling and Consumer Protection Act.

As a promising closure for this session, food allergy sufferers were given some hope for a cure. Andy Clark, from the Cambridge University Hospitals NHS Foundation Trust in the United Kingdom explained how his team successfully induced tolerance to peanuts in allergic children.



Ian D. Hutcheon (Lawrence Livermore National Laboratory), Klaus Lützenkirchen (ITU), Jay Davis and Diane Fischer (IAEA)

Applying biogenomics to ecology: from the molecular to the ecosystem level

Teresa Lettieri (JRC-IES), speaker and organiser of this session, presented together with her international panel of speakers how molecular biology techniques have contributed to ecology research. Ari Patrinos, President of Synthetic Genomics and former Director at the US Department of Energy, concluded the Symposium underlining how molecular biology, and the genomic revolution that it sparked, offer tremendous potential for game-changing applications for the environment. He named such diverse applications as bio-remediation of mixed chemical-radioactive waste as well as geo-engineering for climate change mitigation. The Symposium was well attended and generated a lively discussion with the audience.



Mark Hildebrank (University of California), Ari Patrinos (Synthetic Genomics Inc), Teresa Lettieri (JRC-IES), Nancy Denslow (University of Florida) and Kevin Chipman (University of Birmingham)

Privacy in a new global context: trapped between culture, laws and technology

US, China and EU representatives discussed how privacy, information security, and data control are linked from different cultural backgrounds, why and to what extent international laws have excavated privacy concepts already and what new risks are hidden in the globally interconnected information infrastructure.

Stephan Lechner, Director of JRC-IPSC, focused his presentation on the new risks surrounding the new nature of data, which are easy to stock, copy and reproduce. Sometimes these risks can have significant economic value and raises the issue of whether we can trust the guards who protect such data. The trend to offshore data storage further complicates the matter.

Protecting the consumer - can 'omics keep the promise?

The majority of current toxicological testing methods are decades old and rely almost exclusively on using animals. Recent breakthroughs in biological sciences and bio-

analytical techniques have brought the promise of significantly improved product safety assessment without crossing ethical boundaries. Moderated by Elke Anklam, Director of JRC-IHCP, this session debated the role of genomics.

Progress in the use of Earth observation for fighting hunger

In the final session organised by the JRC, the power of satellite imagery derived information was at the centre of attention. However, while the remote sensing research community is one of the most prolific in producing high level scientific outputs, when it comes to implementing and running operational systems and providing decision makers with reliable and clear information, only a few organisations worldwide can provide continuous and standard services.

Olivier Leo from JRC-IPSC discussed with his co-speakers how Earth observation supports decision-making for food security and how crop monitoring can contribute to respond to global food crises.

FUTURE SENSOR WEB AND ITS APPLICATIONS

ISPRA, 28 – 29 JAN

IT

<http://ijsdir.jrc.ec.europa.eu/index.php/ijsdir/article/view/119/99>

The JRC Institute for Environment and Sustainability (IES) and the European Environment Agency (EEA) jointly organised this workshop on “The Future Sensor Web and its Applications”. The purpose of the meeting was to review the current state-of-the-art in sensor web technologies and develop a platform with the research community and industrial partners for future projects addressing the issues identified.

This workshop is one of a series of actions designed to enable the ‘Digital Earth’ vision. Because the information on the state of the environment is often too static or updated too slowly, the idea is to make this information more

dynamic by exploiting the web-enablement of the many sensors monitoring the environment (e.g. on air and water quality, noise, etc.). One way to achieve this and contribute to the Digital Earth vision is to further involve citizens in environmental monitoring. They can provide information on the state of the environment they live in, by actively monitoring it and uploading this information via the World Wide Web and Web 2.0 social network applications.

A paper explaining the ‘Digital Earth’ vision in this context can be found under:

<http://ijsdir.jrc.ec.europa.eu/index.php/ijsdir/article/view/119/99>

UPCOMING**INEQUALITY
MEASUREMENT
AND THE PROGRESS
OF SOCIETY**

MT

VALETTA, 22 – 23 APR

<http://crell.jrc.ec.europa.eu/Malta/inequality.htm>

This conference, organised by the JRC in cooperation with the Maltese government and the Spanish Presidency of the EU, will explore what impact fighting inequality can have on our societies' progress as well as on meeting the targets of the EU 2020 agenda.

The two-day event, with the participation of international scholars and European policy makers, will draw on available research from a broad range of international sources and educational issues will be of particular relevance.

**WORKSHOP ON THE
INTERNATIONALISATION OF R&D**

ANKARA, 25 – 26 MAY

TR

<http://www.stps.metu.edu.tr/workshop/>

This workshop on the internationalisation of Research and Development (R&D), organised by the JRC in cooperation with Turkish partners METU TEKPOL (Middle East Technical University Science and Technology Policies Research Centre) and TUBITAK (The Scientific and Technological Research Council of Turkey), will take place in Ankara (Turkey) on 25 and 26 May 2010.

In an interconnected world, research cannot be conducted in isolation. In R&D, interaction with other parts of the world has become essential to respond to global challenges as well as to increase and sustain economic competitiveness. In this way, the internationalisation of R&D can contribute to the prosperity and the generation of knowledge within the EU and beyond.

The aim of the workshop is to identify the challenges faced by the internationalization of R&D and increased collaboration both at public and private level. Over the two days of the workshop, there will be plenary presentations by invited speakers, as well as poster sessions, where participants will have the opportunity to present related research activities. JRC Enlargement and Integration funding will assure participation of representatives from the enlargement and neighbourhood countries. The event will have a strong policy orientation and is targeted both at policy makers and at the research community.

Further information, application forms and suggested format for abstracts can be found on the event website. Abstracts should be sent to wrdinter@metu.edu.tr not later than 31 March 2010.

**SCIENCE MEETS POLICY – JRC EXHIBITION
AT THE EUROPEAN PARLIAMENT**

BE

BRUSSELS, 4 – 6 MAY

www.jrc.ec.europa.eu/ep2010

The JRC will host an exhibition in the European Parliament (EP), where leading scientists from the JRC Institutes will be on hand to demonstrate and discuss with MEPs and visitors how the research work at the JRC supports European Union decision makers in the conception, development, implementation and assessment of EU policies.

The exhibition of the JRC activities will take place in the "Espace Distribution" on the third floor of the EP's Spinelli Building from 4 - 6 May 2010.

Decision makers need scientific and technical support not only in the formulation of new policies, but also on their subsequent implementation and final impact evaluation. The JRC has developed special skills and

tools to use science for providing and assessing policy options.

The event will offer the possibility to the MEPs to gain first-hand knowledge of the JRC's activities, which closely reflect the concern of the citizen, particularly in such areas as energy, environment, nuclear safety and security, security and crisis management as well as consumer protection and food safety. During the exhibition, visitors will be able to experience what the JRC is doing and discuss with JRC scientists about their scientific work and its relevance to the Community decision-making process.

The opening of the exhibition will take place on 4 May at 18:30 in the presence of the new Commissioner for Research, Innovation and Science, Máire Geoghegan-Quinn.



SCIENCE MEETS POLICY
Joint Research Centre at the European Parliament

Exhibition | **EP Brussels**
4-6 May 2010 | **Espace Distribution**
3rd floor, Spinelli Building

JOBS AT THE JRC

<http://www.jrc.ec.europa.eu/jobs>

RECENTLY PUBLISHED

(Applicants must submit their application no later than the indicated deadline)

Ispira, Italy

Trainee

- Sensitivity Analysis – *25/03/2010*
- Multilingual text mining and evaluation (2 positions) – *28/03/2010*

Seconded National Expert

- Atmospheric ensemble dispersion modelling – *15/04/2010*

Grantholder (Post-doc researcher)

- Statistical consultant (GeoCAP action) – *16/03/2010*
- Satellite vessel detection software – *20/03/2010*
- GNSS interference / spoofing mitigation techniques – *27/03/2010*

Grantholder (Senior scientist)

- Large scale land cover specialist – *16/03/2010*



Karlsruhe, Germany

Trainee

- High temperature heat capacity of the $\text{Li}_x\text{Be}_{1-x}\text{F}_2$ melts – *10/03/2010*
- The high temperature heat capacity of the $(\text{U,Th})\text{O}_2$ solid solution – *10/03/2010*
- The low temperature heat capacity of the Li_3ThF_7 and $\text{Li}_7\text{Th}_6\text{F}_{31}$ compounds – *10/03/2010*
- Determination of anions in uranium ore concentrates by ion chromatography – *15/03/2010*
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- Synthesis and characterization of poly-metallic actinides complexes – *31/03/2010*
- Thermodynamic properties of mixed oxide solid solutions – *31/03/2010*

The JRC Newsletter is a bi-monthly publication intended to provide JRC customers, stakeholders and other interested parties with an overview of recent highlights from the JRC's scientific achievements, policy support, contributions to events and other news.

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