

LESC NEWS

Standing Committee for Life, Earth and Environmental Sciences (LESC)

Editorial: Global change, a joint challenge for science and society

The Copenhagen Summit on climate change, held at the end of 2009, apparently did not bring about any precise and legally binding commitment on the reduction of the human impact on the global environment. However, it is equally fair to recognize that, for the first time, almost all the Heads of States and representatives of the countries there convened, including all the industrialized nations and the major, emerging economies of the world, agreed that “climate change is one of the greatest challenges of our time” and that “deep cuts in global emissions are required according to science”. Moreover, “adaptation to the adverse effects of climate change” as well as the crucial role of reducing emissions from deforestation and forest degradation and the need to enhance removals of greenhouse gases by forest ecosystems were clearly recognized and stated in the Copenhagen Accord.

On the other hand, 2010 has been declared the International Year of Biodiversity and many important events have been organized and are scheduled throughout this year to remember and spread the information about the vital role of diversity for the survival of the Biosphere.

These important events, occurring at the transition between these two years, call for an even increasing role and growing responsibility of the scientific community towards a better comprehension of the processes and factors at the base of the impacts of and vulnerability to the wide syndrome affecting the Earth system, called global environmental change. At the same time the scientific world is called to a major, unprecedented endeavour to contribute to design the intervention strategy to tackle these awesome challenges that are facing human society.

The role clearly attributed by the Copenhagen Accord and also by the Biodiversity Convention to forest ecosystems, is only one example of the vast potential still retained by the biosphere for mitigating and adapting to the alteration of the environment caused by human activities;

other possible applications of ‘geo-engineering’ or ‘global sustainability research’ include soil management for carbon sequestration and fertility conservation; bioenergy production; application of plant and microbial systems for pollutants removal from the air, water or soil; and also using carefully tailored, innovative agro-forestry techniques for harvesting water in the arid zones, while contributing to food security and striving to improve climate at local and regional scales.

The ESF-LESC Science Position Paper clearly identified the urgent need for more integrative and multidisciplinary scientific information, over an entire *continuum* of temporal and spatial scales, to develop science-based mitigation and adaptation strategies. A wide range of ESF instruments have been and, even more so in the future, will be put into action towards this aim: Exploratory Workshops, Research Networking Programmes, EUROCORES Programmes and Forward Look initiatives.

Among the latter, the RESCUE Forward Look has been recently launched jointly by ESF (LESC-led) and several COST Scientific Domains, in collaboration with other scientific institutions such as IGBP - International Geosphere Biosphere Program and ICSU - International Council for Science, to address the societal and scientific challenges related to environmental change, including its human dimensions, and help stimulate an integrated response from natural, social and human sciences. Therefore, science and society should act closely together to adequately address the societal and scientific challenges related to global environmental change; the next 5 to 10 years will be crucial, requiring a major effort by the global scientific community to cope with the change that we have not yet managed.



Professor Giuseppe Scarascia-Mugnozza

Italian representative on the LESL Standing Committee and member of the Core Group

Looking ahead to LESC's Future Strategy and Impact in the European Research Area and Globally



As I start my mandate as the head of life, earth and environmental sciences, I would like to emphasize my priorities for the coming year. The publication of the LESC Strategic Science Position Paper last year was a major effort and

step forward in identifying priority science topics that need attention. My intention is to ensure that steps are taken to implement this strategy with a strong visibility and connection with important stakeholders such as the European Commission, the European funding agencies and important international partners in North-South America, Russia, and South East Asia. As part of this implementation planning, a first brainstorming meeting will take place in Paris on 15 March to design a roadmap that we can use to clearly implement concrete strategic actions linked to the dedicated strategic science budget.

It is clear that we need to reach out in Europe and globally to ensure that strategies can be formulated which enhance the life, earth and environment Sciences in the context of strengthening the European Research Area. This year we have an exciting portfolio of new funding initiatives (EUROCORES) and networking activities across LESC covering also new areas such as solar energy. I feel confident that through the active work of the standing committee and the unit in Strasbourg we can achieve a much higher degree of political visibility and contribute directly towards the formulation of research, environment policies at the European level. My goal is to ensure that the ESF Member Organisations and the science communities benefit through direct and tangible coordination outputs from

the investments that they make in LESC and ESF. LESC is positioned to make a significant impact on the critical areas for European society. Cost-effective clustering of science programmes, promoting inter-disciplinarity and excellence in science and its impacts on society in terms of economic and sustainable development will be all issues to address in the coming phase of development.

I warmly thank Arja Kallio for her substantial work and public service in developing and managing LESC for the last three years and I look forward to developing with our wide array of partners a new and visible role for LESC in the European Research Area over the coming years.

Dr. Paul Egerton
Head of LESC unit

Congratulations

We warmly congratulate the LESC chair, Professor Reinhart Ceulemans, who not only became a member of the Royal Academy for Sciences and the Arts of Belgium as of December 2009, but will also receive an honorary doctorate degree (Doctor *Honoris Causa*) from the Mendel University in Brno, Czech Republic, on 27 April 2010.

LESC Standing Committee & Core Group meetings

The LESC Standing Committee (LESC) and Core Group met in Strasbourg on 4-6 November 2009. The main operative task was to rank the Exploratory Workshop proposals. Out of the 307 proposals 62 were in LESC's remit. The final outcome, decided at a following meeting of the chairs of the standing committees, was that 10 out of the LESC 'recommended for funding' list were funded. New procedures to select the best proposals had been tested for the first time with the members of the standing committees more involved in the process than previously; the new system seemed to work very well.



Dr. Marc Heppener, ESF director of science and strategy development, spoke about ESF strategic issues and the new, important *EUROHORCS and ESF Vision on a Globally Competitive ERA and their Road Map for Actions*. This led to fruitful discussions

concerning the preparation and approval of the paper and to the possible contribution of LESC to the road map actions.

LESC follows the work accomplished in Research Networking Programmes by inviting the chairs to present their mid-term reports and the planned activities for the continuation of the programme. Two Research Networking Programmes were presented this time: Thermal Adaptation in Ectotherms (ThermAdapt) by Professor Wolf Blanckenhorn and Body-size and Ecosystem Dynamics (SIZEMIC) by Professor Richard Law. Both reports were approved and some advice was given to the chairs.

LESC discussed also its strategy in 2010 and the use of the strategic budget. It decided to hold a brainstorming meeting in Paris in early 2010 to plan how to best implement the *LESC Strategic Science Position Paper: the View Ahead*.

Many changes have happened in the LESC unit and many standing committee members were due to leave LESC at the end of 2009. The chair thanked all members for their devoted contribution, which is essential for the high quality work of LESC.

International and European Biodiversity Focus



Biodiversity is life
Biodiversity is our life

International Year of Biodiversity

The United Nations declared 2010 the International Year of Biodiversity (IYB). Throughout the year, countless initiatives will be organized to disseminate information,

promote the protection of biodiversity and encourage organisations, institutions, companies and individuals to take direct action to reduce the constant loss of biological diversity worldwide. The celebrations for the International Year of Biodiversity are led by the Secretariat of the Convention on Biological Diversity (CBD). As stated by the convention, "In a world of increasing globalization and environmental degradation, management of its most precious living resource, biological diversity, is one of the most important and critical challenges facing humankind today. Biological diversity is the resource upon which families, communities, nations and future generations depend. It is the link between organisms, binding each into an interdependent community or ecosystem in which all living creatures have their place and role. It is the very web of life".

Biodiversity has been identified as a priority area in the LESC position paper 2010-2014. The LESC Standing Committee will meet in Paris on 15 March to discuss plans for implementation of new initiatives.

BiodivERsA

BiodivERsA, an ERA Net (European Research Area) involving 19 major research funding agencies from 15 countries in Europe with significant research funding in the field of terrestrial, freshwater and marine biodiversity, has engaged in joint activities to support transnational biodiversity research. The first joint call published in November 2007 was the result of two years of sharing best practice and collective thinking. The call aimed to support projects addressing issues of European scale and relevance, combining scientific excellence and high relevance to policy and practice. With €21M, the funding partners leveraged an unprecedented amount for transnational biodiversity science. After peer-review in 2008, BiodivERsA members have strong expectations from the projects which were funded in 2009 through this call and intend to follow up closely on their outcomes. The partners of BiodivERsA jointly submitted a proposal BiodivERsA2 to the FP7 ERA Net call in January 2010.

The BiodivERsA1 Final Conference was held on 9-10 March 2010 in Paris. Due to a delayed start, most of the funded projects will run until 2013-2014. Although the EC contract expires in April 2010, the participating funding organizations are looking for ways to monitor the current projects and launch a second jointly

funded call for proposals on ecosystem services.

www.eurobiodiversa.org

Latsis Prize

The European Science Foundation (ESF) invites nominations for the European Latsis Prize 2010.



The Prize, of a value of 100 000 Swiss Francs, is presented each year by the International Latsis Foundation at the ESF Annual Assembly to a scientist or research group in recognition of outstanding and innovative contributions in a selected field of research. The research field for the 2010 Prize is 'Biodiversity'.

The deadline for submission of nominations is 30 June 2010.

<http://www.esf.org/latsis>

Foresight activities

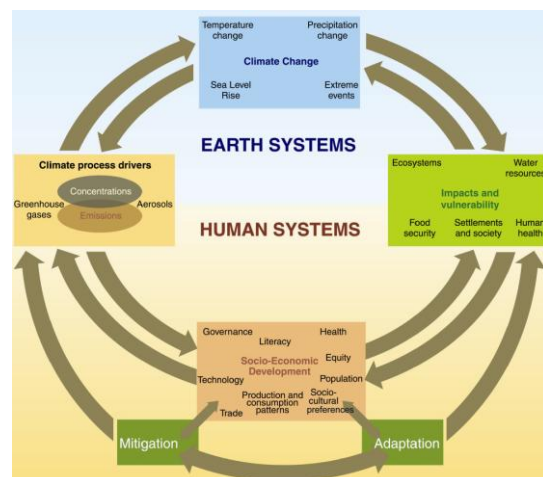
RESCUE

After the Launching Conference held in September 2009, a joint Scientific Steering Committee + Quality Reference Group meeting took place on 14 January 2010, where it was decided that, in order for RESCUE to identify the most important, new, neglected and emerging research questions at the European level, a Delphi consultation should build on the vision document *Grand Challenges in Global Sustainability Research*, currently being developed by the International Council for Science (ICSU). The Delphi process has two rounds; the first round was completed in February, and the second round will take place

before the end of March. The identification of important test cases / questions for RESCUE will also benefit from existing strategy documents already highlighting science priorities in this area that ESF Standing Committees and Member Organisations have recently developed. A task force is expected to finalise the list of priority research questions in the field of global change research during early May.

In addition, four RESCUE Working Groups (WGs) are focusing on:

- (1) how to improve the collaboration of human, social and natural sciences, as is crucially needed to organise, perform, evaluate and promote research in the RESCUE remit
- (2) what is needed in terms of methodology and data from different disciplines, to be able to do interdisciplinary research in the RESCUE remit
- (3) in what way should education and capacity building be changed in order to enable interdisciplinary research in the RESCUE remit, and
- (4) how should the interface between science and policy and the related communication channels be, so as to improve the quality and impact of research in the RESCUE remit.



On 16 June 2010, the Alignment Workshop will be held in the EC-JRC Institute for Environment and Sustainability, Ispra (IT), bringing all WG participants together with the QRG members, and on 7-9 December 2010, the Consensus Conference will bring together the RESCUE community and key stakeholders. The final report and Science Policy Briefing should be published around March 2011.

www.esf.org/rescue; fl-rescue@esf.org

Science Policy activities

The ESF Science Policy Briefing (SPB) *Impacts of Ocean Acidification* published in August 2009 will be presented during the European Maritime Day 2010 (Gijón, Spain, 20 May), within the session entitled 'Climate Change in coastal and marine areas: from science to policy'. Two speakers who were among the authors of the SPB will introduce this document to the audience:

Dr. Carol Turley (microbial ecologist, Plymouth Marine Laboratory, UK), will cover a basic introduction to Ocean Acidification and the potential consequences on marine organisms, foodwebs and ecosystems, and the efforts needed at the science-policy interface on this issue. Professor Katrin Rehdanz (professor of environmental and resource economics, Kiel Institute for the World Economy, DE), will cover the socio-economic consequences and need for further cooperation between scientists in natural and social sciences in order to properly and integrally evaluate the Ocean Acidification impacts on natural resources and related services.

Ocean acidification is the hidden partner of climate change, as it induces a reduced CO₂ absorption in the oceans that contribute to irreversible (at the human timescale) changes in ocean chemistry, with yet fully clarified and evaluated – potentially damaging – implications for marine ecosystems and fisheries resources and the human communities that rely on them.

www.esf.org/oceanacidification-strategic-ws



Lophelia pertusa – a cold-water (4–13°C) reef-forming coral which lives in deeper water (typically 200–1000 m) than its better known tropical cousins. *Lophelia pertusa* are widespread across all oceans and they and other calcareous organisms, are threatened by ocean acidification.

Photo: P.B. Mortensen, Institute of Marine Research, Norway

The European Maritime Day is the annual EU event organised to pay tribute to 'maritime Europe' and put all maritime sectors and activities in the spotlight to help European citizens and policy-makers realise the real outreach and variety of sea-related activities going on in Europe and provoke reflection on the crucial role the seas play in our everyday life.

<http://ec.europa.eu/maritimeaffairs/maritimeday/>

2010 Call for ESF Exploratory Workshop proposals

Each year, ESF supports approximately 50 Exploratory Workshops across all scientific domains. These small, interactive group sessions are aimed at opening up new directions in research to explore new fields with a potential impact on developments in science. The workshops, which usually last 1-3 days, have a wide participation from across Europe and involve mature scientists as well as young, independent researchers and scholars with leadership potential. The relatively small scale (in terms of people involved) provides an ideal platform for focus on the topic and for all participants to contribute to discussions and plan follow-up collaborative work. Interdisciplinary topics are greatly encouraged.

The 2010 call for Exploratory Workshops proposals - aimed at events to be held in 2011 - is now open, with a deadline for submitting proposals of 29 April 2010, 16:00 CET.

www.esf.org/activities/exploratory-workshops

EUROCORES News

Call for Theme Proposals

The ESF is inviting well developed ideas (theme proposals) for the creation of new EUROCORES Programmes with the deadline of 21 May 2010 (12:00 CET).

The call for theme proposals as well as general information on the EUROCORES scheme can be found at:

www.esf.org/eurocores

TOPO-EUROPE Heidelberg Meeting

The 5th TOPO-EUROPE workshop took place in Heidelberg from 15-17 October 2009. Whilst this event was kindly sponsored by *Academia Europaea*, this meeting provided a substitute for the annual programme-wide conference with all 10 collaborative research projects in the TOPO-EUROPE EUROCORES presenting at the workshop. Presentations at the workshop focused on the effects that the deep Earth, surface and atmospheric processes have on topography. As topography is generally determined by a mixture of these processes, many presentations discussed the competing effects of these processes as well as the relationships between them.

Europe, with its rich geology proves an ideal laboratory for studying these different processes with TOPO-EUROPE research covering a wide range of locations in Europe. This ranged from Scandinavia to the Mediterranean and the Pyrenees to the Anatolian plateau/plane.

Up and coming projects and initiatives which are highly complementary to TOPO-EUROPE were also presented at the meeting such as EPOS (European Plate Observing System) and TOPO-WECEP (West and Central European Platform Natural Laboratory of TOPO-EUROPE). Indeed, Sierd Cloetingh, the chair of the scientific committee for the TOPO-EUROPE EUROCORES noted, "the TOPO-EUROPE EUROCORES provides a stimulus for realizing the ambitions of TOPO-EUROPE at large."

A post-workshop fieldtrip was undertaken looking at how geology and geomorphology play a role in the local economy of the Upper Rhine Graben in which Heidelberg is located.

www.esf.org/topoeurope



In mid 2009, six collaborative research projects started under the EuroMEMBRANE programme. They involve about 30 individual

research teams and ten associated partners from twelve countries. A large variety of topics is covered from spatio-temporal organization of the synaptic membrane, lipid-protein and sterol-sphingolipid-protein interactions, oxidized phospholipids, to the role of phosphor-inositide pools in signalling, and non-conventional protein secretion.

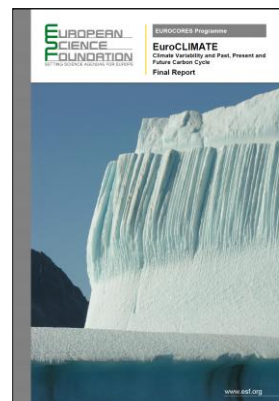
As was realised at the eve of the programme, the field is rapidly changing and new tools such as mass spectroscopy and sophisticated imaging methods are being introduced. This means that networking leading groups around Europe will rapidly disseminate the new technologies to assess their value for the field. The programme answers the need for bundling the necessary expertise by tapping strengths Europe-wide.

At this stage of the programme, the scientific committee decided to invest in building the bridges between the funded collaborative research projects by organising a kick-off meeting for all teams. This will enable them to develop future outward-looking initiatives that build on the collective efforts and expertise within the programme.

The meeting is scheduled for 7-8 April 2010 in Heidelberg.

www.esf.org/euromembrane

EUROCLIMATE



The EUROCLIMATE final report is now electronically available. The programme supported research addressing climate variability of the past, present and the future and, in particular, its inter-relationship to global carbon cycle dynamics. Each of the nine colla-

borative research projects that constituted the EUROCLIMATE programme dealt with different aspects of the complex theme. Some concentrated on methodological advances whereas others focussed on reconstructing climate-biosphere and climate-carbon cycle interactions at various time and spatial scales. As a result of this, research new proxies have been developed, the absolute chronology based on tree rings has been extended and coupled to ice-core archives. However, one of

the most significant achievements, according to Jelle Bijma, the chair of the EUROCLIMATE Scientific Committee, has been the fact that “data producers and modellers are becoming close collaborators, and that contacts between the terrestrial and marine scientists have been firmly established”.

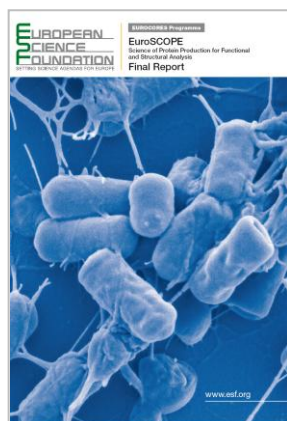
www.esf.org/euroclimate

EuroDIVERSITY final report

The EUROCORES Programme EuroDIVERSITY-Challenges of Biodiversity Science came to an end in early 2010. The programme was launched in 2006 and aimed at resulting in new tools and strategies for the conservation, restoration and sustainable use of biodiversity. The programme had a strong focus on generalisations across particular systems and on the generation and validation of theory relevant to experimental and empirical data. The 10 collaborative research projects, in total with over 120 scientists taking part in the programme, contributed to this goal by initiating or strengthening major collaborative research efforts across Europe and worldwide. The final report with the impact assessment of this EUROCORES will be finalized and published probably in April 2010.

www.esf.org/eurodiversity

EuroSCOPE final report



EuroSCOPE was one of the early EUROCORES Programmes to be launched. The programme addresses the science of protein production for functional and structural analysis. In terms of scientific achievements, the EuroSCOPE Programme delivered a series of valuable

outputs. As a main highlight, the review panel mentioned the optimisation of *B. subtilis* production system for efficient expression of complex membrane proteins. The programme allowed a number of European scientists to maintain and extend their leadership in the field of *B. subtilis* research. Moreover, the consortium demonstrated its ability to create synergism by bringing together complementary

funding schemes from across Europe. The proof of principle for the use of the *Picchia pastoris* system for improved production of complex proteins was delivered. As an important spin-off from the programme, the review panel mentioned the possibility of ‘knowledge transfer’ to industrial partners in relation to the hypoxic batchfed system. A novel chaperone required for specific protein complex assembly was identified, underlining the need for the identification and potential exploitation of specialised cellular components in some cases. For the whole programme, transnational scientific collaboration was demonstrated by a respectable list of high-quality co-authored research publications.

www.esf.org/euroscope

New EUROCORES Programmes 2010

ESF has secured financial commitments from interested funding organisations for the three EUROCORES themes in the LESC domain. The viability of the programmes was endorsed by the Scientific Advisory Board and the ESF Chief Executive Officer subsequently decided to launch the calls on 25 January 2010:

a) Molecular Science for a Conceptual Transition from Fossil to Solar Fuels – EuroSolarFuels

The aim of EuroSolarFuels is to develop molecular science to produce a CO₂ lean solar fuel to accomplish the grand challenge of phasing out fossil fuels. A key word in the research is solar energy conversion. All parts of the programme aim for direct conversion of solar energy to chemical energy (a fuel).

Project proposals formulated in response to this call should address the general objectives outlined above. The focus should be on the following topics:

- (i) Photobiological solar fuel production in green algae and/or cyanobacteria that excrete the fuel;
- (ii) Artificial photosynthesis in molecular systems;
- (iii) Solar fuel production in nanostructured and semiconductor-based systems.

The deadline for submission of outline proposals is Friday 26 March 2010, 12.00 CET.

Contact: Paul Beckers; eurosolarfuels@esf.org

www.esf.org/eurosolarfuels

b) European Trans-Atlantic Coral Ecosystem Study – EuroTRACES

EuroTRACES considers the great advances of the last ten years in the understanding of coldwater corals as significant ecological 'engineers' on the continental shelf, offshore banks, seamounts and canyons and aims to examine the connectivity, ecology, biodiversity and palaeoceanographic archives of Atlantic deep sea coral habitats to retrieve information on the variability of important ocean properties during past periods of climate change.

The EuroTRACES Programme will cover the following topics and overarching issues:

1. Ecosystems research: factors impacting the dispersal and exchange of corals; distribution and dynamics of coral species; coral habitats; genetic connectivity studies; biodiversity and biogeography of coral communities; coral biology;
2. Climate records research: impact of climate changes and of changing oceanic circulation on corals and on their associated fauna;
3. Mapping and habitats: development of a database of cold-water coral records in the Atlantic Ocean;
4. Oceanography and food supply: mechanisms of transport or organic matter and impact on coral reefs;
5. Maritime policy relevant to cold-water coral conservation.

The deadline for submitting outline proposals is Friday 26 March 2010, 12:00 CET.

Contact: Dr. Paola Campus;
eurotraces@esf.org; www.esf.org/eurotraces

c) Ecology of Plant Volatiles, from Molecules to the Globe – EuroVOL

EuroVOL will help understand synthesis and emissions of Biogenic Volatile Organic Compounds (BVOC), from leaf to globe; and consequences of BVOC emissions, from individuals to communities. Such knowledge will comprise different levels that range from genetic regulation of BVOC synthesis, BVOC biochemistry and physiology to the ecological role of BVOC and to the interactions of BVOC with atmospheric and biogeochemical cycles. The EuroVOL programme will cover the following topics:

1. The short vs. long-term control of environmental factors on BVOC emission;
2. The role of BVOC in plant protection against environmental abiotic stresses;

3. A new class of stressors: anthropogenic pollutants and BVOC;
4. Global change influences on BVOC emission;
5. BVOC-mediated plant communication in the trophic webs and in a changing environment;
6. Land use change impact on BVOC emission;
7. Modelling BVOC and BVOC effects on past atmospheric chemistry and climate.

The deadline for submitting outline proposals is Friday 26 March 2010, 12:00 CET.

Contact: Dr. Bernard Avril; eurovol@esf.org

www.esf.org/eurovol

Research Networking Programmes (RNPs)

European Networking Summer School (ENSS): Plant Genomics & Bioinformatics

Plant genome research has developed into one of the most dynamic disciplines of molecular life sciences. Overall, this research field aims at providing detailed and comprehensive knowledge on the molecular processes that underlie all aspects of plant life. This involves associating biochemical function of specific gene products with processes of plant metabolism, growth and development, as well as with processes related to the complex interaction between plants and the environment.

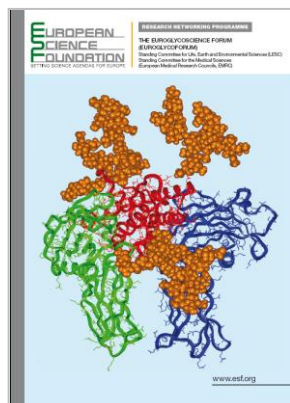
Plants are recognised as the basis of a bio-based economy and play a fundamental role in sustaining our environment. In September 2007 the European Science Foundation launched the Research Networking Programme *European Networking Summer School (ENSS): Plant Genomics & Bioinformatics*. The objective of this networking programme is to train young investigators and promote the transfer of knowledge and technology at the European level within the plant genome research field.

The first ENSS summer school entitled *Plant Bioinformatics, Systems and Synthetic Biology* was held at The University of Nottingham, UK, in 2009. The focus of this school was to introduce cutting-edge research in bioinformatics, systems and synthetic biology

as it applies to plant biology. In 2010, the summer school entitled *ENSS 2010 – Plant Epigenetics* will be held in Gatersleben, Germany, with a thematic focus on how different epigenetic mechanisms regulate gene expression. Furthermore, the ENSS Steering Committee will meet in the spring of 2010 to decide on the future activities of the programme, among which several applications for the 2011 summer school shall be discussed. In April 2010, the ENSS Programme is scheduled to present its mid-term report at the LESC Standing Committee meeting in Ankara, Turkey.

www.esf.org/enss

EuroGlycoScience Forum



The EuroGlycoScience Forum Research Networking Programme (2009-2014) recently held its 2nd steering committee meeting in Lisbon, Portugal. Glycoscience is a term used to describe all the areas which relate to complex carbohydrates, their synthesis and biosynthesis, analysis, function and applications. A significant number of European laboratories are being considered to be at the forefront of current glycoscience research. Whilst important discoveries have been made in the individual disciplines of glycoscience, it is generally recognised that future successes will rely on large interdisciplinary consortia with sufficient tools and resources to address the complex questions that lie ahead.

There are several 'glycoscience' related initiatives throughout Europe at the present time, but it is felt that these would benefit from a coordinated approach. Such coordination has been very beneficial in the US through the formation of the Glycomics Consortium.

In its five-year funding period (2009-2014), the EuroGlycoScience Forum aims at providing a resource for information and training in all aspects of glycoscience. It would like to play a role in fostering international links with other groups such as those throughout Europe, the USA, and Japan. It is envisaged to promote scientific meetings in glycoscience and its applications. The forum will try to act as a

catalyst for multidisciplinary collaborations that will facilitate ambitious research programmes to keep the European community at the forefront in the field of glycosciences and related areas. In that sense it will team up with the interest groups that are established under the UK based charity called EuroGlycoSciences Forum. An interactive website has been built (<http://www.egsf.org/>) to identify resources in all areas of glycoscience throughout Europe and to make a comprehensive list of these. The same web site will also have an area dedicated to discussion which will be moderated and supported by the EuroGlycoScience Forum RNP. Finally, it will investigate further sources of funding for glycoscience.

www.esf.org/glycoscience

Tall Tower and Surface Research Network for Verification of Climate Relevant Emissions of Human Origin in Europe (TTorch)



The Scientific Steering Committee of TTorch is pleased to announce the publication of its Research Network Programme brochure. The main aim of TTorch is to support and help improve the European network of observations of non-CO₂ greenhouse

gases through communication, workshops, grants for exchange visits and summer schools. TTorch will concentrate on supporting the following scientific areas:

- measurement techniques for atmospheric non-CO₂ greenhouse gases and related tracers;
- quality and traceability of atmospheric measurements;
- interpretation of measurement data;
- inverse atmospheric transport modeling;
- estimation of fluxes;
- detection of trends in concentrations and emissions.

One of TTorch's main objectives will be to create a uniform database for atmospheric measurement data.

www.ttorch.org and www.esf.org/ttorch

Changes in LESC Unit

Farewell



I have now returned to my home organisation, the Academy of Finland, after working in ESF for 3½ years as head of the LESC unit. It was a very interesting and challenging time of my life and I enjoyed it very much. I really liked the work, people and the city

of Strasbourg. I learned a lot and hopefully managed to bring in some good ideas like starting up this LESC News! During my stay, LESC was particularly active in many strategic issues, such as foresight activities and policy briefings which was the goal from the beginning. I learned to know about various ESF Member Organisations and COST, which helps me to be successful in my current job in the International Unit of the Academy.

I cordially thank the LESC Standing Committee, especially the Core Group and the LESC unit for their everlasting support and Great Spirit which made my stay such a pleasant one. I wish all the best for all friends of Life, Earth and Environment.

Dr. Arja Kallio
Head of LESC unit 2006-2009



Farewell also to junior science officers Haimanti Bhattacharya and Shane Murphy, who left ESF in December and January respectively after several months of service. Haimanti has returned to Berlin, where she is enjoying life with her new-born son, and Shane has returned to research work at University College Dublin. We wish them every success in the future.

Welcome



Paola Campus joined the LESC unit at the end of January 2010 as science officer. Paola has a degree in physics and holds a Ph.D. in geophysics of the lithosphere and geodynamics. For eight years she

collaborated with various Universities across Europe, dealing with seismology and volcanoes. On 1999 she joined the Comprehensive Test-Ban-Treaty Organization (Vienna), first as infrasound officer and, later, as project manager of the Acoustic Monitoring Project, focussing her activities on infrasound technology. Paola will deal with EUROCORES Programmes, Research Networking Programmes and ESF instruments' review processes.

Forthcoming meetings

March – August 2010

- **FFG** Workshop: **FFG - Visualizing Biological Data**
3-5 March - Heidelberg (DE)
- **Natural Resources for Innovative Design**
ESF Exploratory Workshop
3-6 March – Eindhoven (NL)
- **FUNCDYN** School: **Simulation tools applied to calcium dynamics**
14-19 March – Heidelberg (DE)
- **NinE** Workshop: **Improving temporal profiles of agricultural ammonia emissions – a case study for the UK with the EMEP4UK atmospheric dispersion model**
16-18 March – Edinburgh (UK)
- **FFG** Conference: **Daphnia Genomics Consortium Meeting**
28 March – 1 April – Leuven (BE)
- **EuroMEMBRANE** Conference: **EuroMEMBRANE Meeting**
6-8 April – Heidelberg (DE)
- **ThermAdap** Conference: **Adaptation to environmental variability in natural populations**
11-14 April – Sandbjerg (DK)
- **FFG** School: **FFG - Sample preparation and data validation in proteomics**
12-16 April – Warsaw (PL)
- **FFG** Conference: **FFG: 4th ESF Conference on Functional Genomics and Disease**
14-17 April – Dresden (DE)
- **EUROGLYCOFORUM** Workshop: **Current Perspective of Glycoarrays**
18-20 April – Groningen (NL)
- **B Cells and Protection: Back to Basics**
ESF-EMBO Symposium
18-23 April – Sant Feliu de Guixols (ES)
- **FFG** Workshop: **FFG - Novel Approaches in Protein Engineering**
23-25 April – Istanbul (TR)
- **Socio-Economic And Environmental Implications Of Energy Crop Production In Europe – So Little Land So Many Services**
ESF Exploratory Workshop
26-28 April – Dublin (IRL)
- **EuroTRACES** Review Panel Meeting
27 April - Strasbourg (FR)
- **EuroMARC** and **EuroDEEP** Sessions: **EGU General Assembly 2010**
2-7 May – Vienna (AT)
- **TOPO-EUROPE** Scientific Committee
5 May 2010 – Vienna (AT)
- **Magellan** Workshop: **Volcanic basins: scientific, economic and environmental aspects**
8-10 May – Vienna (AT)
- **Application Of Non-Traditional Stable-Isotope Systems To The Study Of Sources, Fate And Impact Of Metals In The Terrestrial Environment**
ESF Exploratory Workshop
10-12 May – Toulouse (FR)
- **RNAQuality** Conference: **Second RNAQuality Conference**
10-13 May – Vienna (AT)
- **Archaeology Of Sheep Domestication: New Approaches**
ESF Exploratory Workshop
17-18 May – London (UK)
- **MOLTER** Workshop: **A prototype for a MOLTER (MOlecular structures as drivers and tracers of TERrestrial C fluxes) database**
19-20 May - Ås (NO)
- **MedCLIVAR** Conference: **Hydrological, socioeconomic and ecological impacts of the North Atlantic Oscillation in the Mediterranean region**
24-27 May – Zaragoza (ES)
- **EuroDEEP** Scientific Committee Meeting
5 June – Reykjavik (IS)
- **EuroDEEP** Conference: **EuroDEEP Final Conference**
6 June – Reykjavik (IS)
- **EuroDEEP** Conference: **Deep Sea Symposium**
7-11 June – Reykjavik (IS)

- **Self-Organized Ecogeomorphic Systems: Confronting Models With Data For Land-Degradation In Dryland**
ESF Exploratory Workshop
7-10 June – Potsdam (DE)
- **TTORCH Conference: **Symposium on Atmospheric Chemistry and Physics at Mountain Sites****
8-10 June – Interlaken (CH)
- **Exploring Epistemic Shifts In Computer Based Environmental Sciences**
ESF Exploratory Workshop
10-12 June – Aarhus (DK)
- **Global Change Research II: Environmental Crisis, Energy Issues and Global Regulation Policies**
ESF-FMSH Entre-Sciences Conference in partnership with UPCAM
11-16 June - Ile de Porquerolles (FR)
- **Organic Bioelectronics**
ESF Exploratory Workshop
14-16 June – Trento (IT)
- **RESCUE Workshop: **RESCUE Alignment Workshop****
16 June – Ispra (IT)
- **FFG Conference: **FFG - Systems Biology and New Sequencing Technologies International Meeting (SBNST)****
16-18 June – Barcelona (ES)
- **FFG Conference: **FFG - 10th International Gene Forum 2010****
18-19 June – Tartu (EE)
- **Marine Biotechnology: Future Challenges**
ESF-COST High-Level Research Conference
20-25 June - Acquafredda di Maratea (IT)
- **New Approaches To Horizon Scanning For Emerging And Infectious Viruses In Europe**
ESF Exploratory Workshop
6-8 July – Egham (UK)
- **Genotype By Environment Interactions In Sexual Selection**
ESF Exploratory Workshop
11-13 July – Falmouth (UK)
- **EUROGLYCOFORUM**
Conference: **Sialoglyco 2010**
21-26 August – Potsdam (DE)

- **LESC brainstorming workshop for implementation of LESC Science Position Paper**
15 March – Paris (FR)
- **LESC Core Group meeting**
12-13 April – Ankara (TR)
- **LESC Standing Committee meeting**
13-14 April – Ankara (TR)
- **LESC/COST Synergy meeting**
28 May – Brussels (BE)
- **LESC Core Group & Round Table meetings**
16-18 June – Istanbul (TR)

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