

LESC NEWS

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

Editorial: Towards a European Union of scientists

The list of awardees of the ERC 2007 Starting Independent Grants competition gives an important insight into geographic distribution of the most outstanding young European researchers and their host institutions. I bet Poland was the only European country, where the results of the competition were hotly debated, not only within the scientific community, but also on the front pages of the largest newspapers. And this was not because of an exceptionally high success rate of Polish scientists. On the contrary, there were no Poles among the awardees, which sparked another bitter discussion on the condition of Polish science.

Poland is a good example of the plethora of problems faced by scientific communities of new member states of the European Union. Although their overall share in numbers and quality of scientific publications is increasing, they are still far from the average scientific productivity of the "old" 15 EU member states. This is also reflected in the number of applications and their success rate in ESF calls. For example, in the last round of selection of Exploratory Workshops carried out by LESG, only 4 out of 50 proposals came from new member states, and only one of them ended up among the 16 recommended for funding. What are the causes of the still lower than satisfactory visibility and productivity of East European science?

The simple answer is lack of money. Taking Poland again as an example, it is difficult to expect high scientific activity in the country allocating a mere 0.3% GNP to scientific research. But the shortage of funds is not the only problem. Although various mutations of peer-reviewed systems of awarding research grants have already become national standards in new member states, rigid and often outdated structures of scientific hierarchies still do not promote the best, young researchers. The shortage of mechanisms boosting truly European-wide networking is another paramount obstacle slowing the process of upgrading of East European science.

Unfortunately, the cumbersome and bureaucratic nature of the Framework programmes does not aid this process. This role should be played by ESF. ESF needs scientists from new member states, but they need ESF even more, because ESF offers much more streamlined funding for networking than Framework programmes. And without effective networking our dreams of a European Research Area will never come true.



**Professor Marek
Konarzewski**

Polish representative on
the LESG Standing
Committee and member
of the Core Group

LESC-COST Synergy 2008 – *make it happen*

On 14 February, members of the LESG Core Group and the LESG Unit met with COST Domain Chairs and COST Science Officers in Strasbourg to look into possibilities of future LESG-COST synergy activities. As a result, both parties agreed to support a COST-LESC workshop on "Developing methodologies/frameworks for marine model Quality Assurance, including data requirements". Moreover, the need for strategic priorities within and across scientific disciplines was clearly emphasized. To this end, several participants highlighted the Forward Look on "European Food Systems" as a successful example of a joint LESG-COST action with multidisciplinary character. In order to develop a long-term strategy, priorities within COST and LESG will be mapped out during the next months and topics of common interest identified. As a first attempt, a proposal developed by the LESG Science Team for a jointly organized meeting - a LESG-COST Frontiers of Science event - on the topic "Complex Systems and Changes: Water and Life Cycles" was discussed. This topic was identified as an innovative approach and also a common denominator across the disciplines covered by LESG and COST. The



Some participants from the COST Office

ambition is to establish an annual series on “Complex Systems and Changes”, each year with a different focus.

Finally, a jointly organised LESC-COST special session entitled “European Cooperation in Geosciences and Environmental Sciences: ESF & COST opportunities” will take place during the 2008 General Assembly of the European Geosciences Union (EGU) – see p.3.

The NinE RNP and COST Action 729 set the pace for a Task Force on Reactive Nitrogen

A step towards integrated nitrogen policies



Human perturbation of the nitrogen cycle is a major societal threat with impacts on a wide range of global change issues from climate change and air quality to water quality and biodiversity. Our food production and energy use leads to many diffuse nitrogen leakages which serve as the start of a fast growing cascade of effects. Much is already known about nitrogen and its transformations in the environment. However, the complexity and extent of the interactions mean that current scientific understanding and policy making has become separated into several parallel streams. Under the UNECE Convention on Long-Range Transboundary Air Pollution, a Task Force on Reactive Nitrogen (TFRN) has

been established which will be the policy framework for dealing with the nitrogen cascade in Europe. It is the first official body that will engage with other policy areas related to nitrogen developing technical and scientific information and options which can be used for strategy development across the UNECE, catalysing a more integrated approach of mitigating nitrogen.

The Task Force results from the efforts of two networking programmes on integrated nitrogen: the COST Action 729 on *Assessing and Managing Nitrogen Fluxes in the Atmosphere-Biosphere System in Europe* and the ESF Programme: *Nitrogen in Europe (NinE): Current Problems and Future Solutions*. The next step for the ESF and COST programmes is to produce a European Nitrogen Assessment report that will address current nitrogen issues, the cascade effects and the interactions and feedbacks. It will provide valuable insight for governments and other stakeholders in the balance between the benefits of fixed nitrogen to society (fertilizer, food, fuel and energy), against the different adverse effects of excess nitrogen in the environment.

Dr. Jan Willem Erisman

Chair of the NinE RNP and COST Action 729

www.esf.org/nine and <http://cost729.ceh.ac.uk/>

LESC Core Group meets in Strasbourg

The LESC Core Group met at the ESF Headquarters in Strasbourg, France, on 15 February 2008.

In line with the ESF Strategic Plan 2006 – 2010 and the decision taken by the LESC Standing Committee at its October 2007 meeting, the LESC Core Group (CG) initiated three topical, strategic working groups along the three main topics: Life, Earth, Environmental sciences for the further strategic development of activities in LESC’s remit. They will focus on under-represented and emerging areas of LESC science where more or new research and European cooperation is needed. The LESC CG selected Josef Glössl – life sciences; Olgeir Sigmarsson – geosciences; Hefin Jones – environmental sciences to coordinate these working groups.

As the 2008 ESF Science Policy Conference to be held prior to the ESF General Assembly in

Stockholm, Sweden, will focus on the theme "Climate Change", the CG briefly discussed LESC's involvement in the planning of this event in cooperation with the Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning (FORMAS) especially.

Three preliminary, draft Forward Look proposals put forward by the Centre National de la Recherche Scientifique (CNRS), France were also discussed by the CG and the two proposals in LESC's remit, "Science and Society" and "Earth System Science Grand Challenge" were recommended for further development.



Strasbourg cathedral

LESC at EGU 2008

The European Geosciences Union (EGU) General Assembly annually brings together geo- and environmental scientists from all over the world into one meeting covering all disciplines of Earth, Planetary and Space Sciences. The EGU General Assembly 2008 will be held in Vienna, Austria on 14-18 April and ESF/LESC activities will be well represented.

Four LESC EUROCORES Programmes are organising topical open sessions:

- EuroCLIMATE - "Climate variability and the carbon cycle (past, present and future): multiproxy reconstructions and coupled climate models at European and regional scales"

- EURODEEP - "Ecosystem Functioning and Biodiversity in the Deep Sea"
- EuroDIVERSITY - "Biodiversity science in Europe: new tools and strategies"
- EUROMARC - "European Collaboration for Implementation of Marine Research on Cores"

An interdisciplinary Townhall meeting on "European Cooperation in Geosciences and Environmental Sciences: ESF & COST opportunities" is being organised under ESF/LESC-COST auspices on 15 April 2008. The importance of international, interdisciplinary cooperation in Geosciences and Environmental Sciences in Europe will be highlighted. Five scientific talks will give examples of activities recently developed within the ESF and COST frameworks. Two presentations on the instruments and opportunities for the European scientific community existing within ESF and COST will also be given.

During the EGU week, topical sessions/meetings will also be held in relation to the ESF/LESC Research Networking Programmes, ArchEnviron, MedCLIVAR, SIBAE and EPICA. In addition, the ESF and COST corporate presence will be reinforced throughout the week through two adjacent booths in the exhibition area.

<http://meetings.copernicus.org/egu2008>

EPICA wins Descartes Prize

The ESF-LESC European Project for Ice Coring in Antarctica, EPICA (1996-2006) Research Networking Programme is one of this year's winners of the Descartes Prize for Transnational Collaborative Research awarded by the European Union.



Dr. Arja Kallio, Prof. Marja Makarow with Dr. Eric Wolff (British Antarctic Survey), Prof. Hubertus Fischer and Prof. Heinrich Miller of the award-winning EPICA team

The EPICA Programme (www.esf.org/epica) made it possible for European scientists to drill and investigate two unique deep ice cores in Antarctica. One was collected at a site called Dome C, and the other at Kohnen research station in Queen Maud Land. At Dome C, ice was drilled out to a depth of 3270 m, providing the longest ice-core record yet and the longest undisturbed chronicle of environmental change (890 000 years of climate history).



(photo: Laurent Augustin, CNRS-LGGE, Grenoble, FR)

At Kohnen station, drilling was completed in January 2006, with high-temporal resolution down at a depth of 2774 m, representing 150 000 years, i.e., well beyond the last glacial maximum. Evaluation of these climatic and atmospheric records is providing information about the natural climate variability and mechanisms of rapid climatic changes during the last glacial epoch.

EPICA was a consortium of researchers from 10 European countries (Belgium, Denmark, France, Germany, Italy, Netherlands, Norway, Sweden, Switzerland and UK), supported nationally and by the European Commission, and coordinated by the ESF as a LESC Research Networking Programme (RNP). This prize comes at a very important time – during the International Polar Year (IPY) – whilst the attention of the public is drawn to the uniqueness of Antarctica and to the importance of climate change research.

It is a highlight for LESC that EPICA has been awarded the Descartes Prize. It shows that

getting the best scientists to work together for a common goal, as RNPs do, can result in such outstanding achievements.

New LESC Research Networking Programmes

The overall aim of Research Networking Programmes (RNPs) is to provide an umbrella for coordinated activities to bring together researchers, data and knowledge from past and ongoing European research projects in order to synthesise knowledge and improve collaboration. RNPs are funded *à la carte* by ESF Member Organisations interested in supporting those activities according to their strategic priorities and interests.

The following five new LESC-related RNPs have just been launched:

- Climatic change - Manipulation experiments in terrestrial ecosystems (CLIMMANI);
- Natural molecular structures as drivers and tracers of terrestrial C fluxes (MOLTER);
- Frontiers of Speciation Research (FroSpects);
- Evolution of Social Cognition: Comparisons and integration across a wide range of human and non-human animal species (CompCog);
- Functional Genomics in *Aspergillus Fumigatus* and New Strategies to Fight Against the First Fungal Pathogen in Europe (Fuminomics)

www.esf.org/programmes

Climatic change – Manipulation experiments in terrestrial ecosystems (CLIMMANI)

The CLIMMANI RNP (2008-2012) will focus on three major climate-driven changes, namely CO₂, temperature and precipitation. These changes on their own and combined can have large effects on terrestrial ecosystem functioning, thus affecting the goods and services provided by the ecosystems (biodiversity, forestry, agricultural productivity, ground water quality, fire protection, etc.).



(photo: Dennis Murczak)

The specific objectives of the programme are to:

- synthesise and assess the impact of climate change factors on key ecosystem processes and the interactions between the different climate change factors and with other drivers.
- generate a database on data from ecosystem manipulation studies for better comparisons, syntheses and modelling efforts.
- establish a comprehensive network of global change scientists in order to promote better communication and integration between researchers to assure and improve the benefit of the research activities for the society within global environmental problems.
- organise a series of workshops and working groups to present and discuss key ecosystem processes and the impacts and interactions by climate change factors and other important drivers and to supply better grounds for integrated work between experimentalists and modellers.

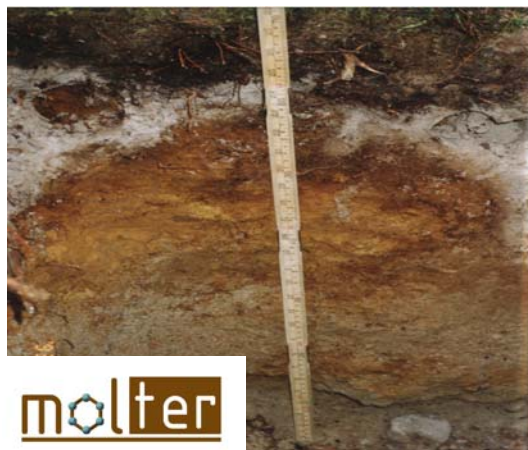
Natural molecular structures as drivers and tracers of terrestrial C fluxes (MOLTER)

The MOLTER RNP (2008-2012) recently held its 1st Steering Committee meeting in Strasbourg, France. So far, ESF Member Organisations from Austria, Belgium, France, Germany, Norway, Romania, Spain, Sweden and United Kingdom are contributing to the Programme. The Chair is Daniel Rasse (FR).

The overall goal of MOLTER is to better understand how the chemical structural characterisation of the organic matter in soils could help to understand the ecological functioning and biogeochemical processes in soils. In a comprehensive approach, MOLTER

will focus on the formation, stabilisation and decomposition of complex organic compounds in terrestrial environments (in plants, litter, soils and water). By taking full advantage of the recent technological advances and by cross-linking different disciplines (e.g., micro-analytical chemistry, molecular biology, microbial ecology), MOLTER should contribute to methodological advances, theoretical synthesis, training of young researchers and the development of basic and applied research projects in Europe, and to the improved communication of research results to a wider audience.

The calls for grant visits (early-stage researchers as the main target audience) and for workshops will soon be open and the deadlines for submission have been set as 31 March and 30 September each year. A large MOLTER conference with a strategic focus should be organised in 2009.



(photo behind logo: Ulla Lundström, Mid-Sweden Univ.)

www.esf.org/molter (soon available)

Completed LESC Research Networking Programme

Stable Isotopes in Biospheric-Atmospheric Exchange (SIBAE)

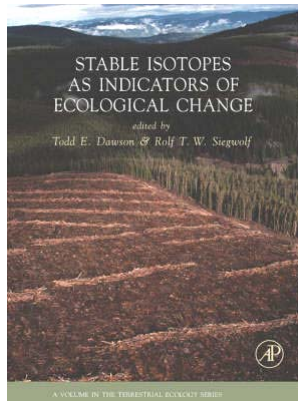
The SIBAE RNP (2002-2007) was completed in May 2007 and its final report was delivered in December 2007. The participating ESF Member Organisations were from Austria, Belgium, Denmark, Finland, Germany, Italy, Netherlands, Portugal, Sweden and Switzerland. The Chair was Nina Buchmann

(CH). The aim of the Programme was to promote stable isotopes studies for the better understanding of terrestrial ecosystems and biospheric-atmospheric gas exchanges within the global carbon cycle.

SIBAE attracted a community of 235 individual researchers, supported eight workshops, five schools and short courses and six conferences, and allocated 35 visit grants (13 weeks on average) to junior researchers (two-thirds Ph.D. students, and with more than one-third female applicants & grantees) originating from 15 countries and hosted in 11 European countries.

European collaboration included joint activities with other ESF RNPs, with COST Actions and with the 6th EC RTD Framework Carbo-Europe Integrated Project. SIBAE contributed markedly to the establishment of the global "Moisture Isotopes in the Biosphere and Atmosphere" network co-ordinated by the International Atomic Energy Agency (IAEA). Within this context, the first "Joint European Stable Isotope User Meeting" was organised in 2004 in Vienna, Austria.

International collaboration included cooperation with similar initiatives in Australia and Russia and in particular with the US NSF-funded "sister" programme "Biospheric-Atmospheric Stable Isotope Network" (BASIN), leading especially to joint SIBAE-BASIN conferences in 2004 and 2006.



More than 50 SIBAE-related articles and contributions were published, in addition to book chapters and to many SIBAE-related presentations at international science events. SIBAE publications also include books:

Stable Isotopes as Indicators of Ecological Change (2007); Editors: T. Dawson and R. Siegwolf; Academic Press and *Stable Isotope Dendroclimatology – Physiology, Systematics, Chronologies & Instrumentation* (2008); Editors: G. Schleser et al.; Springer Verlag.

Other SIBAE deliverables are wide-ranging and include recommendations for optimal methodology, experimental protocols, cross-calibrations and improved temporal and spatial resolutions for stable isotope measurements, databases, prototype models, a dedicated website and a "SIBAE e-newsletter".

www.esf.org/sibae and www.sibae.net

Some thoughts from the Chair of a EUROCORES Review Panel

I served as a panel chair in an ESF EUROCORES program, and having been involved as an applicant, reviewer and panel member for research proposals in the US National Science Foundation (NSF) system, I see numerous similarities in terms of caliber and scope of the science. There are, however, some fundamental differences between the two systems. The TOPO-EUROPE panel I chaired is most comparable to the Continental Dynamics (CD) program in the Earth Sciences (EAR) division at NSF. Both are targeted at broad science questions in tectonics and related fields.

In contrast to most programs in the EAR division, the CD program allows pre-proposals outlining the intent of the proposed project. As with the ESF pre-proposal procedure, the panel provides feedback and either encourages or discourages a full proposal submittal. Also similar to the TOPO-EUROPE process, full proposals in the CD program are quite large in scientific scope and size. In both systems, external, peer-review is performed. One problematic aspect of the TOPO-EUROPE program's newness is that many external reviewers appear to be uncertain as to what should constitute a proposal for a top project. This did not cause an unsolvable problem for the panel as the most useful information an external reviewer provides is in their comments rather than in their numerical rating. I believe that the panel I chaired was able to use the content of the reviews, and in following the guidelines, base decisions primarily on the science proposed, rather than numerical scores of external reviewers.

Probably the biggest difference between the two systems is in the use of the reviews by the applicants. In the US NSF system the applicant does not see the external reviews until after the final decision. In the ESF procedure the applicants were allowed to comment on their reviews, allowing them to clarify points of confusion. I think some applicants mistook this rebuttal as an opportunity to correct intrinsic problems in the proposal. Some projects were poorly served by the review and rebuttal process. In several cases the reviews did not provide a rigorous assessment of the project and simply provided a high ranking – providing the proposer (or panel) with little useful information. In summary and in spite of the differences, the key point I feel comfortable

making is that whether in the NSF or ESF system, proposals are given a fair and rigorous assessment; but limited resources preclude funding success for all of the high quality projects.



Professor Kevin Furlong
Chair of TOPO-EUROPE
Review Panel

New activities launched

EuroMEMBRANE Call for Proposals

EuroMEMBRANE is one of the three new EUROCORES for which a Call was issued on 14 March 2008. Funding Agencies from 16 European countries decided to set funds aside to support the scientific community working in the area of membrane research. The Call for Outline Proposals is open until 22 May 2008 (12:00 CET). More information is available at www.esf.org/euromembrane.

Networking activities

EuroDIVERSITY Making more hay – what farmers can learn from ecology

Farmers all over Europe could get higher yields and fewer weeds in their intensive grasslands if they planted more species. A new European study has shown that this basic ecological pattern holds true for planted pastures.

It is now well established in biodiversity science that when you lose species from an ecosystem, it becomes less productive. Simple communities, with only one or two species, cannot grow as much biomass as combinations of species. So why do farmers who grow grasses for animal food persist in planting only one or two species of grass, when they could get a higher yield by planting a few extra species? Perhaps ecological research does not seem relevant to farmers, who work mostly with monocultures. A research project involving more than 20 European countries, coordinated by the European Science Foundation (ESF),

has bridged the gap, and demonstrated that the effect can work for farmers too.

The research had a similar set up to other large-scale ecological experiments looking at how important the number of species is to the working of ecosystems. It was the largest ever experiment of its kind and was carried out by scientists from 26 different universities and research institutes under the umbrella of the EuroDIVERSITY Programme. There were 28 sites, dotted all across Europe, from the far north to the hot, dry south. At each site, experimental plots were planted with different combinations of four species that farmers of the region are familiar with. Some plots had just one species, some had equal quantities of all four species, and some had a different balance, such as mostly one species and smaller amounts of the others.

The results show that on average, if you plant four species instead of one, you obtain an additional 3.5 tonnes per hectare of food for your livestock. You also get fewer weeds in the field. At most sites, the yield from a mix of species exceeded the yield from a monoculture of the most productive plant, an effect known in ecology as 'overyielding'. And the best mix uses equal quantities of each of the four plants.



www.esf.org/eurodiversity

Ocean Acidification: new trouble ahead?

The LESC Standing Committee and the EuroCLIMATE EUROCORES Programme organized a Strategic Workshop on "Impacts of Ocean Acidification" in January 2008 in Gran Canaria, Spain.

Evidence of global change has been seen mainly through temperature increase and sea changes in the biogeochemical elemental cycles, the ecosystem structure and dynamics and the natural resources and environmental



Participants in the LESC-EuroCLIMATE Workshop

services (e.g., water and food supply). One aspect which has been rather neglected until recently is Ocean Acidification that relates to the anthropogenic increase in atmospheric and marine CO₂ content. It is now under intense scrutiny as it reaches a critical threshold while its impacts on biogeochemical, biological, ecological, economic, social processes are often not well known, but are expected to emerge quickly and drastically: the global, oceanic CO₂ sink will be undermined, some coral reefs are already threatened, and some coastal environments have seen a decrease of their fish resources. As a recent report put it, understanding such impacts “will undoubtedly be one of the biggest challenges for marine scientists in future decades”.

It is becoming clear that marine biocalcification mechanisms, their vulnerability and responses to Ocean Acidification should be further studied; in this context, it is noteworthy that the Mediterranean Sea is a marked sink for



anthropogenic carbon, and the combined effects of Ocean Acidification and temperature increase might be appearing faster and in larger quantity than in any other European region. In addition, the impacts of Ocean Acidification for a wide range of time and space scales should also be considered, regarding especially marine biogeochemistry, the biological response at the individual cell and organisms and ecosystems levels and the socio-economic drivers and responses. One anticipated output of this workshop is a science policy briefing on this topic, to be endorsed by the ESF and possibly several major international organisations. It should play a key role for the implementation of new international cooperative efforts in this field.

www.esf.org/oceanacidification-strategic-ws

European Research on life in extreme environments, setting up research priorities and coordinating the community: the CAREX project

The CAREX project (Coordination action for life in extreme environments), funded by FP7, has been active since 1 January 2008. This project evolved with the key players from the highly successful ESF “Investigating Life in Extreme Environments” initiative (2004-2007). Coordinated by the British Antarctic Survey, CAREX involves nine European partners. ESF, as project manager and work package leader, is a key partner in this initiative. In addition to core partners (consortium in charge of the contract), CAREX involves 46 Associated Partners from European and non-European countries.

At the European level, there is a need for better coordination of life in extreme environments research. CAREX aims to address this need by developing a clearly identifiable, dynamic and durable community. Establishing this community will encourage greater interdisciplinarity and increasing knowledge of extreme environments. It will provide a target for young career scientists and allow a more focused dialogue with other science areas, with funding

agencies, with industrial groups and with international organisations outside Europe. CAREX will last for three years and has a wide scope covering microbial life, plant adaptation and animal adaptation to various marine, polar, terrestrial extreme environments as well as outer space. CAREX's outputs will include a strategic roadmap for European life in extreme environments research (including enabling technologies), diverse opportunities for knowledge transfer, standardisation of methodologies, encouragement and support for early career scientists and a network of links to relevant organisations.

Forty-two European experts in the field of life in extreme environments research met on 18 March in the British Antarctic Survey offices in Cambridge to officially kick off the CAREX project. CAREX's first actions towards the scientific community include the setting-up of a highly interactive website, the implementation of an online database and directories of experts, project and infrastructures as well as the award of four short visit grants and the organisation of two high level scientific workshops (*identification of model ecosystems* and *identification of technology and infrastructures*).



Françoise Gaill and Hefin Jones are LESC liaison members to CAREX.

CAREX Coordinator: Cynan Ellis-Evans, British Antarctic Survey (JCEL@bas.ac.uk)
CAREX Project Manager: Nicolas Walter, ESF (nwalter@esf.org)

www.carex-eu.org

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New LESC Standing Committee member

Angelos Efstathiou

representing Cyprus Research Promotion Foundation
Scientific field: atmospheric chemistry

Forthcoming meetings

Mid-April - June 2008

- **EuroCLIMATE GIFT Workshop**
14-17 April – Vienna (AT)
- Topical sessions in the **European Geosciences Union (EGU) General Assembly 2008**
14-18 April – Vienna (AT)
- **EuroDIVERSITY** Workshop: **Current Perspectives in Functional Ecology**
15-17 April – Amsterdam (NL)
- **EuroCLIMATE** School: **Late Quaternary Timescales and Chronology**
20-26 April – Piran (SI)
- **FUNCDYN** Steering Committee meeting
28-29 April – Strasbourg (FR)
- **FFG** Workshop: **Non-Coding RNAs: Computational Challenges and Applications**
28-30 April - Antalya (TR)
- **EuroMARC** Workshop: **The geology of coral-rich carbonate systems: from tropical, shallow water to cold, deep-water settings**
6-8 May - Sant' Alessio, Sicily (IT)
- **EuroDIVERSITY** Workshop: **Metacommunity Dynamics and Biodiversity**
12-16 May 2008 - Uppsala (SE)
- **Magellan** Workshop: **Lithospheric heterogeneities, hydrothermal regimes, and links between abiotic and biotic processes at slow spreading ridges**
14-16 May – Montpellier (FR)
- **Veterinary Knowledge: Between Human Medicine And Agriculture, 1870 - 1970**
Exploratory Workshop
15-17 May – Paris (FR)

- **Cryopreservation Of Ovarian Tissue In Cancer Patients, Farm Animals And Endangered Species**
Exploratory Workshop
16-17 May – Heidelberg (DE)
 - **B Cells 2008**
ESF Research Conference
16-21 May – Sant Feliu de Guixols (ES)
 - **EuroDEEP** Workshop:
Microbial metagenomics
19-22 May 2008 - Giardini Naxos, Sicily (IT)
 - **FFG** Workshop: **Advanced large scale expression profiling-focus on miRNA, ChIP-chip and whole genome sequencing**
19-22 May – Turku (FIN)
 - **FFG** Workshop: **Systems biology in medicine**
21-23 May – Barcelona (ES)
 - **The Reuse Of Contaminated Sites in Sustainable Development Strategies**
Exploratory Workshop
26-27 May – Venice (IT)
 - **Improving Estimates Of The Rate Of Sea-Level Rise From The Greenland Ice Sheet**
Exploratory Workshop
27-30 May - Calla Millor, Mallorca (ES)
 - **EuroDYNA**: Third EuroDYNA Conference
28-31 May – Hinxton, Cambridge (UK)
 - **FFG** Steering Committee meeting
29-30 May – Tallinn (EE)
 - **NinE** School: **Nitrogen Cycling and the European Greenhouse Gas Balance**
1-16 June – Edinburgh (UK)
 - **Large-Scale And Long-Term Functional Biodiversity Research In Europe**
Exploratory Workshop
2-4 June – Potsdam (DE)
 - **Developing Criteria for an Ecological and Ethical Valuation of Environmental Impacts of GM Crops**
Exploratory Workshop
4-6 June – Engelberg (CH)
 - **BEPAR** Workshop: **Genetic and Genomic Approaches for Parasitoid Behavioural Ecology**
5-6 June – Edinburgh (UK)
 - **MedCLIVAR** Workshop: **Oxygen isotopes as tracers of Mediterranean climate variability: linking past, present and future**
11-13 June – Pisa (IT)
 - **RNA Quality** Conference: 2008 event
11-13 June - Granada (ES)
 - **FFG** Conference: **Gene Forum 2008 - Functional Genomics**
12-14 June - Tartu (ES)
 - **Nanotechnology for Sustainable Energy**
ESF Research Conference
14-19 June - Obergurgl (AT)
 - **INTROP** Workshop: **Kinetics and mechanisms of atmospheric chemical reactions: evaluation and knowledge transfer**
20-24 June – Montreux (CH) & Cambridge (UK)
 - **FFG** Conference: **Governing Biobanks- What are the Challenges?**
23-26 June – Oxford (UK)
 - **FFG** Conference: **Integrated mechanisms of cellular identity and homeostasis**
26-27 June – Cambridge (UK)
- **LESC Core Group and Round Table meetings**
2-3 June – Brussels (BE)
 - **LESC/COST Synergy meeting**
4 June – Brussels (BE)

The European Science Foundation (ESF) provides a platform for its Member Organisations to advance European research and explore new directions for research at the European level.

Established in 1974 as an independent non-governmental organisation, the ESF currently serves 78 Member Organisations across 30 countries.