

About the European Science Foundation 2008



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Foreword



The landscape of research in Europe is changing. Universities are pushed to renovations of their governance, to building on their research strengths, and even to mergers. Some have started to have their quality evaluated by research assessment exercises. Several countries have developed excellence initiatives and established structured doctoral training programmes. Research performing organisations are undergoing reforms as well. In some countries part of their traditional earmarked funding is being considered to be replaced by competitive project funding. Universities are establishing novel types of horizontal research institutions extending across boundaries of departments and faculties, partnering with research performing organisations and the private sector. And the young principal investigators are finally finding themselves in center stage. The European Young Investigator programme (EURYI) of ESF financed by the European Heads of Research Councils (EUROHORCs), and recently the Starting Grants programme of the European Research Council are catalysing research organisations to restructure themselves to provide young principal investigators attractive career pathways.

Fundamental research is the cornerstone of innovation and therefore of knowledge-based economies. Thus, governments are expecting returns from their investments into research in the form of benefits to society, and want the benefits to be measured by impact assessments. Especially countries in Central and Eastern Europe are developing rapidly their science policy and research management practices, wishing to learn by benchmarking the lessons of others. Councils for national science and technology policy are being set up to advise governments on R&D investments.

It is in this environment that ESF seeks to fulfill its mission, to promote fundamental research Europe-wide. The owners of ESF are its Member Organisations. They are many and they are heterogenous, all in all 77 research funding and performing organisations, academies and learned societies in 30 countries, which have varying priorities and decision making processes consolidated in national strategies and legislations. The challenge but also the strength of ESF lies in this diversity, as long as a common will can be crystallised and its implementation realised.

The ambition of ESF is to build together with its Member Organisations, the EUROHORCs, the European Commission and other stakeholders, a European Research Area characterised by intelligent science policy, quality-based adequate funding, free mobility of researchers, students and resources, and state-of-the-art infrastructure, which will impact Europe in the form of societal, economic and cultural development. The political will to create such an ERA appears to have emerged, but we are still on the way towards concrete actions.

This booklet guides you through the Science Strategy, Science Synergy and Science Management activities of ESF.

Marja Makarow, Chief Executive

This is the European Science Foundation

The European Science Foundation, ESF, is an independent, non-governmental organisation with 77 of the main research organisations in Europe as members. Through us, European researchers have an opportunity to work together across disciplinary and geographic boundaries. With science being a truly international activity this collaboration is crucial for both science and society in Europe.

The ESF Member Organisations are research performing and research funding organisations and academies in 30 European countries. Together they represent an annual funding of about 25 billion Euros on excellent research and part of this sum is spent through or influenced by the European Science Foundation.

We cover all disciplines. Our instruments orientated towards the scientific community include Exploratory Workshops and Research Conferences. To support our Member Organisations we have developed tools such as Forward Looks, aimed at developing medium to long-term views and analyses of future research developments.

Established in 1974, the ESF has seen the drivers for cooperation between national organisations become stronger and stronger. The scale and complexity of scientific questions have increased together with the cost of research and facilities. Large scale societal change both explains and underscores the importance of cooperation in Europe.

The ESF is a unique entity independent of governments in its strategies and advice. As a result of that, we can have an independent voice on science and on the strategic issues identified by our Member Organisations. We are a key part of making European research competitive in a global arena.

The European Science Foundation is setting science agendas for Europe.

How we operate

The ESF is committed to identifying the best European research and researchers. Working on behalf of our principal stakeholders – ESF's Member Organisations and thereby Europe's scientific community – we publish position papers and science policy briefings on a wide range of issues. We organise workshops and conferences to develop and spread the European science agenda. ESF also considers hundreds of research proposals for projects and awards each year.

Over three decades of operations, the ESF has changed. We were an organisation using contributions from Member Organisations to promote scientific networking in Europe. Today we have moved towards being a platform for our Member Organisations to develop joint strategies. We aim to provide them with the means to address challenges ahead, to promote excellence and to cooperate in joint programmes. In this way ESF assists the national research institutions to influence a much wider research agenda to the benefit of the scientific community.

ESF activities are within the fields of Science Strategy, Science Synergy and Science Management.

- **Science Strategy**

Provide high level and high quality foresight and advice on science, research infrastructure and science policy issues. Specific activities include Forward Looks, Member Organisation Fora, and Exploratory Workshops.

- **Science Synergy**

Bring together excellent scientists at all stages of their careers to advance the frontiers of research. Activities include EUROCORES, ESF Research Networking Programmes and ESF Research Conferences.

- **Science Management**

ESF also manages external programmes, such as COST, and takes a coordinating role in projects funded by the European Commission.

ESF, which has more than 130 staff in France (Strasbourg) and Belgium (Brussels and Ostend), managed a direct budget of 47 million Euros in 2007, including *à la carte* activities and external contracts.

The ESF is also currently the legal entity to provide and manage the scientific and the administrative services for the COST Office (European Cooperation in the field of Scientific and Technical Research).

Through our combined activities, ESF and COST influence research funding in the order of several billion Euros.

The disciplines we cover

The ESF covers the following domains

- Humanities
- Life, Earth and Environmental Sciences
- Medical Sciences
- Physical and Engineering Sciences
- Social Sciences
- Marine Sciences
- Nuclear Physics
- Polar Sciences
- Radio Astronomy
- Space Sciences

Managed at the heart of science

The Governing Council is the top-level decision-making body of the ESF. It is a body for strategic debate at the highest level.

The Governing Council consists of the President of the Foundation, two Vice-Presidents, and representatives of the national groups of Member Organisations. These representatives are all heads of organisations within the ESF membership.

To ensure that the ESF's scientific activities are of the highest quality, the newly created Science Advisory Board forms a high-level advisory panel which will guide the ESF in quality assurance and the demands of interdisciplinarity in research (see membership list p. 35).

The Science Advisory Board's responsibilities include:

- High-level scientific advice to the Chief Executive – ideas for new science actions and instruments; analyses of the evolving European and global science and science policy context.
- Overseeing overall science quality control of ESF's activities, including peer review, and safeguarding interdisciplinarity of the instruments.
- Overall scientific quality and relevance with regard to the key instruments.

ESF engages in partnerships at both the European level – for example EUROHORCS, ALLEA, the European Commission – and globally. We have ongoing cooperation with organisations such as the National Science Foundation and the National Institutes of Health in the US, the Japan Society for the Promotion of Science, the Organisation for Economic Co-operation and Development; and the International Council for Science.

Mission Statement

The European Science Foundation provides a common platform for its Member Organisations in order to:

- advance European research;
- explore new directions for research at the European level.

Through its activities, the ESF serves the needs of the European research community in a global context. It carries out an array of activities, ranging from organising exploratory scientific workshops to providing science policy advice.

Values

The European Science Foundation's mission is guided by shared values that characterise its specific organisational culture. These values are:

- Excellence: the gatekeeper criterion for all scientific activities; it will also drive the management philosophy and operating procedures;
- Openness: to all scientists and disciplines; no barriers between disciplines; open sharing of results; transparency to stakeholders and partners;
- Responsiveness: in its procedures and structure;
- Pan-European: rising above national interests to the benefit of science in the whole of Europe;
- Ethical awareness and human values: sensitive to societal and ethical considerations in all its activities; attention to gender aspect.

Ministerial Conference

Committee of Senior Officials (CSO)

COST Office

Assembly

Governing Council

Chief Executive

Science and Strategy

Human Resources

Administration & Finance

Communications

Science Advisory Board

ESF SCIENTIFIC
STANDING COMMITTEES

- Humanities
SCH
- Life, Earth and Environmental
Sciences
LESC
- Medical Sciences
EMRC
- Physical and Engineering
Sciences
PESC
- Social Sciences
SCSS

ESF EXPERT COMMITTEES
AND BOARDS

- Marine Board - ESF
MB-ESF in Ostend (BE)
since November 2007
- European Polar Board
EPB
- European Space Sciences
Committee
ESSC
- Committee on Radio
Astronomy Frequencies
CRAF
- Nuclear Physics European
Collaboration Committee
NuPECC

ESF RESEARCH
CONFERENCES

COST
DOMAIN COMMITTEES

- Biomedicine and Molecular
Biosciences
- Chemistry and Molecular
Sciences and Technologies
- Earth System Science and
Environmental Management
- Food and Agriculture
- Forests, their Products
and Services
- Individuals, Societies,
Cultures and Health
- Information and
Communication Technologies
- Materials, Physical
and Nanosciences
- Transport and Urban
Development

Strasbourg Offices

Brussels Offices

ESF's Science Structure

The motor of ESF's science activities are its five Scientific Standing Committees: European Medical Research Councils (EMRC); Humanities (SCH); Life, Earth and Environmental Sciences (LESC); Physical and Engineering Sciences (PESC); Social Sciences (SCSS) and five Expert Boards and Committees (Marine Board–ESF), European Polar Board (EPB), European Space Sciences Committee (ESSC), Committee on Radio Astronomy Frequencies (CRAF), Nuclear Physics European Collaboration Committee (NuPECC) and the overarching Science Advisory Board.

They operate under the strategic guidance of the Member Organisations. These bodies, composed of high-ranking scientists nominated by the ESF's Member Organisations, deal with strategic science questions for their domains and are responsible for the selections of proposals.

Growing interdisciplinarity is reflected in mutual observership and in an increasing number of activities, involving cooperation between committees. Scientific partners from Europe and beyond take part as observers.

Overall quality assurance of ESF's operation, advice on new strategic scientific direction and interdisciplinarity is provided by the Science Advisory Board.

Standing Committees

■ Standing Committee for the European Medical Research Councils (EMRC)

Globalisation has brought rapid changes to our society – changes such as emerging and rapidly spreading infectious diseases, changed disease patterns with treatment-resistant tuberculosis, rapid and dramatic climate changes and, in Europe, a changed demography with an ageing population. Medical research is essential to cope with these challenges. Furthermore, new knowledge in the field of medical science is important to facilitate greater success for the European medical industry.

The European Medical Research Councils' 2007 White Paper 'Present Status and Future Strategy for Medical Research in Europe' aims to strengthen and improve European medical research, which in turn will result in better healthcare and improved human welfare. The White Paper was developed during two round-table meetings in Paris on 28 May and 20 July 2007 hosted by the EMRC and from a fruitful discussion with Dr. Elias Zerhouni and his staff at the US National Institutes of Health in September 2007. The White Paper was endorsed by all members of the EMRC at the EMRC Plenary Meeting in October 2007 and launched on 6 December 2007 by Professor Liselotte Højgaard, Chair of EMRC and Janez Potočnik, Commissioner for Science and Research.

The EMRC recommendations for strengthening medical research in Europe are the following:

- Implementation of "best practice" for funding and performing medical research.

- Collaboration via EMRC and its Membership Organisations and EC, ERC, COST, the scientific societies, the medical journals and the university and academic medical centres to enhance collaboration and sharing of research and results.
- Revision of EC Directives related to medical research to facilitate research.
- Endorsement of the EMRC statement on equal opportunities for performing research: "The EMRC advocates equal opportunities in all aspects of medical research – regardless of age, gender, origin, profession, race, religion, or sexual orientation."
- A doubling of public funding of medical research in Europe within the next 10 years – to a minimum level of 0.25 % of GDP and the necessity for sustaining a steady growth above inflation in the years to come after the doubling.

The European Medical Research Councils (EMRC) is the membership organisation for all the Medical Research Councils in Europe under the ESF. The mission of the EMRC is to promote innovative medical research and its clinical application towards improved human health. The EMRC offers authoritative strategic advice for policy making, research management, ethics, and better health services. In its activities, the EMRC serves as a voice of its Member Organisations and the European scientific community through its science policy. The EMRC has an important role in the future development of medical research in Europe and it invites the European Commission, the European Research Council, learned societies, universities and academic medical centres for debate and action to bring its recommendations to fruition.

> *More information: www.esf.org/emrc*

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* The delegate is also a Core Group
member

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pending

■ Standing Committee for the Humanities (SCH)

Humanities explore the origins and products of the human capacity for creativity and communication. SCH encompass a broad spectrum of disciplines all pertaining to human consciousness, perception and interpretation of the world such as anthropology, archaeology, area studies, gender studies, history, linguistics, literature, media studies, philosophy, psychology, musicology, religion and theology.

With its first young scholars' forum 'Humanities Spring' SCH made a determined effort to give a space to young voices in Humanities research to articulate their vision for the future of the field in the resulting 'Humanities Manifesto'.

In 2007-2008 SCH engages in foresight and strategy activities, focusing on themes such as 'security' and 'religion' and on a better coordination of research in Europe (focus: Central and Eastern Europe) and better interaction between European researchers and their partners elsewhere ('classical Asian Studies Initiative').

SCH is coordinating, together with the secretariat for the COST DC ISCH, the ESF-COST Network of Networks on new perspectives for landscape studies, which aims to create a platform for interdisciplinary landscape research.

Besides utilising ESF's instruments categorised under the ESF's Strategic Plan to achieve its goals, SCH is also involved in the European Commission's backed ERA-NET project 'Humanities in the European Research Area' (HERA) (ERAC-CT-2005-016179). The SCH is responsible for Work Package 9, the development and launching of two Joint Research Programmes (on 'cultural dynamics' and on 'creativity and innovation').

In an effort to provide a tool for researchers and institutions alike to easily access and assess Humanities research output, irrespective of disciplinary and linguistic boundaries, ESF has launched the European Reference Index for the Humanities (ERIH).

see www.esf.org/erih

SCH is strengthening its working relationship with the Academies, with the European Institutes for Advanced Study, and with the associations of higher education and research institutions in Europe, such as EUA and LERU.

SCH consists of representatives from research councils, research performing organisations and academies, with subject specialists to complement ordinary membership. Observers attend from the COST Domain Committee Individuals, Societies, Cultures and Health (ISCH), the European Commission, the US National Endowment for the Humanities, the Canadian Social Sciences and Humanities Research Council and the Israel Academy of Sciences and Humanities.

> *More information: www.esf.org/human*

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(to June 2008)

Dr. Julia Stamm

(from June 2008)

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Dr. Carmen Charette

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Professor Bruce Cole

Directorate L “Science,
Economy and Society”
Unit L4 “Scientific Culture
and Gender Issues”
European Commission

Dr. Pascal Dissard

Israel Academy of Sciences
and Humanities,

Professor Benjamin Isaac

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

All the important issues relating to our surroundings are covered by the Life, Earth and Environmental Sciences. Biosciences will make a growing impact in the 21st century as they contribute greatly to the very much needed sustainable development of our world. In the meantime, geosciences will continue to play a crucial role in the understanding of critical environmental issues that are facing mankind. There is a continuity of informational transfer from genome up through cell, community and environment and defining characteristics of life thus depends strongly on flux from the environment.

The Standing Committee aims at a better understanding of biological, environmental and Earth systems across time and space. LESC covers activities from molecular and systems biology over regional ecosystems to global change of the environment. Besides utilising ESF's instruments categorised under the ESF's Strategic Plan to achieve its goals, LESC is also involved in the European Commission-backed ERA-NET project BiodivERsA (ERAC-CT-2005- 517836) which includes 19 major research funding agencies from 15 countries in Europe with significant research funding in the field of terrestrial, freshwater and marine biodiversity (p. 98). In addition LESC is a partner in the Co-ordination Action for Innovation in Life-Cycle Analysis for Sustainability (CALCAS - 037075) involving 12 organisations. It is also involved in the Specific Support Actions (SSAs) such as the Towards a European Strategy for Synthetic Biology (TESSY - 043449) and Systems Biology for Medical Applications (Sys-BioMed - 037673).

LESC works closely with other Standing and Expert Committees, such as the Marine Board, the European Polar Board and the European Space Sciences Committee.

LESC is composed of leading scientists mandated to represent the ESF Member Organisations. Observers from other ESF Committees/Expert Groups or external organisations are also invited to attend Committee meetings, as are guests from the COST Domain Committees.

> *More information:* www.esf.org/lesc

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Representatives from
Bulgaria, France, Italy,
the Netherlands and the UK
are in the process of being
nominated.

* The delegate is also a Core Group
member

Observers:

ESF Standing Committee
for Physical and Engineering
Sciences (PESC)

**Professor Elisabeth
Guazzelli**

Marine Board – ESF (Chair)
Mr. Lars Horn

Marine Board – ESF
(Vice-Chair)
Dr. Jan Mees

European Polar Board (Chair)
**Professor Carlo Alberto
Ricci**

European Space Sciences
Committee (Chair)
**Professor Jean-Pierre
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Professor Giora Simchen

■ Standing Committee for the Physical and Engineering Sciences (PESC)

The strategy of the ESF Standing Committee for Physical and Engineering Sciences (PESC) is to develop and disseminate a pan-European vision on how to network research and innovation and to address the related societal issues in a more effective and sustainable manner. The Committee is a unique cross-disciplinary group which focuses on fundamental research and innovative engineering. PESC covers a broad spectrum of fields ranging from mathematics, informatics and fundamental sciences to computer sciences, materials research, physics, chemistry, applied sciences, new technologies and engineering. Networking activities supported by the Committee cover a wide range of experimental and theoretical approaches.

Over 30 distinguished scientists, nominated by the Member Organisations active in the PESC remit, serve on the committee. Observers from the European Commission, the European Mathematical Society, the European Research Consortium for Informatics and Mathematics, the Israel Academy of Sciences, the US National Science Foundation and the ESF Standing Committee for the Life, Earth and Environmental Sciences (LESC) are invited to committee meetings as are liaison members from the COST Domain Committees for Chemistry and Molecular Sciences and Technologies (CMST), Information and Communication Technologies (ICT), Materials, Physical and Nanosciences (MPNS) and, since 2007, an observer from the European Materials Forum (EMF). PESC also maintains close working relationships with the ESF Expert Committees on Radio Astronomy Frequencies (CRAF), Space Sciences (ESSC), and Nuclear Physics (NuPECC).

> More information: www.esf.org/pesc

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Representatives from Cyprus
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* The delegate is also a Core Group
member

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COST BMBS – Biomedicine
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Professor Mihail Pascu

COST CMST – Chemistry
and Molecular Sciences and
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Professor**Venceslav Kaučič**

COST ICT – Information and
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Professor Joseph Klafter

National Science Foundation
Division of Materials
Research, National Science
Foundation, United States

■ Standing Committee for the Social Sciences (SCSS)

The social sciences study the possibilities and constraints that surround human activity, open spaces, and erect limits around human creativity. Therefore they examine and explain human beings on different levels, from neural foundations to individual behaviour, group processes and the functioning of entire societies. Consequently, the social sciences employ a wide variety of methods tailored to be scientifically rigorous, and to ensure that reliable knowledge is secured.

Against this background, the SCSS funds and develops initiatives in the fields of psychology and the cognitive sciences, pedagogic and education research, social anthropology, sociology and gender studies, economics, business and administrative sciences, geography, demography, environmental sciences, law, political sciences, communication sciences, international relations, social statistics and informatics.

A European Collaborative Research Project (ECRP) is addressing citizens of the future: the concerns and actions of young people around current European and global issues to see what opinions young Europeans have on issues such as democratic processes, poverty, unemployment, human rights, the environment and conflict. The project will also compare how these opinions vary depending on the country of residence; in this case Poland, Spain and Turkey (www.uwm.edu.pl/citizens).

The Forward Look on Higher Education in Europe beyond 2010 (www.esf.org/helf), which had its final conference in October 2007, and produced a report with five theme papers examining relationships between higher education and society will now continue as a EUROCORES; the Call for Outline Proposals on Higher Education and Social Change (EuroHESC) was launched on 13 March 2008 with a submission deadline of 15 May. It is currently supported by 17 countries.

Another success story concerns the Research Networking Programme Quantitative Methods in the Social Sciences (QMSS) www.esf.org/qmss, which ran from 2003-2007 and was enthusiastically taken up by 22 ESF Member Organisations. Data collection is only a first step in a complex process and specific standards and human capacity are required to compare and analyse the data statistics in order to translate them into that can be communicated – and that can then influence how policies are created and changes brought about. A series of workshops and, especially, the training of junior researchers in a series of summer schools, carried out within this project have been a first step which the project leaders will continue in a second phase of the programme: QMSS2.

Naturally, the social sciences benefit from the insights gained through related disciplines such as the human, life and medical sciences. These areas of convergence allow for a fuller understanding of the diverse facets of the social science enterprise, and range from literary, philosophical and historical inputs on the one hand, to biological and medical ones, including human biology, on the other. At the same time, almost all (medical, life and human) scientific problems have aspects that require the participation of social sciences in their thorough examination.

The members of the Standing Committee for the Social Sciences represent their national Member Organisation(s), and are leading figures within research councils or institutions within their countries. A number of observers, from important European and transatlantic social science institutions, regularly attend the bi-annual plenary SCSS meetings.

> *More information:* www.esf.org/social

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Expert Boards and Committees

Expert Boards and Committees provide advice and initiate strategic developments at the European and national levels in the areas of marine-, polar-, and space sciences, nuclear physics and radio astronomy frequencies.

■ Marine Board - ESF

The Earth is a blue planet – the seas and oceans cover over 70 % of the Earth's surface, and represent more than half of the European territory. This marine world is still relatively unexplored and its resource potential has yet to be realised.

Recognising that the oceans are of major strategic importance to the ecologic, economic and social development of Europe, the Marine Board (established in 1995 by its Member Organisations with the support of the European Commission) works to promote and coordinate science strategy and policy matters amongst the main marine research institutions and agencies in Europe, and with the European Commission. A driving force for marine sciences in Europe, the Marine Board operates by creating a *forum* for its member organisations, identifying *strategic* scientific issues, providing a *voice* for European marine science on the global platform and promoting *synergy* in the management of both national funding programmes and research infrastructure facilities and investments. The Marine Board is seen as a reference point by national agencies and the European Commission on matters of identification of priorities for marine research in Europe. With its current membership of 29 marine research organisations (four are newly associated members) from 20 European countries, the Marine Board nurtures an enhanced synergy amongst the marine science community in Europe. To this effect, the Marine Board meets in plenary twice a year, while its Executive Committee of Chair, Vice-Chairs and Executive Secretary meet several times per year.

Marine Board Working Groups

One of the Marine Board's assets is its capacity to be proactive in identifying research priorities through establishing and supporting Working Groups (WGs). These WGs are composed of high-level European experts who elaborate on specific marine science and technology topics. The output from a WG is a position paper, subsequently used at national and European levels to identify priorities for future research funding programmes.

Recent Marine Board publications on strategic matters (downloadable from the Marine Board homepage):

- *Impacts on Climate Change on the European Marine and Coastal Environment - Ecosystems Approach*. Marine Board Position Paper 9, March 2007
- *European Ocean Research Fleets - Towards a Common Strategy and Enhanced Use*. Marine Board Position Paper 10, March 2007
- *Marine Board Statements in response to the European Commission's Green Papers on: (i) Maritime Policy, and (ii) ERA*. Position Paper 11, November 2007

- *Remote Sensing of Shelf Seas Ecosystems.*
Marine Board Position Paper 12, April 2008

Pending publication:

- *The effects of anthropogenic sound on marine mammals - A draft research strategy.* Marine Board position Paper 13.

New Marine Board WGs have begun their activities in 2008:

- Risk assessment and monitoring of existing and emerging new chemicals in the European marine and coastal environment;
- Science Dimensions of Ecosystem-based Management of Biotic Ocean Resources (SEMBOR).

Marine Board Panels

Marine Board Panels aim to operate as collaborative, long-term operational networks whose members benefit from mutual interactions and from interactions with the Marine Board.

On-going Marine Board Panels:

- Marine Board Communications Network (established in 1999)
- Marine Board Panel on EMODNET (established in February 2008 in association with EuroGOOS)

Marine Board Policy related activities

Building on existing momentum (EurOCEAN 2007 science policy conference and the resultant Aberdeen Declaration, as well as “The role of Marine Sciences in Ocean Sustainability and Global Change” conference and the European Commission Blue Book on the Future European Maritime Policy), the Marine Board calls on representatives of the European marine and maritime research community, together with the European Commission, to work on the development of a European marine and maritime research strategy and investigate options for further partnerships towards enhanced cooperation within marine and maritime research in Europe.

Marine Board FP6 activities

- MarinERA

The Marine Board is the joint coordinator of MarinERA (an FP6 ERA-NET) (p. 101) in association with Ifremer (French Institute for the Exploitation of the Sea). MarinERA aims to facilitate the coordination of national and regional marine RTD programmes in Europe. A common call for research proposals to address “Regional Drivers of Ecosystem Change: Description, Modeling and Prediction”, involving funding from five European marine research organisations, was launched in February 2008 with a funding envelop of 3.7 million Euros.

Recent MarinERA publication:

- *Barriers to Cooperation in MarinERA Partner State Marine RTD Programmes* (MarinERA Technical Report 2, February 2007)

- **AMPERA**

The Marine Board is a task leader in AMPERA, another FP6 ERA-NET, whose aim is to foster prevention of, and best response to, accidental marine pollution. The Marine Board's responsibility is to ensure effective engagement with other Marine ERA-NETs. For instance, a series of annual fora for marine and environmental ERA-NETS was initiated by Marine Board within this task.

- **FEUFAR**

The Marine Board Secretariat represents the Marine Board in the FEUFAR Consortium of seven partners. FEUFAR (Future of European Fisheries and Aquaculture Research) is an FP6 funded Specific Support Action addressing the modernisation and sustainability of fisheries policies. The objective of the initiative is to undertake a foresight analysis to identify key challenges, strategic options and research needs towards a more sustainable development of European fisheries and aquaculture industries.

Marine Board Secretariat relocation – strengthening synergies

From mid-October 2007 the Marine Board Secretariat operates from Ostend (Belgium). Responding to an offer from the Government of Flanders, this relocation was assessed and approved by the Marine Board in May 2006 within the perspective of developing synergy with other co-located agencies (VLIZ, IOC-UNESCO) for the benefit of marine science in the European research landscape. The Government of Flanders established the facility as a centre of secretariats in support of global marine research named "InnovOcean".

> *More information: www.esf.org/marineboard*

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European Commission DG
Research

Mr. Pierre Mathy

■ European Polar Board (EPB)

EPB is Europe's strategic advisory body on science policy in the polar regions. It acts as a voice and high-level facilitator of cooperation between European national funding agencies, national polar institutes and research organisations.

The European Polar Board is concerned with major strategic priorities in the Arctic and Antarctic and has members from national operators and research institutes in 20 countries. The Board is taking a central role in the coordination of European agencies and infrastructure managers in the strategic issues of the International Polar year 2007-2009.

Established in 1995, the European Polar Board, the ESF's expert committee on science policy in the Polar Regions, is acting as a voice and facilitator of cooperation between European national funding agencies, national polar institutes and research organisations and the European Commission.

EPB is taking a central role in the coordination at European level of the International Polar Year 2007-2009, a global event focusing on the importance of the polar regions for humankind. Major focus areas are on education, outreach and communication; enhancing political visibility. The European Polar Board has active liaison with the director of the United States Polar Agency at the National Science Foundation and has been involved in discussions with other international agencies on international cooperation in the Polar regions.

EPB is also a major managing partner in the European Polar Consortium (EUROPOLAR) composed of 25 ministries and funding agencies and national polar authorities from 19 countries including the Russian Federation and Greenland Home Rule Government, and supported under the European Commission Framework programme 6 ERA-NET priority (ERAC-CT-2005-517842).

The ESF, through the European Polar Board Unit, is the Official coordinator of the ERICON AURORA BOREALIS (European Research Ice Breaker Consortium) a project supported under EC FP7 as part of the implementation of the ESFRI roadmap projects. This 4.5 million Euros project will focus on the strategic, management, legal and financial aspects of implementing this large scale research facility and involves 15 partners from 10 countries over four years.

> *More information: www.esf.org/epb*

EPB Executive Committee

Chair:

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Swedish Polar Research Secretariat Director, Sweden

Professor Alexander Guterch, Poland

Professor Jan Stel, The Netherlands

Dr. Hanne K. Petersen, Danish Polar Center Director, Denmark

Dr. Gérard Jugie, IPEV Director, France

■ European Space Sciences Committee (ESSC)

The European Space Sciences Committee, established in 1975, grew out of the need for a collaborative effort that would ensure European space scientists made their voices heard on the other side of the Atlantic, in an era when successive Apollo and space science missions had thrust the idea of space exploration into the collective conscious for the first time.

More than 30 years later the ESSC has become even more relevant as it acts as an interface with the European Space Agency (ESA), the European Commission, national space agencies, and ESF Member Organisations on space-related aspects. The mission of the ESSC is to provide an independent European voice on European space research and policy.

The ESSC is non-governmental and provides an independent forum for scientists to debate space sciences issues. The ESSC is represented ex officio in ESA's scientific advisory bodies, in ESA's High-level Science Policy Advisory Committee advising its Director General, in the EC's FP7 Space Advisory Group, and it holds an observer status in ESA's Ministerial Councils. At the international level, ESSC maintains strong relationships with the NRC's Space Studies Board in the US, and corresponding bodies in Japan and China.

In line with the ESSC review in November 2003, a Strategic Plan for the Period 2007-2010 was published to enable the Committee to re-examine its position on the European space scene and the role it can play vis-à-vis the other space actors. Two main goals of this Strategic Plan are:

- to amplify and diversify the role of the Committee, with the goal of becoming the advisory body of the European Union on space sciences ;
- to bring together in an informal setting European national programme managers and top-level scientists and engineers and provide them with the possibility to identify pan-European strategic challenges and interact on common problems.

The ESSC has a new Chair since May 2007. Professor Jean-Pierre Swings is an astrophysicist from the University of Liège in Belgium. His main tasks over the next two years will be to materialise the Strategic Plan in a very concrete manner.

Among the activities that the ESSC will have in 2008 are:

- the evaluation of ESA's programme in life and physical sciences in space, including its exploration component;
- the assessment of potential European capacity for development of radio-isotopic devices for space exploration;
- the finalisation and approval of its Financial Plan 2008-2012 with its Funding Organisations.

> *More information:* www.esf.org/essc

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■ Committee on Radio Astronomy Frequencies (CRAF)

Established in 1988, CRAF represents all the major radio astronomical observatories in Europe. Its mission is to coordinate the protection of the frequency bands used by radio astronomers in Europe i.e. to keep them free from interference. This task will remain indispensable for astronomical science in the foreseeable future. The committee's pursuit of this task is becoming increasingly difficult, given the steady increase in global use of the electromagnetic spectrum for both terrestrial and space-borne communications e.g. mobile telephones.

At the European level, the committee plays a key role in defining, coordinating and articulating the frequency needs of the radio astronomy community. In the global framework CRAF is the European Sector Member of the International Telecommunication Union (ITU).

> More information: www.esf.org/craf

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Astronomy & Mechanics,
Greece

Dr. Jerzy B. Usowicz
Torun Centre for Astronomy,
Dept. of Radio Astronomy,
Poland

Dr. Gudmund Wannberg
EISCAT Scientific
Association, Kiruna,
Sweden

■ Nuclear Physics European Collaboration Committee (NuPECC)

This Expert Committee's tasks are to strengthen European collaboration in nuclear physics and science. NuPECC defines a network of complementary facilities within Europe and encourages optimisation of their use. The Committee provides a forum to discuss the exploitation of future facilities and instrumentation; and to issue recommendations on the development, organisation, and support of European nuclear physics, and of particular projects.

NuPECC regularly presents reports on scientific issues of importance to the European nuclear physics community and publishes a Long-Range Plan (Forward Look) every 6 years delineating the perspectives for the field and giving recommendations and priorities for the advancement of nuclear science in Europe.

NuPECC continues to pursue its joint initiative with the European Physical Society, PANS (Public Awareness of Nuclear Science), and produces pamphlets, books and CDs. NuPECC also continues to work closely with nuclear physics research networks supported via the Framework Programmes of the European Commission.

Through its quarterly magazine, Nuclear Physics News International, NuPECC provides accurate and timely updates on the status of nuclear science.

> More information: www.esf.org/nupecc

Chair:

Professor Brian Fulton

University of York,
Department of Physics,
United Kingdom

Members:

Professor Claude Amsler

CERN, Genève, Switzerland

**Professor Jean-Paul
Blaizot**

European Centre for
Theoretical Studies in
Nuclear Physics and Related
Areas, Trento, Italy

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Milano, Italy

Professor Tullio Bressani

Istituto Nazionale Fisica
Nucleare, Dept. of
Experimental Physics,
Torino, Italy

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Zagreb, Croatia

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Physics Institute, Rez
(Prague), Czech Republic

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Centro de Física Nuclear
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Dr. Dominique Goutte

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Caen, France

**Dr. Dominique
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Groupe Physique Nucléaire
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Gustafsson**

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Dr. Thomas Peitzmann

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Professor Hans Ströher

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Professor Jan Styczen

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**Professor Jochen
Wambach**

Institute for Nuclear Physics,
Technische Hochschule
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Professor**Eberhard Widmann**

Stefan Meyer Institute
for Subatomic Physics,
University of Vienna, Austria

Dr. Nicolae-Victor Zamfir

Bucharest, Heavy Ion
Department,
Bucharest, Romania

ESF Science Advisory Board

The Science Advisory Board (SAB) advises the Chief Executive on strategic science issues, and scientific advice with regard to ESF's key instruments (including EUROCORES, Forward Looks, ESF Conference Scheme). It also provides overall science quality control of the ESF, such as overseeing the complete peer review system, the composition and operation of ESF Panels and Committees (including Review Panels, Forward Look Management and Scientific Committees, European Latsis Prize, Expert Committees), safeguarding of the interdisciplinarity of ESF instruments and keeping an oversight on ESF procedures.

The SAB is composed of six high level researchers with a broad disciplinary balance with very strong scientific reputations as the first consideration, covering the whole research spectrum, plus the Chairs of ESF's five Standing Committees. Members are chosen from nominations by ESF Member Organisations and are appointed by the Governing Council for a maximum period of three years, renewable once.

Independent Members:

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(Chair)**

(Political Sciences)
Finnish Institute of
International Affairs
Finland

Professor Edouard Brézin

(Theoretical Physics)
Département de Physique
Laboratoire de Physique
Théorique de l'Ecole Normale
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Professor Judith Howard

(Structural Chemistry)
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Department of Chemistry
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(Social Psychology)
Lehrstuhl Sozialpsychologie
Institut für Psychologie
Friedrich-Schiller-
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Germany

Professor Kai Simons

(Molecular Cell Biology)
Max-Planck-Institute of
Molecular Cell Biology
and Genetics
Germany

Professor Louise Vet

(Ecology) Netherlands
Institute of Ecology (NIOO)
The Netherlands

Standing Committee Chairs:

Professor

Sir Roderick Floud

(Economic History)
Social Sciences (SCSS)
London Metropolitan
University
United Kingdom

Professor

Liselotte Højgaard

(Clinical Physiology)
*European Medical Research
Councils (EMRC)*
Director, Head of Department
Clinical Physiology, Nuclear
Medicine & PET
Rigshospitalet
University of Copenhagen
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Professor

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(Statistical Mechanics)

*Physical and Engineering
Sciences (PESC)*

Université Libre de Bruxelles
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(Clinical Psychology)

Humanities (SCH)

Department of Psychology
Institute of Clinical Psychology
University of Copenhagen
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Professor

Alexandre Quintanilha

(Biochemical Physiology)

*Life, Earth & Environmental
Sciences (LESC)*

Director Instituto de Biologia
Molecular e Celular
Portugal

Science Strategy

The rationale behind the Strategic Plan is to first provide our Member Organisations with instruments and programmes within the Science Strategy activity which aim to provide sound advice and foresight in science and, drawing on these new perspectives generated by activities such as Forward Looks (p. 37), Member Organisation Fora (p. 42), and Exploratory Workshops (p. 44), a new agenda with a European focus is then set.

Forward Looks

ESF Forward Looks is a foresight instrument enabling policy makers from ESF Member Organisations, in interaction with Europe's scientific community and other organisations, to develop medium to long-term views and analyses of future research developments in Europe in a global context. The purpose of a Forward Look is to assist organisations with developing common science agendas and priority setting for research and research infrastructure funding at the national and the European levels.

The new process of selecting Forward Look topics introduced in 2007 offers the leading role to ESF Member Organisations and at the same time allows Standing Committees, and via them the European scientific community, to play an active role in their initiation.

This new concept for the Forward Look instrument was discussed in a report by Barend van der Meulen *"Looking Beyond Endless Frontier. ESF Forward Looks Scheme: Analysis and Recommendations"* which positions the ESF Forward Look instrument in the wider foresight landscape and sets up a framework for its future development.

> More information: www.esf.org/flooks

■ **Standing Committee for the European Medical Research Councils (EMRC)**

Ageing, Health and Pensions in Europe • (2008-2009)

Joint Activity with SCSS

see page 41

European Food Systems in a Changing World • (2006-2008)

Joint Activity with LESC SCH SCSS

see page 40

Investigator-Driven Clinical Trials • (2007-2008)

The need for coordination of clinical research in Europe is a mandatory step to speed up the movement of scientific discoveries from the bench to the bed and expand outreach efforts to minority and medically underserved communities.

An integrated, EU-wide clinical research approach is necessary to reduce fragmentation and allow high-quality, multinational clinical studies. In order to recommend adequate far-reaching initiatives, a state of the art analysis will be undertaken under the format of the Forward Look "Investigator-Driven Clinical Trials" and will develop over the coming year.

Towards this goal, five strategic workshops are being organised in 2008 to address the following issues:

1. Categories and Design of Clinical Trials
2. Regulatory and Legal Issues, IPR and Data Sharing
3. Management and Logistics of Investigator-Driven Clinical Trials
4. Education, Training, Career and Authorship
5. Funding and Models of Partnerships

This Forward Look will lead to a consensus conference which will be held on 29-30 September 2008 followed by the publishing of a report highlighting the key recommendations on how to better coordinate the various national and European initiatives in this domain and overall strengthen investigator-driven clinical trials in Europe in an international perspective.

> *More information:* www.esf.org/idct

RNA World: a new frontier in biomedical research • (2007-2009)

Joint Activity with LESC

The main objective of this study is to explore the full potential of RNA-technology for medical application by foreseeing developments that are likely to take place during the next decade, by stimulating cooperation between the medical community and molecular biologists. Research on RNA molecules has produced amazing results in recent years. Much progress has been made in basic science and its translation into clinical application. Not without reason was RNA voted "Molecule of the Year" or runner-up several times by Science magazine over the past few years. The 2006 Nobel Prize in Medicine was awarded for their discovery of RNA interference - gene silencing by double-stranded RNA.

Gene silencing by RNA interference represents just one

area of potential for RNA in medicine. Even though technical problems have to be overcome the first clinical applications are being developed. The Forward Look RNA World which was launched on 25 May 2007 uniquely integrates projects and networks of ongoing EC and ESF projects with the aim of taking a comprehensive look at the future of this fascinating research area. The first workshop entitled “Methodologies for RNA discovery” addresses questions as to how to identify new RNAs and how to localize RNAs and their expression and what the primary sequence of a RNA would tell us. Two other workshops are scheduled for 2008 and will address the issues of molecular interactions of RNAs with their protein partners and RNA therapeutics, respectively.

> *More information:* www.esf.org/maworld

■ Standing Committee for the Humanities (SCH)

European Food Systems in a Changing World • (2006-2008)

Joint Activity with ERM LESC SCSS

see page 40

Security – Advancing a Framework for Inquiry (SAFE) • (2007-2008)

Joint Activity with SCSS

Security research has proceeded far too long without adequate input from human and social sciences, focusing on crisis management and threat countering. This Forward Look will develop new perspectives for integrated research, to inform long-term understandings of models of security, of contingent cognitive, cultural, ideological and legal frameworks, and of relevant management issues.

The objective is to address scientifically complex issues such as critical thresholds and systemic scientific imbalances. Through comparative studies, the Forward Look will reflect the different approaches to the topic in the ESF constituencies.

A global science advisory board and partnerships in Europe and beyond will ensure a high level of knowledge transfer and a sustained science-and-policy dialogue (e.g. through EU, UN, NATO, CIS, etc.).

> *More information:* www.esf.org/safe

Religion and Belief Systems • (2007-2009)

Joint Activity with SCSS

Against the background of existing national and international research programmes on religion – borne mainly out of societal requests to tackle the rise of religion as a social force in contemporary Europe – this Forward Look aims at exploring the specificities of religions as opposed to other belief systems. Very basic questions such as what people believe in and how beliefs are structured, be they religious (e.g., God's will, sin, redemption) or secular (e.g., democracy, equality, racial superiority) are still far from being answered. Given the strong motivational forces that religions can liberate, policy makers and academics are still ill-equipped to understand religion

as subject and object of social and cultural change. Little is known about how beliefs change and how religions are instilled, chosen, abandoned and transformed. This Forward Look will look not only at contemporary Europe (which would preclude the possibility to examine Europe's specificity), it will also make efforts at seeking comparative dimensions and historical depth. Appropriate research strategies for the inclusion of important areas of intersections of religions and other sectors of society – law, education – will be explored.

> *More information:* www.esf.org/belief

■ **Standing Committee for Physical and Engineering Sciences (PESC)**

European Computational Science - The Lincei Initiative: from computers to scientific excellence • (2006-2008)

Joint Activity with LESC

The aim of this Forward Look is to develop a vision on how computational sciences will evolve in the coming 10 to 20 years. Over the last ten years research codes have grown from individual solutions to versatile yet complex tools. They are instrumental in over 2000 publications per year in international journals but they increasingly require new development and maintenance schemes. Based on a scenario of how this field and the needs of the scientific community will evolve, a strategy will be presented to structure support and development at the European level.

This Forward Look is initiated by the atomic-scale materials simulation community, but the outcome will be of interest to other Computational Science communities as well. Implementation of the recommendations of this Forward Look should lead to an advanced cyber-infrastructure that allows Europe to maintain its leading position in this field.

> *More information:* www.esf.org/lincei

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

European Computational Science - The Lincei Initiative: from computers to scientific excellence • (2006-2008)

Joint Activity with PESC

see page 40

European Food Systems in a Changing World • (2006-2008)

Joint Activity with EMRC SCH SCSS

Food security is a primary societal goal in which food systems play a pivotal role. European food systems are changing, driven by complex technological and policy factors including Common Agricultural Policy (CAP) reform. These changes will affect the interactions between food availability, food access and food utilisation in uncertain ways. In addition to providing safe and healthy food, European food systems also contribute to an increasing number of goals including environmental functions, landscape and society objectives. This Forward Look, undertaken together with COST (European Cooperation in the field of Scientific and Technical Research), will focus on how

the changes in Europe's food systems drivers, in the context of balancing the varied goals, will affect these interactions.

> *More information:* www.esf.org/food

RNA World: a new frontier in biomedical research • (2007-2009)

Joint Activity with EMRC

see page 38

■ **Standing Committee for the Social Sciences (SCSS)**

Ageing, Health and Pensions in Europe • (2008-2009)

Joint Activity with EMRC

The project will look at labour market issues, income security of an ageing population, and well-being of the elderly, issues which are of increasing concern for the whole of Europe, with the growing life expectancy of its population. The Forward Look will identify research themes to be addressed in order to be able to influence policy decisions and ensure that old age is not equated to bad health and poor living conditions. The project is expected to come up with research policy guidelines for setting priorities for data collection in the next decade, and for building an infrastructure that makes it possible for researchers to get access to the data, with appropriate restrictions concerning data privacy and sensitivity.

> *More information:* www.esf.org/ageing

European Food Systems in a Changing World • (2006-2008)

Joint Activity with EMRC LESC SCH

see page 40

Religion and other Belief Systems • (2007-2009)

Joint Activity with SCH

see page 39

Security – Advancing a Framework for Inquiry (SAFE) • (2007-2008)

Joint Activity with SCH

see page 39

Member Organisation Fora

Member Organisation Fora is an ESF activity that has been developed in response to a clear demand from the Member Organisations expressed during the Strategic Plan consultations. MO Fora are output-oriented, issue-related venues for the Member Organisations, involving others as appropriate, to develop joint actions. Such actions should benefit membership organisations' strategy development and/or lead to the development of best practices, common procedures or cooperative activities. The Fora will be time-limited activities and will generally encompass one or more meetings of representatives of the Member Organisations as well as others.

The ESF encourages the development of Member Organisation Fora by inviting Member Organisations to propose promising topics.

Selected topics "Research Careers" and "Evaluation of Funding Schemes and Research Programmes" held their launch meetings in late 2007. Further proposals from Member Organisations were discussed by the Governing Council in April 2008. Issues being monitored by ESF for potential development include medium-sized research infrastructures; Open Access; Research Infrastructure Systems; Long-term Preservation of Research Data; Research Integrity.

As a follow up to the 1st World Conference on Research Integrity, held in Lisbon in September 2007, ESF together with other international and national organisations are currently planning the launching of a Forum to develop joint activities to promote Good Scientific Practice.

> *More information:* www.esf.org/activities/mo-fora.html

Current MO Fora topics

- Peer-review

10 Organisations

For ESF Member Organisations peer review and grant awarding procedures are key to the quality of their performance and to their reputation in the scientific community. However, with changes to the ways research is organised and funded, new challenges and requirements for peer review arise. The objectives of this MO Forum are to exchange experiences and to develop best practices across Europe. The ESF Member Organisation Forum on Peer Review started with the international conference "Peer review – its present and future state" in October 2006.

In March 2008 the Forum held a workshop open to all ESF Member Organisations with an aim to share innovative ideas and to agree on common actions. The Action Plan will be announced later this year.

- Evaluation of Funding Schemes and Research Programmes

- 41 Organisations

- The focus of this Forum lies on the “post-grant” evaluation process, i.e. whether the funding schemes or the research programmes achieve their stated aims. The Forum provides a platform in which experiences with current practices in the different national organisations are exchanged and documented. The Forum aims to facilitate the networking of science officers engaged in evaluation in research funding agencies, research performing organisations and learned societies and will help them to share practical information in an informal way. Another objective of the Forum is to explore the needs and possibilities for collaboration in future evaluation exercises.

- Research Careers

- 38 Organisations

- This Forum aims to become an interface for the Member Organisations and supranational organisations including the European Research Council, the European Commission and the European University Association. It analyses existing studies, documents, strategies and funding instruments in order to identify and develop good practices and to draw recommendations on future strategies. In addition it discusses how to develop appropriate marketing campaigns to raise the international visibility of the European Research Area as an attractive labour market for researchers.

Exploratory Workshops

These small, interactive group sessions usually last 1-3 days and are aimed at opening up new directions in research and exploring emerging frontier research fields with potential impact on new developments in science. The workshops have a wide participation from across Europe and involve high-level scientists as well as young, independent researchers and scholars with leadership potential.

Successful proposals, selected following an open call for proposals and an international peer review process, demonstrate the potential for initiating follow-up research activities and/or developing future collaborative actions. Interdisciplinary topics are greatly encouraged.

> *More information:* www.esf.org/workshops

The ESF is funding a total of 54 Exploratory Workshops in 2008:

- EMRC** ESF Standing Committee for the European Medical Research Councils
- LESC** ESF Standing Committee for Life, Earth and Environmental Sciences
- PESC** ESF Standing Committee for Physical and Engineering Sciences
- SCH** ESF Standing Committee for the Humanities
- SCSS** ESF Standing Committee for the Social Sciences

January

PESC The Relevance Of Mathematics Education:
SCSS Convened by Paul Andrews (UK)
7 - 10 January 2008, Cambridge, United Kingdom

PESC Singularities In Mechanics: Description And Formation
Convened by Jens Eggers (UK)
21 - 25 January 2008, Paris, France

SCH Transnational Human Rights Obligations In The Field Of
SCSS Economic, Social And Cultural Rights
Convened by Willem Van Genugten (NL)
23 - 26 January 2008, Tilburg, Netherlands

February

SCH Long Term Socio-Ecological Research of an European
Watershed – Towards an Environmental History of the
Danube's Riverine Landscapes (ENVIRDANUBE)
Convened by Verena Winiwarter (AT)
21 - 23 February 2008, Vienna, Austria

March

SCSS Anthropology Of International Institutions
Convened by Birgit Müller (FR)
27 - 30 March 2008, Paris, France

PESC Astrophysical Tests Of Fundamental Physics
Convened by Carlos Martins (PT)
26 - 30 March 2008, Porto, Portugal

SCSS The E-Mediation Of Criminal Justice:
Internet Crime Reporting
Convened by Martin O'Brien (UK)
27 - 30 March 2008, Preston, United Kingdom

April

LESC Modelling And Interpretation Of Ice Microstructures
Convened by Paul Dirk Bons (DE)
9 - 11 April 2008, Göttingen, Germany

May

EMRC BIOBOR - Exploring New Opportunities Of Boron
Chemistry Towards Medicine
Convened by Zbigniew J. Lesnikowski (PL)
9 - 12 May 2008, Lodz, Poland

SCSS Access To Communication And Democratic Media
Infrastructures In The Digital Environment: The Impact
Of Convergence Digitalisation On Community Media
Policy And Practice
Convened by Kate Coyer (HU)
12 - 14 May 2008, Budapest, Hungary

LESC Veterinary Knowledge: Between Human Medicine And
SCH Agriculture, 1870 - 1970
Convened by Jean-Paul Gaudillière (FR)
15 - 18 May 2008, Paris, France

EMRC Cryopreservation Of Ovarian Tissue In Cancer Patients,
LESC Farm Animals And Endangered Species
Convened by Michael Von Wolff (DE)
16 - 17 May 2008, Heidelberg, Germany

SCH Ego-Documents In European Context
Convened by François-Joseph Ruggiu (FR)
21 - 25 May 2008, Bordeaux, France

LESC The Reuse Of Contaminated Sites For Local
SCSS Sustainable Development Strategies
Convened by Margherita Turvani (IT)
26 - 27 May 2008, Venice, Italy

PESC Hyperbranched Polymers As Novel Materials For
Nanoscale Applications: insight from experiment,
theory and simulations
Convened by Konstantinos Karatasos (GR)
26 - 28 May 2008, Heraklion, Greece

LESC Improving Estimates Of The Rate Of Sea-Level Rise
From The Greenland Ice Sheet
Convened by Tavi Murray (UK)
27 - 30 May 2008, Calla Millor, Mallorca, Spain

SCSS The Labour Market For Scientists And Engineers
Convened by Andries de Grip (NL)
29 - 31 May 2008, Maastricht, Netherlands

June

LESC Large-Scale And Long-Term Functional Biodiversity
Research In Europe
Convened by Markus Fischer (DE)
2 - 4 June 2008, Potsdam, Germany

LESC Developing Criteria For An Ecological And Ethical
SCH Valuation Of Environmental Impact of GM Crops
SCSS Convened by Franz Bigler (CH)
4 - 6 June 2008, Engelberg, Switzerland

PESC Physics Of Micro And Nano Flows
Convened by Lyderic Bocquet (FR)
9 - 12 June 2008, Leiden, Netherlands

SCSS Children's Participation In Decision-Making: Exploring
Theory, Policy And Practice Across Europe
Convened by E Tisdall (UK)
16 - 18 June 2008, Berlin, Germany

PESC Science And Technology Of Agreement
SCSS Convened by Oscar Vilarroya (ES)
19 - 21 June 2008, Barcelona, Spain

PESC Interplay Between Superconductivity And Magnetism
At Nanometer Scale
Convened by Filippo Giubileo (IT)
19 - 22 June 2008, Paestum, Salerno, Italy

SCH Singing Actor/acting Singer: Performance, Representation And Presence
On The Operatic Stage, 1600-2007
Convened by Susan Rutherford (UK)
23 - 26 June 2008, Manchester, United Kingdom

SCH Youth Radicalisation And The Role Of Secular
SCSS And Religious Ideologies In Legitimising Politically
Motivated Violence
Convened by Nicola Mai (UK)
26 - 27 June 2008, London, United Kingdom

SCH The Unthinkable: The Military Dead
Of The First World War
Convened by John Horne (IE)
30 June - 2 July 2008, Péronne, France

July

LESC Linkages And Feedbacks In Highly Dynamic, Alpine,
Fluvial Systems
Convened by Angela M. Gurnell (UK)
1 - 3 July 2008, Cornino (friuli), Italy

SCH Eugenics And Restorative Justice
SCSS Convened by Kathrin Braun (DE)
4 - 6 July 2008, Hanover, Germany

EMRC Molecular Signaling In Cardiovascular And Oncological
Diseases: Similar And Shared Pathways.
Convened by Maria Giovanna Trivella (IT)
14 - 15 July 2008, Pisa, Italy

August

PESC Correlations In Computer Science
Convened by Ellie D'hont (BE)
6 - 12 August 2008, Brussels, Belgium

EMRC Advance Directives: Towards A Coordinated
SCH European Perspective?
SCSS Convened by Susanne Brauer (CH)
12 - 21 August 2008, Zurich, Switzerland

September

EMRC New In Vivo Imaging Techniques: Challenges For
Experimental And Theoretical Immunology
Convened by Carmen Molina-Paris (UK)
1 - 3 September 2008, Leeds, United Kingdom

SCH Documenting Convergence And Diversity:
Mande And Atlantic Languages In Contact
Convened by Friederike Lüpke (UK)
7 - 9 September 2008, London, United Kingdom

SCH The International Community Of Experts And The
Transformation Of The Fatherland. Central Eastern
Europe In The European Context Since WWI
Convened by Katrin Steffen (PL)
11 - 13 September 2008, Warsaw, Poland

LESC Heterochromatin Structure And Function: From Repetitive DNA Sequences To Epigenetics
Convened by Miroslav Plohl (HR)
20 - 23 September 2008, Donja Stubica, Croatia

PESC Extreme Laboratory Astrophysics: Advances And Opportunities In High-Energy Density Experiments
Convened by Sergey V. Lebedev (UK)
21 - 24 September 2008, Paris, France

EMRC Advanced Instrumentation For Cancer Diagnosis
PESC And Treatment
Convened by Ken Peach (UK)
23 - 27 September 2008, Oxford, United Kingdom

SCH Mirror Neurons And Social Cognition
SCSS Convened by Riccardo Viale (IT)
24 - 25 September 2008, Turin, Italy

LESC Computational Disease Modeling
PESC Convened by Albert Compte (ES)
24 - 26 September 2008, Barcelona, Spain

SCSS Particularities Of Childbearing Determinants In East-European Countries After The Political Turnover
Convened by Cornelia Muresan (RO)
24 - 28 September 2008, Cluj-Napca, Romania

LESC Large Animal Models For Biomedicine
EMRC Convened by Angelika Schnieke (DE)
25 - 26 September 2008, Munich, Germany

LESC Mesophyll Conductance To CO₂: Mechanisms, Modeling And Ecological Implications
Convened by Jaume Flexas Sans (ES)
28 - 30 September 2008, Palma De Mallorca, Spain

October

LESC Eurolce2008
PESC Convened by Ignacio Sainz-Diaz (ES)
1 - 3 October 2008, Mahon, Minorca, Isles Balears, Spain

SCSS Where Migration Policies Meet The Migrants: Comparing European And North American Experiences
Convened by Anna Triandafyllidou (GR)
2 - 4 October 2008, Athens, Greece

SCSS The Emergence Of Southern Multinationals And Their Impact On Europe
Convened by Louis Brennan (IE)
2 - 4 October 2008, Dublin, Ireland

LESC Europe's Green Backbone - Post-Socialist Land Use Change In The Carpathian Region (eucare)
SCSS Convened by Patrick Hostert (DE)
9 - 10 October 2008, Berlin, Germany

SCSS Surveying Immigrant Population In Studies Of Social
And Political Participation: Methodological And
Technical Challenges
Convened by Joan Font-Fabregas (ES)
16 - 18 October 2008, Madrid, Spain

SCH Islamization Of The Cultural Sphere? Critical
Perspectives On Islam And Performing Arts In Western
Europe And The Middle East
Convened by Karin Van Nieuwkerk (NL)
22 - 25 October 2008, Amsterdam, Netherlands

November

LESC The New Role Of The Extended Phenotype
In Evolutionary Biology
Convened by David Hughes (DK)
2 - 5 November 2008, Copenhagen, Denmark

EMRC Mathematical Modelling To Link Contact Network
Analysis And Molecular Typing Of Pathogens
Convened by Mirjam Kretzschmar (DE)
5 - 7 November 2008, Utrecht/Bilthoven, Netherlands

SCH Late Roman Fine Wares: Solving Problems Of Typology
And Chronology
Convened by Miguel Cau Ontiveros (ES)
5 - 9 November 2008, Barcelona, Spain

LESC Seismic Oceanography
Convened by Valentí Sallarès (ES)
19 - 21 November 2008, Barcelona, Spain

December

SCH At The Roots Of European Legal Culture
Cross-Boarder Influences Of Legal Literature In Early
Modern Times
Convened by Serge Dauchy (FR)
3 - 6 December 2008, Lille, France

SCSS Individual And Team Decisions In Economics
Convened by Matthias Sutter (AT)
4 - 6 December 2008, Innsbruck, Austria

Science Policy Briefings

ESF Science Policy Briefings (SPB) originated as a means for the ESF to issue position statements on various science policy issues, such as the ethical use of animals in research or the issue of human stem cells. Since its launch in 1997 more than two dozen policy briefings have been published which deal with various issues within the European Research Area. ESF Science Policy Briefings emerge generally from initiatives of one or more ESF Standing Committees and/or Expert Committees or from Forward Looks exercises.

SPB28: Medical Imaging

Medical imaging plays a role of ever increasing importance at all levels of the healthcare system. This is why EMRC engaged in a Science Policy Briefing to strengthen Europe's position in this truly interdisciplinary scientific field. The recommendations emphasize the need for increased collaboration between different universities, between imaging specialists and clinicians, between academia and industry and between different imaging modalities. The establishment of interdisciplinary research groups of sufficient size provided with access to long-term funding is a pre-requisite to fostering further development of this research area in Europe.

The Science Policy Briefing edited by the EMRC Core Group member, Professor Arturo Brunetti from Naples (Italy) together with Professor Olaf Haraldseth from Trondheim (Norway) was published and publicised in October 2007 and was presented during the annual congress of the European Association of Nuclear Medicine that took place on 13-17 October 2007 in Copenhagen.

> *More details:* www.esf.org/spb28

SPB29: EUROHORCs and ESF's comments on the EC's Green Paper: "The European Research Area: New Perspectives" *EUROHORCs – ESF Science Policy Briefing*

The ESF worked with the EUROHORCs in preparing a joint response, which was submitted in September 2007, to the European Commission's "Green Paper" on the future of the European Research Area. The ESF and the EUROHORCs highlighted the crucial role that national level non-governmental stakeholders, such as research funders, research performers and academies, can play in structuring and advancing the ERA. The ESF and the EUROHORCs identified 11 points for actions and measures which they could take forward as their contribution to the ERA. A joint ESF-EUROHORCs Task Force will work in 2008 to prioritise and develop these points.

> *More information:* www.esf.org/spb29

SPB30: Research Integrity: global responsibility to foster common standards *ORI-ESF Science Policy Briefing*

Research Integrity is the cornerstone to all good research in various research fields. The issues with research misconduct such as fabrication, falsification, and plagiarism have been with us for centuries but with greater public investment in research, attracts far more attention than hitherto. ESF has taken the

lead in developing guidance on good research practice for some years and published an impactful Science Policy Briefing in 2000. ESF initiated and organised, with the US Office of Research Integrity, the First World Conference on Research Integrity in Lisbon in September 2007 under the Portuguese EU Presidency with the substantial support of the European Commission. This SPB No 30 briefing has stated the conclusion of this conference. It also details the need for future action plans including the organisation of an ESF MO Forum, the creation of a global clearing house for research integrity policy and procedures. It also explains the need to hold a second World Conference which will probably be held in Asia towards the end of 2009. In addition, the briefing identified the need to promote what is termed as the responsible conduct of research.

> *More details:* www.esf.org/spb30

SPB31: Structural Medicine: The Importance of Lipidomics for Health and Disease

The time has come for generating broad insights into post-translational processes that cannot be addressed by proteomics. Given that thousands of different lipids are present within a single cell and that many of these lipids are involved in modulating the processes of life, lipidomics needs to be explored as part of the field of metabolomics. Many of the wide-spread diseases involve lipids. Prime examples are cardiovascular disease, obesity-related type-2 diabetes, and stroke. Other major diseases like cancer and Alzheimer's disease also have a lipid involvement. The Standing Committee for the European Medical Research Councils (EMRC) organised a Strategic Workshop to analyse the role of lipidomics in the diagnosis and treatment of disease and to develop recommendations for a European science policy with the aim to support research and development within the lipidomics domain. The Science Policy Briefing that was scientifically approved by the EMRC Standing Committee and which will be published in May 2008 recommends:

- developing enabling technologies for research on lipidomics
- harmonizing lipidomics practices within the EU
- integrating lipidomics-related databases
- investing in adequate interdisciplinary educational training programmes

> *More information:* www.esf.org/spb31

SPB32: Population Survey and Biobanking

A multitude of national biobanks are present in Europe, however, the exchange of data and materials within the national legal frameworks is difficult. The Standing Committee for the European Medical Research Councils (EMRC) organised a Strategic Workshop to approach the topic in a multidisciplinary fashion. The goal of this activity is to develop science policy on population survey and biobanking. The SPB which was scientifically approved by the EMRC Standing Committee recommends converging the European biobanking activities, thus preventing fragmentation by reducing parallel activities in this field. The SPB also addresses ethical and legal issues and is to be published in May 2008.

> *More information:* www.esf.org/spb32

Research Infrastructures (RI)

ESF regards the provision of high-quality research infrastructures as a key factor in the development of the European Research Area (ERA), helping to sustain a robust, up-to-date research environment that will attract the best brains from Europe and the rest of the world and achieve high quality results.

ESF's definition of Research Infrastructures includes:

- Large research facilities with a unique capability
- Medium or small-scale research infrastructures which have a European-wide or regional impact (single-site or distributed) for their disciplines
- Data bases or collections (single-site or distributed) of substantial research value and European impact
- Underpinning infrastructure, such as broadband connectivity or GRIDS, for European research

> *More details: www.esf.org/research-infrastructure*

ESF Strategy in RI

The landscape within Europe for debating and planning current, upgraded and future new RI, has changed significantly in recent years with the emergence of ESFRI (Roadmaps for future RI) of RI development priorities in FP7, and of RI-centric ERA-NETS, as examples. ESF's Expert Committees and Boards have traditionally had a strong focus on RI and attention to RI issues is now also strengthening in the Standing Committees.

In writing its Strategic Plan 2006-2010, ESF reflected on how best ESF could contribute to debates and strategies in RI and how best to organise itself internally to fit the new Strategic Plan direction. To increase the engagement in RI issues of the scientific committees and boards, which represent or have contact with the majority of RI-user as well as some RI-provider communities, ESF has strengthened their responsibilities for coordinating scientific debates, reviews and strategies in their specific research domains. Overarching RI issues are dealt with at the corporate level by the Chief Executive's Unit.

Particular activities during the last year have included a strong scientific quality assurance role in the EC-EUROHORCs survey of RI at the European level. This survey will form the basis for an online database for European RI to be launched early in 2008, which will be continuously upgraded and available to researchers and policy makers, hosted by the EC and with ESF acting as scientific quality gatekeeper. In the wider RI context fields, the ESF has taken initiatives in support of its MOs and the scientific community in the Open Access debate and in the long-term preservation of research data.

In addition to its traditional role in undertaking Reviews of planned or existing RI, ESF is now able to deploy instruments such as Member Organisation Fora and Forward Looks to address the range of RI strategic issues.

European Reference Index for the Humanities (ERIH)

The SCH project ERIH aims at improving access to and assessment of research output of European Humanities scholars. Developed under the Chairmanship of former SCH-member Alain Peyraube (now: ERC Scientific Council), ERIH publishes in 2007/08 the first 15 sets of “initial lists” of categorised research journals in the Humanities. ERIH is built on an original amalgamation of peer review, qualitative and quantitative analysis. ERIH will deliver an effective new tool with which to assess the multilingual products of Humanities research in Europe. It is a very timely project, as the “European Research Area” is beginning to help overcome national and disciplinary boundaries also in the Humanities. ERIH has attracted interest of subject associations and research funders across Europe, and as far afield as the Americas – both North and South –, China, and Australia. ESF Member Organisations are invited to secure sustainability of and input to the project through the establishment of ERIH National Contact Points (ENCoP). Current subprojects consider the inclusion of non-journal publications (books, conferences, online) and the links to the Open Access world.

More information: www.esf.org/erih

Science Synergy

The activities which are grouped under Science Synergy aim to encourage and stimulate cooperation between researchers and Member Organisations for new directions in research, and to plan and implement European-level research. These instruments will bring together Member Organisations on an *à la carte* basis for the funding of those activities that fit their strategic priorities and interests. The ESF instruments to promote science synergy are ESF Research Conferences (p. 54), EUROCORES (p. 58) and ESF Research Networking Programmes (p. 77).

ESF Research Conferences

The ESF Research Conferences Scheme provides the opportunity for leading scientists and young researchers to meet for discussions on the most recent developments in their fields of research, and acts as a catalyst for creating new synergistic contacts throughout Europe and the rest of the world. It develops principally through the establishment of long-term partnerships between ESF and national and international organisations, including universities.

ESF Research Conferences currently cover the following scientific areas: Physics, Biophysics and Environmental Sciences; "Biology+:" Biology at the Interface with Other Science Disciplines (Chemistry, Physics, Computing Science, Mathematics and Modelling, Space Science, Clinical Medicine, Engineering, Environmental Science, Humanities and Social Sciences); Social Sciences and Humanities; Biomedicine; Global Health Economy; Global Change Research; Chemistry. Several initiatives in other scientific areas are also under discussion.

ESF Research Conferences are open to scientists worldwide, whether from academia or industry. Conferences may be single events or series, usually with a biennial meeting focusing on specific aspects of the same general topic. They normally last for four or five days and up to 150 participants and invited speakers may attend. Chairs select participants from applications received as a result of publicising the Conferences. A conference fee is charged to participants.

The activities of the Conferences Unit also include World Conferences (eg ESF-JSPS Frontier Science Conferences for Young Researchers and Follow-up Workshops) as well as a series of Summer and Winter Schools that provide advanced scientific training in Physics.

The ESF Conferences Unit, which is located in Brussels with a liaison base in Strasbourg, also acts as service provider for conferences arising from other ESF instruments.

■ ESF Research Conferences

ESF-FWF Conference in Partnership with LFUI

QUANTUM OPTICS: FROM PHOTONS AND ATOMS TO MOLECULES AND SOLID STATE SYSTEMS

Universitätszentrum Obergurgl, Obergurgl, Austria

24 February - 1 March 2008

Chairs: J. Schmiedmayer (Vienna), H.-C. Nägerl (Innsbruck) & H. Ritsch (Innsbruck)

ESF-UB Conference in Biomedicine

RARE DISEASES: CHANNELS AND TRANSPORTERS

Hotel Eden Roc, Sant Feliu de Guixols, Spain

8 - 12 March 2008

Chairs: M. Palacin (Barcelona) & T. Jentsch (Berlin)

ESF-EMBO Symposium

MOLECULAR BIOENERGETICS OF CYANOBACTERIA: TOWARDS SYSTEMS BIOLOGY LEVEL OF UNDERSTANDING

Hotel Eden Roc, Sant Feliu de Guixols, Spain

29 March - 3 April 2008

Chairs: E.-M. Aro (Turku), C.-C. Zhang (Marseille) & E. Dittmann (Berlin)

ESF-EMBO Symposium

ANTIVIRAL APPLICATIONS OF RNA INTERFERENCE

Hotel Eden Roc, Sant Feliu de Guixols, Spain

5 - 10 April 2008

Chairs: J. Kurreck (Stuttgart) & B. Berkhout (Amsterdam)

ESF-UB Conference in Biomedicine

SYSTEMS BIOLOGY

Hotel Eden Roc, Sant Feliu de Guixols, Spain

12 - 17 April 2008

Chairs: L. Serrano (Barcelona) & R. van Driel (Amsterdam)

ESF-EMBO Symposium

B CELLS 2008: COMPLEXITY, INTEGRATION AND TRANSLATION

Hotel Eden Roc, Sant Feliu de Guixols, Spain

16 - 21 May 2008

Chairs: J. Gordon (Birmingham) & R. Carsetti (Roma)

ESF-COST High-Level Research Conference

NATURAL PRODUCTS CHEMISTRY, BIOLOGY AND MEDICINE

Hotel Villa del Mare, Acquafredda di Maratea, Italy

18 - 23 May 2008

Chairs: K.C. Nicolaou (La Jolla) & D. Schinzer (Magdeburg)

ESF-LiU Conference

THE TRANSFER OF RESOURCES ACROSS GENERATIONS: FAMILY, INCOME, HUMAN CAPITAL AND CHILDREN'S WELLBEING

Klosterhotel, Vadstena, Sweden

9 - 13 June 2008

Chairs: E. Thomson (Stockholm) & J.O. Jonsson (Stockholm)

ESF-FWF Conference in Partnership with LFUI

NANOTECHNOLOGY FOR SUSTAINABLE ENERGY

Universitätszentrum Obergurgl, Obergurgl, Austria

14 - 19 June 2008

Chairs: B. Kasemo (Göteborg) & M. Grätzel (Lausanne)

ESF Mathematics Conferences in Poland in partnership with MSHE and The Institute of Mathematics (PAN)

OPERATOR THEORY, ANALYSIS AND MATHEMATICAL PHYSICS

The Mathematical Research and Conference Center, Bedlewo, Poland

15 - 22 June 2008

Chair: J. Janas (Cracow)

ESF-UB Conference in Biomedicine

PHARMACOGENETICS AND PHARMACOGENOMICS: ADVERSE DRUG REACTIONS

Hotel Eden Roc, Sant Feliu de Guixols, Spain

27 June - 2 July 2008

Chairs: M. Pirmohamed (Liverpool) & L. Becquemont (Paris)

ESF-LiU Conference

IMAGING WAR: INTERGENERATIONAL PERSPECTIVES

Klosterhotel, Vadstena, Sweden

3 - 7 September 2008

Chair: D. Webb (Leeds)

ESF-LiU Conference

REFORMING THE EUROPEAN STATE SYSTEM IN THE LONG EIGHTEENTH CENTURY

Klosterhotel, Vadstena, Sweden

10 - 14 September 2008

Chairs: J. Sihvola (Helsinki) & K.H. Stapelbroek (Rotterdam)

ESF-EMBO Symposium

BACTERIAL NETWORKS (BACNET/08)

Hotel Eden Roc, Sant Feliu de Guixols, Spain

13 - 18 September 2008

Chairs: M. Buttner (Norwich) & U. Jenal (Basel)

ESF-UB Conference in Biomedicine

NANOMEDICINE

Hotel Eden Roc, Sant Feliu de Guixols, Spain

19 - 24 September 2008

Chair: R. Gaspar (Lisbon)

ESF-COST High-Level Research Conference

SYSTEMS CHEMISTRY

Hotel Villa del Mare, Acquafredda di Maratea, Italy

3 - 8 October 2008

Chair: G. Von Kiedrowski (Bochum)

ESF-LiU Conference

THE RIGHT TO THE CITY: NEW CHALLENGES, NEW ISSUES

Klosterhotel, Vadstena, Sweden

11 - 15 October 2008

Chairs: B. Jouve (Vaulx-en-Velin) & M. Purcell (Seattle)

ESF-FWF Conference in Partnership with LFUI

NEW CHALLENGES IN EARTHQUAKE DYNAMICS: OBSERVING AND MODELLING A MULTI-SCALE SYSTEM

Universitätszentrum Obergurgl, Obergurgl, Austria

18 - 23 October 2008

Chair: D. Marsan (Le Bourget du Lac)

ESF-EMBO Symposium

PROTEIN DESIGN AND EVOLUTION FOR BIOCATALYSIS

Hotel Eden Roc, Sant Feliu de Guixols, Spain

25 - 30 October 2008

Chair: J. Damborsky (Brno)

ESF-UB Conference in Biomedicine

BIOBANKS

Hotel Eden Roc, Sant Feliu de Guixols, Spain

1 - 6 November 2008

Chairs: J.A. Orfao De Matos (Salamanca) & Kurt Zatloukal (Vienna)

ESF-FMSH Entre-Sciences Conferences on Interdisciplinary Environmental Sciences

NEW METHODOLOGIES AND INTERDISCIPLINARY APPROACHES IN GLOBAL CHANGE RESEARCHES

Centre IGESA, Ile de Porquerolles, France

5 - 10 November 2008

Chair: Dr. Joël Guiot (CEREGE Marseille France)

Vice-Chair: Dr. Sylvie Thoron (GREQAM/EHESS Marseille France)

ESF-FWF Conference in Partnership with LFUI

CHEMICAL CONTROL WITH ELECTRONS AND PHOTONS

Universitätszentrum Obergurgl, Obergurgl, Austria

22 - 27 November 2008

Chair: P. Swiderek (Bremen)

■ **ESF World Conferences**

ESF-JSPS Frontier Science Conference for Young Researchers

ROBOTICS: EXPERIMENTAL COGNITIVE ROBOTICS

Shonan Village Center, Kanagawa, Japan

9 - 15 March 2008

Chairs: Y. Nakamura (Tokyo), C. Torras (Barcelona) & J Andrade-Cetto (Barcelona)

■ **Summer/Winter Schools**

ESF-EP SRC-STFC Summer School in Physics & Astronomy (SUSSP)

HIGH-PRESSURE PHYSICS: SUSSP N°63

Island of Skye, United Kingdom

26 May - 6 June 2008

Course Director: M. McMahon (Edinburgh)

ESF-CERN Cargèse Summer School in High Energy Physics & Astrophysics

THEORY AND PARTICLE PHYSICS: THE LHC PERSPECTIVE AND BEYOND

Cargèse, France

16 - 28 June 2008

Course Director: L. Beaulieu (Paris)

ESF-IAS Winter School in Physics

THE 26TH JERUSALEM WINTER SCHOOL IN THEORETICAL PHYSICS: STRING THEORY AND LHC

Jerusalem, Israel

29 December 2008 - 12 January 2009

Course Director: tba

EUROCORES Programmes

The European Collaborative Research (EUROCORES) Scheme allows research funding organisations in Europe and beyond to support top-class research across all scientific areas by matching the needs articulated by the scientific community with their strategic priorities. The Scheme provides a flexible framework for researchers from Europe to address questions which are best tackled in larger-scale collaborative research programmes. It allows working “at the bench” in collaborative research projects by excellent researchers from different countries and, when appropriate, including colleagues from, for example, the US and Canada. The EUROCORES Scheme is currently supported by the EC Sixth Framework programme under Contract no. ERAS-CT-2003-980409.

The EUROCORES Scheme currently has 33 fully operating programmes involving more than 65 different funding agencies from 33 countries with 23 programmes in the Research Phase, bringing together more than 110 million Euros of national research funding. The programmes have so far generated more than 600 peer reviewed publications.

> *More information:* www.esf.org/eurocores

■ Standing Committee for the European Medical Research Councils (EMRC)

Development of a Stem Cell Tool Box (EuroSTELLS)

Stem cell-based approaches are currently being developed to repair or regenerate damaged tissues and to treat severe diseases such as diabetes, chronic heart failure, stroke, spinal cord injuries and other degenerative disorders. However, much remains to be learned and many technical obstacles must be overcome before the therapeutic potential of stem cells can be fully realised. Recognising the importance of promoting and investing in stem cell research in Europe, the ESF launched the EUROCORES programme “Development of a Stem Cell Tool Box” (EuroSTELLS) in 2005. With 21 research groups from 11 European countries, this programme aims at generating fundamental knowledge on stem cell biology, setting up the bases for comparative analyses of stem cells of different origins, and exploring their future clinical application. The ability to isolate, culture and manipulate stem cells *ex vivo* is a critical step towards elucidating their biological properties and developing their biotechnological and therapeutic potential. EuroSTELLS promotes and supports networking activities, contributing to create a critical mass of expertise in the stem cell field in Europe. The conference on “General Biology of Stem Cell Systems” held in Venice on 19-21 March 2006 fostered innovative and multidisciplinary collaborations as well as synergy with other European and international stem cell initiatives. Training activities, including workshops and summer schools, allow harmonisation of research tools, definitions and protocols in stem cell biology and increase quality assurance. The most recent workshop, “Challenges in Stem Cell Differentiation and

Transplantation” was held in Milan on 30 September – 3 October 2007. Attended by over 80 participants with world-renowned researchers in the field of stem cell research, this workshop also focused on the practical hurdles that need to be overcome for the therapeutic application of stem cells. Dissemination of EuroSTELLS activities, including a discussion of developments in the stem cell field and their impact on quality of life and public health, has generated wide media impact, including coverage on numerous international websites.

> *More information:* www.esf.org/eurostells

Pan-European Clinical Trials (ECT)

Pan European Clinical Trials is a unique programme that coordinates funding for pan-European non-commercial, investigator-driven clinical trials addressing questions that have a strong impact on the quality of life, morbidity and mortality of the European population. The ECT programme provides a framework for the implementation of pan-European clinical trials in compliance with current national legislation and European regulations. Two pan-European clinical trials aimed at rare diseases and the paediatric populations are funded under this programme.

The first is EURAMOS, a randomised trial of the European and American Osteosarcoma Group to optimise treatment strategies for respectable osteosarcoma based on histological response to pre-operative chemotherapy that involves 150 clinical centres in 13 European countries, US and Canada. EURAMOS is recruiting 1,400 patients over the next few years and has already recruited more patients than any previous osteosarcoma trial performed.

The second trial is PROFIDYS, a trial aimed at reducing bone morbidity using an oral biphosphonate in fibrous dysplasia that involves clinical centres in five European countries. As this disease is so rare, approximately 160 patients are being recruited for this trial.

By promoting and supporting networking, the ECT programme fosters synergy with other European and international initiatives. Training activities have contributed to the development of the necessary expertise for the implementation and management of multi-centre, pan-European academic clinical trials, in compliance with regulations for patient safety. Activities in 2008 include a Clinical Trials Training Course in London on 24-25 January. Dissemination activities have brought together clinicians, ethicists, legal experts, policy makers, charities and funding bodies, representatives from regulatory agencies, professional associations and patient organisations to discuss current regulatory and ethical issues to ensure patient safety in the conduct of academic clinical trials. The impact of these activities is evidenced by the wide coverage in the media and specialised publications as well as by the high social expectation.

> *More information:* www.esf.org/ect

Science of Protein Production for Functional and Structural Analysis (EuroSCOPE)

Joint Activity with LESC

A better understanding of the function of a protein requires a detailed analysis of its structure. Such studies (e.g. carried out on crystallised protein) require substantial amounts of high quality protein. The difficulties of producing sufficient amounts of protein for a structure-function analysis as well as for X-ray analysis (crystallisation) constituted thus far a major bottleneck for proteomics. Although this was and is well recognised by the scientific community, funding for a programme addressing this topic systematically has not been available in the post-genomic phase that started proteomics.

The EuroSCOPE programme bridges this gap by bringing together resources within Europe to accelerate research on protein production through scientific innovation and collaboration. The programme addresses the major stumbling blocks in the production of proteins for functional and structural analysis. With the focus on the basic understanding of the mechanisms underlying protein production, targeting, folding and stability, which eventually may result in the improvement of existing and the design of new expression systems. The detailed subfields of research include bottlenecks in gene expression; targeting the synthesised protein to a specific cellular location; and folding and stability of expressed proteins.

EuroSCOPE will join forces with the Microbial Physiology section of the European Federation of Biotechnology to organise the fifth meeting in the series Recombinant Protein Production (RPP) on 24-28 September 2008 in Sardinia, Italy.

> *More information:* www.esf.org/euroscope

Stress and Mental Health (EuroSTRESS)

Repetitive and uncontrollable stress is known to be a powerful risk factor for mental disorders. Whether an individual will respond adaptively or maladaptively to a stressor is defined by his/her genetics, developmental history and the environment in adulthood. In particular traumatic experiences in early life, notably neglect or abuse during childhood, could considerably add to the risk of subsequent psychiatric illnesses including major depression, psychosis and post traumatic stress disorder. The societal and economic burden of these stress-related illnesses is enormous. Hence it is of great importance to come to a better understanding of these influences of stress on mental health.

The EUROCORES programme EuroSTRESS will focus on two important questions through an interdisciplinary approach:

- How can early life experience and genetic background in concert evoke lasting changes in signalling pathways within the brain, resulting in altered behaviour and increased vulnerability to negative effects of stress in adulthood?
- How can periods of repetitive stress or traumatic events in adulthood (against a background of life history and genetic vulnerability) disrupt brain function such that the chances of precipitation of specific psychiatric disorders are increased?

> *More information:* www.esf.org/eurostress

■ Standing Committee for the Humanities (SCH)

Better Analyses Based on Endangered Languages (EuroBABEL)

The main purpose of the EuroBABEL programme is to promote empirical research on under-described endangered languages, both spoken and signed, that aims at changing and refining our ideas about linguistic structure in general and about language in relation to cognition, social and cultural organisation and related issues in a trans-/multidisciplinary perspective.

The diversity of the world's languages is on the verge of becoming dramatically reduced in the decades to come. Partly due to the attention that has been drawn to this problem, the field of linguistics has been moving towards taking the diversity of languages more fully into account. The dramatic change in the amount and the nature of primary data that is being collected and analyzed has proven to have, and will continue to have, a profound influence on our insights into the human language faculty. EuroBABEL will solidify this development and strengthen the impact of European research on linguistics as a whole. By conducting the research in close cooperation with researchers in the countries where endangered languages are spoken, the process of linguistic description, documentation and analysis of under-described languages will be accelerated.

The EuroBABEL programme is crucially different from – and complements – existing documentation initiatives in that our emphasis lies on bringing the newly gathered data to bear on the development of linguistic theory and all areas concerned with the study of language.

> *More information:* www.esf.org/eurobabel

BOREAS: Histories from the North - Environments, Movements, Narratives

The circumpolar North is now widely accepted as a unique early warning system for changing relations between society and the environment.

This region, which includes the Arctic and the sub-Arctic, has moved to the centre of global debates on environmental change, human adaptation, new post-cold-war partnerships and issues of post-colonial governance and strategy. However, much Arctic research has been dominated by natural science agendas, looking at the region as a natural “laboratory”.

Inhabitants of the Arctic are often seen as natural variables, while their understandings of the natural, cultural and spiritual processes that have shaped Arctic civilisations have not been adequately taken into account.

For political and other reasons, the circumpolar region has only recently re-emerged as “one” area, revealing past connections and current common problems and pointing to future challenges, such as the relationships between communities and the modern state (whether Soviet, post-Soviet or Welfare), NGOs and the global economy.

The involvement of local populations as research partners is very advanced in the North, and BOREAS offers a unique opportunity for scholars to explore the intersections of Southern (or “Western”) ways of knowing the environment and their local counterparts. BOREAS can redefine the geography of knowledge in Northern Europe and relate it to circumpolar regions worldwide, by moving beyond South-North dichotomies and centre-periphery models, as well as by crossing disciplinary and national boundaries. BOREAS also invites the research community to reflect upon their own approaches to studying the North.

> *More information:* www.esf.org/boreas

Consciousness in a Natural and Cultural Context (CNCC)

Until recently, many scientists considered consciousness to be an unsuitable topic for scientific research. Prompted by technological developments (including brain imaging techniques) as well as conceptual changes, this attitude has shifted, and scientific interest in consciousness has greatly increased during the past decade. Currently, the explanation of consciousness is considered by many to be one of the major unsolved problems of modern science.

The CNCC programme aims to meet this need by fostering top-quality consciousness research in Europe. Given the wide variety of phenomena which fall under the heading of consciousness – perception, emotion, attention, self-awareness, sensation, intentionality, dreaming, wakefulness and others – progress will depend on the integration of available scientific resources from a variety of theoretical and empirical disciplines and methods. Empirical data can serve to challenge and validate theoretical analyses, while conceptual analysis can provide directions and tools for the empirical scientists.

The CNCC programme aims to support the emergence of an integrated and truly interdisciplinary science of consciousness, within the humanities and between the humanities and the social, natural, and biomedical sciences. The programme encourages research that explicitly addresses the natural and cultural dimension of consciousness.

> *More information:* www.esf.org/cncc

Inventing Europe: Technology and the Making of Europe, 1850 to the Present

This EUROCORES programme aims at establishing robust transnational research teams that develop novel perspectives on the mutual shaping of transnational technology developments and the process of European integration. Inventing Europe thus looks at the processes and perceptions of technological change as an important arena for constructing Europe on the material, institutional, and discursive levels. The programme places the history of European integration within a broader transnational history of Europe, and seeks to transcend the range of national histories of Europe. From this perspective,

European integration began in the latter part of the 19th century and unfolded unevenly across the 20th century through a range of multilayered and contested transnational processes in which technology was deeply implicated, alongside as much as within the political arena.

> *More information:* www.esf.org/inventingeurope

Modelling Intelligent Interaction – Logic in the Humanities, Social and Computational sciences (LogICCC)

Joint Activity with SCSS

One of the most crucial and striking features of humans and their societies is the phenomenon of intelligent interaction. Many disciplines from the humanities to the physical sciences hold separate pieces of the puzzle posed by this pervasive but also elusive phenomenon. The EUROCORES programme “LogICCC - Modelling Intelligent Interaction” aims at a deeper understanding of intelligent interaction by letting logic in its modern guise act as a catalyst and a “match maker” between these different disciplines. This will lead to a general framework for analyzing intelligent interaction - and the key notions which it naturally brings with it, namely, communication, cognition and computation.

To achieve this goal, researchers from a wide variety of disciplines have been invited to team up. Some of these researchers are logicians, others are not. But what all participants in LogICCC projects have in common is their interest in understanding interaction, pursued with the common language and models provided by logic in its modern, pluriform, and outward-looking guise. In this way, new ideas will flow symmetrically between many disciplines, enriching logic itself in the process.

In addition, the EUROCORES programme LogICCC is looking for a balance between fundamental theoretical advances and innovative applications of logical models in the thematic areas of interaction, communication, computation, and cognition.

> *More information:* www.esf.org/logic

The Evolution of Cooperation and Trading (TECT)

Joint Activity with LESC and SCSS

A number of disciplines have adopted a common theoretical framework for explaining biological and cultural evolution that emphasises the properties of interacting, goal-directed agents, e.g. behavioural economics, evolutionary game theory in political science and economics, evolutionary approaches in cognitive, social psychology and neuroscience, replicator chemistry, population dynamic accounts of cultural evolution within anthropology, and the continued importance of evolution in our understanding of cooperative relationships between all kinds of organisms.

Methodological advances provide crucial new information about the properties of agents and their interactions. Examples include new tools from molecular genetics for inferring evolutionary relationships, new experimental work in economics, the development of neuroimaging methods, the continuing development of methods in cognitive science, and the renaissance of quantitative cross-cultural and comparative research.

The overall goal of TECT is to build a multidisciplinary research framework that encourages collaborative research into the evolution of cooperation and trading both within and between human, social, life and natural sciences.

> *More information:* www.esf.org/tect

The Origin of Man, Language and Languages (OMLL)

Language may be considered as one of the defining characteristics of the human species. The development of linguistic and cognitive skills in the prehistoric past can be studied nowadays with reasonable expectations of success thanks to new perspectives which have been developed through the collaboration of several disciplines, including genetics, linguistics, evolutionary and palaeo-anthropology, archaeology, neurophysiology, cognitive sciences and artificial intelligence studies.

Comparative maps of genetic and linguistic human families suggest interesting correlations between the distribution of genetic diversities and of linguistic groups. How the development of linguistic skills can be linked to the evolution of the brain and of its cognitive strategies – both in phylogenetic and ontogenetic perspectives – can now be explored by empirical studies and modelling tools alike. The OMLL programme supports collaborative research in this area.

> *More information:* www.esf.org/omll

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

4-D Topography Evolution in Europe: Uplift, Subsidence and Sea Level Change (TOPO-EUROPE)

The topography of Europe is at the interface of processes taking place at depth in the Earth, at the surface and in the atmosphere. During the last 20 million years, plate tectonic and other geodynamic processes in the Earth's interior have caused many changes in the surface topography of Europe. The TOPO-EUROPE programme is concerned with the geoscience of coupled deep Earth and surface processes and their effects on the evolution of the topography of continents and their margins. In addition to addressing world-class issues of Earth-System sciences, TOPO-EUROPE has considerable societal relevance. Indeed, topography affects society not only via landscape changes but also through its impact on geo-hazards and the environment. When sea-, lake- or ground water levels rise, or land subsides, flooding risks increase, directly affecting the sustainability of local ecosystems and human habitats. On the other hand, declining water levels and uplifting land may lead to higher risks of erosion and desertification. TOPO-EUROPE intends to investigate the 4-D topography evolution of the European continent, its margins, and adjacent parts of North Africa, Asia and the Middle East. This requires an interdisciplinary approach that integrates research in the subdisciplines of geomorphology, geochronology, geology, tectonics, geochemistry, petrology, geophysics, hydrology, geodesy, remote sensing and various branches of geotechnology.

This ESF EUROCORES initiative is a unique opportunity to establish a world-class programme based on Europe's strengths in integrated Solid-Earth sciences.

> *More information:* www.esf.org/topoeurope

Challenges of Biodiversity Science (EuroDIVERSITY)

The aim of the EuroDIVERSITY programme is to support the emergence of an integrated biodiversity science based on an understanding of fundamental ecological and social processes that drive biodiversity changes and their impacts on ecosystem functioning and society. Ecological systems across the globe are being threatened or transformed at unprecedented rates from local to global scales due to the ever-increasing human domination of natural ecosystems. In particular, massive biodiversity changes are currently taking place, and this trend is expected to continue over the coming decades, driven by the increasing extension and globalisation of human affairs. The EuroDIVERSITY programme meets the research need triggered by the increasing human footprint worldwide with a focus on generalisations across particular systems and on the generation and validation of theory relevant to experimental and empirical data.

The programme was launched in April 2006 and includes ten international, multidisciplinary collaborative research projects, which contribute to this goal by initiating or strengthening major collaborative research efforts. Some projects are dealing primarily with microbial diversity (COMIX, METHECO, MICROSYSYSTEMS), others try to investigate the biogeochemistry in ecosystems (BEGIN, BioCycle), the landscape and community ecology of biodiversity changes (ASSEMBLE, AGRIPOPES, EcoTRADE), and others focus on the diversity in freshwater (BIOPOOL, MOLARCH). In 2008, the EuroDIVERSITY programme will integrate the different European research teams involved with various thematic workshops, a summer school, EuroDIVERSITY sessions in international conferences, as well as joint peer-review publications.

> *More information:* www.esf.org/eurodiversity

European Collaboration for Implementation of Marine Research on Cores (EuroMARC)

Scientific marine drilling and coring from the sub-seafloor is crucial to progress in the Earth and environmental sciences because oceans regulate climate, cover the sites of fundamental geodynamic, geochemical and biological processes and preserve high-resolution records of the Earth history. Over the past 30 years, European researchers have played a leading role in international marine coring that has been central to most of the important advances in global dynamics science with far-reaching implications for the Earth and environmental sciences. They have contributed markedly to important scientific discoveries such as the operation of plate tectonics and the accretion of the oceanic lithosphere. Recent scientific advances in the field include the study of deep microbial communities, the discovery of frozen methane (gas hydrates) below the sea floor, the high-resolution evidence of past extreme and rapid climate variations, the establishment of new models for passive margin evolution, the understanding and quantification of oceanic biogeochemical cycling, and the discovery of large igneous provinces associated with continental break-up at volcanic margins.

EuroMARC aims at supporting all coring activities in marine areas and at enhancing the benefit from already established funding groups and research communities like, for example, the International Marine Global Change Study (IMAGES) and the European Consortium for Ocean Research Drilling (ECORD), which is a contributing member of the Integrated Ocean Drilling Programme (IODP). EuroMARC is an essential enabling tool to boost European leadership in the planning of international marine coring expeditions and the preparation of European proposals, hence ensuring the effective exploitation of research opportunities. Support of a properly resourced pre- and post-cruise science enabling programme will ensure that the nine participating countries will obtain the maximum benefit from marine coring investment, meet their mission requirements to maintain world-class environmental science communities, conduct excellent, innovative and societal-relevant science and maintain international science leadership.

> *More information:* www.esf.org/euromarc

Climate Variability and the Carbon Cycle – Past, Present and Future (EuroCLIMATE)

The climate for the next century, and thereafter, is expected to be largely different from the present and the recent past. CO₂ concentration is expected to reach levels unequalled over the past millions of years. Temperature is also rising rapidly. The last 150 years of meteorological observations and the reconstruction over the last millennium display a quite uniform climate. Only the reconstruction of paleoclimates extending much further back in time can help build a database with a broader climatic diversity. Such a database will, in addition, offer the possibility to test the reliability and robustness of the models used for future climate scenarios and thus to better understand how the climate system works.

EuroCLIMATE focuses both on reconstructing past climates using different well-dated and calibrated proxy records and on modelling climate and climate variations for a better understanding of the underlying physical, chemical and biological processes involved.

> *More information:* www.esf.org/euroclimate

Dynamic Nuclear Architecture and Chromatin Function (EuroDYNA)

One of the major challenges in biology is to understand how the genome orchestrates gene expression of the many thousand genes it encodes. To tackle this issue, the ESF together with national funding agencies from eight European countries have set the stage for 40 research groups to coordinate their efforts across Europe within the framework of the European Collaborative Research (EUROCORES) programme EuroDYNA.

EuroDYNA aims at advancing our knowledge of the control of gene expression in nuclear organisation. To do this the programme gathers and combines expertise in different fields such as dynamic chromatin structure and nuclear architecture, regulation of gene expression, RNA processing and transport as well as genome surveillance. Latest technologies in molecular biology and biochemistry are employed together with advanced microscopy, structural analysis and computational approaches in order to gain a deeper insight into how the nucleus operates. Detailed knowledge on the principles and mechanisms underlying the control of gene expression is vital for understanding the cause of many diseases and for developing rational procedures for genomic engineering, including gene therapy and stem cell engineering, and for many biotechnology applications.

There are nine Collaborative Research Projects (CRPs) under the umbrella of EuroDYNA which started their research in 2005.

In addition to its multidisciplinary character, the programme offers a wide range of networking opportunities to the entire EuroDYNA community; providing training possibilities and establishing a platform to stimulate new research initiatives between scientists with related yet slightly different scientific interests, and to promote collaboration with other national and European initiatives.

> *More information:* www.esf.org/eurodyna

Ecosystem Functioning and Biodiversity in the Deep Sea (EuroDEEP)

The deep sea is the largest environment on the planet, the least well known and one of the least studied. It contains extremely large, continuous habitats such as the millions of km² of abyssal plains and the 65,000 km long mid-oceanic ridge system. At the same time, it encloses relatively small (hundreds of km² to only a few m²), localised geological features such as canyons, seamounts, deep-water coral reefs, hydrothermal vents and fluid seepages on mud volcanoes, pockmarks or faults, which support unique microbial and faunal communities. What little we know about deep-sea ecosystems supports the hypothesis that more species occur in the deep sea than anywhere else on Earth. As much as 90 per cent of species collected in a typical abyssal sediment sample are new to science.

The Programme was launched in June 2007 and includes four international, multidisciplinary collaborative research projects. It aims at the exploration and identification of the different deep-sea habitats, assessing both the abiotic and biotic processes that sustain and maintain deep-sea communities in order to interpret variations of biodiversity within and between deep-sea habitats and the interactions of the biota with the ecosystems in which they live. The resulting scientific data are a prerequisite for the sustainable use and the development of management and conservation options aiming at the sustainable use of marine resources that will benefit society as a whole.

EuroDEEP is a programme for deep-sea biology and ecology that strongly depends and requires collaboration between taxonomists, microbiologists, ecologists, physical and chemical oceanographers and geologists. In 2008, the Programme level activities will include Thematic Workshops, participation in international conferences, short-term visit grants for scientists, cross-EUROCORES activities, and further linkage to other major Marine and Biodiversity Programmes at a European and international level.

> *More information:* www.esf.org/eurodeep

European Mineral Sciences Initiative (EuroMinScl)

Joint Activity with PESC

The chemistry of the Earth's crust/mantle/core depends on elements partitioning between minerals, and phenomena, such as super-plasticity or super-elasticity in minerals, could have a direct impact on large-scale geophysical and geochemical processes. Major advances in the use of physics-based experimental techniques and atomistic computer simulations now make it possible to better understand the relations between the structure of minerals and their physical properties. At the same time, in situ measurements of many minerals properties at extreme conditions of temperature and pressure corresponding to those existing in the Earth's interior are now feasible.

The EuroMinScl programme draws together different experimental techniques and computational activities into integrated collaborative research projects. Sometimes it calls for separate "computer experiments" while at other times computer simulation is needed even to interpret the experimental data uniquely. It also addresses the need for young researchers with an academic background in Earth sciences to be trained more in the physics-based techniques, where the methods are very different from traditional geosciences.

> *More information:* www.esf.org/eurominsci

Membrane Architecture and Dynamics (EuroMEMBRANE)

It never ceases to amaze how a layer of oil 5 nm thin makes the difference between life and death. The physical laws that govern the behaviour of cellular membranes and their component lipids and proteins are often counterintuitive, especially when coupled with the often bewildering variety of lipids and proteins found in any particular membrane. Recent technical developments in lipidomics, proteomics and membrane protein structure determination have, however, sparked a new wave of interest in this field.

The aim of the EUROCORES programme EuroMEMBRANE is to answer long-standing questions in membrane biology using cutting-edge technologies. These will address functional problems in a quantitative manner bringing together experimental tools with theoretical approaches. There will be a special emphasis on lipid-lipid and (glyco)lipid-protein interactions in the plane of the membrane in health and disease. Using various model organisms would allow cross-species comparison and bring an evolutionary perspective to biomembrane studies. This type of research requires a strong interdisciplinary collaboration that covers biological, chemical, physical and computational aspects of membranology over a broad dynamic range of time and length.

> *More information:* www.esf.org/euromembrane

Processes in the Passive Continental Margins (EUROMARGINS)

The nations of Europe share one of the world's longest passive margin systems and one of the most distinctive morphological features of the world's ocean basins. A remaining frontier for natural resources, passive margins mark the complex transition between continental and oceanic crust, with large sedimentary accumulations. In addition, passive continental margins, associated with unstable slopes, represent a major source of natural hazards, especially to the coastal communities of Europe.

The EUROMARGINS programme provides the international framework for promoting innovative, interdisciplinary work for the imaging, monitoring, reconstruction and modelling of the physical, chemical, and biological processes in the European passive continental margins. It encourages the development of new technologies and conceptual models aiming at the advancement of integrated research into the mechanisms responsible for continental break-up and the world ocean margin formation. The pooling of human resources, training of a new generation of interdisciplinary geoscientists, and optimal sharing of observational platforms or analytical and modelling facilities are considered important value-added ingredients of the EUROMARGINS programme.

> *More information: www.esf.org/euromargins*

Quality Control of Gene Expression – RNA Surveillance (RNAQuality)

Cells have developed multiple systems of quality control to ensure that they operate accurately. This also applies to the biogenesis and metabolism of various classes of RNAs, which only recently have been shown to be subjected to stringent surveillance mechanisms. Such systems target erroneous RNA molecules for degradation before irreversible cellular damage can occur. In particular, the presence of abnormally matured mRNA molecules might be detrimental to cells given their central role in protein synthesis. Surveillance mechanisms not only monitor RNA biogenesis in order to safeguard cells but are also implicated in the post-transcriptional regulation of wild-type transcripts and the elimination of accidentally damaged molecules. Post-transcriptional processes such as mRNA processing, export, localisation, silencing and turnover are interlinked by the use of common factors, which provide opportunities for quality control checkpoints. RNA quality control systems also modulate the clinical manifestations of many genetic disorders and hence represent promising targets for future therapeutic intervention.

Unravelling the molecular mechanisms underlying the growing number of discovered RNA quality control pathways and understanding how these systems are interconnected will be a major challenge. To address this, the ESF has launched the EUROCORES programme RNAQuality. The programme will focus on basic mechanisms of RNA quality control that operate at different levels of RNA biogenesis. Multidisciplinary approaches, ranging from molecular and cellular biology to structural analysis and high-throughput and computational approaches will be employed in diverse model systems.

In addition to its research component, the programme offers a wide range of networking possibilities, providing training opportunities and establishing a platform for European researchers.

> *More information:* www.esf.org/rnaquality

Science of Protein Production for Functional and Structural Analysis (EuroSCOPE)

Joint Activity with EMRC

see page 60

The Evolution of Cooperation and Trading (TECT)

Joint Activity with SCH and SCSS

see page 64

■ **Standing Committee for the Physical and Engineering Sciences (PESC)**

Cold Quantum Matter (EuroQUAM)

Quantum Matter is a matter in which all the constituent atoms and molecules are in a single quantum state and behave coherently as a single quantum object. It typically exists at temperatures less than one millionth of a degree above absolute zero. In the long term, quantum matter is expected to have applications in diverse areas ranging from high-precision measurement to quantum information. The field of quantum matter is a complex one that draws on atomic and optical physics, chemical physics and physical chemistry, plasma physics, statistical physics, solid-state physics and quantum chemistry.

Although the field is driven by fast advances in experimental capabilities, theoretical work is essential to guide experiments and explain their results. The EuroQUAM programme will provide vital opportunities for scientists from different disciplines and countries to collaborate, and in particular will stimulate collaborations between experiment and theory. Such collaboration is essential if Europe is to further strengthen its present status as a major contributor to the field. Major advances are expected as a result of the research being conducted within EuroQUAM. The focus of the programme spans four themes of research: atomic quantum gases with controllable interactions; formation of molecules in ultracold atomic gases; cooling molecules; and ultracold plasmas and Rydberg gases. The call for proposals was launched at the end of March 2006 attracting 24 Outline Proposals. After the two stages of Outline and Full Proposal selection and ranking followed by the funding decisions of the participating organisations 6 projects received funding. The first scientific committee meeting for the programme was held on 09 July 2007. This event brought together not only the members of the Scientific Committee but also many of the principal investigators from various consortia. EuroQUAM will have an invited session at ESOF 2008 in Barcelona. A major programme-wide conference and a summer school will also be held during 2008.

> *More information:* www.esf.org/euroquam

Friction and Adhesion in Nanomechanical Systems (FANAS)

Everyday operations on a broad range of scales, from nanometer and up, depend upon the smooth and satisfactory functioning of countless tribological systems. Friction is intimately related to both adhesion and wear, and all three require an understanding of highly non-equilibrium processes occurring at the molecular level to determine what happens at the macroscopic level.

The fast development, over last decades, of micro- and nano-mechanics brought up the need for a more basic understanding of the origins and behaviour of friction. Standard lubrication techniques used for large objects are expected to be less effective or even not applicable in the nano-world. Novel methods for control of friction and manipulation of nanoscale objects are therefore needed. A better understanding of triboprocesses has also a major impact for the protection of the environment (reduction of lubricant and energy consumption).

The aim of the EUROCORES programme FANAS is to get a better insight on the origins of friction and adhesion and to learn how to control them. In particular: understanding the relationship between adhesion and friction at the nano- and micro-scales and the mechanisms of energy dissipation in tribological systems, bridging the gap between the nano, micro and macro scales in friction, lubrication and adhesion, control and modification of frictional properties, nanomanipulations at interfaces, studies of biomimetic tribological systems and tribochemistry.

The Call for Proposals was launched in March 2007 and the launch of this programme is expected in 2008.

> *More information:* www.esf.org/fanas

Fundamentals of Nanoelectronics (FoNE)

The scientific goal of the Fundamentals of NanoElectronics (FoNE) programme is the development of new concepts necessary to master the operation of nano-scale devices. To realise the potential of nano-scale electronics it is necessary to understand quantum phenomena in semiconductors wires and dots, and control size, interface and proximity effects in a wide variety of hybrid nanostructures. FoNE is a four year programme which recognises that understanding the above phenomena is crucial to the development of nanoscale electronics and, thus, advances European research by concentrating and networking the activities of world-leading research groups.

The research in FoNE addresses many areas of nanoelectronics and will create the necessary knowledge for a society in which microelectronics is gradually replaced by nanoelectronics.

FoNE focuses on: nano-spintronics and hybrid devices with integrated superconduction, semiconducting and magnetic functionalities; electron-dependent transport in single-molecules and carbon nanotubes (CNTs); quantum transport, noise and related phenomena in quantum dots, wires and other novel structures.

> *More information:* www.esf.org/fone

Quantum Standards and Metrology (EuroQUASAR)

Precision measurements are at the heart of testing our physical models, they provide a strong motivation in physics and applied sciences for developing new methods and have an important place in our modern technology based society, where techniques such as GPS guide many of our day-to-day activities. The foundation for a new area of precision was laid by the latest Nobel-prize awarded achievements such as laser cooling, Bose-Einstein Condensation and precision metrology (optical comb generators). European scientists have had a significant share of contributions in realising these achievements.

EuroQUASAR will build on European expertise to develop a new generation of quantum standards with unprecedented performance. The programme will form a cohesive platform for utilising the latest developments such as quantum metrology and novel techniques of quantum engineering. EuroQUASAR will help paving the way for the achievement of future optical clocks and inertial sensors of record precision as well as novel fundamental tests based on atomic and molecular quantum systems with well defined, unique and perpetual features.

The Call for Outline Proposals was launched in March 2007 and by the deadline of 11 May 2007, seven Outline Proposals were received involving 46 Principal Investigators and 11 Associated Partners. The International Review Panel met on 2 July and selected five of these to be further developed into Full Proposals. The five submitted Full Proposals involving 43 Investigators are currently in the international peer review stage with the ranking meeting to be held on 14 December 2007. It is expected that the research and networking activities will start in March or April 2008.

> *More information:* www.esf.org/euroquasar

Self-Organised NanoStructures (SONS) II (2005 Call)

Self-organisation, or self-assembly, is a process in which a supramolecular organisation is established in a complex system of interlocking components. The mechanism that produces the organisation is determined by the competing interactions between the components. The hierarchy of interactions determines the hierarchy of levels in the final nanostructured material.

Thus self-organising compounds allow a defined and well-controlled construction of ordered architectures on a nanometer-scale.

The SONS programme concerns the utilisation of supramolecular interactions for the synthesis and positioning of functional assemblies, macromolecules, dendrimers, liquid crystals, tailor-made polymers and inorganic nanoparticles.

Molecular self-assembled architectures may find applications in advanced technologies such as new chip technologies (DNA probes, lab-on-the-chip), sensors transistors, data storage, light-emitting diodes, communication technologies, magnetic information storage, photovoltaic cells, and molecular motors and machines.

The second call for Proposals of SONS was launched in May 2005, and seven Collaborative Research Projects (CRPs) were selected for funding bringing together 51 research groups from 15 countries.

> *More information:* www.esf.org/sons2

Smart Structural Systems Technologies (S3T)

Major incidents due to failures in engineering infrastructure, modern transportation or other spheres of human activity are becoming less acceptable; zero-risk protection of citizens is now a long-term aspiration of governments. Whether it is civil infrastructure, an industrial plant, or a fleet of trains or aircraft, operators and engineers are under pressure to make every possible effort to assure public safety, including the procurement of new technology, while at the same achieving substantial increases of operational efficiency and cost reduction. Consequently, there is less focus on the design of new structures and more on the long-term goal of extending indefinitely, through minimum intervention, the safe and economical operational lifetime of individual structural components and entire systems. A "smart structure" is a system that has the ability to learn about its environment, process the information in real time, reduce uncertainty, and generate and execute control actions in a safe and reliable manner to accomplish the desired objective. The EUROCORES S3T programme seeks to lay down theoretical and experimental bases for the integration of state-of-the-art sensors into systems to monitor and control major structures.

Seven projects were launched within the S3T programme with the programme's first scientific committee meeting held in September 2006; these collaborative projects bring together 45 teams from nine countries. The topics deal with diverse areas of smart structures such as: material algorithms, finite element methods and experiments; smart sensing in structural health monitoring; aircraft morphing; shape memory alloys in civil engineering; measurement and monitoring of ageing underground infrastructures using micro electro mechanical systems; vibration control in civil engineering; and, shape control of membrane reflectors. Several networking, dissemination and training activities have been organised by the S3T community including joint events and initiatives with the NSF.

> *More information:* www.esf.org/s3t

■ Standing Committee for the Social Sciences (SCSS)

Cross-national and Multi-level Analysis of Human Values, Institutions and Behaviour (HumVIB)

The EUROCORES programme HumVIB seeks to systematically analyse data available from the European Social Survey (ESS) and other cross-national survey data in an innovative and comparative way on a European scale. It is the overarching objective to realise the concept of Europe as a natural laboratory for the social sciences in which the diversity of institutions, practices, histories, and resources enable researchers to analyse how human values, attitudes and behaviour are affected by the characteristics of the multi-level systems or contexts in which they occur.

The HumVIB EUROCORES programme is designed to combine the unprecedented individual-level data resources now available in Europe and typified by ESS, the comprehensive system-level and contextual data, appropriate new methods of multi-level analysis as well as the testing of carefully elaborated theories of the effects of institutions and structures or, more generally, contextual factors on individual attitudes and behaviour.

The project selection phase of the HumVIB Programme came to an end in late 2007. Collaborative Research Projects are expected to be launched in early 2008 and details will gradually become available on the project web page.

> *More information:* www.esf.org/humvib

European Collaborative Research Projects 2008 Call - ECRP IV

The ECRP Programme is designed to advance high-quality responsive mode, researcher-led, collaborative international research within and across all fields of the social sciences, offering opportunities to test innovative ideas, pool multidisciplinary expertise and strengthen European research capacity.

In 2008, funding organisations of 18 countries are participating in the scheme, and the deadline for submitting proposals is 28 April. Proposals will be evaluated at the European level within a common peer review process, with common criteria and procedures, after which funding decisions will be taken at the national level by the organisations concerned. The process is coordinated by ESF. The ESF web pages include a set of Frequently Asked Questions and related documentation on this EUROCORES programme. In addition, lists of the Collaborative Research Projects awarded in the 2005, 2006 and 2007 (ECRP I, II, III) competitions are available on the web.

> *More information:* www.esf.org/ecrp

Higher Education and Social Change (EuroHESC)

The EUROCORES programme on Higher Education and Social Change is designed to develop and implement interdisciplinary comparative research into the relationship between higher education and society. This will include the development of theories and hypotheses about this relationship and the factors which influence it, as well as addressing methodological issues of comparative research in this field (e.g. data comparability, combination of quantitative and qualitative research, and different levels of analysis).

Moreover EuroHESC is going to explore ways of utilising other social science datasets – for example, the European Social Survey (ESS) and Eurostudent – in order to set higher education research more firmly within the different social and cultural settings in which it occurs. Finally EuroHESC is expected to make a significant contribution to the development of research capacity in the field of higher education research and to an improved integration between the field and related scientific fields.

The Call for Outline Proposals on Higher Education and Social Change (EuroHESC) was launched on 13 March 2008 with a submission deadline of 15 May. It is currently supported by 17 countries.

> *More information:* www.esf.org/eurohesc

Modelling Intelligent Interaction – Logic in the Humanities, Social and Computational Sciences (LogICCC)

Joint Activity with SCH

see page 63

The Evolution of Cooperation and Trading (TECT)

Joint activity with SCH and LESC

see page 64

Research Networking Programmes

These long-term Research Networking Programmes are the platform for nationally funded research groups to address major scientific and research infrastructure issues with the goal to advance the frontiers of science.

A successful programme proposal, selected following an open call for proposals and an international peer review process, must deal with high-quality science and demonstrate the added value of being carried out at the European level.

ESF programmes are funded *à la carte* by ESF Member Organisations interested in funding such proposals recommended by ESF.

> *More information:* www.esf.org/programmes

The following new programmes were approved in the beginning of 2008 and will be launched before summer:

■ **Standing Committee for the European Medical Research Councils (EMRC)**

Functional Genomics in *Aspergillus Fumigatus* and New Strategies to Fight Against the First Fungal Pathogen in Europe (Fuminomics) • (2008-2011)

Joint Activity with LESC

7 contributing organisations

Regenerative Medicine (REMEDIC) • (2008-2012)

15 contributing organisations

Standard Drugs and Drug Standards. A comparative historical study of pharmaceuticals in the 20th century (DRUGS) • (2008-2012)

Joint Activity with SCH

see page 78

The European Children Cohorts Network (EUCCONET) • (2008-2012)

Joint Activity with SCSS

13 contributing organisations

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

Climatic Change - Manipulation experiments in terrestrial ecosystems (CLIMMANI) • (2008-2012)

17 contributing organisations

Evolution of Social Cognition: Comparisons and integration across a wide range of human and non-human animal species (CompCog) • (2008-2012)

Joint Activity with SCSS

see page 78

Frontiers of Speciation Research (FroSpects) • (2008-2012)
14 contributing organisations

Functional Genomics in *Aspergillus Fumigatus* and New Strategies to Fight Against the First Fungal Pathogen in Europe (Fuminomics) • (2008-2011)

Joint Activity with EMRC
see page 77

Natural molecular structures as drivers and tracers of terrestrial C fluxes (MOLTER) • (2008-2012)
10 contributing organisations

■ Standing Committee for the Humanities (SCH)

Standard Drugs and Drug Standards. A comparative historical study of pharmaceuticals in the 20th century (DRUGS) • (2008-2012)

Joint Activity with EMRC
8 contributing organisations

The Philosophy of Science in a European Perspective (PSE) • (2008-2012)

21 contributing organisations

■ Standing Committee for the Physical and Engineering Sciences (PESC)

Games for Design and Verification (GAMES) • (2008-2012)

12 contributing organisations

Interdisciplinary Approaches to Functional Electronic and Biological Materials (INTELBIOMAT) • (2008-2012)

13 contributing organisations

New Trends and Applications of the Casimir Effect (CASIMIR) • (2008-2012)

11 contributing organisations

Optimization with PDE Constraints (OPTPDE) • (2008-2012)

11 contributing organisations

The New Physics of Compact Stars (CompStar) • (2008-2012)

11 contributing organisations

■ Standing Committee for the Social Sciences (SCSS)

Evolution of Social Cognition: Comparisons and integration across a wide range of human and non-human animal species (CompCog) • (2008-2012)

Joint Activity with LESC
10 contributing organisations

Quantitative Methods in the Social Sciences (2) (QMSS2) • (2008-2011)

16 contributing organisations

In 2008, ESF also continues to support the following programmes:

■ **Standing Committee for the European Medical Research Councils (EMRC)**

European Research Network for Investigating Human Sensorimotor Function in Health and Disease (ERNI-HSF) • (2007-2011)

11 contributing organisations

The primary aim of this Research Networking Programme (RNP) is to establish an interdisciplinary research forum that will drive forward our understanding of human sensorimotor function in health and disease (stroke). Stroke is by far the most common cause of human disability in the EU, and damage to cortical brain regions is a very common outcome of stroke.

The launch of the ESF RNP “European Research Network for Investigating Human Sensorimotor Function in Health and Disease” took place at its first Steering Committee meeting in Strasbourg on 28 May 2007. The first Technical Workshop will focus on lesion reconstruction techniques and is planned to take place in Budapest, Hungary, on 21-22 April 2008. The second Technical Workshop will focus on diffusion tensor imaging to be held in Nottingham in August/September 2008.

A first Scientific Meeting is planned for the second year of the Programme in 2008, and Budapest is considered a suitable location for the event. The budget for 5 years is 457 000 Euros.

> *More information:* www.esf.org/erni-hsf

Frontiers of Functional Genomics (FFG) • (2006-2011)

Joint Activity with LESC

see page 82

■ **Standing Committee for the Humanities (SCH)**

Associated Regional Chronologies for the Ancient Near East and Eastern Mediterranean (ARCANE) • (2006-2010)

11 contributing organisations

Chronology underpins all archaeological and historical studies. To establish the proper sequence of events is a prerequisite for writing history.

The synchronisation of chronologies, and therefore of the histories, of the various areas of the Eastern Mediterranean and the Near East is an essential task without which the development of civilisations, their reciprocal influences, their convergence and divergence, cannot be described and understood. The ultimate goal of the ARCANE programme is to produce a reliable, relative and absolute chronology of the Near East and the Eastern Mediterranean, based on the synchronisation of regional chronologies for the third millennium BC.

> *More information:* www.esf.org/arcane

Early Agricultural Remnants and Technical Heritage (EARTH) • (2004-2009)

17 contributing organisations

The aim of the EARTH programme is to encourage collaboration and exchange on the dynamics of non-industrial agriculture. The central goal is to understand humans in action, investigating their knowledge, skills, perceptions and experiences, seeking patterns and tendencies from the Neolithic period to the beginning of industrial-scale agriculture. The scientists involved come from a wide variety of disciplines in the humanities, and often use methods from the life and earth sciences. The programme also aims to produce more effective means of interpreting, recording and communicating, particularly through highlighting the importance of the social and cultural context in explaining the processes of agricultural practice.

> *More information:* www.esf.org/earth

Representations of the Past: the Writing of National Histories in Europe (NHIST) • (2003-2008)

24 contributing organisations

The programme aims to bring together the histories of western and eastern Europe in a concerted attempt to bridge the historiographical divide which was cemented by the long cold war division of the continent.

Methodologically, the programme unites cultural transfer and comparative approaches, which are best suited to explore the complex relationship between national historiographies and national historical cultures in Europe.

> *More information:* www.esf.org/nhist

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

Archean Environmental Studies: the Habitat of Early Life (ArchEnviron) • (2005-2010)

9 contributing organisations

The aim of the programme is to coordinate and promote research on the environment of the early Earth and on the manner in which life appeared and evolved. The main research topics are: the composition and temperature of Archean atmosphere and oceans; the nature of Archean landmasses; interaction between Archean surface waters and the oceanic and continental crust; the search for traces of early life. The main emphasis is on the conditions at or near the surface of the Archean Earth. The approach is firmly based on the Earth sciences and thus to be distinguished from other complementary programmes in which the emphasis is on molecular biology and genetics. By focussing on the first two billion years of Earth history, this programme will also be distinguished from current exobiology programmes that focus mainly on life in modern extreme environments.

> *More information:* www.esf.org/archenviron

Behavioural Ecology of Insect Parasitoids - from Theoretical Approaches to Field Applications (BEPAR) • (2005-2009)

11 contributing organisations

This programme studies parasitoids, insects whose adult females lay their eggs in or on other insects and whose immature larvae develop by feeding on host bodies, resulting in the death of the host. A number of factors make parasitoids an ideal model for testing evolutionary hypotheses, usually through predictions derived from mathematical models and the experimental testing of such predictions. Since their reproduction process involves killing hosts, they can also be used on a large scale to control insect pests attacking a wide variety of crops, significantly reducing the use of toxic pesticides. This programme aims to expand and build on the theoretical and experimental developments achieved in this area to date, and carry out field tests of the theoretical predictions available.

> *More information:* www.esf.org/bepar

Body-size and Ecosystem Dynamics: Integrating Pure and Applied Approaches from Aquatic and Terrestrial Ecology to Support an Ecosystem Approach (SIZEMIC) • (2007-2011)

11 contributing organisations

Body size and species identity both contribute to the complex webs of interaction that determine the structure and function of ecosystems. SIZEMIC will attempt a synthesis of size and species-based approaches for describing structure and energy flux in ecosystems and seek to understand how the properties of individuals lead to observed patterns of size structure and diversity. This synthesis, building on recent theoretical developments in aquatic and terrestrial ecology, is used to develop and test size-based models that might be used to assess and monitor the impacts of human activities on ecosystems. The programme provides a focus for collaboration between theoretical and applied ecologists working on terrestrial and aquatic ecosystems and provide opportunities for young European scientists to work across existing research boundaries.

> *More information:* www.esf.org/sizemic

European Networking Summer School (Plant Genomics and Bioinformatics) (ENSS) • (2007-2012)

10 contributing organisations

Plant genome research developed into one of the most dynamic discipline of molecular life sciences. Plants are recognized as the basis of a bio-based economy and play a fundamental rule to sustain our environment. European countries bundle their efforts in the field in national and regional research programmes. Some of those have already developed sustainable co-operations with joint research projects. But many of these activities are currently limited to Western Europe. The fundamental idea of this project is to support

research networks all over Europe including third countries based by training young investigators and the exchange of knowledge and technological insides. Existing deficits in the access to technologies, resources but also skills and know-how will be supported to become overcome. The envisaged "European Networking Summer School" will organise a yearly summer course pursuing the training aspect, the exchange of ideas and the creation of an active and living network between European scientists, research organisations and research programmes. The support of the European Science Foundation for this activity would not only be necessary for its success but would also strengthen the political mark that the networking and training activity will set on a European integration and cooperation.

> *More information:* www.esf.org/enss

Frontiers of Functional Genomics (FFG) • (2006-2011)

Joint Activity with EMRC

23 contributing organisations

Functional genomics, the exploration of gene function on a global scale, is currently at the leading edge of progress in the life sciences and medicine.

The ESF programme "Integrated Approaches to Functional Genomics", which ended in October 2005, facilitated communication and interactions among European researchers and succeeded in engaging a wide audience, gaining considerable international recognition. This new programme will connect the most promising developments in functional genomics technologies with the expanding concept of systems biology, focusing particularly on applications in biomedicine, as well as the environment and implications for society at large.

> *More information:* www.esf.org/ffg

Functional Dynamics in Complex Chemical and Biological Systems (FUNCDYN) • (2006-2011)

Joint Activity with PESC

16 contributing organisations

The aim of this programme is to establish a competitive European research community in functional dynamics and to bring together researchers from the field of non-linear dynamics with researchers from biochemistry and biology. Living organisms are characterised by a plethora of chemical and structural details at numerous levels of complexity, making comprehensive understanding and modelling at every spatial and temporal scale an unattainable task. One aim of the FUNCDYN programme is the development of systematic methods for reduction of model complexity by restricting the modelling to relevant temporal and spatial scales without losing the quantitative predictive ability. Another aim is the development of equipment and experimental protocols for the efficient collection of relevant dynamic data. The programme will also include studies of non-biological systems, which are dynamically similar to living cells such as interacting oscillators

operating far from thermodynamic equilibrium. These types of studies are an inspiration for similar approaches for bio-systems and essential for testing the feasibility of new analytic and experimental ideas.

> *More information:* www.esf.org/funcdyn

Integrating Population Genetics and Conservation Biology: merging theoretical, experimental and applied approaches (ConGen) • (2004-2009)

16 contributing organisations

During the last two decades the role of genetics in conservation biology, and ecology in general, has been greatly emphasised. The assessment of genetic diversity in (endangered) animal and plant populations, whether natural or captive, wild or domesticated, is now pervasive. Such a process, and progress, is driven by technical, conceptual and socioeconomical factors as well. The scope of this programme is to activate a multidisciplinary European network of scientists working on conservation genetics from different perspectives and at different levels: (i) experimental population genetics, (ii) theoretical and computational population genetics, and (iii) practical conservation genetics of captive and natural populations.

> *More information:* www.esf.org/congen

Interdisciplinary Tropospheric Research: from the laboratory to global change (INTROP) • (2004-2008)

20 contributing organisations

Climate change and air quality represent key societal challenges. It has become clear over the last decade that the development of our societies can no longer afford to be just wealth-orientated but a sustainable development with an “environmentally friendly” approach is needed. However, such an approach is only possible if scientifically sound knowledge is made available to our societies. Understanding the multiphase chemical transformations of trace species in the troposphere requires a multidisciplinary approach which must involve groups of researchers with highly complementary skills. The aim of this programme is to respond to issues of strategic importance in European science policy and to strengthen interdisciplinary tropospheric research in Europe.

> *More information:* www.esf.org/introp

Mediterranean Climate Variability and Predictability (MedCLIVAR) • (2006-2011)

13 contributing organisations

MedCLIVAR aims to coordinate and promote research on the Mediterranean climate. The main goals include reconstruction of its past evolution, description of patterns and mechanisms characterising its space-time variability, and identification of the forcing parameters responsible for the observed changes. Emphasis is placed on the identification of trends present in

observational records as well as on climate predictions under future emission scenarios. MedCLIVAR also covers the study of the occurrence of extreme events – closely related to climate variability and changes, and the impact of climate change.

> *More information:* www.esf.org/medclivar

Nitrogen in Europe: assessment of current problems and future solutions (NinE) • (2006-2011)

13 contributing organisations

Nitrogen is an important cross-cutting theme over most of the important environmental problems for Europe: climate change, biodiversity, ecosystem health, human health, ground water pollution, etc. The NinE programme addresses interacting problems affected by excess nitrogen in the environment. Fixed nitrogen cascades through many different forms and environmental compartments, generate a highly interdependent network. Solutions to each problem therefore cannot be developed in isolation. The NinE programme is building the European scientific network necessary to quantify these interactions and underpin the development of future solutions, focusing its efforts on delivering a fully integrated assessment of European nitrogen problems.

> *More information:* www.esf.org/nine

Thermal Adaptation in Ectotherms: linking life history, physiology, behaviour and genetics (THERMADAPT) • (2006-2011)

17 contributing organisations

This programme studies thermal adaptation of ectothermic (coldblooded) organisms. The thermal environment is a factor crucially affecting ectotherm life history. Metabolism, thermal tolerance and resistance, as well as lower and upper temperature boundaries all differ between species and populations. This indicates the presence of specific adaptations but also constraints, whose physiological and genetic basis is generally not well understood. Ultimately, such adaptation at the physiological level affects the dispersal, migration, diapause and distribution of species. As a result, prominent within-species temperature-size effects (larger at cooler temperatures) and Bergmann clines (larger at higher latitudes) occur in all major animal taxa but remain largely unexplained.

The programme proposes to launch a cross-disciplinary, cross-taxonomic European effort to promote interactions between researchers working at different levels of biological organisation to integrate various approaches. The aim is to involve scientists working in molecular and cell biology to promote the use of new genetic and genomic techniques in this field in an attempt to link micro-evolutionary mechanisms to macro-evolutionary patterns. Broad use of these costly and know-how-intensive methods is best and most efficiently facilitated through a concerted effort at the European scale, involving training, exchange of specimens and sharing of facilities.

> *More information:* www.esf.org/thermadapt

Volatile Organic Compounds in the Biosphere-Atmosphere System (VOCBAS) • (2004-2009)

15 contributing organisations

The aim of this programme is to implement, support and coordinate a series of research activities involving atmospheric chemists, plant biologists, pathologists, entomologists, agronomists and foresters, to determine how biogenic volatile organic compound (VOC) emissions affect the relationship between the biosphere and the atmosphere. VOCBAS brings together this outstanding scientific community which carries out internationally recognised research into the production and emissions of VOCs by plants in the context of global change from a wide range of disciplines. It spans plant processes, genetics, and ecosystem functioning, environmental controls on VOC emission fluxes, flux measurements and modelling on the leaf, canopy, ecosystem and regional scales, and the emission of these compounds into the atmosphere.

> *More information:* www.esf.org/vocabas

Workshops on Marine Research Drilling (Magellan Workshop Series) • (2006-2011)

12 contributing organisations

Over the last decade European researchers played a leading role in the international marine research drilling community which has made major contributions to important discoveries and scientific advances such as: the operation of plate tectonics and the accretion of the oceanic lithosphere, the existence of microbial communities (deep biosphere) and the presence of frozen methane (gas hydrates) below the sea floor, past extreme and rapid climate variations, high resolution climate perturbations, new models for passive margin evolution, the mechanisms for biogeochemical cycles, and the discovery of large igneous provinces associated with continental break-up at volcanic margins. Societal relevance has moved several of those themes into the spotlight. One of those, rapid climate change, has an important impact on global environments (for example, earthquakes, volcanic eruptions, tsunamis, biological changes). However, such processes are far away from reliable short- and long-term prediction.

The ESF Magellan Workshop Series programme is a mechanism to stimulate and nurture the process of developing new and innovative science proposals to support European leadership in the development and planning of marine drilling expeditions. It is an initiative by the European Consortium for Ocean Research Drilling (ECORD), the European partner of the International Ocean Drilling Program (IODP) and as a European contribution to the IMAGES-related science.

> *More information:* www.esf.org/magellan

■ **Standing Committee for the Physical and Engineering Sciences (PESC)**

Advanced Mathematical Methods for Finance (AMaMeF) • (2005-2010)

16 contributing organisations

This programme aims to work towards the development and application of advanced mathematical tools in finance. As a consequence of the great variety of techniques required for progress in the development of viable financial models and risk management tools, there is a serious need for a highly disciplinary approach to conduct research in this area, an approach requiring expertise from a number of complementary areas of mathematics.

> *More information:* www.esf.org/amamef

Arrays of Quantum Dots and Josephson Junctions (AQDJJ) • (2004-2009)

16 contributing organisations

The physics and the properties of materials at reduced dimensionality are among the main emerging issues of research in condensed matter physics. These aspects are combined in arrays of Josephson junctions (JJ), nanoparticles and quantum dots. Arrays of these systems and their hybrid structures may display not only novel fundamental physics but also serve as a basis for future technologies. The aim of this programme is therefore to establish a network to cover these novel areas of research. In particular, special attention will be given to novel photonic methods of optical and microwave characterisation of these arrays which are contactless, fast, informative and, consequently, most efficient and simple in use.

> *More information:* www.esf.org/aqdjj

Automata: from Mathematics to Applications (AutoMathA) • (2005-2010)

17 contributing organisations

Automata theory (AT) is one of the longest established areas in Computer Science. Standard applications of AT include pattern matching, syntax analysis and software verification. In recent years, novel applications of automata-theoretic concepts have emerged from biology, physics, cognitive sciences, neurosciences, control, tomography, linguistics, mathematics, and other fields, while developments in information technology have increased the need for formally-based design and verification methods to cope with such emerging technical needs as network security, mobile intelligent devices, and high performance computing.

This programme proposes a set of co-ordinated actions for advancing the theory of automata and for increasing its application to challenging scientific problems.

> *More information:* www.esf.org/automatha

Computational Astrophysics and Cosmology (ASTROSIM) • (2006-2011)

14 contributing organisations

This programme aims to bring together European computational astrophysicists working on a broad range of topics from the stability of the solar system to the formation of stars and galaxies. Understanding our origins and the formation of structure in the universe is a challenging multi-disciplinary research activity that brings together observational, experimental and theoretical researchers with a broad range of expertise. The systems that we attempt to model are complex and involve a range of physical processes operating over enormous lengths and timescales. Computational techniques developed by researchers in Europe since the 1960s have played a central role in advancing this subject, developing theories for structure formation, testing cosmological models and solving the complex non-linear problems inherent to gravitational and hydro-dynamical astrophysical processes.

Understanding the strong interplay between different scales is essential for a complete theory and true comprehension of structure formation. Our aims are to strengthen the existing European activities in computational astrophysics, avoiding fragmentation as this field grows in strength and to exchange expertise through an active program of conferences, workshops, training schools and exchange visits. Our scientific objectives are to refine our computational techniques and multi-scale modelling in order to develop and test theories of structure formation in readiness for the grand challenge European projects planned by ESO and ESA over the coming decades.

> *More information:* www.esf.org/astrosim

Electron Induced Processing at the Molecular Level (EIPAM) • (2004-2009)

15 contributing organisations

The ability to understand, manipulate and control physico-chemical processes at the molecular level is one of the great challenges of modern research and underpins the development of vibrant new technologies of the 21st century, for example the development of nanolithography. This programme brings European research teams together to perform systematic investigations of how electron-induced processes may be used to manipulate molecular formation and reactions as the transition is made from isolated particle behaviour in a low pressure gas to many body interactions in the condensed phase.

> *More information:* www.esf.org/eipam

Experimental and Theoretical Design of Stimuli-Responsive Polymeric Materials (STIPOMAT) • (2005-2009)

10 contributing organisations

The aim of this programme is to combine the complementary expertise of leading European research groups in the experimental and theoretical study of complex structures on the basis of stimuli-responsive polymers and copolymers with linear or complex topology, with a view to understanding how such structures are formed and examining the correlation between the behaviour of these polymer systems under the change of external conditions (temperature, pressure, electric or magnetic field, shear, ionic strength, pH and composition of solution) and the chemical structure of the constituents.

> *More information:* www.esf.org/stipomat

Functional Dynamics in Complex Chemical and Biological Systems (FUNCDYN) • (2006-2011)

Joint Activity with LESC

see page 82

Global and Geometrical Aspects of Nonlinear Partial Differential Equations (GLOBAL) • (2004-2009)

11 contributing organisations

The aim of this programme is to study the global and geometric properties of solutions of nonlinear partial differential equations (PDEs), from the view point of theory and applications. Many problems in physics, medicine, finance and industry can be described by nonlinear partial differential equation, and their investigation has become an independent field with many research directions. One of these, on which this programme is based, is the analysis of geometric and global aspects of their solutions.

> *More information:* www.esf.org/global

Harmonic and Complex Analysis and its Applications (HCAA) • (2007-2012)

11 contributing organisations

The main idea of this project is to establish a fruitful cooperation between two scientific communities: analysts with a broad background in Complex and Harmonic Analysis, and Mathematical Physics, and specialists in Physics and Applied Sciences. Harmonic and Complex Analysis is a well-established area in mathematics. Over the past few years, this area has not only developed in many different directions, but has also evolved in an exciting way at several levels: the exploration of new models in mechanics and mathematical physics and applications has at the same time stimulated a variety of deep mathematical theories.

It is a multidisciplinary programme at the crossroads of mathematics and mathematical physics, mechanics and applications, that proposes a set of co-ordinated actions for advancing in Harmonic and Complex Analysis and for increasing its application to challenging scientific problems. Particular topics which will be considered by this programme include Conformal and Quasiconformal Mappings, Potential Theory, Banach Spaces of Analytic Functions and their applications to the problems of Fluid Mechanics, Conformal Field Theory, Hamiltonian and Lagrangian Mechanics, and Signal Processing.

> *More information:* www.esf.org/hcaa

Highly Frustrated Magnetism (HFM) • (2005-2010)

13 contributing organisations

This programme is a joint effort between solid-state chemists, experimental and theoretical physicists to unveil novel quantum states and effects where frustration plays a leading role. Its main goal is to reach a broad understanding of the important physical parameters that drive these new ground states and sketch out the generic phase diagrams for a broad variety of degrees of freedom, which extend beyond the simple frustration of magnetic interactions to include lattice couplings, orbital degrees of freedom, dilution effects, electronic doping, and more.

> *More information:* www.esf.org/hfm

Interdisciplinary Statistical and Field Theory Approaches to Nanophysics and Low Dimensional Systems (INSTANS) • (2005-2010)

12 contributing organisations

This programme aims to set up a new theoretical framework to answer the fundamental questions encountered in the modern physics of nanoscopic and low-dimensional systems, bringing together expertise in condensed matter, quantum field theory and statistical physics. It covers electronic systems, such as nanotubes, quantum dots and quantum Hall effect devices, as well as specific devices featuring cold atoms.

> *More information:* www.esf.org/instans

Mapping the Detailed Composition of Surface-adsorbed Protein Layers on Biomaterials and Nanoparticles (EpitopeMap) • (2007-2012)

10 contributing organisations

Interactions between cells and biomaterials determine the level of success of medical implants. A new paradigm for thinking about cell-biomaterial interactions is emerging, where it is the effect that the biomaterial has on the proteins that adsorb to the material upon contact with physiological solution that is important, rather than the actual nature of the surface

itself. The important parameter is thus the conformation and structure of the adsorbed protein layer, and in particular, the very outer protein layer, as this is what the cells actually see. In this programme it is intended to bring together scientists working in the traditionally separate areas of biomaterials and nanoparticles, in order to develop and apply the most cutting-edge characterization techniques to understanding the nature of the surface-adsorbed protein layer on biomaterials and nanoparticles, and the effect of this on biocompatibility and nanoparticle toxicity. Envisaged highlights of the programme include the exchange of ideas between the traditionally distinct research areas and the bringing together of a range of physical (characterisation and visualisation) techniques with biological and medical approaches to addressing the common goals, which will result in a great increase in the pace of understanding, a rational basis for risk assessment, and a reduction in the barriers to developing commercial applications of biomaterials and nanoparticles.

> *More information:* www.esf.org/epitopemap

Methods of Integrable Systems, Geometry, Applied Mathematics (MISGAM) • (2004-2009)

11 contributing organisations

The main goal of this programme is to establish and explore the bridge between the geometry of the theory of integrable systems and its asymptotic aspects; these results will have an impact on physics, applied mathematics and statistics. To this end, the plan is to investigate the relationships, discovered recently by mathematicians and physicists, between integrable differential equations, the topology of Deligne- Mumford moduli spaces and singularity theory.

> *More information:* www.esf.org/misgam

Middleware for Network Eccentric and Mobile Applications (MINEMA) • (2003-2008)

11 contributing organisations

During the last decade it has been possible to observe impressive scientific, technological and experimental advances in the area of ad hoc networks.

Although this technology is considered one of the main infrastructures for future applications, today there is a lack of appropriate middleware abstractions that adequately address the requirement of such a challenging environment. The aim of this programme is to bring together the main groups from different communities that are working on middleware for mobile environments and to foster the definition and implementation of widely recognised middleware abstractions for new and emerging mobile applications.

> *More information:* www.esf.org/minema

Molecular Simulations in Biosystems and Material Science (SimBioMa) • (2006-2011)

19 contributing organisations

The aim of the programme is to initiate a concerted European effort to develop those computational tools that can be used to obtain a better molecular understanding of the emergence of mesoscopic structure and dynamics in biological systems ("molecular systems biology") and in man-made nano-structured materials. In order to establish the link between molecular properties and mesoscopic materials properties, one must use an integrated approach that seamlessly integrates quantum calculations, molecular simulations and mesoscopic modelling techniques.

> *More information:* www.esf.org/simbioma

Multidisciplinary Frontiers of Magnetic Resonance (EMAR) • (2007-2012)

18 contributing organisations

Magnetic resonance techniques are among the most powerful and versatile spectroscopic tools with applications in many different fields. Their wide range of applications stimulates a great deal of cross-disciplinarity and the history of their continuous advances parallels that of their diverse fields of application. The agreement between different European Magnetic Resonance organisations to jointly run EUROMAR provides an opportunity to foster NMR and EPR in Europe to a leading international role and to transfer this strength along the complete scientific network that develop and uses these techniques. The proposal contains instruments to enhance interdisciplinarity and the discovery of new fields at the frontiers between different disciplines as well as training activities aiming at ensuring an optimal transfer of the knowledge down to the student level and across the national boundaries, through the participation of National Societies.

> *More information:* www.esf.org/emar

Nanoscience and Engineering in Superconductivity (NES) • (2007-2012)

17 contributing organisations

Confined condensate and flux in superconductors will be investigated at nanoscale by using various confinement patterns introduced artificially in the form of individual nanoplaquettes, their clusters and huge arrays. The dependence of the quantization effects on the confinement length scale and the geometry will be studied. The boundary conditions, defining the confinement potential, will be tuned by using the hybrid superconductor/normal and superconductor/magnet interfaces in superconducting nanosystems. The evolution of superconductivity at nanoscale will be revealed by determining the size dependence of the superconducting critical temperature and the gap in mass selected clusters and nanograins and also by studying superfluidity in different restricted geometries. Flux confinement by magnetic dipoles and other periodic pinning arrays in superconductors will be investigated.

By tailoring the confinement, physical properties of the confined condensates and flux can be designed starting from the fundamental Ginzburg-Landau equations (including their generalisation to two component order parameter) and applying them to the real samples with the boundary conditions imposed at the physical sample's boundary. This research will reveal the fundamental relations between quantized confined states and the physical properties of the superconducting quantum coherent systems, which will be also of importance for other scientific fields (superconducting elements for quantum computing, nanoelectronics, hydrodynamics, liquid crystals, plasmas).

> *More information:* www.esf.org/nas

New Generation of Organic based Photovoltaic Devices (ORGANISOLAR) • (2006 - 2011)

13 contributing organisations

Solar energy conversion based on organic materials is an emerging research field with substantial future prospects. A broad range of distinct device technologies are currently being developed, including dye-sensitized nanocrystalline solar cells, polymer/fullerene blends, small molecule thin films and hybrid polymer/nanocrystal devices. Several European groups have already established themselves as world leaders in this field with for example world record efficiencies for both dye-sensitised and polymer/fullerene devices currently being held by research groups in Lausanne and Linz respectively. Major nationally based research programmes are under way with extensive European industrial investment.

> *More information:* www.esf.org/organisolar

Quantum Degenerate Dilute Systems (QUDEDIS) • (2004-2008)

18 contributing organisations

The programme builds on the synergy which was achieved in the ESF PESC programme "BEC2000+ - Bose-Einstein Condensation and beyond". The programme adopts the current trends and developments of the field, which comprises degenerate Fermi gases, mixtures of Bose and Fermi systems, homo and heteronuclear molecular systems and even quantum phase transitions in the strongly interacting regime.

> *More information:* www.esf.org/qudedis

Quantum Geometry and Quantum Gravity (QG) • (2006 - 2011)

11 contributing organisations

The main objective of the programme is to stimulate the exchange of ideas between researchers pursuing different approaches to quantum geometry and apply the results to the study of quantum gravity. The research programme will study several approaches to quantum gravity, namely loop quantum

gravity, spin foam models, dynamical triangulations and matrix models. The common theme is the occurrence of quantum geometry in all these approaches. The research programme will study mathematical tools and techniques in non-commutative geometry and quantum groups and their applications to quantum gravity. The planned activities are workshops and conferences, schools and programmes of research visits. These are designed to increase the level of interaction between existing research groups and to give a broad education in all the approaches to a new generation of young researchers.

> *More information:* www.esf.org/qg

Stochastic Dynamics: Fundamentals and Applications (STOCHDYN) • (2003-2008)

14 contributing organisations

Stochastic tools have been used for both theoretical modelling of complex systems and the analysis of experimental data. They have proven to be a versatile interdisciplinary approach to tackle the nonlinear dynamics as encountered in statistical mechanics, solid-state physics, chemical physics, nanotechnology, biophysics and climatic dynamics. The goal of this programme is to address the foundations for the different levels of stochastic descriptions in nonlinear systems, to provide the further development of analytical and numerical tools, and the investigation of specific problems, as they arise in different areas of research, described by stochastic nonlinear theories.

> *More information:* www.esf.org/stochdyn

Thin Films For Novel Oxide Devices (THIOX) • (2003-2008)

12 contributing organisations

This programme, positioned at the intersection between condensed matter physics, chemistry, and materials science, is working on different aspects of thin oxide films and oxide hybrids (combinations of films with different functionalities) with possible use in devices. The potential of these materials is very high, but some of the key factors which control the physics, for instance the doping level and the structure, are also often difficult to control in films. Moreover, the compatibility of different oxides in terms of interface structure and electronic properties is a poorly understood issue; as are the effects of (substrate induced) strain. In all cases, structural and electronic properties depend on deposition method and growth conditions which have to be well understood and sensitively controlled. Advanced devices and fine tuning of the electronic properties of these materials require further research in these areas.

The large amount of parameters and the machinery required for fabrication and analysis make it impossible for any single group to get a firm grip on these questions, especially since they are strongly interdisciplinary in nature.

> *More information:* www.esf.org/thiox

Towards Atomistic Materials Design (PSI-K) • (2003-2008)

21 contributing organisations

This programme addresses the very rapidly developing field of computer simulation of materials, relevant to both science and technological developments. Simulations are carried out at the atomic level with ab initio quantum mechanical calculations that represent the bonding between atoms. New opportunities are being created for novel research on materials across physics, chemistry, materials science, nanotechnology and surface science, as well as earth sciences and biology, with already a small but growing number of applications to industry. The speed of advance is such that many current applications could not have been made three years ago and were hardly dreamt of five years ago.

> *More information:* www.esf.org/psik

Ultrafast Structural Dynamics in Physics, Chemistry, Biology and Material Science (DYNA) • (2005-2010)

15 contributing organisations

This programme aims to create a network of scientists to investigate ultrafast structural dynamics in Physics, Chemistry, Biology and Material Science, and of those who develop tools to enable such investigation.

The structural dynamics tools which are currently available in Europe include timeresolved IR and Raman techniques and X-ray diffraction; less-used and/or nascent structural techniques, which this programme aims to encourage, are multidimensional vibrational and electronic spectroscopies, X-ray absorption spectroscopy and electron diffraction.

> *More information:* www.esf.org/dyna

■ Standing Committee for the Social Sciences (SCSS)

European Neuroscience and Society Network (ENSN) • (2007 - 2012)

10 contributing organisations

Despite evidence that advances in the neurosciences are having a significant impact on the lives of individuals across Europe, there has been little formal engagement within the European social sciences with the ethical, social and legal implications of recent developments in the new brain sciences. The European Neuroscience and Society Network (ENSN) aims to establish a multidisciplinary forum for timely and necessary engagement with these issues, through the development of research strategies, conferences and workshops that will bring together leading European neuroscientists and social scientists for sustained discussions and cross-disciplinary exchanges about the present and future impact of advances in the neurosciences on our lives.

> *More information:* www.esf.org/ensn

European Social Cognition Network (ESCON) • (2003-2008)

23 contributing organisations

The objective of this programme is to enhance European scientific collaboration in the field of social cognition by calling upon the expertise and knowledge of active European researchers on the frontiers of social cognition. By helping to lay the foundations of an advanced European research training programme in social cognition, young scholars are given the opportunity to learn about cutting-edge developments that may be unavailable in their local institutions. This allows them to develop scientific networks early on in their careers.

> *More information:* www.esf.org/escon

Globalizing Europe Economic History Network (GLOBALEURONET) • (2006-2010)

15 contributing organisations

The main scientific objective of the programme is to investigate, on a systematic, Europe-wide and integrated (i.e., both quantitative and qualitative) basis, the economic, institutional and social specificities of Europe's participation in the globalisation waves that occurred during the last 150 years. Its strategic objective is to promote the convergence of quantitative research methods, the consolidation of existing and future research projects at national level into a European common research agenda, and the organisation of common education and training activities.

The programme will focus on the construction of an integrated, Europe-wide database for the period 1850-2000, based on a uniform, consistent methodology that will consolidate existing partial databases and enhance further collection of data, covering a wide range of quantitative indicators – both traditional and new – of market integration, social welfare, economic growth, as well as qualitative information on institutional development.

> *More information:* www.esf.org/globaleuronet

Public Goods, Public Projects, Externalities (PGPPE) • (2006-2010)

6 contributing organisations

The programme concentrates on the economic rather than political challenges that will help realise the longstanding dream of a political Europe. The idea of this study is that this will be achieved through the definition of European policies in the provision and financing of public goods and services, and defence of the environment.

Specific topics include pure public goods and public projects, impure public goods, public goods as production inputs, externalities and environment. The outcome of this programme will be the creation and development of an effective research network mixing theorists, specialists of political economy and of history of economic analysis and practitioners of public economics.

> *More information:* www.esf.org/pgppe

Qualitative Research in the Social Sciences in Europe (EUROQUAL) • (2006-2010)

15 contributing organisations

The proposal is for a research programme in qualitative methods, complementing the existing ESF programme in quantitative methods. It is based on the fact that while qualitative research is highly visible in many fields of social-science research, it exists within many sub-specialisms, and reflects national as well as disciplinary boundaries. There is a clear need for scholars throughout Europe to share, develop and promote high-level methodological expertise. There is an equally pressing need for capacity-building within the European social sciences. The programme addresses these needs through two closely linked activities: expert interdisciplinary and cross-national workshops and associated training events.

> *More information:* www.esf.org/euroqual

TransEurope Research Network (TRANSEUROPE) • (2006-2011)

7 contributing organisations

Though the phenomena of Europeanisation and globalisation are increasingly dominating the public and political discourse, there remains a lack of research on how these processes affect and change the family and employment lives of European citizens. So far, little empirical research connects these transnational changes to inequality at the individual level in Europe. Furthermore, it is not yet established whether individual life courses in European countries are experiencing more convergence or divergence.

The TransEurope Research Network brings together leading European experts in Political Science, Demography, Economics, and Sociology from 7 countries to compare the impact of transnational shifts on life course inequality across Europe.

> *More information:* www.esf.org/transeurope

Science Management

With the new agenda and the set-up of crossed-disciplinary actions the logical extension of the strategic plan is the provision of services to ESF Member Organisations in the form of programme management which defines the third pillar of the Strategic Plan – Science Management. Under this area of activities ESF is dedicated to serve the scientific community in strengthening the position of cutting-edge science in Europe in a more cost-effective manner by created synergies between funding sources and by assisting in the breaking down of barriers to cross-boundary co-operation. Current examples of the management of external programmes are the European Young Investigator Awards scheme (EURYI), EuroBioFund, and the coordinating role in several EC-funded ERA-NET programmes.

ERA-NET and other European Commission coordination

ERA-NET is a scheme of the European Commission to promote the coordination and cooperation of national and regional programmes in order to overcome the traditional fragmentation of research efforts in the European Union (EU). It was introduced in the Sixth Framework programme for Research and Technological Development (FP6). The scheme is also open to consortia for coordinating national programmes in researcher-led science. The ERA-NET Scheme operates via an Open Call, welcoming proposals for coordination actions in any field of science and technology IN a bottom-up approach.

The Commission pays the additional costs for funding agencies related to the coordination. Many of the ESF's Member Organisations are active in ERA-NETs covering different topics and specific domains. In FP7, the ERA-NET instrument is proposed to be expanded to include funding contributions to cooperative research.

BiodivERsA

BiodivERsA is an ERA-NET (European Research Area) involving 19 major research funding agencies from 15 countries in Europe with research funding in the field of terrestrial, freshwater and marine biodiversity.

Most ERA-NET members are represented in other fora which discuss and recommend requirements for European biodiversity research: including the Convention for Biological Diversity (CBD-SBSTTA), Diversitas, the European Platform for Biodiversity Research Strategy (EPBRS) and the European Science Foundation (ESF). Recommendations from these fora are often made without a formal mechanism to ensure connection with the strategies, priorities and budgets of national research funding agencies.

The aim of BiodivERsA is to contribute to setting up such a mechanism, and its objective for the period 2004-2008 is to achieve an efficient trans-national research co-operation in the field of biodiversity research funding. With the aim of contributing to the implementation of the EU Biodiversity Strategy, BiodivERsA will allow the funding agencies to collate existing activities, compare future strategies and recommendations of consultative bodies, and systematically explore opportunities for future collaboration. BiodivERsA seeks best practice as a basis for cooperation in order to strengthen European biodiversity research and will also contribute to better coherence and increased synergies between the national programmes of cooperation with developing countries in the field of biodiversity research funding.

> *More information:* www.eurobiodiversa.org

Coordination Action for Research Activities on life in Extreme Environments (CAREX)

The CAREX project (Coordination Action for Research Activities on life in Extreme Environments) is a Coordination Action funded by the European Commission under the seventh Framework Programme. CAREX builds up on the European Science Foundation Investigating Life in Extreme Environments initiative (2004-2006) and adopts an interdisciplinary approach to the subject, covering microbial life, life strategies of plants and life strategies of animal on various extreme environments ranging from deep sea to polar regions and even outer space bodies.

The two main objectives of the proposed CAREX project are i) to strengthen the structure of the community involved in life in extreme environments research in Europe by catalysing networking, interactions and exchange of best practices among it and, ii) to further the knowledge of life in extreme environment by developing a strategic research agenda for Europe in this field. This project lasts three years (2008-2010) and encompasses, among other things, three large scale interdisciplinary workshops and the implementation of a web-based communication platform.

> *More information:* www.carex-eu.org

European Fleet for Airborne Research (EUFAR)

EUFAR is an Integrated Infrastructure Initiative of the 6th Framework Programme of the European Commission. EUFAR brings together 24 leading European institutions and companies involved in airborne research, operating 24 instrumented aircrafts. ESF is involved in EUFAR through the ESF– Scientific Advisory Committee (N1ESF-SAC), which is constituted of independent eminent scientists. N1ESF-SAC supervises the activities of EUFAR I3. A scientific survey has been carried out concerning the European researchers' visions of future airborne research and future facility needs, by inviting high-profile scientists in the research community of Environmental and Geo-sciences to express their opinion in an online poll. Over 200 scientists voted and the results indicate that most of them are in favour of a European medium-altitude/heavy-payload/long-endurance research aircraft, for atmosphere/low-troposphere campaigns (in multi-disciplinary/multi-national settings): a turboprop aircraft (Lockheed C130, Airbus A400M). Based on the poll results, an ESF Forum will be organised with the Member Organisations in order to agree on a system for trans-national access to the existing aircraft fleet in Europe.

EUFAR aims at:

- Coordinating the network for exchanging knowledge, sharing developments, and building the unified structure that is required for improving access to the infrastructures
- Providing users with Transnational Access (TA) to the infrastructures
- Extending TA to national funding sources
- Promoting airborne research in the academic community
- Developing research activities in airborne instrumentation

> *More information: www.eufar.net/*

European Polar Consortium (EUROPOLAR ERA-NET)

EUROPOLAR ERA-NET (The European Polar Consortium) is composed of 25 ministries, funding agencies and national Polar RTD authorities from 19 European countries (including the Russian Federation and Greenland Home Rule Government) with the overall aim of strengthening and deepening European nations strategic cooperation in the Polar Regions and ensuring a strong driver for developing joint Europe programmes and contributions to environmental policy development in the European Union.

EUROPOLAR ERA-NET has been directly encouraging and supporting the closer relationship of national polar RTD programme managers between Europe and the Russian Federation, fostering cooperation and leading to joint programme activities.

It is the first time that Russian and European Union countries have cooperated so closely on the strategic aspects of Polar Research programmes leading to the development of a European Polar Consortium liaison office in St Petersburg within the Arctic and Antarctic Institute of the Roshydromet Agency.

The strategic vision and long-term goal of the European Polar Consortium is the development of a “European Polar Entity” which will be established through a dialogue at a political level. During the next 12-18 months the European Polar Consortium will seek agreement to put forward strategic recommendations from the funding agencies and ministries of EUROPOLAR on the development of cooperative research programmes areas of Frontier Polar Science including the fields of astronomy and astrophysics, polar genomics and life in extreme environments. ESF-EPB Unit is responsible for the strategic direction/management of the project.

> *More information: www.europolar.org*

European Polar Research Icebreaker Consortium (ERICON-AB)

The ERICON-AB project, involving 10 countries, will generate the strategic, legal, financial and organisational frameworks required from National Governments and the European Commission to commit financial resources to the construction and running of the European Polar Research Icebreaker AURORA BOREALIS. Scientific management frameworks will be assessed including mechanisms to handle dedicated large-scale multi-year or special mission specific research programmes. The strategic integration of the facility into the fabric of the European Research Area shall be achieved by connecting the national research priorities and the demand of ship time of the stakeholder countries with a European level facility. The relevance of the facility in promoting science and technology cooperation with EU strategic partner countries such as the Russian Federation will be specifically analyzed. Deliverables will focus on moving the project from the preparatory phase to the construction phase by addressing key barriers especially in relation to engineering initial financial models that allow the participation of both EU member states and non-EU partner countries. Consortium beneficiaries and legal experts will develop the environment for frameworks for joint ownership and operation of a multi-country research facility. A dedicated legal implementation structure for managing and operating the AURORA BOREALIS will be proposed and its connection with other existing research assets such as Polar Stations, air support and supporting satellite assets will be analyzed. The final deliverables of this project will be concerned with reaching a decision point and agreement with nations ready to move forward with the construction phase. It is anticipated that a series of natural decision points for agencies/governments to pass on their individual degree of integration into the project will be programmed in to the ERICON - AB Stakeholder councils meetings.

Humanities in the European Research Area (HERA)

HERA is an ERA-NET project involving 16 national funding agencies for the Humanities and the ESF.

The overall objectives of HERA are to stimulate trans-national research cooperation in the Humanities and to overcome fragmentation of research in the Humanities in Europe. Through advancing new and innovative collaborative research agendas HERA will enable the Humanities to play an appropriate and dynamic role in the ERA and within EU Framework programmes. It also aims at improving cooperation between a large number of research funding agencies in Europe as well as establishing best practices in science management in the Humanities and set up joint research programmes.

ESF will organise on 8-10 October 2008 the 4th HERA conference which will feature highlights for the first time from all five major public supra-national research funders in the Humanities: FP7, ERC, ESF, COST and HERA.

> *More information:* www.esf.org/hera or www.heranet.info

European Concerted Action to Foster Prevention and Best Response to Accidental Marine Pollution (AMPERA)

AMPERA, an ERA-NET project which is coordinated by the Spanish Ministry of Education and Science, aims to provide a platform on accidental marine pollution research. Within the AMPERA consortium which consists of 10 organisations from 8 European countries, the Marine Board is responsible for establishing coordination with other European Research Area activities. Marine pollution, in general, and accidental marine pollution, in particular, are issues of major concern for health of the marine environment and their socio-economic uses. Driven by economic, ecological and security considerations, there is an increasing pressure upon the need for new or improved prevention mechanisms and emergency response systems to better protect the world's marine ecosystems. Therefore decisions based on sound scientific principles are indispensable for the effective prevention of accidents and efficient formulation of contingency plans.

> *More information:* www.ampera-net.info

MarinERA

MarinERA is an ERA-NET project jointly coordinated by Ifremer (Institut Français de Recherche pour l'Exploitation de la Mer) and the Marine Board (the Marine Board Executive Secretary being Deputy Co-ordinator). It aims to facilitate the coordination of national and regional marine RTD programmes in Europe. MarinERA is a partnership of the leading marine RTD funding organisations from 13 European States. A range of Observers, including international research organisations and FP6 consortia are associated with MarinERA. The MarinERA process provides an operational and strategic platform, enabling marine sciences to move towards practical research management approaches

(including reciprocal opening of national marine RTD programmes, joint calls and trans-national marine programmes). Through this cohesive and active network, MarinERA partners work to progress towards developing and securing the marine component within the European Research Area (ERA).

> *More information:* www.marinera.net/about/index.html

Towards a European Strategy for Synthetic Biology (TESSY)

Towards a European Strategy for Synthetic Biology (TESSY) is a Specific Support Action (SSA) supported by the EC (contract number: 043449). Synthetic biology is an emerging field that aims to (re)design and manufacture biologically based devices and systems employing engineering principles. Synthetic Biology has a high potential for research and development, and future applications beneficial for economy and society. TESSY aims at setting up an expert based, investigative and participative process for the further development of Synthetic Biology in Europe.

> *More information:* [/www.tessy-europe.eu](http://www.tessy-europe.eu)

European Young Investigator Awards (EURYI)

The European Young Investigator Awards (EURYI) scheme is designed to attract outstanding young scientists in all research domains, including the humanities, from any country in the world to create their own research teams at European research centres.

The European Heads of Research Councils (EUROHORCs) and the European Science Foundation decided to collaborate to create the European Young Investigator Awards (EURYI) which was launched in 2003. In 2006, the scheme – to which 18 research councils from 16 EU Member States and candidate countries¹ contributed – made awards worth at least 1 million Euros over five years to 25 outstanding young scientists from all over the world. Awards may be held in any of the countries participating in the scheme, which is designed to create a high-profile incentive for the best and brightest researchers to build careers in Europe.

EURYI works through a two stage selection process. The first step consists of application to and selection by the participating agency from the proposed host country. The second step is carried out by ESF using broadly-based international panels and results in the final selection of awardees.

The fourth call was launched in September 2006 with a deadline on 30 November to which 17 research councils from 16 countries contributed. More than 450 applications were received. Twenty grants were awarded in July 2007 with an average value of nearly 250 000 Euros per year for five-year periods in any research discipline, including the humanities. The main selection criteria are scientific quality and originality of the proposal, quality of the host institution, potential of the applicant, who should have between two and 8 years of postdoctoral experience, an excellent track record, and the potential to become world class leaders in their chosen field of research.

Coordination of the the EURYI Award Scheme has been supported by the EC Sixth Framework programme under Contract no. ERAC-CT-2003-510191.

With the launch of the European Research Council's Starting Investigators Research Grant Scheme, which shares many characteristics with EURYI, EUROHORCs and ESF decided that the principal objective of EURYI had been achieved, as the fifth and any further calls were cancelled.

ESF will continue to provide low level coordination for the basic management of the scheme, on behalf of EUROHORCs, for the duration of the awards and the last of which is expected to finish in 2013. ESF and EUROHORCs will provide a report for a major strategic meeting of the EURYI Awardee Network in late 2008-early 2009. After which ownership of the network will transfer to the ERC.

> *More information: www.esf.org/euryi*

EuroBioFund

Life sciences are regarded as an important driver for new developments in areas such as health, sustainability and energy, and so form a cornerstone of the European Research Area (ERA). Given the revolution in research approaches, infrastructure needs, technology developments and costs, new strategies are needed if life sciences are to meet the future health and socio-economic needs of Europe. One of the key challenges for life sciences research is how to facilitate collaboration between different funding organisations (regional, national, public, private, charities, intergovernmental etc.) across Europe, while considering their individual identities, objectives and priorities.

With this challenge in mind, EuroBioFund was set up in 2006 by the European Science Foundation, with support from the European Commission (Contract LSSG-CT-2005-019009), to catalyse the development of large-scale pan-European life sciences research programmes by engaging those involved in planning and funding research. Through stimulation of a process from orientation and agenda setting, to the definition and implementation of research programmes (public/public or public/private), EuroBioFund aims to improve the coordination of funding and investment in life sciences research.

EuroBioFund's Objective

- To initiate and facilitate strategic alliances between public and private sponsors on innovative life sciences research themes.

With this objective in mind, EuroBioFund creates an annual “funders’ forum”, EuroBioForum, where Europe’s main sponsors of life sciences research meet to discuss synergies and seek to address challenges in a coordinated way. The third annual EuroBioForum takes place in Strasbourg, France in September 2008. At EuroBioForum, teams of scientists present their research ideas to a variety of funding bodies in presentations and dedicated workshops. These ideas are selected by the Steering Committee, following a Call for Expressions of Interest. These include a scientific justification of the proposal’s scope and scale as well as information on the possible financial and organisational structure of the project. EuroBioForum also features lectures on trends in life sciences and policy, by high-level speakers from science and industry.

> *More information: www.esf.org/eurobiofund*



European Cooperation in the field of Scientific and Technical Research (COST)

COST is an intergovernmental European framework for international cooperation between nationally funded research activities. COST supports scientific networks and enables scientists to collaborate on a wide spectrum of activities in research and technology.

Since 1971, COST has developed into one of the largest frameworks for research cooperation in Europe and is a valuable mechanism coordinating national research activities in Europe. COST addresses the growing demand for cooperation across national borders and across research disciplines. It complements the European Union's Framework programme and supports more than 30 000 scientists participating in more than 200 networks from 34 European member countries and one cooperating state (Israel).

COST has a membership which extends beyond the European Union since it also allows participation from institutions in non-COST countries. There are no geographical restrictions on *ad hoc* participation in COST's activities based on a mutual benefit for science.

■ **COST Actions**

COST networks, called Actions, are networks of national research projects in fields that are of interest to at least five COST countries. COST Actions cover basic and pre-competitive research for peaceful purposes as well as activities of public utility, as part of the Lisbon objectives.

Every COST Action has an objective, defined goals and clear deliverables. They achieve results through network building activities such as workshops, training schools and short-term scientific missions. Existing COST Actions operate across a wide spectrum of scientific fields, can be multi-disciplinary in nature, and their results often maintain beyond their normal four-year duration.

Today, COST has more than 200 running Actions in the following nine scientific domains:

- Biomedicine and Molecular Biosciences
- Food and Agriculture
- Forests, their Products and Services
- Materials, Physical and Nanosciences
- Chemistry and Molecular Sciences and Technologies
- Earth System Science and Environmental Management
- Information and Communication Technologies
- Transport and Urban Development
- Individuals, Societies, Cultures and Health

■ COST Structure

The Committee of Senior Officials (CSO) is COST's decision-making body and consists of representatives of the 35 COST countries. The nine COST Domain Committees (DC) are constituted by scientists representing the research communities of the COST countries. Their mission is to assess proposals for new Actions, monitor the progress of ongoing Actions and evaluate the results of ending Actions in their particular research domain each. The Management Committees (MC) – one for each Action – are formed by experts nominated by the Countries participating in the Action. They coordinate the activities of the Action and report to the relevant DC.

The secretariat to the CSO is provided by the General Secretariat of the Council of the European Union. The scientific and administrative secretariat to the COST Domain Committees and to the Actions is provided by the COST Office based in Brussels. The European Science Foundation (ESF) – in its capacity as implementing agent for COST – operates the COST Office on the basis of a contract with the European Commission.

■ COST Funding

National research funding underpins the many projects represented in COST Actions. COST funding covers the coordination costs associated with organising and attending meetings, workshops and conferences; short-term scientific missions as well as publications and other dissemination activities. The research activities themselves (staff, infrastructure etc.) are not supported by COST.

The funds for COST are provided by the EU Seventh Framework Programme (FP7) which foresees 210 million Euros in support for COST (2007-2013) with the possibility of another 40 million Euros depending on a positive mid-term evaluation in 2010.

■ COST Open Call

A continuous COST Open Call was put in place in 2006 to attract the best proposals for new COST Actions. The continuous call is thematically open and proposals playing a precursor role for other European programmes and/or initiated by early-stage researchers are particularly welcome.

Proposers are invited to locate their topic within one Domain. However, interdisciplinary proposals not fitting readily into a single Domain are also welcome and will be assessed separately.

Proposals are assessed in two stages. Preliminary Proposals, consisting of a brief overview and an impact description, are checked for eligibility first and, when eligible, assessed by the relevant DC against the published criteria. The top ranked Preliminary Proposals are then invited to submit a Full Proposal which is peer reviewed according to the published assessment criteria. The time between the collection date and the proposal for approval of the best Full Proposals by the COST CSO is approximately 6 months.

■ COST Characteristics

- “bottom up approach”: the initiative of launching a COST Action comes from the European scientists themselves;
- “à la carte participation”: only countries interested in the Action participate;
- “equality of access”: participation is open also to the scientific communities of countries not belonging to the European Union; and
- “flexible structure”: easy implementation and light management of the research initiatives.

> *For more information, please visit the COST website:
<http://www.cost.esf.org/>*

Administration and Finance

Managing resources to support the strategy

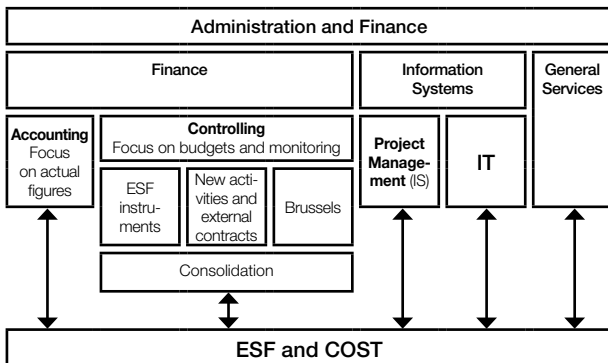
The ESF Administration and Finance manages Financial and Infrastructure resources to support the achievement of the ESF mission and strategy.

ESF has experienced a dramatic growth over the last four years. Over this period, the yearly budget increased from 17 million Euros to 47 million Euros, which are funded from Member Organisations' contributions and numerous external contracts, in particular EC contracts; the ESF Administration and Finance team now deals with around 27 000 transactions per year. With three locations, external contracts and new activities, the team aims at providing professional services to science initiatives in a client-oriented way.

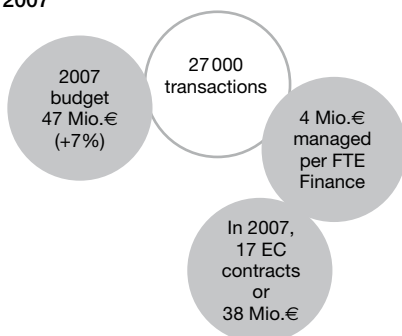
■ Finance and Audit Committee (FAC): link to Governance

The Finance and Audit Committee is an advisory Committee of the Governing Council. The FAC is chaired by Martin Hynes, Chief Executive of IRCSET (Ireland) and Member of the ESF Governing Council, and is composed of high level Finance and Science Managers nominated by Member Organisations.

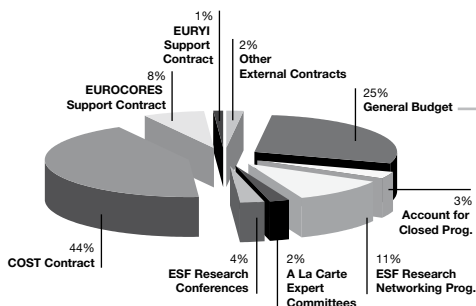
■ Team and Functions



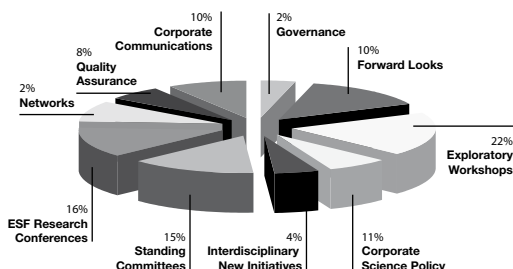
■ Key Figures 2007



2007 Consolidated Expenditure



Science Activities funded by the ESF General Budget 2007



■ Budget Structure

Budget components	Related activities	Sources of funding
General Budget	<ul style="list-style-type: none"> Basic activities that are essential for the proper implementation of the ESF mission such as Exploratory Workshops and Forward Looks Quality assurance Running of the Office and general infrastructure 	<ul style="list-style-type: none"> Contributions from MOs Other internal income (Financial earnings...) Overheads from external contracts
À la carte	<ul style="list-style-type: none"> Specific activities such as Research Networking Programmes and Expert Boards 	<ul style="list-style-type: none"> Contributions from MOs on an <i>à la carte</i> basis
Partnerships	<ul style="list-style-type: none"> Partnership activities such as Conferences 	<ul style="list-style-type: none"> Partners' contributions Contribution from General Budget Participation fees
Contracts with external parties	<ul style="list-style-type: none"> Support for the coordination of programmes such as EUROCORES, EURYI, EuroBioFund and ERA-NETs Management of scientific secretariats for activities such as COST 	<ul style="list-style-type: none"> Grants from the European Commission

Human Resources

ESF has undergone a considerable transformation and witnessed a rapid growth in its activities. To accommodate the increase in activities the Assembly approved the ESF's Strategic Plan 2006-2010 in November 2005. This ambitious plan has understandably brought on a lot of new and challenging objectives for the ESF staff. These challenges require changes which allow the ESF to demonstrate continuous improvement in professionalism, high-quality science and streamlined administrative processes.

In an effort to help the organisation and its staff to meet these objectives Human Resources has initiated a series of management and staff training sessions since 2006. During these training sessions ESF employees participated in an in-depth training course designed to improve quality, effectiveness and accountability.

ESF is an avid believer that staff development is an investment which translates into excellence. Or, in other words, human capital is an essential component for the delivery of ESF's Mission and Strategy.

In 2007, a series of measures in the management of Human Resources was initiated and implemented following the priorities defined in the Human Resources Plan published at the beginning of 2006.

These include:

- the introduction of a job structure enabling career development;
- the implementation of standardised job profiles defining the responsibilities of each position and focusing on the specific competences needed to be successful for an efficient implementation of the Strategic Plan;
- the progressive implementation of an improved recruitment strategy and the development of an attractive "Jobs" web page with the Communications Unit;
- the introduction of the induction plan – to swiftly familiarise new staff members with the operation and the structure of the ESF and its interaction with the Member Organisations in a conducive manner;
- the strengthening of the performance-based management process ensuring the cascading down of ESF yearly priorities at the level of each staff member in the organisation as well as the identification of the development and training needs to achieve the identified objectives.

With these measures in place Human Resources will be able to ensure that ESF possesses a high-level of professionalism, the right scientific and administrative competencies, clear definition of responsibilities to deliver organisational effectiveness, a rewarding performance-based remuneration system with competitive hiring offers, and more flexibility in employment conditions. With these measures in place ESF can respond effectively to an increased number of externally funded activities. In short this will successfully support the ESF's Strategic Plan.

Communications

Effective communication is crucial to the success of ESF fulfilling its missions – 1) to advance European research – and 2) to explore new directions for research at the European level. As mentioned in the 2006-2010 Strategic Plan, the role of communication is the key to the implementation of the European Science Foundation's strategy. In order to ensure high-quality outreach, all communication adheres to the ESF Communication Plan and follows the rules of clarity, consistency, the appropriate tone and appeal, credibility as well as openness.

Since the beginning of 2007, the ESF's Communications Unit has embarked on a series of initiatives to facilitate the two-way communication channels that are essential to fulfilling these missions.

One of these channels is the establishment of a forum for the Member Organisations' communications departments to discuss their challenges and ideas, and to work together for their common goals. As a kick-off, the first communications network meeting took place in October 2007 in Strasbourg. A range of communication tools and issues were discussed during the two-day meeting – from how we could take advantage of the current wave of social media tools such as blogs and online social networks, via the analysis of effective web communications, to ways of reaching out to our targeted audiences. The Member Organisations' representatives agreed to participate in a few pilot projects - a sign of commitment for cementing a long-term working relationship.

In order to promote researcher-led scale and scope of European science, the ESF Member Organisations, the science community and the policy makers, which are the ESF's primary audience, have been receiving tailor-made information from the ESF Communications Unit this past year – a continued effort to keep them updated and informed on the organisation's activities and its development.

In a effort to raise the 34-year-old Foundation's public profile, the ESF Communications Unit has also been utilising a series of media tools such as a new web site with novel designs and functionality. Since the launch of the web site in March 2007, the number of unique visitors has increased from 50,000 to 80,000 during the period July 2006 to July 2007.

Also in 2007, the Communications Unit has significantly boosted the number of press outputs to inform and highlight the works of the Foundation and its Member Organisations. The number of press releases, which include mostly scientific stories resulting from the cooperation of the science community, has more than doubled in 2007 – with about 110 of them distributed in 2007 compared to 45 in 2006. As a result of this upsurge of press outputs, media coverage on the ESF and its related activities have risen tremendously – with 1,190 press citations recorded in 2007 compared to 450 in the previous year. Meanwhile in 2007, the number of publications including brochures, leaflets, scientific reports, position papers and briefings, newsletters, and annual report has almost doubled to 90.

In 2007, the Communications Unit was present at numerous scientific conferences, thus contributing to the visibility of the ESF and disseminating knowledge on the role and activities of the Foundation. Next to providing information at ESF booths, outcomes of many conferences were circulated via various channels. Among the major events visited and covered was the European Geosciences Union General Assembly. During 2007, the Communications Unit has also emphasized internal communication by engaging ESF staff in contributing and participating in the production of the internal newsletter. In addition, the unit has facilitated a series of media trainings for the heads of units from various science domains to learn how to effectively get their respective science programmes and policies communicated to the public.

As for 2008, the ESF Communications Unit has already started venturing its efforts into additional projects for the purpose of further strengthening the communication of ESF and its Member Organisations' works. These projects include a new Intranet (a one-stop shop for staff and members to seek background and updated information) and a photo gallery/image bank that will give access to a more comprehensive archive on various science-related pictures that are useful to explain different science topics.

All the activities undertaken mark significant and important steps towards effectively communicating and interacting with Member Organisations, the scientific community, policy makers, other stakeholders and ESF employees as well as the media.

ESF Governing Bodies

ESF Member Organisations in 2008

77 Member Organisations in 30 countries





Austria

Fonds zur Förderung
der wissenschaftlichen
Forschung in Österreich
(FWF)

Austrian Science Research
Fund
www.fwf.ac.at

Österreichische Akademie der
Wissenschaften (ÖAW)
Austrian Academy of Sciences
www.oeaw.ac.at

Belgium

Fonds National de la
Recherche Scientifique (FNRS)
National Fund for Scientific
Research
www.fnrs.be

Fonds voor Wetenschappelijk
Onderzoek-Vlaanderen (FWO)
Research Foundation Flanders
www.fwo.be

Bulgaria

Българска академия на
науките (BAS)
Bulgarian Academy of Sciences
www.bas.bg

Научни изследвания
National Science Fund of
Bulgaria
www.nsfb.net

Croatia

Hrvatska akademija znanosti i
umjetnosti (HAZU)
Croatian Academy of Sciences
and Arts
www.hazu.hr

Nacionalna zaklada za
znanost, visoko kolstvo i
tehnologijski razvoj Republike
Hrvatske (NZZ)
National Foundation for
Science, Higher Education and
Technological Development of
the Republic of Croatia
www.nzz.hr

Cyprus

Ίδρυμα Προώθησης Έρευνας
(RPF)
Cyprus Research Promotion
Foundation
www.research.org.cy

Czech Republic

Akademie věd České republiky
(ASČR)
Academy of Sciences of the
Czech Republic
www.cas.cz

Grantová agentura České
republiky (GAČR)
Czech Science Foundation
www.gacr.cz

Denmark

Danmarks
Grundforskningsfonden (DG)
Danish National Research
Foundation
www.dg.dk

Det Kongelige Danske
Videnskabernes Selskab
Royal Danish Academy of
Sciences and Letters
www.royalacademy.dk

Forskningsrådet for Kultur og
Kommunikation (FKK)
Danish Research Council for
the Humanities

Forskningsrådet for Sundhet
og Sygdom (FSS)
Danish Medical Research
Council

Forskningsrådet for Natur og
Univers (FNU)
Danish Natural Science
Research Council

Forskningsrådet for Samfund
og Erhverv (FSE)
Danish Social Science
Research Council

Forskningsrådet for Teknik og
Produktion (FTP)
Danish Research Council for
Technolgy and Production
Sciences

The secretarial functions for all five Danish research councils are assumed by:
Forsknings- og
Innovationsstyrelsen (FIST)
Danish Agency for Science,
Technology and Innovation
www.fist.dk

Estonia

Eesti Teaduste Akadeemia
Estonian Academy of Sciences
www.akadeemia.ee

Eesti Teadusfond
Estonian Science Foundation
www.etf.ee

Finland

**Suomen Akatemia/Finlands
Akademi**
Academy of Finland
www.aka.fi

**Suomen Tiedeakatemiain
Valtuuskunta/Delegationen
för Vetenskapsakademierna
i Finland**
Delegation of the Finnish
Academies of Science and
Letters
www.helsinki.fi/science/deleg

France

**Agence Nationale
de la Recherche (ANR)**
French National Research
Agency
[www.agence-
nationalerecherche.fr](http://www.agence-
nationalerecherche.fr)

**Centre National de la
Recherche Scientifique
(CNRS)**
National Centre for Scientific
Research
www.cnrs.fr

**Commissariat à l'Énergie
Atomique/Direction des
Sciences de la Matière
(CEA/DSM)**
Materials Sciences Division
of the Atomic Energy
Commission
www.cea.fr

**Institut Français de
Recherche pour l'Exploitation
de la Mer (IFREMER)**
French Research Institute for
Exploitation of the Sea
www.ifremer.fr

**Institut National de la
Recherche Agronomique
(INRA)**
National Institute for
Agricultural Research
www.inra.fr

**Institut de Recherche pour le
Développement (IRD)**
National Institute for
Development
www.ird.fr

Germany

**Deutsche
Forschungsgemeinschaft
(DFG)**
German Research Foundation
www.dfg.de

**Helmholtz-Gemeinschaft
Deutscher Forschungszentren
(HGF)**
Helmholtz Association of
German Research Centres
www.helmholtz.de

**Max-Planck-Gesellschaft
(MPG)**
Max Planck Society
www.mpg.de

**Union der deutschen
Akademien der
Wissenschaften**
Union of the German
Academies of Sciences and
Humanities
www.akademienunion.de

Greece

**EONIKO ΙΔΡΥΜΑ ΕΡΕΥΝΩΝ
(NHRF)**
National Hellenic Research
Foundation
www.eie.gr/eie-english.htm

**Ίδρυμα Τεχνολογίας και
Έρευνας (FORTH)**
Foundation for Research and
Technology – Hellas
www.forth.gr

Hungary

Magyar Tudományos
Akadémia (MTA)
Hungarian Academy of
Sciences
www.mta.hu

Országos Tudományos
Kutatási Alapprogramok
(OTKA)
Hungarian Scientific Research
Fund
www.otka.hu

Iceland

RANNIS
Icelandic Centre for Research
www.rannis.is

Ireland

Am Chomhairle um
Thaighde sna Dána agus
sna hEolaíochtaí Sóisialta
(IRCHSS)
Irish Research Council for
the Humanities and Social
Sciences
www.irchss.ie

Enterprise Ireland
www.enterprise-ireland.com

Health Research Board (HRB)
www.hrb.ie

Irish Research Council for
Sciences, Engineering and
Technology (IRCSET)
www.ircset.ie

Italy

Consiglio Nazionale delle
Ricerche – Istituto Nazionale
per la Fisica de la Materia
(CNR-INFN)
National Research Council
www.cnr.it

Istituto Nazionale di Fisica
Nucleare (INFN)
National Institute for Nuclear
Physics
www.infn.it

Lithuania

Lietuvos Valstybinis Mokslo Ir
Studiju Fondas
Lithuanian State Science and
Studies Foundation
www.vmsfondas.lt

Luxembourg

Fonds National de la
Recherche (FNR)
National Research Fund
www.fnr.lu

The Netherlands

Koninklijke Nederlandse
Akademie van
Wetenschappen (KNAW)
Royal Netherlands Academy of
Arts and Sciences
www.knaw.nl

Nederlandse Organisatie voor
Wetenschappelijk Onderzoek
(NWO)
Netherlands Organisation for
Scientific Research
www.nwo.nl

Norway

Det Norske Videnskaps-
Akademi
Norwegian Academy of
Science and Letters
www.dnva.no

Norges Forskningsråd
Research Council of Norway
www.forskningsradet.no

Poland

Polska Akademia Nauk (PAN)
Polish Academy of Sciences
www.pan.pl

Portugal

Academia das Ciências de
Lisboa
Lisbon Academy of Sciences
www.acad-ciencias.pt

Fundação para a Ciência e a
Tecnologia (FCT)
Foundation for Science and
Technology
www.fct.mctes.pt

Romania

Consiliul National al Cercetarii
Stiintifice din Invatamantul
Superior (CNCSIS)
National University Research
Council
www.cncsis.ro

Slovak Republic

Slovenská Akadémia Vied
(SAV)
Slovak Academy of Sciences
www.sav.sk

Agentúra na podporu
vyskumu a vyvoja (APVV)
Slovak Research and
Development Agency
www.apvv.sk

Slovenia

Javna agencija za
raziskovalno dejavnost
Republike Slovenije (ARRS)
Slovenian Research Agency
www.rrs.gov.si

Slovenska Akademija
Znanosti in Umetnosti (SAZU)
Slovenian Academy of
Sciences and Arts
www.sazu.si

Slovenska Znanstvena
Fundacija (SZF)
Slovenian Science Foundation
www.ustanova-szf.si

Spain

Consejo Superior de
Investigaciones Científicas
(CSIC)
Council for Scientific Research
www.csic.es

Comisión Interministerial de
Ciencia y Tecnología (CICYT)
Interministerial Committee on
Science and Technology
www.mec.es

Sweden

Forskningsrådet för arbetsliv
och socialvetenskap (FAS)
Swedish Council for Working
Life and Social Research
www.fas.forskning.se

Forskningsrådet för miljö,
areella näringar och
samhällsbyggande (FORMAS)
Swedish Council for
Environment, Agricultural
Sciences and Spatial Planning
www.formas.se

Kungliga
Vetenskapsakademien
Royal Swedish Academy of
Sciences
www.kva.se

Kungliga Vitterhets Historie
och Antikvitets Akademien
Royal Academy of Letters,
History and Antiquities
www.vitterhetsakad.se

Vetenskapsrådet (VR)
Swedish Research Council
www.vr.se

Vinnova
Swedish Agency for Innovation
Systems
www.vinnova.se

Switzerland

Rat der schweizerischen
wissenschaftlichen
Akademien (CASS)
Council of the Swiss Scientific
Academies
www.cass.ch

Schweizerischer
Nationalfonds (SNF)
Swiss National Science
Foundation
www.snf.ch

Turkey

Türkiye Bilimsel ve Teknolojik
Araştırma Kurumu (TÜBİTAK)
The Scientific and
Technological Research
Council of Turkey
www.tubitak.gov.tr

United Kingdom

Arts and Humanities
Research Council (AHRC)
www.ahrc.ac.uk

Biotechnology and Biological
Sciences Research Council
(BBSRC)
www.bbsrc.ac.uk

The British Academy
www.britac.ac.uk

Economic and Social
Research Council (ESRC)
www.esrc.ac.uk

Engineering and Physical
Sciences Research Council
(EPSRC)
www.epsrc.ac.uk

Medical Research Council
(MRC)
www.mrc.ac.uk

Natural Environment
Research Council (NERC)
www.nerc.ac.uk

Science and Technology
Facilities Council (STFC)
www.scitech.ac.uk

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