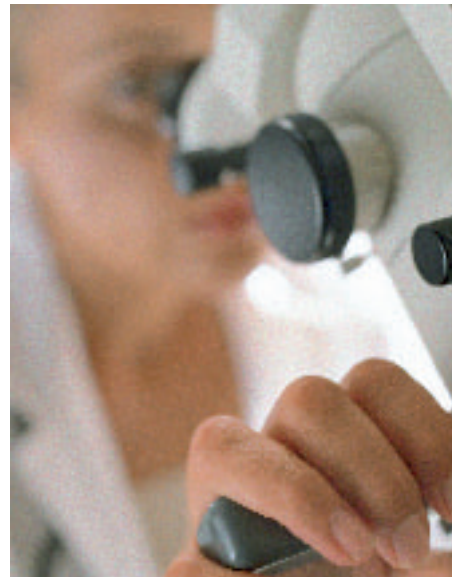
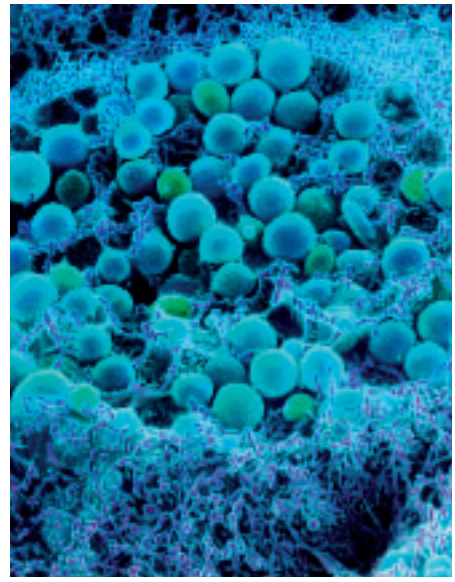
EUROPEAN SCIENCE FOUNDATION

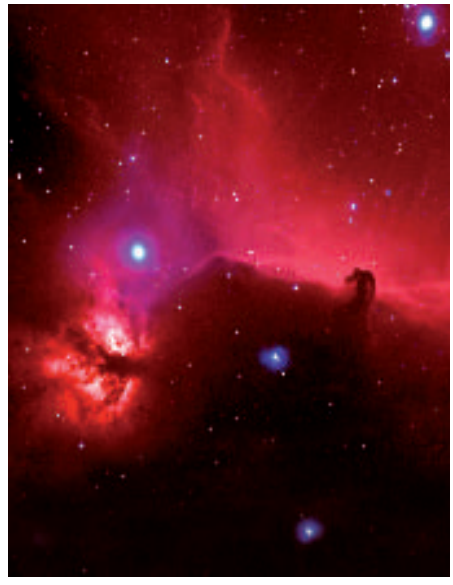
SETTING SCIENCE AGENDAS FOR EUROPE

Annual Report 2005





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About the European Science Foundation

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

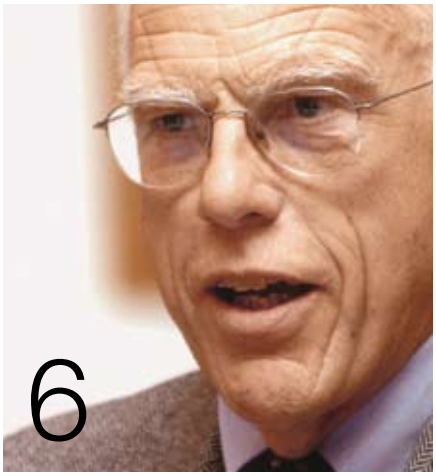
Through its activities, the European Science Foundation serves the needs of the European research community in a global context

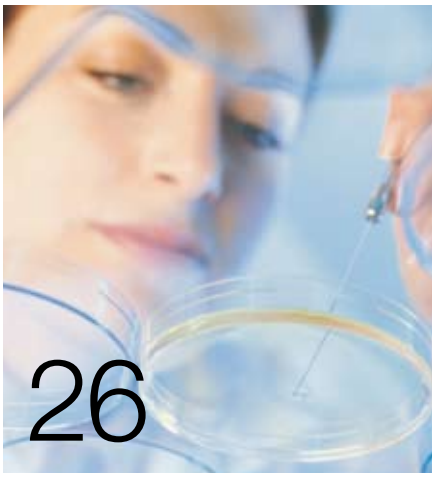
Values

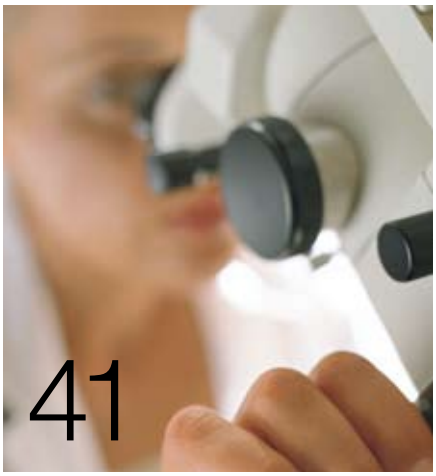
The European Science Foundation's mission is guided by shared values that characterise its specific organisational culture. These values are:

- **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 aspects.

Contents







2005 Highlights

Forging new partnerships

One of ESF's major roles is that of reaching out to other organisations. For example, this is reflected in the important continuing partnerships forged in 2005 between ESF and the European Heads of Research Councils (EuroHORCs), the European Molecular Biology Organisation (EMBO), the Initiative for Science in Europe (ISE) and the European Commission.

- ESF and EuroHORCs have created a "package for partnership" that will allow the organisations to share research foresights, harmonise procedures and generally improve the exchange of information between the two bodies.
- ESF and EMBO, within the framework of the ESF Research Conferences Scheme, have agreed to co-sponsor a series of meetings, to be known as ESF-EMBO Symposia, which will bring together participants and experts from the Life Sciences and other science disciplines to discuss topics that are of major importance to the scientific community in Europe.
- ESF continues to collaborate with the European Commission by managing the European Young Investigator Awards scheme (EURYI) and COST, coordinating EC-funded ERA-NETs in the marine and polar areas, running the EUROCORES programmes and other activities.

New research conferences in a range of disciplines

During 2005, ESF organised new research conferences with 15 partners, including the Austrian Science Fund (FWF), the Particle Physics and Astronomy Research Council of the United Kingdom (PPARC), Engineering and Physical Sciences Research Council of the United Kingdom (EPSRC), the Swedish Research Council (VR), the French National Centre for Scientific Research (CNRS), the European Molecular Biology Organisation (EMBO), the Wellcome Trust, the Latsis Foundation, the Generalitat of Catalunya, the Japan Society for the Promotion of Science (JSPS), and several universities.
Up to 20 new scientific conferences across Europe are planned for 2006.

Substantial progress with changes and reforms of COST

The changes and reforms taking place at COST continue apace, with the undertaking of several review processes in 2005 and the appointment of new science officers and a new Director in September, Dr. Martin Grabert.

EUROCORES

• 20 Programmes now in place

The EUROCORES scheme has now reached the milestone of 20 Programmes, 16 of which are fully running (that is, a Call for proposals has been published). Five new Themes have been selected, seven Programmes have started research funding and networking (with additional research money of approximately €45 million), and three more Programmes are about to enter the research phase (with funding of between €13-18 million expected). Altogether, 57 different funding organisations from 27 European countries are involved in the scheme, which covers all scientific disciplines. The first four Programmes have already resulted in more than 1,000 publications and more than 750 oral presentations.

• Restructuring

A new EUROCORES scheme has been set up comprising a high-level, independent committee of high-ranking scientists under the ESF Executive Board.
This committee will run an annual competition for new EUROCORES Themes, with emphasis on the strong scientific assessment of proposals that includes a two-stage review process, at least three external referees, top-level review panels and complete transparency of procedures.
A commitment has also been made to reducing the timeframe from Theme to Call to funding, as well as encouraging a more reliable commitment from funding agencies.

The successful conclusion of the second annual EURYI Awards scheme

On 9 November 2005, in the Hungarian Academy of Sciences in Budapest, Hungary, each of the 25 winners of the European Young Investigator awards – the EURYI Awards – received diplomas in recognition of their award-winning project proposals. The diplomas were presented by Professor Werner Arber, joint winner of the 1978 Nobel Prize in Physiology or Medicine.
Each winner will receive up to €1,250,000 over a five-year-period in an award that is comparable in scope to the Nobel Prize.

For the full story, see page 20

New organisations approved for ESF membership

ESF continues to grow, with two new organisations being approved for ESF membership in 2005: the Science and Technology Assistance Agency (Slovakia) and VINNOVA, the Swedish Agency for Innovation Systems (Sweden).
The Science and Technology Assistance Agency is an umbrella organisation designed to promote and encourage scientific research in Slovakia.
VINNOVA integrates research and development in technology, transport and working life. VINNOVA's mission is to promote sustainable growth by financing research and technological development and developing effective innovation systems.

Reinder van Duinen
President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Significant changes since January 2000

Six years ago, when I took on the role of President of the European Science Foundation in January 2000, I could not have imagined the significant changes that would take place during my time here.
This last year in particular has been one of the busiest of my Presidency. During the past twelve months, ESF has made important advances in several key areas as part of the continuing pursuit of our goals, not the least of which was the ratification of the 2006-2010 Strategic Plan by our Member Organisations at the 2005 General Assembly in Strasbourg in November. This plan will set the direction for ESF's activities over the years ahead.
The plan presents a new interpretation of our mission in the light of the new challenges to science in Europe:
ESF 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, ESF serves the needs of the European research community in a global context

Looking back over 2005, it is clear that this has indeed been a year of collaborative achievements, made possible by the dedication and commitment of everyone associated with ESF – Bertil Andersson and the employees of ESF, the Member Organisations, the Governing Council and the Executive Board.
During 2005, ESF set up and ran new research conferences with no fewer than 15 different partners across a broad range of disciplines, and we foresee organising up to 20 new conferences in 2006. It is my firm belief that bringing together scientists and researchers in this way lies at the heart of what ESF is all about.
The EUROCORES scheme, which underwent a process redesign last year, has now reached the milestone of 20 Programmes, 16 of which are fully running, only a few short of the target that we set ourselves. Five new Themes had been selected by the end of 2005, seven Programmes have started research funding and networking (with additional research money of approximately €45 million), and three more Programmes are about to enter the research phase (with funding of between €13-18 million expected).
We continue to recognise and reward talent and achievement in science. In 2005 ESF awarded the European Latsis Prize to Professor Donal Bradley from Imperial College, London, for his pioneering contributions and leading role in the develop-

ment of the semi-conductor properties of conjugated polymers and related materials. Additionally, a ceremony was held in the Hungarian Academy of Sciences in Budapest, Hungary in November to present diplomas to each of the 25 winners of the second annual European Young Investigator Awards Scheme. This scheme is an excellent example of what can be achieved when research organisations in Europe join forces with ESF!

We continue to create new and extended partnerships with organisations such as EuroHORCs, the European Molecular Biology Organisation (EMBO), the Initiative for Science in Europe (ISE) and the European Commission, in line with our stated goal of building closer and mutually-beneficial relationships with other organisations.

These are all great achievements – just a few among many – of which ESF can be proud. They reflect the excellent work and commitment of so many people in ESF, the Member Organisations and our broad community. So, while it is with a tinge of sadness that I am leaving the post of President (I have countless good friends within the Foundation, and have enjoyed the many challenges of the job), I feel that we are clearly on the right track. I am absolutely confident that my successor, Professor Ian Halliday, is the ideal man to guide ESF onto the next stage in its evolution.

Let me end my last contribution to the annual reports by thanking each and every one of my colleagues at ESF for the trust you have placed in me by allowing me to preside over the Foundation during these six years.

It has been both an honour and a privilege for which I am most grateful.

Dr. Reinder van Duinen
President

Ian Halliday
President


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Which areas of science are best suited to development?

Science in Europe is changing and evolving rapidly. As I begin my role as President of the European Science Foundation, I have some very clear ideas about the role I want ESF to play in this new environment.

Firstly, ESF must position itself in a way that is different to the past. I welcome the five-year Strategic Plan that was approved by the General Assembly in 2005 as a useful device for carrying out such positioning, but I believe that the emphasis must be on getting involved in a more serious way with science strategy in Europe.

An open question facing the Foundation and its Member Organisations concerns which areas of science are best suited to development and where the real opportunities lie. That's where strategic science choices need to be made. The Strategic Plan deliberately addresses mechanisms but not the science details; that is a matter for debate between ESF and the Member Organisations.

As we address these new challenges, working together effectively is going to take on even greater importance. ESF, the Member Organisations, the scientists – we all want the same result, which is better science in Europe. While everyone's day to day interests may be different, our real goal is the same; better European science. One of my main objectives will therefore be to create an environment in which we are not only seen to be working together but actually creating real value from our collaborative efforts.

If the new strategic plan is to become an effective instrument of delivery rather than purely a framework for discussion, debate and engagement with the Member Organisations is essential. We must be clear exactly what it is that we are trying to achieve, and then set about designing the structures that will make that happen.

At the same time as I wish to emphasise how important it is for ESF and the Member Organisations to work together in partnership, I also want to stress that I recognise there are concerns among the membership about ESF's quality of delivery.

There are issues, I accept, and while I may not agree with all of them, I do realise that ESF needs to do a better job of quantifying and making visible just how good we are. ESF does some excellent work, and our task is now to publicise this work more effectively. In key areas such as Forward Looks, for example, I believe that ESF must be able to prove to the Member Organisations that it can deliver, to their time scale and against their criteria, and to budget.

Can we rise to that challenge within ESF? I believe we can.

Professor Ian Halliday
President

Bertil Andersson
Chief Executive


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2005, a year of increased awareness of quality and delivery

2005 will be marked as the year of the 2006-2010 Strategic Plan, the year of Member Organisation consultations, and the year of building new foundations for the future.

There is no doubt that the 2006-2010 Strategic Plan is an extremely important document. This plan, and the financial plan that goes with it, is the culmination of more than a year of development and discussions in ESF, in the Member Organisations and elsewhere in the scientific community. It represents probably the most comprehensive consultation process in the 31-year history of ESF.

If there's one thing about the Plan that embodies the essence of ESF's core values – in particular, the open sharing of information and transparency with our stakeholders and partners – it's the Forward Look. This is the instrument through which we will continue to address the challenges of Europe, when investing in research. This means closer cooperation and strengthened partnerships as we build on our collective experiences gained from the six Forward Looks conducted so far.

So the Strategic Plan is not a document to just sit on the bookshelf. On the contrary, we all have a responsibility to make this work. We have a green light – it's now up to all of us to show we can deliver to help Europe become a more powerful player on the world science stage.

While approval of the Strategic Plan might be the culmination of a very busy year for ESF, it certainly is not the only event of significance in the past year.

Major progress has been achieved with key instruments, with the launch of the new ESF Conference scheme, an overhaul of the EUROCORES instrument, and continued development of the EURYI Awards scheme as a leading European instrument.

The EURYI Awards scheme is a highly significant programme and one that has enormous potential for the future of science. I believe that, as a scientific community, we must all put our efforts into promoting the excellence of science in Europe not only today but also tomorrow. The 2005 EURYI Awards are the best sign so far of that excellence for tomorrow.

I am very pleased to report our considerable progress with the changes and reforms that we have contributed in the reshaping of COST, including domain restructuring (with the approval of nine new Domain Committees) meaning a substantial reduction in the number of committees and the introduction of new research areas. Furthermore, our successful mid-term reviews of COST led to securing an €80 million EC grant over 4½ years. Congratulations to the COST staff in Brussels for this

outstanding achievement. I would like to mention, in particular, the constructive work done together with the CSO of COST, and its president, Professor Francesco Fedi.

During 2005, ESF/COST underwent a number of demanding audits by KPMG, the European Commission and the European Court of Auditors. I am very pleased that the resulting reports demonstrate a clear appreciation of how ESF runs the business. It is certainly a further step towards positioning ESF as an organisation able to manage complex operations at a European scale.

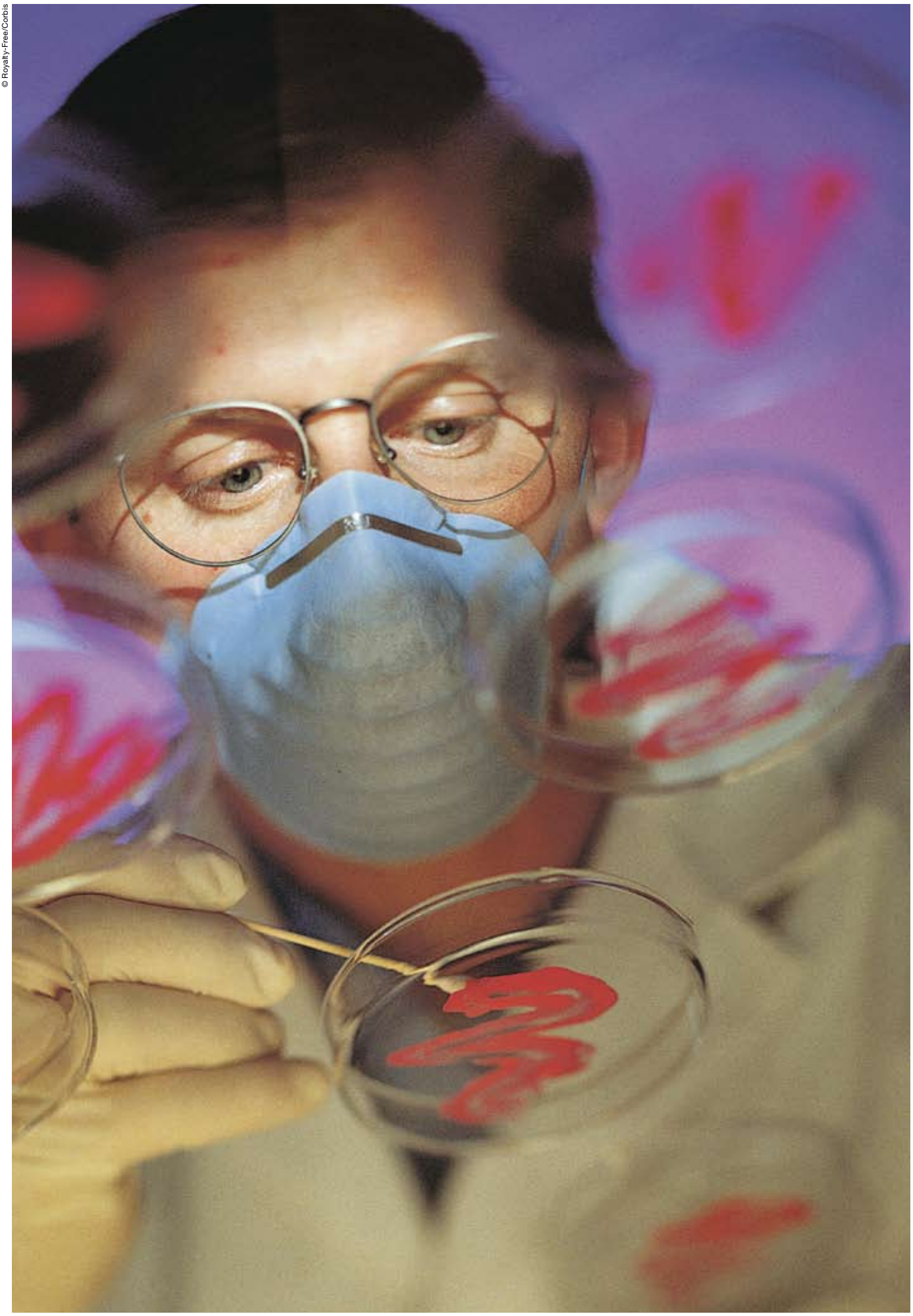
2005 has also been a year of increased awareness of quality and delivery, building the foundation of a new communications strategy, and changes to the buildings and staff of ESF.

To conclude, I want to offer my sincere thanks to everyone in ESF, who worked hard during 2005 to help produce such successful results. This has been a most successful year and we should all take great pride in our collective achievement.

In particular, I would like to pay tribute to outgoing President, Reinder van Duinen, for his leadership and friendship. It has been my privilege and pleasure to work with you.

Now, we embark on the next stage of ESF's evolution under the leadership of Professor Ian Halliday. Ian's personal vision for ESF is exciting and compelling, one that is key to the stronger networking relationships we will build with our community in 2006.

Professor Bertil Andersson
Chief Executive



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2005 General Assembly Highlights

The 31st annual General Assembly took place on 24-25 November 2005 at the European Parliament in Strasbourg. More than 110 representatives from the Member Organisations and other international bodies participated in the meeting.

During the first day, participants engaged in discussion with their peers and colleagues in meetings, parallel sessions and presentations given by ESF's leaders and invited speakers.

Professor Ian Halliday presented a view on foresight with experiences from the USA; Forward Looks on nanomedicine and nanosciences were presented by Professor Ruth Duncan and Professor Colin Lambert respectively; experiences of the OECD Global Science Forum with foresight and its impact were shared by Dr Stefan Michalowski; and Robert-Jan Smits presented on foresight and the European Commission.

These contributions will help inform ESF's thinking about the development of the Forward Look instrument.

Presentations were made by the Chairs of Standing Committees – Professor Alex Quintanilha (Life, Earth and Environmental Sciences), Professor Michel Mareschal (Physical and Engineering Sciences), Professor Gün Semin (Social Sciences), Professor Gretty Mirdal (Humanities), and Dr Carole Moquin-Pattey (representing Professor Clemens Sorg, European Medical Research Councils). Each presentation addressed specific issues for the Committees in the context of ESF's 2006-2010 Strategic Plan.

Parallel sessions were held, focusing on EUROCORES (chaired by the President, Dr Reinder van Duinen), Expert Committees (chaired by Vice President Professor Katherine Richardson Christensen), and ESF Finances (chaired by Vice President Dr Richard Dyer).

The first day concluded with the presentation of the 2005 European Latsis Prize, awarded to Professor Donal Bradley of Imperial College, London, for his pioneering work in nanoengineering.

The major theme of day two of the General Assembly was the 2006-2010 strategic plan and financial plan, the initial concepts for which were first presented to the 2004 General Assembly.

In his presentation of the plans, Chief Executive Professor Bertil Andersson noted that the strategic plan is the result of probably the most comprehensive consultation process in the history of ESF. He said that the plan is a rolling implementation for each year from 2006-2010 with the financial plan as a planning document both for ESF and the Member Organisations.

Professor Andersson's presentation stimulated open discussion among the delegates, with notable comments from Professor Norbert Kroó, Vice President of the Hungarian Academy of Sciences; Michel Dodet, Vice President of the Institut National de la Recherche Agronomique in France; Jan Bernt, President of the Norwegian Academy of Science and Letters; and Professor Peter Nijkamp, Chair of the European Heads of Research Councils (EuroHORCs).

In his summary comments on the strategic plan prior to Assembly voting, President Reinder van Duinen said, "The plan presents a well-balanced reflection of everyone's viewpoints during consultation. Today we have had several comments on structure, processes, instruments, and quality, all of which we have taken to heart."

The Assembly then unanimously endorsed the strategic plan and approved its publication; and endorsed the financial plan as an appropriate financial translation of the strategic plan.

Director of Administration and Finance, David Weber, presented the 2004 accounts and a projection of the 2006 budget.

The Assembly approved the 2004 accounts; received the report of the statutory auditors, approved the revised forecast for the 2005 general budget of €10,908,000; approved the 2006 budget proposal of €12,252,000; approved the resulting 2006 Call for Contributions amounting to €6,652,000; and noted the scale of national contributions for the 2006 Call.

In his report to the Assembly on ESF's overall activities during 2005, Professor Andersson highlighted a roster of activities ESF successfully accomplished during 2005, including:

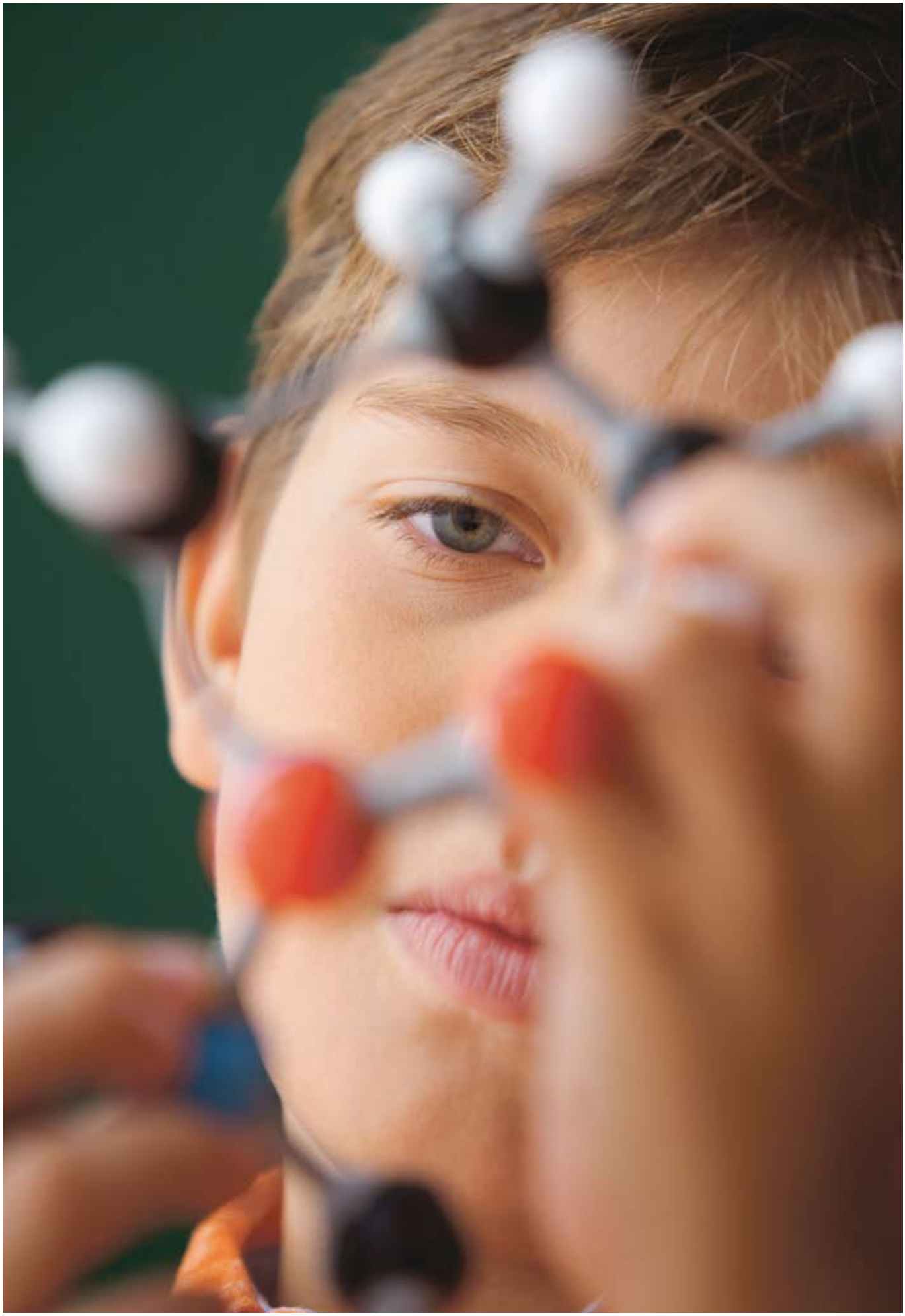
- Partnerships between ESF and EuroHORCs, the European Molecular Biology Organisation (EMBO), the Initiative for Science in Europe (ISE), and the European Commission
- New partnership conferences (15 partners) with up to 20 scientific conferences planned for 2006 across Europe
- Substantial progress with changes and reforms of COST
- 20 EUROCORES programmes of which 16 are fully running
- A new EUROCORES scheme comprising a high-level committee of high-ranking scientists under the ESF Executive Board
- The successful conclusion of the second annual EURYI Award scheme and the first call for nominations published for the 2006 scheme

The Assembly approved two new organisations to ESF membership: the Science and Technology Assistance Agency (Slovakia) and VINNOVA (Sweden).

Finally, the 2005 General Assembly concluded with two special events – the ratification of Professor Ian Halliday as the next ESF President from 1 January 2006, and the stepping down of current President Reinder van Duinen from 31 December 2005.

In his farewell comments – to resounding applause from the Assembly participants – Dr. van Duinen thanked his fellow Executive Board members and the Member Organisations, saying, "I have enjoyed your trust and I am glad to have been of service."

The next General Assembly will be held in Strasbourg on 30 November-1 December 2006.



Strategic Plan

Executive Summary

ESF's 2006-2010 strategic plan was endorsed and approved for publication by the 31st annual General Assembly that took place on 24-25 November 2005, at the European Parliament in Strasbourg.
The plan provides a systematic approach to ESF's future activities, taking into account the often differing views and needs of the Member Organisations as expressed during an extensive consultation process during 2004 and 2005, involving 76 Member Organisations in 30 countries. The strategic plan is accompanied by a financial plan to ensure efficient and high-quality delivery and to provide a long-term financial planning framework for the Member Organisations.

The main pillars of this strategic plan are the promotion of 'science strategy' and 'science synergy', which will pave the way for initiatives across disciplinary boundaries in the European Research Area (ERA).

The 2006-2010 strategic plan is a tool to help ESF, the Member Organisations and the science community meet the demands of a changing environment which continues to see:

- An increased level of European cooperation
- A wider scope of disciplines (including more interdisciplinarity)
- Political commitment to increased research spending in Europe
- Proposed Framework Programme 7 with more focus on investigator-driven research
- Further cooperation between national research organisations

Building on its relationships with its Member Organisations and its past experience in catalysing research-led cooperation in science in Europe, ESF plans to engage proactively in the promotion and fostering of cooperation across national boundaries in order to ensure that Europe rises to the challenge of the increased scale and complexity of research in the years ahead.

You can download a PDF copy of the strategic plan from the ESF website:
http://www.esf.org/publication/215/ESFPLAN20062010.pdf

Strategic Plan

Key Points

The Strategic Plan addresses a number of key areas, including the role of ESF, its instruments, and how the organisation operates. This section looks at these key areas in more detail.

The role of ESF

- ESF, together with its Member Organisations, will engage in partnerships with other organisations in Europe and the world in order to promote cooperation to the benefit of the European scientific community.
- While the European Research Council (ERC) exists to manage the creation of individual research terms in order to promote European excellence and, in this way, to secure a leadership position for Europe at the frontiers of science, ESF will focus, in a complementary way, on promoting cooperation and coordination between its Member Organisations, research-funding or research-performing organisations that control the vast majority of frontier research in Europe.
- ESF's statutory role is 'to promote all branches and science and research in Europe'. This distinguishes ESF from the EC Framework Programmes, which are mission-driven.
- ESF covers all disciplines: natural, medical and engineering sciences, social sciences and humanities. This distinguishes ESF from other European organisations dealing only with specific disciplinary areas.
- Through its scientific committee structure and its instruments, ESF has direct access to the wider European research community.

ESF Instruments

- Based on a recent evaluation of ESF's networking instruments, the present portfolio of instruments is deemed to be largely adequate, provided they are sharpened and partly refocused to even better address the challenges of promoting cooperation that will extend the scale and scope of researcher-led science.

As a direct result of this consultation process, ESF plans to add an instrument to directly serve its Member Organisations: Member Organisation Fora.

- In order to promote competition, as well as create possibilities for interdisciplinary actions, and to increase transparency and visibility, ESF will announce common or synchronised Calls for its instruments across all domains of science. ESF will also publish a yearly schedule of its Calls with deadlines.
- ESF will streamline its instruments and concentrate them in the following three pillars:
  – Science Strategy
  – Science Synergy
  – Science Management

Science Strategy

The aim of the instruments in the Science Strategy Pillar is to provide high-level and high quality foresight and advice on science, research infrastructure and science policy issues of European significance, in order to enable decisions on strategic directions and priorities, or on programmes of researcher-led science.

In order to engage the best scientists, one key requirement for the instruments in the Science Strategy pillar is that their output must have a visible impact on the funding of research across national boundaries.

ESF wishes to facilitate its MOs' joint efforts to meet the challenges of European research cooperation in a global context.

Science Synergy

The instruments in the Science Synergy pillar aim to stimulate cooperation between researchers and Member Organisations in order to explore new directions in research and to plan and implement European-level research programmes or actions in researcher-led science and research infrastructure, and to involve research organisations in the choice of topics.
The ESF instruments that promote science synergy will be used to bring together excellent scientists at all stages of their career, for the advancement of the frontiers of research. The instruments will bring together MOs on an *à la carte* basis for the funding of those activities that fit their strategic priorities and interests.

Science Management

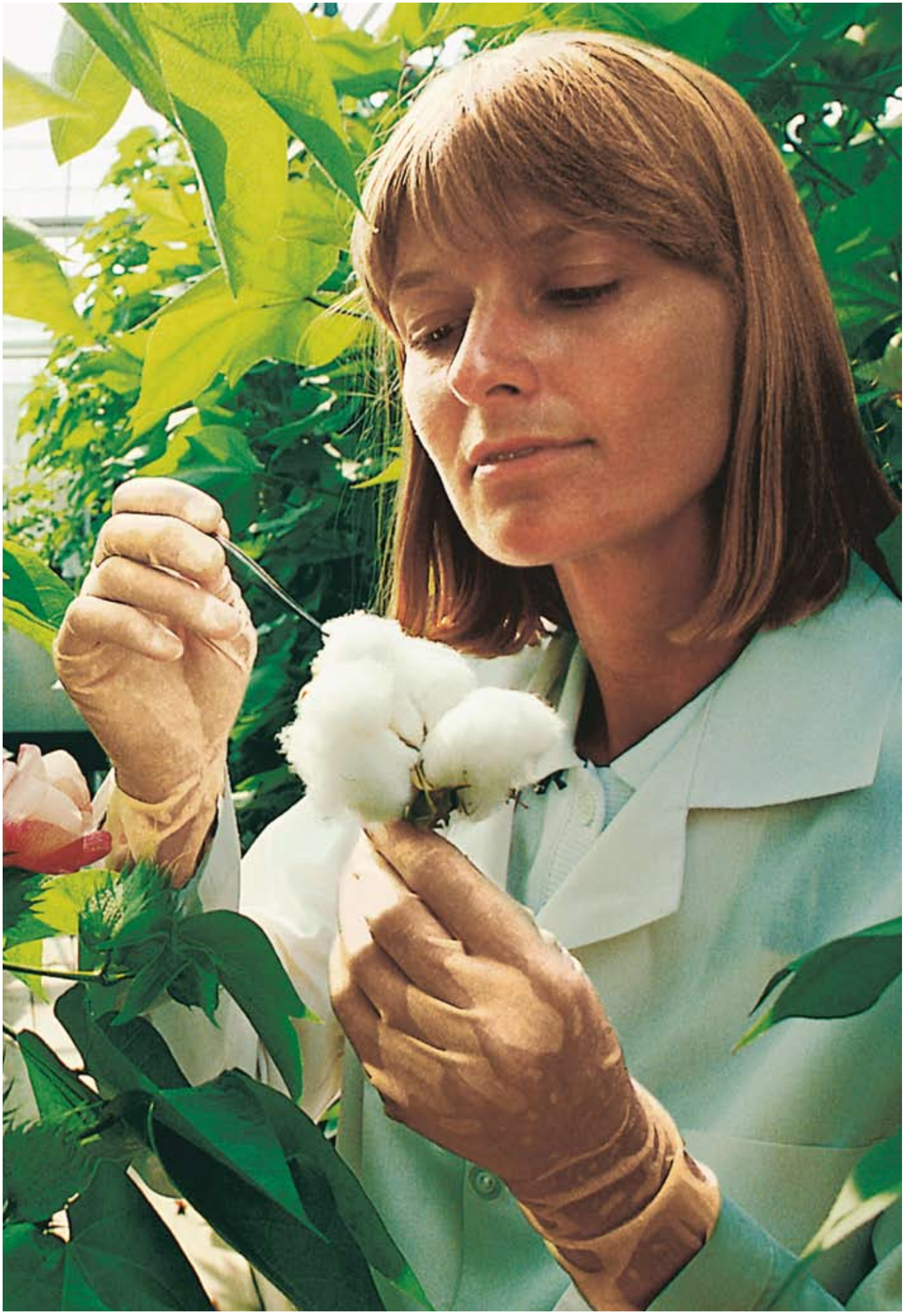
The logical extension of these first two pillars is the provision of services to ESF MOs in the form of research programme management. This defines the third pillar: Science Management. Examples of external programmes currently managed by ESF include the European Young Investigator Awards scheme (EURYI) and COST, along with ESF's coordinating role in the EC funded ERA-NETs in the marine and polar areas, MARINERA and EUROPOLAR.
ESF is open to accepting the management of third-party programmes if they strengthen its Mission, fit its expertise and are fully-funded.

Governance and the science structure

During the first year of the new Strategic Plan, ESF will take critical look at governance and the science structure.

- The modernisation and simplification of the decision-making processes, in a way which recognises the character of ESF as a member organisation, will be one major element of this review.
- Another important aspect will be to design the science structure so that interdisciplinary initiatives and emerging areas are promoted and the need for an overarching high-level science advisory structure is recognised.

To achieve these goals, a Taskforce has been set up to develop a proposal for the September 2006 Governing Council to:
- Streamline the present decision-making processes and governance structure
- Prepare a detailed proposal for the Committee structure, involving the Chairs of the Standing Committees and the Member Organisations.



2005 Achievements

European Latsis Prize Award

ESF awarded the 2005 European Latsis Prize to Professor Donal Bradley from Imperial College, London, for his pioneering contributions and leading role in the development of the semi-conductor properties of conjugated polymers and related materials.
The European Latsis Prize, valued at 100,000 Swiss francs (€65,000) and financed by the Geneva-based Latsis Foundation, is awarded by ESF to an individual or group who, in the opinion of their peers, has made the greatest contribution to a particular field of European research. The theme of the 2005 European Latsis Prize was nano-engineering.

Professor Bradley's research activity has the potential for a broad range of practical applications, including solar energy conversion, electronic circuits, imaging devices, microanalysis systems and active components in polymer waveguide/plastic fibre-based data communication.
It is the combination of leading-edge research and practical, commercial applications of his work that makes Professor Bradley such a deserving laureate. In 1989, Professor Bradley and some colleagues in Cambridge discovered that certain plastics could be used to make light-emitting diodes (PLEDs): these are now being developed as a next-generation technology for flat panel displays, and have already been used in a range of consumer electronics devices such as mobile phones, MP3 players, and portable DVD players. Professor Bradley has also been involved in setting up two companies in order to allow the fruits of his research to be used in a commercial environment.
Speaking after the awards ceremony in Strasbourg on 25 November 2005, Professor Bradley explained that he believed this year's prize on nano-engineering was topical and timely, with molecular materials and devices starting to be recognised as an important component in nano-engineering. "The ability to engineer the properties of molecular materials is enabling their application in a wide range of sectors, principally in light emission for displays in a commercial setting," he said. "This is increasingly so in other future application areas, so we're now looking at transistors, solar cells, lasers, amplifiers and so on."
Professor Bradley is Head of the Molecular Electronic Materials section of the Blackett Laboratory's Experimental Solid State Physics Group at Imperial College, London. He is leading the development of an extensive programme of research across the physical/chemistry interface. He is widely published and many of his more than 400 research papers are exceptionally highly cited. He is one of the world's most-cited physicists.

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Professor Donal Bradley addressing the Assembly

2005 EURYI awardees,
Hungarian Academy of Sciences,
9 November 2005

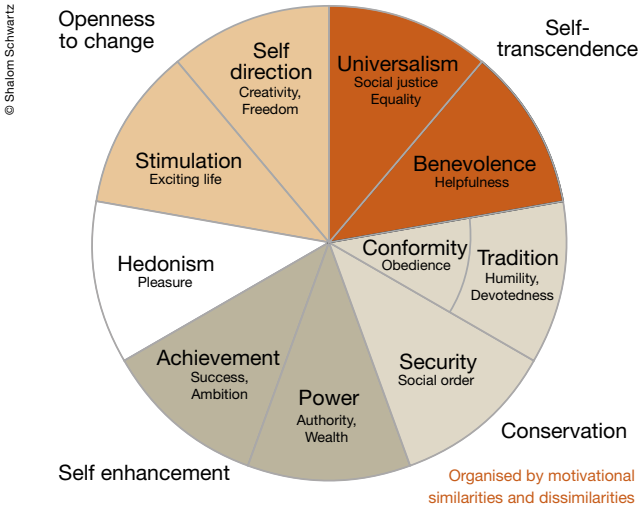
EURYI Prize Awards

On 9 November 2005, in the Hungarian Academy of Sciences in Budapest, Hungary, each of the 25 winners of the European Young Investigator awards – the EURYI Awards – received diplomas in recognition of their award-winning project proposals. The diplomas were presented by Professor Werner Arber, joint winner of the 1978 Nobel Prize in Physiology or Medicine. Each winner receives up to €1,250,000 over a five-year-period in an award that is comparable in scope to the Nobel Prize.

Now entering its third year, the EURYI Awards scheme aims to encourage the most talented up-and-coming postdoctoral researchers in the world to pursue academic careers in Europe. The EURYI Awards are offered by 20 European national research organisations in an open competition, with candidates selected on the basis of their academic and research excellence and their future potential. Candidates are chosen in a two-stage process, firstly at the national level by the relevant Participating Organisation; and, secondly, at the international level by high-level scientific panels managed by ESF.
The following list shows the 2005 winners, in alphabetical order, and indicates the country of the supporting research institution:

- **Matthew Albert** (France) - Investigation and experimentation to better understand apoptotic cell death and immunity.
- **Dario Alfè** (UK) - Quantum Monte Carlo techniques for planetary geophysics and heterogeneous catalysis.
- **Adrian Bachtold** (Spain) - Quantum probes based on carbon nanotubes.
- **Matthew Bate** (UK) - The formation of stars and planets: Radiation hydrodynamical and magnetohydrodynamical simulations.
- **Ilka Marie-Louise Brunner** (Switzerland) - Analyse D-branes in curved backgrounds.
- **Snorre Christiansen** (Norway) - Numerical analysis and simulation of geometric wave equations.
- **Edwin Cuppen** (Netherlands) - Exploiting natural and induced genetic variation in the laboratory rat.
- **Valentina Emiliani-Sirtoni** (France) - Wave-fronted engineered microscopy for the investigation of signal transmission in neurons and glial cells.
- **Daniel Gerlich** (Switzerland) - A systems biology approach to mitosis.
- **Igor Gornyi** (Germany) - Research quantum transport in nanostructures.
- **Yrjö Helariutta** (Finland) - Molecular basis of cambial development using underlying tree growth.
- **Casper Hoogenraad** (Netherlands) - Regulation of glutamate receptors during plasticity and learning.
- **Andrei Khlobystov** (UK) - Non-covalent assembly of functional nanostructures.
- **Bernard Knaepen** (Belgium) - Conduct modelling and simulation of turbulent conductive flows in the limit of a low magnetic Reynolds number.
- **Susana Marcos Celestino** (Spain) - Physical and technological approaches to the understanding and correction of myopia and presbyopia.
- **Patrick Meraldi** (Switzerland) - Functional and proteomics-based analysis of human kinetochores.
- **Angelos Michaelides** (Germany) - Unravelling the mysteries of the water-solid interface with statistical mechanics and ab initio simulations.
- **Zoltan Nusser** (Hungary) - Sensory information processing: understanding the neuronal representation of odours.
- **Lucas Pelkmans** (Switzerland) - Systems analysis of caveolae- and lipid raft-mediated endocytosis in multicellular physiology.
- **Pasquale Pistone** (Austria) - Investigate the impact of European tax law on relations with third countries.
- **Robert Ter Haar Romeny** (Netherlands) - Identity and migration: Christian minorities in the Middle East and in the diaspora.
- **Archana Singh-Manoux** (France) - Determinants of health inequalities in ageing populations: evidence from the French Gazel and British Whitehall II cohort studies.
- **Stephen Smartt** (UK) - Understanding the lives of massive stars from birth to supernovae.
- **François Taddei** (France) - Investigate the causes and consequences of natural patterns of phenotypic variability, aging and death in cellular lineages.
- **Päivi Törmä** (Finland) - Nanoscale quantum systems interacting with fields: ultracold gases and molecular electronics.

For more information about each EURYI Awards winner and their award-winning project proposals, please visit www.esf.org/euryi



Descartes Prize

Europe's top annual science award, the €1,000,000 Descartes Research Prize, was shared in 2005 by five pan-European teams who achieved major scientific breakthroughs in key European research areas.

Through its innovative research methods, the European Social Survey (ESS) has become the first Descartes award recipient within the field of social sciences. This further underlines the pioneering aspects of the ESS project and its scientific achievements.

The ESS is a unique survey that aims to explain changes in Europe's social, political and moral climate. Its research methods exhibit new ways to interpret in depth facts about changes in social structures within European societies. It is funded jointly by the European Commission; the European Science Foundation and national funding bodies in each country.

The main challenge for the ESS has been to tackle head-on the existing difficulties of producing reliable data in a cross-national, cross-cultural context. This challenge has been met with an innovative approach: The first round of the project was launched in 2002 and a core ESS questionnaire was designed to cover numerous topics and to produce a unique record over time of underlying attitude shifts throughout Europe. The data produced aims to fulfill one major key objective of the research project, which is to aid governance at a national- and a European level.

The success of the ESS, further emphasised by the Descartes Research Prize, unmistakably underlines the vital role that international cooperation in funding and research must play in the future. The benefits of a clearly defined research structure, which transcends national boundaries, are evident in the research results presented by the ESS.

The ESS project and its obvious focus on the benefits of European cooperation in research, demonstrates one way that the European Science Foundation and its partners can contribute to the European research community in a global context.

For more information about the Descartes Prize, please visit europa.eu.int/comm/research/descartes/

2005 Research Networking Programmes

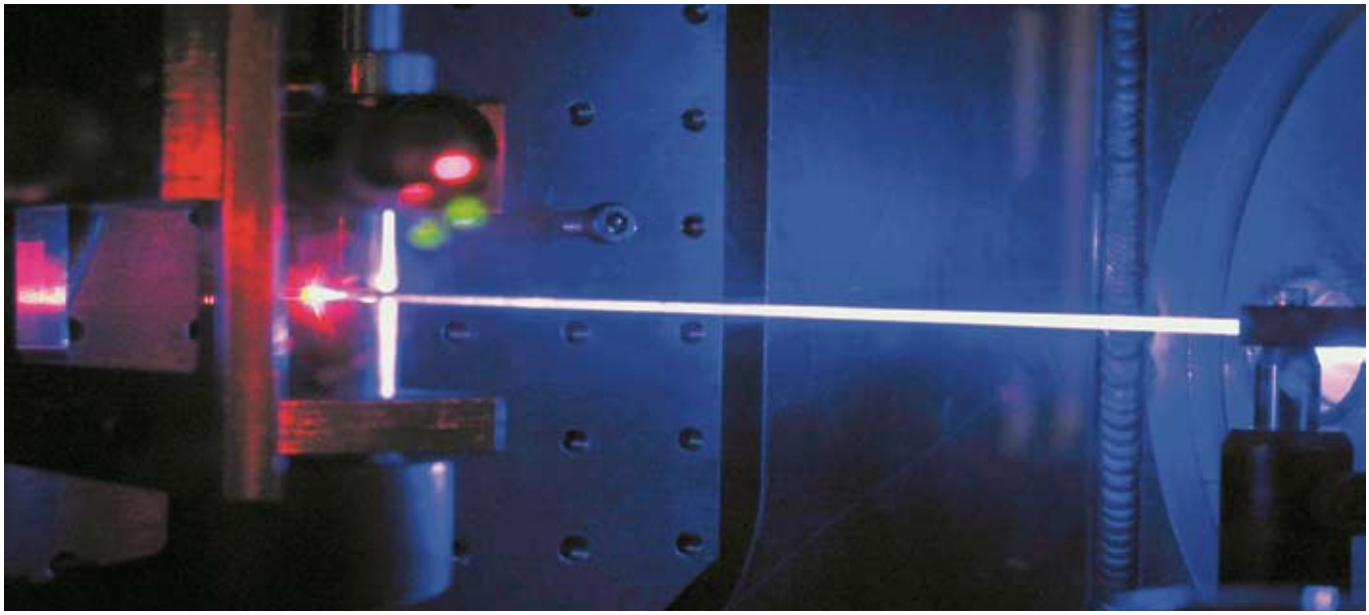
Often long-term, ESF Research Networking Programmes (formerly known as Scientific Programmes) bring together large-scale research projects carried out by multinational teams of scientists, and may include workshops, summer schools and fellowship schemes.
The following pages highlight new Research Networking Programmes which got underway in 2005. For detailed information about each Programme, please visit the relevant noted location on the ESF website. For information on all currently running Programmes, see pages 51-56 of this annual report.

Physical and Engineering Sciences

Advanced Mathematical Methods for Finance (AMaMeF)
2005-2010
15 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 research in this area, an approach requiring expertise from a number of complementary areas of mathematics.
www.esf.org/amamef

Automata: from Mathematics to Applications (AutoMathA)
2005-2010
16 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 coordinated actions for advancing the theory of automata and for increasing its application to challenging scientific problems.
www.esf.org/automatha

Experimental and Theoretical Design of Stimuli-Responsive Polymeric Materials (STIPOMAT)
2005-2009
9 contributing organisations
The aim of this Programme is to combine the complementary expertises of leading European research groups in the

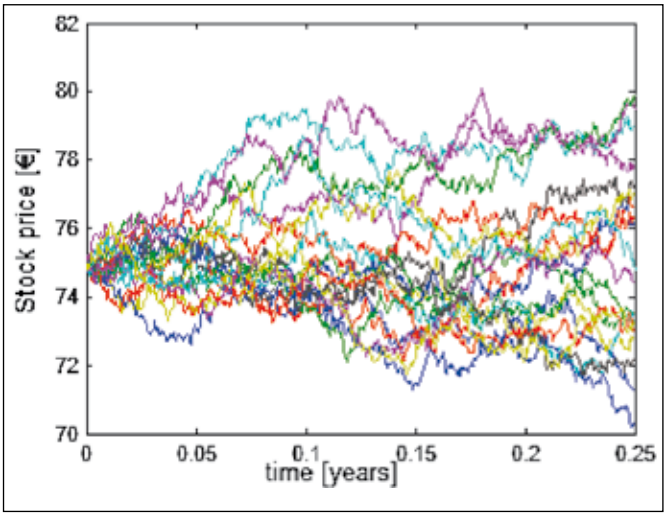


Above: Ultrafast Structural Dynamics in Physics, Chemistry, Biology and Material Science (DYNA) Programme.
A blue beam of ultrashort laser pulses is focused on a dye jet. Structural changes in the sample are subsequently probed by X-ray absorption.

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.
www.esf.org/stipomat

Highly Frustrated Magnetism (HFM)
2005-2010
11 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.
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.
www.esf.org/instans



Automata: from Mathematics to Applications (AutoMathA) Programme.
Monte Carlo simulation of stock price evolution.

© Albin Hunia, Germany

Ultrafast Structural Dynamics in Physics, Chemistry, Biology and Material Science (DYNA)
2005-2010
16 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. In Europe, structural dynamics tools currently available include time-resolved 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.
www.esf.org/dyna

Life, Earth and Environmental Sciences

Archean Environmental Studies: the Habitat of Early Life (ArchEnviron)
2005-2010
9 contributing organisations
The aim of the Programme is to coordinate and encourage research on the environment of the early Earth and on the manner in which life appeared and evolved. The main research topics are: 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 will be on the conditions at or near the surface of the Archean Earth: the approach will be based firmly on the earth sciences and will thus 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.
www.esf.org/archenviron

Left:
Behavioural Ecology of Insect Parasitoids - from theoretical approaches to field applications (BEPAR) Programme.
A *Venturia canescens* female attacking a larvae of its host *Ephestia kuehniella*.

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.
www.esf.org/bepar

Nitrogen in Europe: Assessment of current problems and future solutions (NinE)
2006-2011
This Programme was approved in 2005. The first Steering Committee meeting will be held in early 2006, marking the start of the Programme's activities
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, generating 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.
www.esf.org/nine

Workshops on Marine Research Drilling (Magellan Workshop Series)
2006-2011
This Programme was approved in 2005. The first Steering Committee meeting will be held in early 2006, marking the start of the Programme's activities
12 contributing organisations
European researchers have played a leading role in important scientific discoveries such as the operation of plate tectonics and the accretion of the oceanic lithosphere, the presence of frozen methane (gas hydrates) below the sea floor, past, high-resolution climate perturbations, and the mechanisms of ocean biogeochemical cycles. 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 planning of marine drilling expeditions.
www.esf.org/magellan

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

Founded in 1971, COST is the most wide-reaching framework for research cooperation in Europe and is a valuable mechanism in coordinating national research activities on a transnational level. Today, COST has grown to the point where it now has more than 200 Actions and involves more than 30,000 scientists from 34 member countries throughout Europe and one cooperating state and more than 80 participating institutions from 11 non-member countries and Non Governmental Organisations. ESF has been responsible for the scientific and administrative management of COST since 2003.

COST has a geographical scope beyond the EU and the Central and Eastern European countries are members. COST also welcomes the participation of interested institutions from non-COST member states without any geographical restriction. In 2005 more than 120 institutional participations from non COST countries like Argentina, Canada, China, Ethiopia and Russia took place.

For COST, 2005 was a year of reviews, with the EC Audit by DG Research taking place in March, the Contract Mid Term Review in May/June and the European Court of Auditors in September/November.

At the same time, good progress was made with changes and reforms already underway, notably with the introduction of a continuous Open Call, the strengthening of the external peer review process and Committee membership criteria, and Domain restructuring. Standing Committees and Technical Committees now work more closely together, and new IT tools and systems have been introduced that can also be applied to ESF.

In September 2005, Dr. Martin Grabert was appointed as Director of the ESF-COST Office, taking over from Tony Mayer, who retired after two years at the helm of the organisation in Brussels. Prior to his appointment, Dr. Grabert made clear his intention to continue the good work of his predecessor, particularly when it comes to encouraging even closer cooperation with ESF.

During 2005, COST:

- supported the networking of scientists by organising 816 meetings with 31 400 participating scientists and reimbursing 13 816 scientists from the COST Actions
- organised 651 Short-Term Scientific Missions (exchange visits, mainly for younger researchers)
- enhanced its cooperation with institutions from non-COST countries by creating 16 new partnerships with scientific groups from all over the world.

For more information about COST, please visit www.cost.esf.org

How the European Science Foundation Works


© F. Geir

ESF's highest decision-making forum is the General Assembly, which brings together senior representatives from all the Foundation's Member Organisations at an annual meeting that takes place each November in Strasbourg.

Development of the Foundation's strategy is the responsibility of the Governing Council, which meets twice a year. Along with the President and Vice-Presidents, the Governing Council is made up of two members appointed from those countries contributing more than 10% of the Foundation's General Budget (France, Germany, Italy and the United Kingdom), and one member appointed from each of the remaining countries with Member Organisations in ESF. The members of the Governing Council are the heads of ESF Member Organisations or their most senior representatives. The Governing Council is also responsible for the ESF budget, advises on the appointment of the Chief Executive, and on the acceptance of new members of the Foundation.

Responsibility for implementing strategy lies with the Executive Board. This body consists of the President, the two Vice-Presidents, up to five other members elected by the Assembly on the advice of the Governing Council, and the Chief Executive. The Executive Board is assisted by a Finance and Audit Committee and may also create specific ad hoc committees and groups to help in its work.

ESF's ability to run a wide range of activities, from organising exploratory workshops to providing science policy advice, is dependent on the contributions of its various advisory committees and boards.

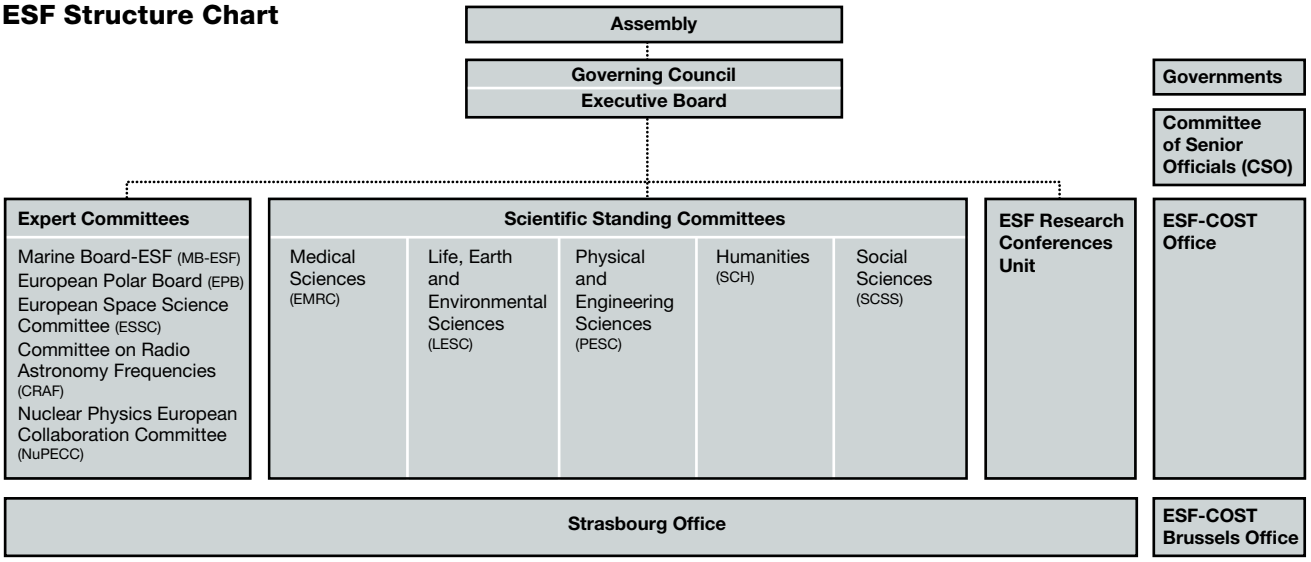
ESF's five Standing Committees (Medical Sciences; Life, Earth and Environmental Sciences; Physical and Engineering Sciences; Humanities; and Social Sciences) are made up of leading scientists nominated by and having close links with the Foundation's Member Organisations. They are responsible for identifying scientific priorities, formulating science strategies, developing research agendas and launching new research activities, especially through Exploratory Workshops and Research Networking Programmes. Together with other parts of ESF, Standing Committees are involved in the development of the new research funding initiative – EUROCORES (European Collaborative Research Programmes) – and in Forward Looks.

Expert Committees and Boards have also been set up in marine, space and polar science, nuclear physics and radio-astronomy frequencies, all scientific areas requiring specialist advice and specific strategy development.

ESF also manages the EURYI (European Young Investigator Awards) scheme and is responsible for the scientific and administrative management of COST (European Cooperation in the field of Scientific and Technical Research). The ESF COST Office in Brussels houses the scientific and administrative operations of COST, including the science officers responsible for the various domains. EURYI management, EUROCORES management and networking, and COST are all funded through contracts with the European Commission.

The Office of the ESF is directed by the Chief Executive, who is appointed by the Assembly. The Chief Executive is assisted by a multinational staff working in Strasbourg and elsewhere.

ESF Structure Chart



ESF Science and Management Staff

(in post as at December 2005)

Department of Administration and Finance

Director of Administration and Finance
Mr. David Weber

Head of Human Resources
Ms. Catherine Lux

Senior Personnel Officer
Ms. Jacqueline Steydli

Chief Executive Office

Chief Executive Officer
Professor Bertil Andersson

Director of Science and Strategy
Dr. John Marks

Senior Scientific Officer
Mr. Neil Williams

Science Officer
Dr. Nina Kancewicz-Hoffman

Personal Assistant to the CEO
Ms. Veronica Schauinger-Horne

Communications Unit

Director
Mr. Claus Nowotny

Secretariats of Expert Committees

Head of Unit:
Dr. Niamh Connolly (MB-ESF)

Head of Unit:
Dr. Paul Egerton (EPB)

Head of Unit:
Dr. Jean-Claude Worms (ESSC)

Head of Unit:
Dr. Patrick Bressler (CRAF - NuPECC)

Scientific Secretariats of Standing Committees

Medical Sciences (EMRC)	Life, Earth and Environmental Sciences (LESC)	Physical and Engineering Sciences (PESC)	Humanities (SCH)	Social Sciences (SCSS)
Head of Unit: **Dr. Carole Moquin-Pattey**	Head of Unit: **Dr. Arja Kallio**	Head of Unit: **Dr. Patrick Bressler**	Head of Unit: **Dr. Monique van Donzel**	Head of Unit: **Dr. Henk Stronkhorst**
Science Officer: **Dr. Hui Wang**	Science Officer: **Dr. Patricia Arsene**		Deputy Head of Unit: **Dr. Rüdiger Klein**	

Secretariat of ESF Research Conferences

Head of Unit:
Ms. Caroline Hirst

EUROCORES

Scheme Coordinator **Dr. Svenje Mehlert**

EUROCORES EMRC	EUROCORES LESC	EUROCORES PESC	EUROCORES SCH
Dr. Mariana Resnicoff	**Dr. Bernard Avril** **Dr. Caroline Fenwick** **Dr. Astrid Lunkes**	**Dr. Josefa Limeres** **Dr. Farzam Ranjbaran** **Dr. Jean-Claude Worms**	**Dr. Rüdiger Klein**

ESF Member Organisations in 2005

76 Member Organisations in 30 countries

For the latest information about ESF Member Organisations, please visit www.esf.org/members

Austria

Fonds zur Förderung der wissenschaftlichen Forschung in Österreich
Austrian Science Fund
Weyringergasse 35 • 1040 Wien
www.fwf.ac.at

Österreichische Akademie der Wissenschaften
Austrian Academy of Sciences
Dr. Ignaz-Seipel Platz 2 • 1010 Wien
www.oeaw.ac.at

Belgium

Fonds National de la Recherche Scientifique
National Fund for Scientific Research
5, rue d'Egmont • 1000 Bruxelles
www.fnrs.be

Fonds voor Wetenschappelijk Onderzoek-Vlaanderen
Fund for Scientific Research - Flanders
5 Egmontstraat • 1000 Brussel
www.fwo.be

Bulgaria

Bulgarian Academy of Sciences
1, 15 Noemvri Str • 1040 Sofia
www.bas.bg

National Science Fund of Bulgaria
2A Kniaz Dondukov Blvd. • Sofia 1000
www.nsfb.net

Croatia

Hrvatska akademija znanosti i umjetnosti
Croatian Academy of Sciences and Arts
Zrinski Trg 11 • 10000 Zagreb
www.hazu.hr

Cyprus

Cyprus Research Promotion Foundation
PO Box 23422 • 1683 Nicosia
www.research.org.cy

Czech Republic

Akademie věd České republiky
Academy of Sciences of the Czech Republic
Národní 3 • 117 20 Prague 1
www.cas.cz

Grantová agentura České republiky
Czech Science Foundation
Národní 3 • P.O. Box 1081 • 110 00 Prague 1
www.gacr.cz

Denmark

Danmarks Grundforskningsfonden
Danish National Research Foundation
Holbergsgade 14, 1 • 1057 Copenhagen
www.dg.dk

Det Kongelige Danske Videnskabernes Selskab
Royal Danish Academy of Sciences and Letters
H.C. Andersens Boulevard 35
1553 Copenhagen V
www.royalacademy.dk

Forskningsrådet for Kultur og Kommunikation
Humanities Research Council
Forskningsrådet for Sundhet og Sygdom
Medical Science Research Council
Forskningsrådet for Natur og Univers
Natural Science Research Council
Forskningsrådet for Samfund og Erhverv
Social Science Research Council
Forskningsrådet for Teknik og Produktion
Danish Research Council for Technolgy and Production
The secretarial functions for all five Danish research councils are assumed by:

Forskningsstyrelsen
Danish Research Agency
Artillerivej 88 • 2300 Copenhagen S
www.forsk.dk

Estonia

Eesti Teaduste Akadeemia
Estonian Academy of Sciences
Kohtu 6 • 10130 Tallinn
www.akadeemia.ee

Eesti Teadusfond
Estonian Science Foundation
Endla 4 • 10130 Tallinn
www.etf.ee

Finland

Suomen Akatemia/Finlands Akademi
Academy of Finland
PO Box 99 • Vilhonvuorenkatu 6
00501 Helsinki
www.aka.fi

Suomen Tiedeakatemiain Valtuuskunta/Delegationen för Vetenskapsakademierna i Finland
Delegation of the Finnish Academies of Science and Letters
Mariankatu 5 • 00170 Helsinki
www.helsinki.fi/science/deleg

France

Centre national de la recherche scientifique
National Centre for Scientific Research
3 rue Michel-Ange • 75794 Paris cedex 16
www.cnrs.fr

Commissariat à l'énergie atomique/ Direction des sciences de la matière
Institute for Basic Research of the Atomic Energy Commission
31-33 rue de la Fédération
75752 Paris cedex 15
www.cea.fr

Institut français de recherche pour l'exploitation de la mer
French Research Institute for Exploitation of the Sea
Technopolis 40
155 rue Jean-Jacques Rousseau
92138 Issy-les-Moulineaux cedex
www.ifremer.fr

Institut national de la recherche agronomique
National Institute for Agronomic Research
147 rue de l'Université • 75338 Paris cedex 07
www.inra.fr

Institut national de la santé et de la recherche médicale
National Institute for Health and Medical Research
101 rue de Tolbiac • 75654 Paris cedex 13
www.inserm.fr

Institut de recherche pour le développement
National Institute for Development
209-213 rue La Fayette
75480 Paris cedex 10
www.ird.fr

Germany

Deutsche Forschungsgemeinschaft
German Research Foundation
Kennedyallee 40 • 53175 Bonn
www.dfg.de

Hermann von Helmholtz-Gemeinschaft Deutscher Forschungszentren
Helmholtz Association of German Research Centres
Postfach 20 14 48 • Ahrstrasse 45
53175 Bonn
www.helmholtz.de

Max-Planck-Gesellschaft
Max Planck Society
Postfach 10 10 62 • Hofgartenstrasse 8
80539 München
www.mpg.de

Union der deutschen Akademien der Wissenschaften
Union of the German Academies of Sciences and Humanities
Geschwister-Scholl-Strasse 2
55131 Mainz
www.akademieunion.de

Greece

ΕΟΝΙΚΟ ΙΔΡΥΜΑ ΕΡΕΥΝΩΝ
National Hellenic Research Foundation
48 Vassileos Constantinou Avenue
116 35 Athens
www.eie.gr

Foundation for Research and Technology – Hellas
Forth-IACM, Vassilika • PO Box 152
711 10 Heraklion
www.forth.gr

Hungary

Magyar Tudományos Akadémia
Hungarian Academy of Sciences
Roosevelt tér. 9 • 1 051 Budapest
www.mta.hu

Országos Tudományos Kutatási Alapprogramok
Hungarian Scientific Research Fund
Könyves Kálmán Krt. 48-52
1087 Budapest
www.otka.hu

ESF Member Organisations in 2005

Iceland

Rannís
Icelandic Centre for Research
Laugavegi 13 • 101 Reykjavik
www.rannis.is

Ireland

Am Chomhairle um Thaighde sna Dána agus sna hEolaíochtaí Sóisialta
Irish Research Council for the Humanities and Social Sciences
First Floor • Brooklawn House • Shelbourne Road • Ballsbridge • Dublin 4
www.irchss.ie

Enterprise Ireland
Glasnevin • Dublin 9
www.enterprise-ireland.com

Health Research Board
73 Lower Baggot Street • Dublin 2
www.hrb.ie

Irish Research Council for Sciences, Engineering and Technology
Brooklawn House • Shelbourne Road
Dublin 4
www.ircset.ie

Royal Irish Academy
19 Dawson Street • Dublin 2
www.ria.ie

Italy

Consiglio Nazionale delle Ricerche
National Research Council
Piazzale Aldo Moro 7 • 00185 Roma
www.cnr.it

Istituto Nazionale di Fisica Nucleare
National Institute for Nuclear Physics
Piazza del Caprettari 70 • 00186 Roma
www.infn.it

Lithuania

Lithuanian State Science and Studies Foundation
Gostauto str. 12-407 • Vilnius 01108
www.vmsfondas.lt

Luxembourg

Fonds National de la Recherche
National Research Fund
Building D1 • 3rd Floor of the Chamber of Commerce • 6 rue Antoine de Saint-Exupery • PO Box 1777 • 1017 Luxembourg-Kirchberg
www.fnr.lu

Netherlands

Koninklijke Nederlandse Akademie van Wetenschappen
Royal Netherlands Academy of Arts and Sciences
Het Trippenhuis • Kloveniersburgwal 29
Postbus 19121 • 1000 GC Amsterdam
www.knaw.nl

Nederlandse Organisatie voor Wetenschappelijk Onderzoek
Netherlands Organisation for Scientific Research
Laan van Nieuw Oost Indië 300
Postbus 93138 • 2593 CE Den Haag
www.nwo.nl

Norway

Det Norske Videnskaps-Akademi
Norwegian Academy of Science and Letters
Drammensveien 78 • 0271 Oslo
www.dnva.no

Norges Forskningsråd
Research Council of Norway
Stensberggata 26 • PO Box 2700
St Hanshaugen • 0131 Oslo
www.forskningsradet.no

Poland

Polska Akademia Nauk
Polish Academy of Sciences
Palac Kultury i Nauki • 00-901 Warsaw
www.pan.pl

Portugal

Academia das Ciências de Lisboa
Lisbon Academy of Sciences
Rua da Academia das Ciências, 19
1249-122 Lisboa
www.acas-ciencias.pt

Fundação para a Ciência e a Tecnologia
Foundation for Science and Technology
Avenida Dom Carlos I, 126
1249-074 Lisboa
www.fct.mces.pt

Gabinete de Relações Internacionais da Ciência e do Ensino Superior
Portuguese International Relations Cabinet for Science and Higher Education
Av. 5 de Outubro, 85-5° • 1150-050 Lisboa
www.iccti.mct.pt

Romania

Consiliul National al Cercetarii Stiintifice din Invatamantul Superior
National University Research Council
1 Shitu Magureanu Ave.
Cod 76626 sector 5 • Bucharest
www.cncsis.ro

Slovak Republic

Slovenská Akadémia Vied
Slovak Academy of Sciences
Štefánikova 49 • 814 38 Bratislava
www.sav.sk

Slovenia

Slovenska Akademija Znanosti in Umetnosti
Slovenian Academy of Sciences and Arts
Novi trg. 3 • p.p. 323 • 1000 Ljubljana
www.sazu.si

Slovenska Znanstvena Fundacija
Slovenian Science Foundation
Stefanova Ul. 15 • 1000 Ljubljana
www.ustanova-szf.si

Spain

Consejo Superior de Investigaciones Científicas
Council for Scientific Research
Calle Serrano 117 • 28006 Madrid
www.csic.es

Ministerio de Educación y Ciencia
Ministry of Education and Science
José Abascal 4 • 28003 Madrid
www.mec.es

Sweden

Forskningsrådet för arbetsliv och socialvetenskap
Swedish Council for Working Life and Social Research
Box 2220 • Birger Jarls torg 5 • Riddarholmen • 103 15 Stockholm
www.fas.forskning.se

Forskningsrådet för miljö, areella näringar och samhällsbyggande
Swedish Council for Environment, Agricultural Sciences and Spatial Planning
Box 1206 • Birger Jarls torg 5 • 111 82 Stockholm
www.formas.se

Kungliga Vetenskapsakademien
Royal Swedish Academy of Sciences
Box 50005 • Lilla Frescativägen 4a • 104 05 Stockholm
www.kva.se

Kungliga Vitterhets Historie och Antikvitets Akademien
Royal Academy of Letters, History and Antiquities
Box 5622 • Villagatan 3
114 86 Stockholm
www.vitterhetsakad.se

Vetenskapsrådet
Swedish Research Council
Regeringsgatan 56 • 103 78 Stockholm
www.vr.se

Switzerland

Rat der schweizerischen wissenschaftlichen Akademien
Council of the Swiss Scientific Academies
Hirschengraben 11 • Postfach 8160
3001 Bern
www.cass.ch

Schweizerischer Nationalfonds zur Förderung der wissenschaftlichen Forschung
Swiss National Science Foundation
Wildhainweg 20 • Postfach 2338
3001 Bern
www.snf.ch

Turkey

Türkiye Bilimsel ve Teknik Arastırma Kurumu
The Scientific and Technical Research Council of Turkey
Atatürk Bulvari 221 • Kavaklidere
06100 Ankara
www.tubitak.gov.tr

United Kingdom

Arts and Humanities Research Council
Whitefriars • Lewins Mead • Bristol BS1 2AE
www.ahrb.ac.uk

Biotechnology and Biological Sciences Research Council
Polaris House • North Star Avenue
Swindon SN2 1UH
www.bbsrc.ac.uk

The British Academy
10 Carlton House Terrace
London SW1Y 5AH
www.britac.ac.uk

Economic and Social Research Council
Polaris House • North Star Avenue
Swindon SN2 1UJ
www.esrc.ac.uk

Engineering and Physical Sciences Research Council
Polaris House • North Star Avenue
Swindon SN2 1ET
www.epsrc.ac.uk

Medical Research Council
20 Park Crescent • London W1B 1AL
www.mrc.ac.uk

Natural Environment Research Council
Polaris House • North Star Avenue
Swindon SN2 1EU
www.nerc.ac.uk

Particle Physics and Astronomy Research Council
Polaris House • North Star Avenue
Swindon SN2 1SZ
www.pparc.ac.uk

The Royal Society
6 Carlton House Terrace
London SW1Y 5AG
www.royalsoc.ac.uk

ESF Governing Bodies and Committees Membership

For the latest information, please visit www.esf.org/structure

Executive Board

The President, the Vice-Presidents, up to five other members elected by the Assembly on the advice of the Governing Council, and the Chief Executive make up the ESF Executive Board. This body is responsible for implementing the strategy and policy set by the Governing Council and the development of the Foundation's science policy activities.

Reinder J van Duinen (President) Netherlands (to 31 December 2005)
Ian Halliday (President) United Kingdom (from 1 January 2006)
Richard Dyer (Vice-President) United Kingdom
Katherine Richardson Christensen (Vice-President) Denmark
Jean-Luc Clément France
Jane Grimson Ireland
Mario Rinaldi Italy
Kai L Simons Germany
Josef Syka Czech Republic
Bertil Andersson (ESF Chief Executive)

Contact:
Veronica Schauinger-Horne
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E-mail: vschauinger@esf.org

Governing Council

The Governing Council is composed of members appointed by the 'national groups' of Member Organisations with one representative from each country (with two from France, Germany, Italy and the United Kingdom), usually at the level of Head of a Member Organisation. It is responsible for setting, approving, directing and monitoring the overall strategic direction of the Foundation and is chaired by the President of the Foundation. Members of the Executive Board also attend Council meetings.

Reinder J van Duinen (President) Netherlands (to 31 December 2005)
Ian Halliday (President) United Kingdom (from 1 January 2006)
Richard Dyer (Vice-President) United Kingdom
Katherine Richardson Christensen (Vice-President) Denmark
Izo Abram France
Raymond Bausch Luxembourg
Fiona Devine United Kingdom
Michel Dodet France
Ioan Dumitrache Romania
Jüri Engelbrecht Estonia
Haflidi Petur Gislason Iceland
Peter Gruss Germany
Arvid Hallén Norway
Daniel Höchli Switzerland
Boris Kamenar Croatia
Norbert Kroó Hungary
Dimitrios Kyriakidis Greece
Andrzej Legocki Poland
Elsebeth Lynge Denmark
Martin Lyes Ireland
Carlos Martinez-Alonso Spain
Andreas Moleskis Cyprus
Jiri Niederle Czech Republic
Peter Nijkamp Netherlands
Pär Omling Sweden
John O'Reilly United Kingdom
Maurice Pensaert Belgium
Roberto Petronzio Italy
Paolo Ramat Italy
Fernando Ramôa Ribeiro Portugal
Sigitas Rencys Lithuania
Jozef Šimúth Slovak Republic
Hans Sünkel Austria
Miha Tišler Slovenia
Raimo Väyrynen Finland
Ernst-Ludwig Winnacker Germany
Naum Yakimoff Bulgaria
Nüket Yetis Turkey

Observers:
Robert-Jan Smits European Commission
Pieter Drenth All European Academies (ALLEA)
John Smith European University Association (EUA)

Contact:
Veronica Schauinger-Horne
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E-mail: vschauinger@esf.org

Finance and Audit Committee

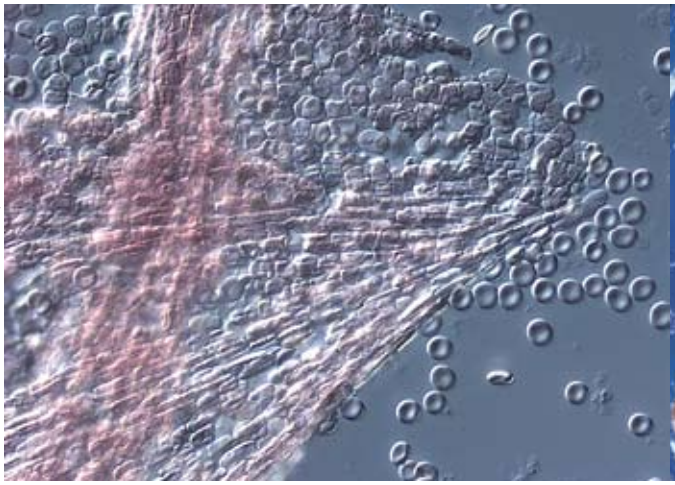
Richard Dyer (Chair) United Kingdom
Anna d'Amato Italy
Ömer Anlagan Turkey
Peter Fletcher United Kingdom
Bela Kardon Hungary
Robert Kuhn Germany
Tom McCarthy Ireland
Juha Sarkio Finland
Lula Sigala Greece
Yves Terrien France

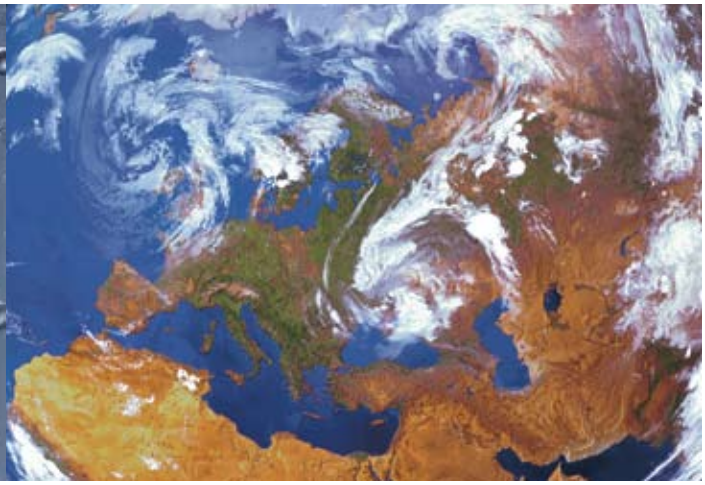
ESF Office
Bertil Andersson ESF Chief Executive
David Weber ESF Director of Administration and Finance

Auditors

Public Audit Office:
Frank O'Neill Ireland

Statutory Auditors:
Emmanuelle Serrano KPMG
Jean-Pierre Poletti KPMG





Standing Committees

European Medical Research Council (EMRC)

EMRC is the association of the European funding agencies covering a broad range of disciplines in medical sciences with the main objectives of developing European scientific strategies in the field; promoting interactions between the biological, biomedical, clinical and public health research communities; stimulating collaborations in emerging and interdisciplinary research areas. The EMRC membership is composed of delegates with a high scientific profile who are nominated by their ESF Member Organisations involved in biomedical sciences (max. two representatives per country), together with observers from Israel, USA, Canada, New Zealand, WHO-Europe, the European Commission and the ESF Standing Committee for Life, Earth and Environmental Sciences (LESC).

Clemens Sorg (Chair) Germany
Vladimir Bencko Czech Republic
Håkan Billig Sweden
Gunnar Bovim Norway
Christian Bréchot France
Arturo Brunetti Italy
Antonio de Bernad Miana Spain
Michel Goldman Belgium
Agnès Gruart Spain
Ingileif Jónsdóttir Iceland
Dermot Kelleher Ireland
Dietrich Kraft Austria
Zita Ausrele Kucinskiene Lithuania
Marianne Minkowski France
Andis Nicolaides Cyprus
Finn Cilius Nielsen Denmark
Wladimir Ovtscharoff Bulgaria
Leonor Parreira Portugal
Kresimir Pavelic Croatia
H M Pinedo Netherlands
Mark Pitman United Kingdom
Katarina Poláková Slovak Republic
Laurentiu M Popescu Romania
Charles Pull Luxembourg
Ernst Theodor Rietschel Germany
Nadire Yesim Cetinkaya Sardan Turkey
Janez Sketelj Slovenia
Kristiaan Thielemans Belgium
Miklós Tóth Hungary
Andrzej Trzebski Poland
Kalervo Väänänen Finland
Eero Vasar Estonia
Walter Wahli Switzerland
Klaus Wolff Austria
Chrysanthos Zamboulis Greece

Observers:
Julian Dow LESC representative
Alan Bernstein Canadian Institutes of Health Research, Canada
Sharon Hrynkow Fogarty International Center, USA
Bruce A Scoggins Health Research Council of New Zealand
Arnon Nagler Israel Academy of Sciences and Humanities, Israel
Octavi Quintana-Trias European Commission, DG Research
Edvard Peter Beem NWO, Netherlands

Head of Unit:
Carole Moquin-Pattey
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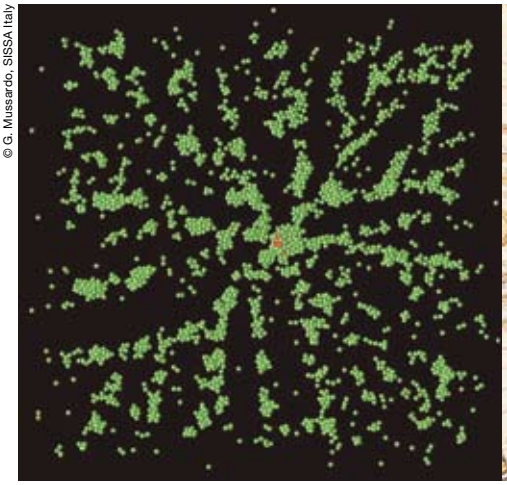
Standing Committee for the Life, Earth and Environmental Sciences (LESC)

The ESF Standing Committee for the Life, Earth and Environmental Sciences (LESC) encompasses a number of disciplines such as biology, biotechnology, agriculture, earth sciences, glaciology, oceanography, meteorology, and other life and environmental sciences. The Committee 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 Technical Committees.

Alexandre Quintanilha (Chair) Portugal
Fatima Abrantes Portugal
Demir Altiner Turkey
Stella Canna-Michaelidou Cyprus
Salvatore Cannistraro Italy
Reinhart Ceulemans Belgium
Constantinos Doukas Greece
Julian Dow United Kingdom
Juan Pedro Garcia Ballesta Spain
Josef Glössl Austria
Jean-Henri Hecq Belgium
Lucien Hoffmann Luxembourg
Milena Horvat Slovenia
Philippe Jean-Baptiste France
Hefin Jones United Kingdom
Marek Konarzewski Poland
Zeljko Kucan Croatia
Olevi Kull Estonia
Juozas Kulys Lithuania
Markku Löytönen Finland
John Ludden France
Peadar McArdle Ireland
Jens Meincke Germany
Štefan Mihina Slovak Republic
Volker Mosbrugger Germany
Jan Motlik Czech Republic
Rudy Rabbinge Netherlands
Adam Schultz United Kingdom
Hans Petter Sejrup Norway



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Olgeir Sigmarsson France
Lars Stemmerik Denmark
Andreas Strasser Switzerland
François Tardieu France
Anders Tunlid Sweden
Angheluta Vadineanu Romania
Zoltán Varga Hungary
Maciej Zylicz Poland (to March 2005)
nn Bulgaria

Observers:
Elisabeth Guazzelli PESC representative
Gerhard Haerendel ESSC Chair
Gérard Jugie EPB Chair
Jan Mees Marine Board - ESF
Jean-François Minster Marine Board - ESF Chair
Giora Simchen Israel Academy of Sciences and Humanities, Israel
Hermona Soreq Israel Academy of Sciences and Humanities, Israel (to March 2005)
Ib Troen/P Valette European Commission, DG Research
nn National Science Foundation, USA

Head of Unit:
Martina Hilger-Hildebrandt (to Aug 2005)
Acting Head of Unit
Arja Kallio (Sept-Dec 2005)
Contact:
Jane Swift
Tel: +33 (0)3 88 76 71 29
E-mail: lesc@esf.org

Standing Committee for the Physical and Engineering Sciences (PESC)

The Standing Committee for the Physical and Engineering Sciences (PESC) covers a broad range of science topics including physics, chemistry, materials, mathematics, informatics and computer sciences, and engineering. The Committee is composed of more than 35 leading scientists nominated by the Foundation's Member Organisations. Observers from the European Commission, the European Mathematical Society, the European Research Consortium for Informatics and Mathematics (ERCIM), the Israel Academy of Sciences, and the US National Science Foundation attend committee meetings.

Michel Mareschal (Chair) Belgium/France
Carmen N Afonso Spain
Andreas Alexandrou Cyprus
Jean-Marie André Belgium
Roberto Battiston Italy
Polina Bayvel United Kingdom
Venko N Beschkov Bulgaria
Ian Butterworth United Kingdom
Pavel Chráska Czech Republic
Gabriel Crean Ireland
Gerhard Erker Germany
Stavros C Farantos Greece
Elisabeth Guazzelli France
Judith A K Howard United Kingdom
Ivan Hubac Slovak Republic
Fjola Jonsdottir Iceland
René Kamermans Netherlands
Sadik Engin Kilic Turkey
János Kollár Hungary
Ulrich Langer Austria
Knut Liestøl Norway
Bozidar Liscic Croatia
Massimo Martinelli Italy
Enn Mellikov Estonia
Henri-Noël Migeon Luxembourg
Radu Munteanu Romania
Ole John Nielsen Denmark
Moira C Norrie Switzerland
Kaisa Sere Finland
Henryk Szymczak Poland
Malgorzata Tkatchenko France
Peter Venturini Slovenia
Dorothea Wagner Germany
Michel Waroquier Belgium
Håkan Wennerström Sweden

Observers:
Salvatore Cannistraro LESC representative
Sir John Kingman European Mathematical Society
Joseph Klafter Israel Academy of Sciences and Humanities
nn European Research Consortium for Informatics and Mathematics (ERCIM)
Lorenzo Valles-Brau European Commission, DG Research
Thomas A Weber National Science Foundation, USA

Head of Unit:
Neil Williams (to Sept 2005)
Head of Unit:
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E-mail: pesc@esf.org

Standing Committee for the Humanities (SCH)

Humanities research explores the origins and products of the human capacity for creativity and communication, and encompasses a broad spectrum of disciplines all pertaining to the human construction, perception and interpretation of the world, also expressed through the arts. SCH fosters basic research in new, both mono- and multidisciplinary collaborative frameworks. The ability of humanities research to be synthetic as well as analytic helps to transcend dichotomies between the natural and the human sciences. Transdisciplinary research programmes generate new knowledge, in complex fields of such as consciousness research/cognitive sciences, human dignity, cultural diversity/technological innovation and culture/environment/sustainability. SCH consists of representatives of ESF member research councils and academies, with subject specialists to complement ordinary membership. Observers attend from the COST Technical Committee (TC) Social Sciences and Humanities, 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.


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Gretty Mizrahi Mirdal (Chair) Denmark
Luis Adão de Fonseca Portugal
Ján Bakos Slovak Republic
Maurice Bric Ireland
Luca Codignola Italy
Péter Dávidházi Hungary
Jacques Dubucs France
Gürol Irzik Turkey
Arne Jarrick Sweden
Ulrike Landfester Switzerland
Kostas Gouliamos Cyprus
Poul Holm Denmark
Jože Krašovec Slovenia
Bohuslav Mánek Czech Republic
Marco Martiniello Belgium
Kari Melby Norway
Arto Mustajoki Finland
Gudrún Nordal Iceland
Karl Pajusalu Estonia
Ilie Parvu Romania
Maria del Carmen Picallo Soler Spain
Walter Pohl Austria
Michel Polfer Luxembourg
Naomi Segal United Kingdom
Martin Stokhof The Netherlands
Przemyslaw Urbanczyk Poland
Mark Waelkens Belgium
Milena Žic-Fuchs Croatia
nn Bulgaria
nn Greece

Subject Representative:
Gisli Palsson Anthropology University of Iceland
Observers:
Chris Godwin COST Technical Committee Social Sciences and Humanities
Pascal Dissard European Commission, DG Research
Etan Kohlberg Israel Academy of Sciences and Humanities, Israel
Bruce Cole National Endowment for the Humanities, USA
Janet E Halliwell Social Sciences and Humanities Research Council of Canada

Head of Unit:
Elisabeth Vestergaard (to Oct. 2005)
Head of Unit:
Monique van Donzel
Research and Foresight:
Rüdiger Klein

Contact:
Irma Vogel
Tel: +33 (0)3 88 76 71 26
E-mail: humanities@esf.org

Standing Committee for the Social Sciences (SCSS)

The Standing Committee for the Social Sciences (SCSS) covers the wide range of fields in the social sciences and is composed of approximately thirty members, who serve as chairs or hold prominent positions in social science research councils and research institutions in their countries. Several observers from within and outside Europe also attend Standing Committee meetings on a regular basis. The SCSS has taken part in setting up a Dialogue Group involving the SCH and the COST Technical Committee for the Social Sciences and Humanities to further collaboration between the two organisations and disciplines and to investigate the best path of development.

Gün R. Semin (Chair) Netherlands
Erik Albæk Denmark
Ahmet Alkan Turkey
Gérald Berthoud Switzerland
Giovanni Cannata Italy
John Coakley Ireland
Jakob De Haan Netherlands
Ian Diamond United Kingdom
Dalina Dumitrescu Romania
Patrice Fontaine France
Emmanuël Gerard Belgium
Galin Gornev Bulgaria
Herbert Gottweis Austria
Dagmar Kutsar Estonia
Christos Lyrintzis Greece (to June 2005)
Bogdan Mach Poland
Inés Macho-Stadler Spain
Zdenka Mansfeldová Czech Republic
Silvia Miháliková Slovak Republic
Ilona Pálné Kovács Hungary
Vygandas Paulikas Lithuania
Raija-Leena Punamäki Finland
Hrafnhildur Ragnarsdóttir Iceland
Fernando Reinares Spain (to June 2005)
Asbjørn Rødseth Norway
Kerstin Sahlin-Andersson Sweden
Savvas Savvides Cyprus
Maja Seršic Croatia
Slavko Splichal Slovenia
Georges Steffgen Luxembourg
Adelino A. Torres Portugal
Luc Wilkin Belgium
John Yfantopoulos Greece

Observers:
Martina Hartl COST Technical Committee for the Social Sciences and Humanities
Asher Koriat Israel Academy of Sciences and Humanities
Pierre Perrolle National Science Foundation, United States
Andrew Sors European Commission (to Sept 2005)
Christian Sylvain Social Sciences and Humanities Research Council, Canada

Advisory Expert:
Bjørn Henrichsen Norwegian Social Science Data Services

Associated Institute:
Ali Kazancigil International Social Science Council, France

Head of Unit:
Henk Stronkhorst
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Rhona Heywood
Tel: +33 (0)3 88 76 71 31
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Expert Committees

Marine Board – ESF (MB-ESF)

The Marine Board - ESF was established in 1995 to facilitate enhanced coordination between European marine science organisations and the development of strategies for marine science in Europe. With its current membership of 25 national marine research institutes and agencies from 17 European countries, the Marine Board has the appropriate representation to provide a unique forum for marine science in Europe and world-wide. The Member Organisations of the Marine Board contribute annually to finance the activities and running costs of the Executive Secretariat.

Executive Committee:
Jean-François Minster (Chair) France
Jan de Leeuw (Vice-Chair) Netherlands
Philip Newton (Vice-Chair) United Kingdom
Geoffrey O'Sullivan (Vice-Chair) Ireland
Mario Ruivo (Vice-Chair) Portugal

Member Organisations:
Fonds zur Förderung der wissenschaftlichen Forschung Austria
Österreichische Akademie der Wissenschaften Austria
Fonds National de la Recherche Scientifique Belgium
Fonds voor Wetenschappelijk Onderzoek – Vlaanderen Belgium
Statens Naturvidenskabelige Forskningsråd Denmark
Suomen Akatemia/Finlands Akademi Finland
Centre National de la Recherche Scientifique France
Institut Français de Recherche pour l'Exploitation de la Mer France
Deutsche Forschungsgemeinschaft Germany
Hermann-von-Helmholtz-Gemeinschaft Deutscher Forschungszentren Germany
Hellenic Centre for Marine Research Greece
Marine Institute Ireland
Consiglio Nazionale delle Ricerche Italy
Istituto Nazionale di Oceanografia e di Geofisica Sperimentale Italy
Koninklijke Nederlandse Akademie van Wetenschappen Netherlands
Nederlandse Organisatie voor Wetenschappelijk Onderzoek Netherlands
Havforskningsinstituttet Norway
Norges Forskningsråd Norway
Polska Akademia Nauk Poland
Gabinete de Relações Internacionais da Ciência e do Ensino Superior Portugal
Consejo Superior de Investigaciones Científicas Spain
Instituto Español de Oceanografia Spain
Vetenskapsrådet Sweden
Türkiye Bilimsel ve Teknik Arastırma Kurumu Turkey
Natural Environment Research Council United Kingdom

Observers:
Olle Hagström European Commission, DG Fisheries and Maritime Affairs
Gérard Jugie European Polar Board
Pierre Mathy European Commission, DG Research
Adam Schulz ESF Standing Committee for Life, Earth and Environmental Sciences

Head of Unit:
Niamh Connolly
Contact:
Ellen Degott
Tel: +33 (0)3 88 76 71 68
E-mail: marineboard@esf.org

European Polar Board (EPB)

The European Polar Board (EPB) is Europe's principle expert committee on science policy in the Polar Regions. It acts as the liaison and facilitator of cooperation between European national funding agencies, national polar institutes and research organisations. It also offers independent strategic advice on science policy in the Polar Regions to the European Commission, national governments and international polar bodies. 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 including pre-Accession countries to the EU and States outside the EU.

Executive Committee:
Gérard Jugie (Chair) France
Anders Karlqvist (Vice-Chair) Sweden
Jeronimo Lopez-Martinez (Vice-Chair) Spain
Hanne K Petersen (Vice Chair) Denmark
Chris Rapley (Vice-Chair) United Kingdom
Jan Stel (Vice-Chair) Netherlands
Jörn Thiede (Vice-Chair) Germany

Member Organisations:
Fonds zur Förderung der wissenschaftlichen Forschung Austria
Österreichische Akademie der Wissenschaften Austria
Fonds National de la Recherche Scientifique Belgium
Fonds voor Wetenschappelijk Onderzoek – Vlaanderen Belgium
Bulgarian Antarctic Institute Bulgaria
Masarykova univerzita v Brne – Vyzkumne pracoviste polarni ekologie Czech Republic
Ceska Geograficka Spolecnost Czech Republic
Kommissionen for videnskabelige Undersøg-elser i Grønland Denmark
Estonian Academy of Sciences – Estonian Polar Committee Estonia


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Suomen Akatemia/Finlands Akademi Finland
Institut Polaire Français Paul Émile Victor France
Centre National de la Recherche Scientifique France
Deutsche Forschungsgemeinschaft Germany
Hermann-von-Helmholtz-Gemeinschaft Deutscher Forschungszentren Germany
Consiglio Nazionale delle Ricerche Italy
Ente per le Nuove Tecnologie, l'Energia e l'Ambiente Italy
Fonds National de la Recherche Scientifique Luxembourg
Koninklijke Nederlandse Akademie van Wetenschappen Netherlands
Nederlandse Organisatie voor Wetenschappelijk Onderzoek Netherlands
Norges Forskningsråd Norway
Norsk Polarinstitutt Norway
Polska Akademia Nauk Poland
Russian Academy of Science Russian Federation
Consejo Superior de Investigaciones Científicas Spain
Oficina de Ciencia y Tecnología Spain
Kungliga Vetenskapsakademien Sweden
Polarforskningssekretariatet Sweden
Ukrainian Antarctic Centre Ukraine
Natural Environment Research Council United Kingdom

Head of Unit:
Paul Egerton
Contact:
Catherine Schall
Tel: +33 (0)3 88 76 21 65
E-mail: epb@esf.org

European Space Science Committee (ESSC)

The European Space Science Committee (ESSC) is the ESF's Expert Committee on space research. It covers all related aspects, i.e. space physical science, Earth observation, and life and physical sciences in space. The Committee investigates and presents the view of the scientific community in Europe on space research issues and provides an independent voice on European space science policy.
The ESSC meetings are also attended by representatives from the European Space Agency, the European Commission, the Space Studies Board of the US National Research Council, and COSPAR.

Gerhard Haerendel (Chair) Germany
Willy Benz Switzerland
Bernard Billia France
Roger Bouillon Belgium
Bruno Carli Italy
Angioletta Coradini Italy
Karsten Danzmann Germany
Michel Deshayes France
Pascale Ehrenfreund Netherlands (to end 2005)
Kari Enqvist Finland (to Feb 2005)
Jean-Louis Fellous France (to July 2005)
Monica Grady United Kingdom
Eberhard Grün Germany (to end 2005)
Anthony Hollingsworth Ireland + UK
Peter Norsk Denmark
Jean-Loup Puget France (to end 2005)
Göran Scharmer Sweden
Kai-Uwe Schrogl Germany
Christiane Schmullius Germany
Sabine Schindler Austria
Catherine Turon France
Michel Vauclin France
Karel Wakker Netherlands

Roger M Bonnet ex officio COSPAR President

Observer:
Demir Altiner LESC representative (to end 2005)

Head of Unit:
Jean-Claude Worms
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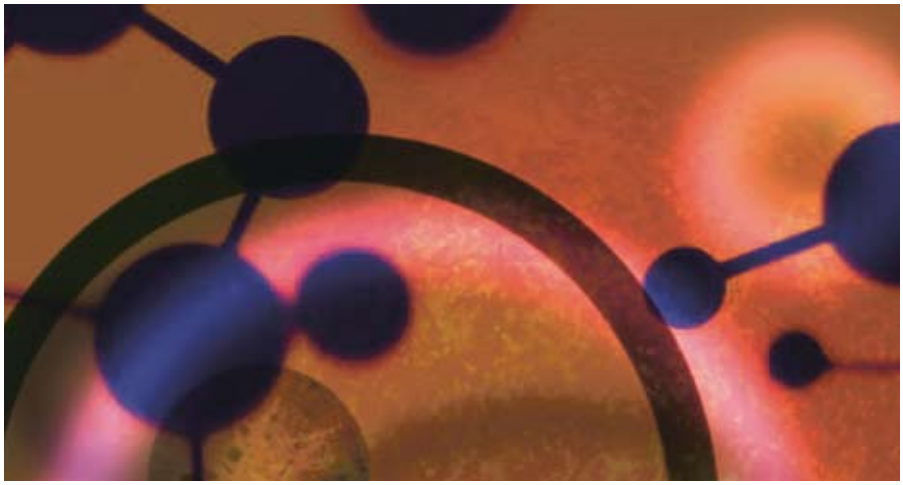
Carole Mabrouk
Tel: +33 (0)3 88 76 71 69
E-mail: essc@esf.org

Committee on Radio Astronomy Frequencies (CRAF)

The Committee on Radio Astronomy Frequencies (CRAF), which was established in 1988, represents all the major radio astronomical observatories in Europe. Its mission is to coordinate activities to keep the frequency bands used by radio astronomers in Europe free from interference.

Roberto Ambrosini (Chair) Italy
Titus Spoelstra (Secretary + Frequency Manager) (to Dec 2005)
Pietro Bolli (Secretary)
Laurentiu Alexe (Frequency Manager)
Rafael Bachiller Spain
Edgars Bervalds Latvia (to June 2005)
Valery Bezrukov Latvia
Fredric Clette Belgium
R James Cohen United Kingdom
André Deschamps France
Luis Manuel dos Santos Rocha Cupido Portugal
Boris A Doubinski Russian Federation
Istvan Fejes Hungary
Ernst Fürst Germany (to May 2005)
Axel Jessner Germany
Karel Jiricka Czech Republic
Ibrahim Küçük Turkey
Michael Lindqvist Sweden
Robert Millenaar Netherlands
Christian Monstein Switzerland
D Morris France
Jérôme de la Noë France (to June 2005)
J P V Poiares Baptista Netherlands
Jouko Ritakari Finland
Paul Scott United Kingdom
Jerzy B Usowicz Poland
Wim van Driel France
Gudmund Wannberg Sweden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Observers:
Tomas Gergely National Science Foundation, USA

Scientific Secretary:
Neil Williams (to Sept 2005)
Scientific Secretary:
Patrick Bressler
Contact:
Carole Mabrouk
Tel: +33 (0)3 88 76 71 69
E-mail: cmabrouk@esf.org

Nuclear Physics European Collaboration Committee (NuPECC)

This ESF Expert Committee was established in 1990. Its tasks are to strengthen European collaboration in nuclear physics and science; define a network of complementary facilities within Europe and encourage optimisation of their usage; provide a forum for the discussion of the provision of future facilities and instrumentation; and issue recommendations on the development, organisation, and support of European nuclear physics, and of particular projects.

Muhsin N Harakeh (Chair) Netherlands (to June 2005)
Brian R Fulton (Chair) United Kingdom
Gabriele-Elisabeth Körner (Secretary) Germany
Claude Amsler Switzerland
Jean-Paul Blaizot ECT*-Trento, Italy
Tullio Bressani Italy
Roman Caplar Croatia
Jan Dobeš Czech Republic
Ana Maria Eiró Portugal
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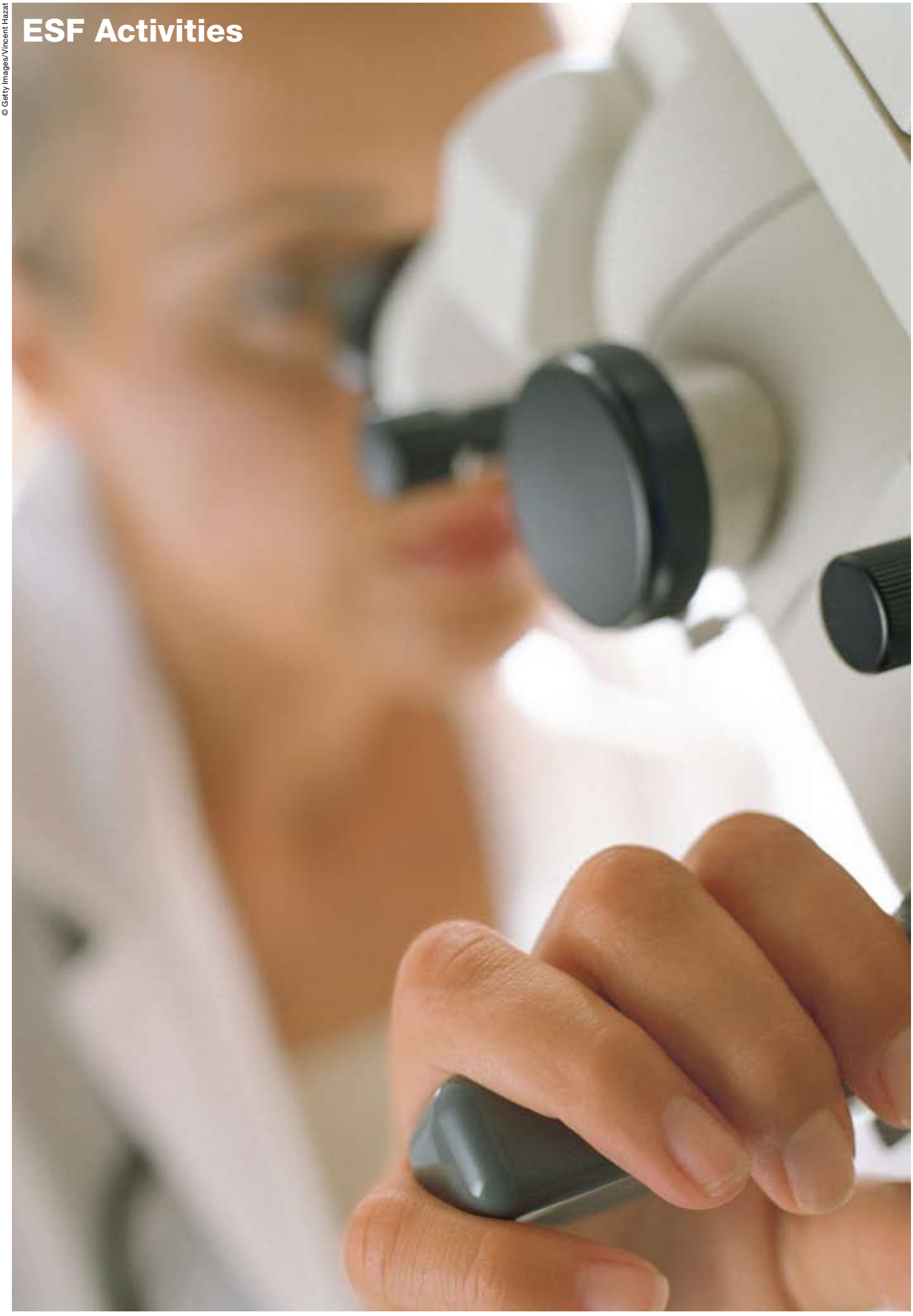
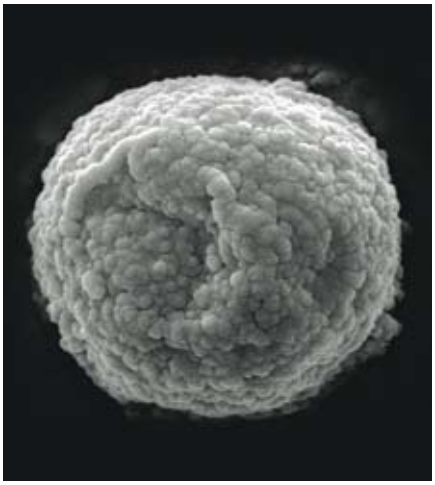
ESF Activities



Forward Looks

For the latest information, please visit www.esf.org/flooks



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The aim of ESF Forward Looks is to enable Europe's scientific community to develop medium to long-term views and analyses of future research developments in multidisciplinary topics, and to interact with the policy makers from ESF Member Organisations. The purpose of a Forward Look is to bring together in a global context scientific foresight and priority-setting for research funding at national and European levels.
The following pages present the ESF Forward Looks which were active in 2005.

Nanomedicine

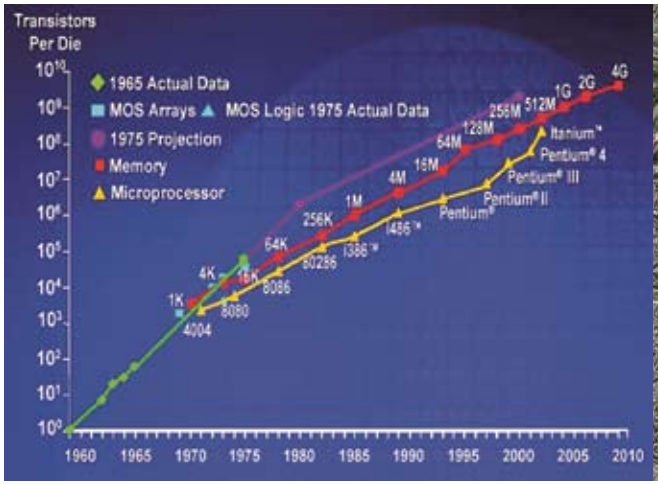
2003-2005

The goal of this Forward Look, which delivered its findings in 2005, was to exchange views on the current status of nanomedicine between scientific experts and policy makers, and to reflect on future developments, opportunities and challenges facing this field in Europe and worldwide.
The Forward Look was conducted via a series of five workshops on subtopics within nanomedicine and a final conference with more than 100 international experts from academia, industry, private foundations and governmental agencies supporting scientific research. This foresight study has identified current developments in selected areas of Nanomedicine, foreseen developments that are likely to take place during the next decade, stimulated cooperation between the medical community and chemists, biologists and physicists, and encouraged interaction between scientific communities and the policy makers from ESF Member Organisations and the general public.
An ESF Policy Briefing summarising the recommendations from this Forward Look was published in March 2005 and the release of the Final Report was launched on 15 December 2005 during a Press Briefing.
www.esf.org/nano

NanoScience and the long-term future of Information Technology (NSIT)

2003-2006

Nanoscience, i.e. the observation, understanding, and manipulation of matter at the nanometre scale is expected to have a strong impact in tomorrow's products. Various areas should benefit from these developments: materials, medicine, and information technology. Indeed, information and communication technologies (ICT) have already been taken benefit from the downsizing of components since the sixties. It is expected, however, that the ever-increasing computing performance and storage capacities achievable with existing technologies will eventually reach a plateau in 10-15 years time, The expected increase in the capability of logic systems, together with other similar trends like the increase of storage capacity, and the fast growth of communication bandwith will obviously lead to new products which could have a strong impact.
The ESF organised in 2005 the NSIT Forward Look to investigate the consequences of nanotechnology in the domain of information technology. The central event was a NSIT Conference held in Paris in April 2005, which brought together over 70 participants, including world-class scientists, experts from industry as well as policy makers. The output of this exercise was a set of recommendations to national and European research funding agencies, which resulted in an ESF policy briefing – to appear in spring 2006 – and an extensive Full Report – to be published before summer 2006.
www.esf.org/nsit



Systems Biology

2004-2006

Biological and biomedical research is undergoing revolutionary developments that will have a great and lasting impact on society. These developments involve several other sciences, and they enable us to know and measure the properties of the molecules which constitute life. They are capable of revealing the complete sets of chemical reactions, interactions and dynamic structures through which molecules, cells and organs determine the functioning of living organisms, including man.

Integrating the vast amounts of data available on these components and their interactions, and understanding how life arises from and is governed by them, is termed Systems Biology or Integrative Biology. The ultimate aim of Systems Biology is to incorporate all processes of the living cell in a dynamic description of these processes, which should provide a basis for the true understanding of the complex network of processes that we call 'Life'.

This Forward Look, which concluded in 2005, was intended to encourage the integration of approaches from molecular and cell biology, mathematics and physics, and engineering and systems sciences in a way that provides an impetus for 21st century life science.

It aimed to boost the European momentum behind was should become a world-wide programme in the area of systems biology, resulting in new European research lines with unprecedented strength through coordination and integration of the European research area on this highly integrative topic that connects sciences and technologies ranging from mathematics, physics, chemistry, biology, biotechnology and biomedical research to medicine itself.

Following on from a series of workshops that took place in 2004, a Grand Challenge conference was held in Amsterdam, The Netherlands, in January 2005, and the final Forward Look conference took place in Gosau, Austria in March.

www.esf.org/systemsbiology

Urban Science

2002-2005

Urbanisation, in Europe and elsewhere, is leading to the recognition that this environment has become a significant habitat not only for humankind but for many other species. We need to study how urban and peri-urban areas interact with their hinterland and to understand the dynamic processes occurring within towns and cities. Research in this topic spans most areas of scientific endeavour. Policy-makers should be able to use the results of such multidisciplinary research which should be accompanied by good communication and involvement with the general public and the political process at all levels from local to European. A medium-term perspective for research in this area, from a European standpoint, which can build on and bring together the various national research initiatives which are taking place, is of high priority.

Two workshops were organised as part of this Forward Look in 2005, following on from the four which were held in 2004, and the final conference took place in Helsinki in May. The final report is under preparation.

www.esf.org/urbanscience

Exploratory Workshops

For the latest information, please visit www.esf.org/workshops

ESF Exploratory Workshops are an instrument for identifying emerging fields requiring action at a European level. Exploratory Workshops are aimed at helping European research teams to exchange knowledge, establish new links and explore the possibilities of developing future collaborative actions.
In 2005, ESF organised the following workshops based on an open Call for Proposals.

Physical and Engineering Sciences (PESC)

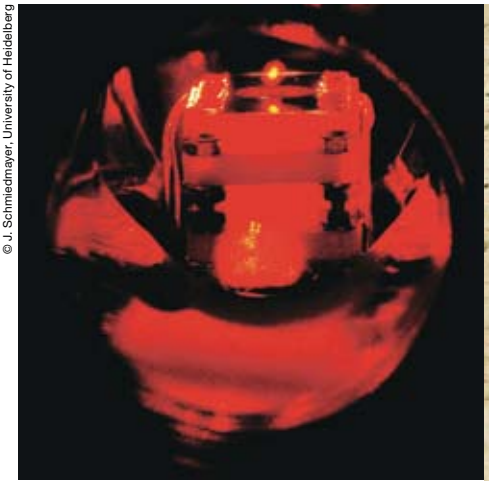
- **Cellular Computing (Complexity Aspects),** Seville, Spain, 30 January-2 February
- **Ultracold Chemistry,** Mulhouse, France, 6-10 February
- **Long-distance Quantum Communication Networks with Atoms and Light**, Prague, Czech Republic, 9-12 April
- **Rare Earth Oxide Thin Films: growth, characterization, and applications,** San Remo, Italy, 11-13 May
- **Nanowires: bridging the gaps between materials science and biology,** Bad Hofgastein, Austria, 25-28 May
- **Self-Assembling Fibrillar Networks (SAFIN 2005),** Agia Pelagia, Crete, Greece, 28 June-1 July
- **New Phenomena in Superfluidity and Superconductivity,** Camerino, Italy, 3-6 July
- **Information Retrieval in Context (IRiX),** Glasgow, United Kingdom, 25-27 July
- **Challenging Lagrangian Turbulence Dynamics,** Castel Gandolfo, Italy, 1-4 September
- **Galaxy Modelling in the Era of GAIA,** Oxford, United Kingdom, 6-9 September
- **Effective Models for Low-dimensional Strongly Correlated Systems,** Peyresq (Nice), France, 12-16 September
- **Toward a 3rd Generation European Gravitational Wave Observatory,** Perugia, Italy, 21-23 September
- **Nano-Spintronics,** Wegberg Wildenrath, Germany, 29-30 September
- **The Chemistry of the Transactinide Elements,** Oslo, Norway, 2-5 October
- **Novel Superhard Materials,** Bayreuth, Germany, 17-19 November

Medical Sciences (EMRC)

- **Rogue Proteins in Prion Disorders and Alzheimer's Disease,** Oescheite/Zweisimmen, Switzerland, 31 March-3 April
- **Microarray meets Diagnostics: chip-technology as an innovative technology to study complex and heterogeneous diseases,** Tübingen, Germany, 15-17 April
- **Antibiotic Prescribing Quality Indicators,** Antwerp, Belgium, 7-9 September
- **Development of Novel Cancer Chemopreventive Agents in Europe: review of preclinical models and early clinical studies and discussion of future collaborative European initiatives,** Heidelberg, Germany, 18-20 September
- **The Subiculum in Normal and Pathological Brain Function,** Oxford, United Kingdom, 21-23 September
- **Classification and Terminology of Transient Loss of Consciousness,** Leiden, Netherlands, 21-23 October
- **The Contribution of Animal Research to the Study of Human Cognition,** Marseille, France, 6-9 December – EMRC, SCH, SCSS

Life, Earth and Environmental Sciences (LESC)

- **Aquatic Phage Ecology (EWAPE-1)**, Thonon-les-Bains, France, 1-4 February
- **Evolution of Carbonate Systems during the Oligocence-Miocene Climatic Transition,** Potsdam, Germany, 22-25 February
- **Farming for Health,** Wageningen, Netherlands, 16-19 March – LESC, SCSS
- **Building a Tephrochronological Framework for Europe: the key to better models of abrupt environmental change,** Swansea, United Kingdom, 9-12 April
- **Non-Sulfide Zn-Pb Ores: genetic models and exploration – the European deposits,** Iglesias, Italy, 20-23 April
- **The Last Biotic Frontier: towards a census of canopy life,** Brussels, Belgium, 6-8 July
- **Charcoal to Black Carbon: defining common issues of quantification and interpretation in archaeological, paleoenvironmental and carbon cycle research,** St. Andrews, United Kingdom, 31 August-2 September
- **The First Big Science – European**



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Geological Maps, 1800-2000, Paris, France, 17-18 September – LESC, SCH

- **The Reactivity of Iron Minerals in Natural Aquatic Systems,** Bayreuth, Germany, 4-7 October
- **Deconstructing Life: synthetic biology in biocatalysis and biodegradation,** Avila, Spain, 13-16 October
- **Dynamic Bioavailability of Pollutant Species in Aquatic Ecosystems,** Geneva, Switzerland, 16-19 October
- **Large Woody Debris in European Rivers: dynamics, human perception, challenge for restoration and application to other areas,** Lyon, France, 17-19 October
- **Environmental History: Problems and potential in the integration of the sciences and humanities,** Stirling, United Kingdom, 3-4 November – LESC, SCH, SCSS
- **New Improvements in the Aquatic Ecological Risk Assessment of Fungicides and Biocides,** Wageningen, Netherlands, 6-9 November
- **New Perspectives on Sea-ice Research for the Next 10 to 20 Years,** Delmenhorst, Germany, 12-16 December

Humanities (SCH)

- **Sciences in Asia: representations and Historiography, 17th to 20th Centuries,** Cambridge, United Kingdom, 12-15 January
- **The Jews and the Legacies of Empires,** Budapest, Hungary, 29-31 May
- **Scientific Periodicals in Modern Europe,** Wolfenbüttel, Germany, 1-4 June
- **Religion and Environment in Europe: how are values, worldviews and spiritualities interconnected with environmental practices and the images of nature of citizens in Europe?,** Benediktbeuern, Germany, 3-5 June
- **Person Perception in Infancy: integrating current knowledge from developmental and comparative psychology, cognitive neuroscience, psychology of language and communication,** Leipzig, Germany, 26-30 June – SCH, SCSS
- **Roman Coins Outside the Empire. Ways and Phases, Contexts and Functions,** Nieborów, Poland, 5-7 September
- **Europe in Cinema, Cinema in Europe,** Southampton, United Kingdom, 16-18 September
- **The First Big Science – European Geological Maps, 1800-2000,** Paris, France, 17-18 September – LESC, SCH
- **Books And Reading For Intercultural Education (BARFIE),** Murcia, Spain, 23-25 September
- **Property Rights, Land Market and Economic Growth in Europe (13th-19th Centuries),** Thonon, France, 13-15 October
- **Environmental History: problems and potential in the integration of the sciences and humanities, Stirling,** United Kingdom, 3-4 November – LESC, SCH, SCSS
- **Corpus Coranicum – Exploring the Textual Beginnings of the Qur'an,** Berlin, Germany, 7-9 November
- **Poverty: Its Degrees, its causes and its relief – a multidisciplinary approach to an urgent problem,** Kiel, Germany, 10-13 November 2005
- **Understanding the Dynamics of Knowledge: integrating models of knowledge change, development and evolution in cognitive science, epistemology, philosophy, Artificial intelligence, logic, and developmental and evolutionary psychology,** Siena, Italy, 17-19 November – SCH, SCSS
- **The Contribution of Animal Research to the Study of Human Cognition,** Marseille, France, 6-9 December – EMRC, SCH, SCSS
- **Scholarly Editing and Nation Building in Europe,** Amsterdam, Netherlands, 13-16 December

Social Sciences (SCSS)

- **Farming for Health, Wageningen, Netherlands,** 16-19 March – LESC, SCSS
- **The Long Run Growth and Development of the World Economy: measurement and theory,** Venice, Italy, 28 April-1 May
- **Citizens, Non-citizens and Voting Rights in Europe,** Edinburgh, United Kingdom, 2-5 June
- **Managing Crises in the European Union: a first assessment,** St Maxime, France, 24-27 June
- **Person Perception in Infancy: integrating current knowledge from developmental and comparative psychology, cognitive neuroscience, psychology of language and communication,** Leipzig, Germany, 26-30 June – SCH, SCSS
- **15 Years On: Educational Transitions in Central and Eastern Europe. Directions for Educational Research and Policy in the Post-Communist EU Accession and Candidate Countries,** Oxford, United Kingdom, 8-10 July
- **Music and Health,** Limerick, Ireland, 18-20 September
- **Internet Survey Methodology: toward concerted European research efforts,** Dubrovnik, Croatia, 26-28 September
- **Revisiting the Concepts of Contract and Status under Changing Employment, Welfare and Gender Relations,** Brighton, United Kingdom, 6-8 October
- **Environmental History: Problems and potential in the integration of the sciences and humanities,** Stirling, United Kingdom, 3-4 November – LESC, SCH, SCSS
- **The Governance of Networks as a Determinant of Local Economic Development,** San Sebastian, Spain, 16-18 November
- **The Effectiveness of Competition Policy: issues and methods,** Paris, France, 17-18 November
- **Understanding the Dynamics of Knowledge: integrating models of knowledge change, development and evolution in cognitive science, epistemology, philosophy, artificial intelligence, logic, and developmental and evolutionary psychology,** Siena, Italy, 17-19 November – SCH, SCSS
- **The Contribution of Animal Research to the Study of Human Cognition,** Marseille, France, 8-9 December – EMRC, SCH, SCSS
- **Specification Testing,** Santander, Spain, 16-18 December

EUROCORES

For the latest information, please visit www.esf.org/eurocores

The aim of the European Collaborative Research (EUROCORES) Programmes is to enable researchers in different European countries to develop cooperation and scientific synergy in areas where European scale and scope are required for leading-edge science in a global context and in this way create the critical mass necessary for scientific excellence.
The scheme provides a flexible framework which allows national research funding organisations to join forces to support top-class European research in and across all scientific areas.
The EUROCORES Scheme is currently supported by the EC Sixth Framework Programme under Contract no. ERAS-CT-2003-980409.

New EUROCORES Programmes under development

In September 2005, five Themes from 52 Theme Proposals submitted were selected to be developed into new EUROCORES Programmes. In November and December 2005, at five preparatory workshops, the proposers of the selected Themes came together with the scientific and administrative representatives of ESF's Member Organisations to turn these Proposals into potential new EUROCORES Programmes.

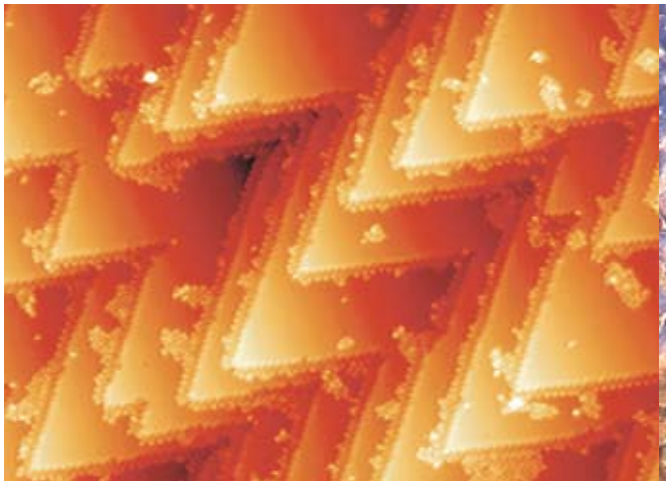
The Themes selected are:
- **RNA Quality:** Quality Control of Gene Expression – RNA Surveillance
- **EuroQUAM:** Cold Quantum Matter
- **Inventing Europe:** Inventing Europe: Technology and the Making of Europe, 1850 to the Present
- **TECT:** The Evolution of Cooperation and Trading

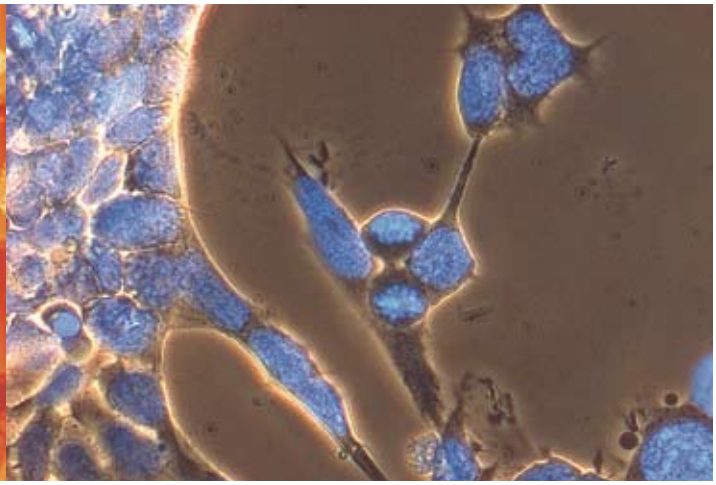
Current EUROCORES Programmes

Physical and Engineering Sciences (PESC)

Fundamentals of Nanoelectronics (FoNE)
It is now widely accepted that the physics of hybrid nanostructures will underpin the microelectronics industry of the coming decades and that Europe must maintain a presence at the leading edge of this field. This EUROCORES Programme recognises that a comprehensive understanding of the above phenomena is crucial to the future development of nanoscale electronics and it aims to accelerate the pace of European research by concentrating and networking the activities of world-leading, European research groups. The primary focus of FoNE is on fundamental nanoscale phenomena affecting electron transport. These include: quantum transport, noise and correlations in quantum dots, wires and other novel structures; molecular-scale electronics and atomic contacts; nanoscale spindependent transport and control; proximity effects and hybrid nanostructures.
www.esf.org/fone

Self-Organised Nano-Structures (SONS) I (2002 Call)
Researchers can now design materials that assemble themselves into complex, finished structures. Self-assembly, or self-organisation, is a process in which organisation is established in a complex system of interlocking components, where the organisation is determined by competing interactions.
New ways of bonding, assembly and linking macromolecules and nano-objects have been developed based on interactions that are more complex and individually weaker than the classical covalent bond. The last decade has seen spectacular advances





in both molecular engineering, whereby molecules, clusters and nanocrystals with novel properties are synthesised, and molecular self-assembly, where these building blocks are designed in such a way as to automatically produce novel materials. Self-organised nanostructures (SONS) is a field that offers breakthroughs in many areas such as quantum dot lasers or magnetic storage devices, to molecular electronics, genetic diagnostics, anti-icing coatings, and rechargeable batteries. SONS is a subject in which it is essential for engineering development and the resolution of the scientific challenges to work hand in hand.
www.esf.org/sons

Self-Organised Nano-Structures (SONS) II (2005 Call)
For the scientific description see SONS I
www.esf.org/sons

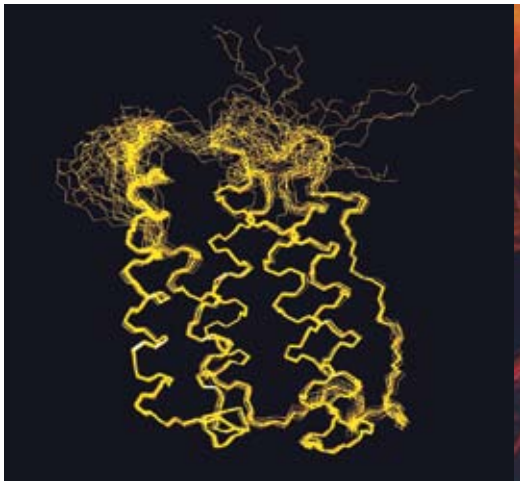
Smart Structural Systems Technologies (S3T)
Major incidents due to failures in engineering infrastructure, modern transportation or other spheres of human activity are becoming less acceptable; zero-risk protection of citizens is now a long-term aspiration of governments. Whether it is civil infrastructure, 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 time they are under pressure to achieve 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 and 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.
www.esf.org/s3t

Medical Sciences (EMRC)

Development of a Stem Cell Tool Box (EuroSTELLS)
Based on the promising therapeutic potential of stem cells, there is a real need for supporting research in Europe aimed at developing human stem cell lines and their biotechnological and therapeutic applications. The EuroSTELLS Programme aims at generating fundamental knowledge on stem cell biology by setting up the basis for comparative analysis of stem cells of different origins (embryonic, germ line and somatic stem cells across species).
By promoting and supporting networking, the EuroSTELLS Programme fosters innovative and multidisciplinary collaborations as well as synergy with other international stem cell initiatives; this will contribute to create a critical mass of expertise in the stem cell field in Europe. Training activities aim at increasing quality assurance and harmonisation of research tools, definitions and protocols in stem cell biology.
www.esf.org/eurostells

Genetic Epidemiology, Atherosclerosis and Related Traits (EuroGEAR)
In recent years, remarkable progress has been made in unravelling the etiology of several genetic disorders. These developments concern particularly monogenic disorders, in which there is a clear-cut relation between the genetic factor and the occurrence of disease. The challenge for the near future for genetic epidemiological research will be the identification of genes involved in the etiology of common late-onset disorders, like atherosclerotic disease. The main objectives of the EuroGEAR Programme are: to develop a novel, systems-biology based approach to the disease, which can stimulate collaboration between research groups; to facilitate DNA collection and large-scale genomic research in Europe aiming to discover new genes involved in atherosclerosis and related traits in Europe; to support ongoing population-based studies on atherosclerosis and related disorders in Europe, for risk assessment and elucidation of gene interactions; and to develop a European network of young researchers working in the field of genetic epidemiology.
www.esf.org/eurogear

Pan-European Clinical Trials (ECT)
There is a recognised need for pan-European clinical trials addressing questions that, although of limited interest to the pharmaceutical industry, have a strong impact on the quality of life and/or the morbidity and mortality of Europeans. Such questions include evaluation of surgical management, preventive or therapeutic strategies, therapy of rare diseases, or new indications for old drugs. This is where ESF and its Member Organisations have a distinctive role to play and where the added value of moving from the National to the European level in such trials is self-evident.
The ECT Programme coordinates public funding for academic trials in Europe and provides a framework for the implementation and coordination of pan-European clinical trials in compliance with current National legislations and European regulations. Two pan-European clinical trials aimed at rare diseases and the paediatric population are funded under this programme: EURAMOS (a randomised trial of the European and American Osteosarcoma Group to optimise treatment strategies for resectable osteosarcoma based on histological response to pre-operative chemotherapy that involves 150 clinical centres in 12 European countries, the USA and Canada) and PROFIDYS (a trial aimed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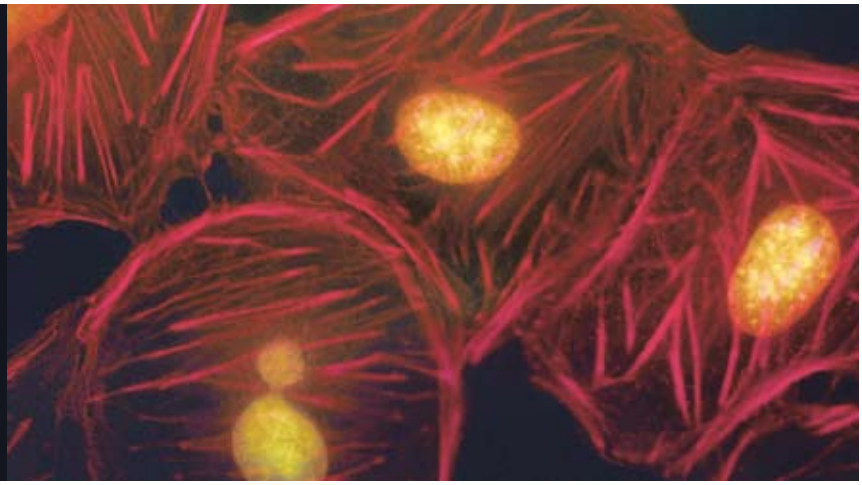
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at reducing bone morbidity using an oral bi-phosphonate in fibrous dysplasia of bone that involves clinical centres in six European countries). By promoting and supporting networking and training activities, the ECT Programme fosters innovative and multidisciplinary collaborations with other International initiatives and contributes to develop the necessary expertise for the implementation and management of multi-center, pan-European academic clinical trials.
www.esf.org/ect

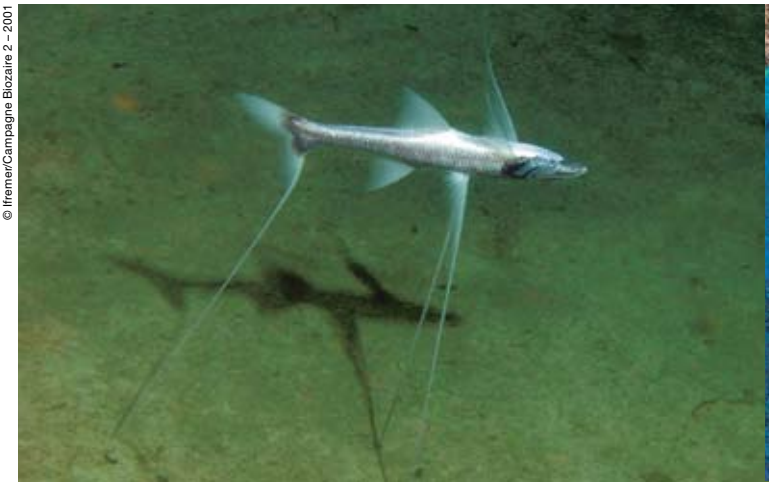
Science of Protein Production for Functional and Structural Analysis (EuroSCOPE)
Shared with LESC
A better understanding of the function of a protein requires a detailed analysis of its structure. Such studies (e.g. carried out on crystallized protein) require substantial amounts of high quality protein. The difficulties of producing sufficient amounts of protein for structure-function analysis as well as for x-ray analysis (crystallization) constituted thus far a major bottleneck for proteomics. Although this was and is well recognized by the scientific community, funding for a programme addressing this topic systematically has not been available since the beginning of the post-genomic phase that started proteomics.
The EUROCORES programme EuroSCOPE bridges this gap by bundling 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 synthesized protein to a specific cellular location, and folding and stability of expressed proteins.
www.esf.org/euroscope

Life, Earth and Environmental Sciences (LESC)

Challenges of Biodiversity Science (EuroDIVERSITY)
The goal of this EUROCORES Programme is to support the emergence of an integrated biodiversity science based on an understanding of the fundamental ecological and social processes that drive biodiversity changes, their impacts on ecosystem functioning and services, and societal responses to these changes. This should result in new tools and strategies for the conservation, restoration and sustainable use of biodiversity.
The Programme focuses strongly on generalisations across particular systems and on the generation and validation of theory relevant to experimental and empirical data. Proposals are expected to contribute to this goal by initiating or strengthening major collaborative research efforts across Europe and worldwide on understanding biodiversity change; understanding impacts of biodiversity change on ecosystem services; and/or exploring the interface between biological and social systems.
www.esf.org/eurodiversity

Challenges of Marine Coring Research (EuroMARC)
Obtaining key cores from the sub-seafloor is crucial to progress in the earth and environmental sciences because the oceans regulate climate, cover the sites of fundamental geodynamic, geochemical and biological processes and preserve high-resolution records of the last 180 Ma of 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 supported major contributions to important scientific discoveries such as the operation of plate tectonics and the accretion of the oceanic lithosphere, and have facilitated new and innovative scientific advances such as the study of microbial communities (deep biosphere) and discovery of frozen methane (gas hydrates) below the sea floor, the evidence of past extreme and rapid climate variations, high resolution climate perturbations, the establishment of new models for passive margin evolution and alpine geology, the understanding of mechanisms of ocean biogeochemical cycles, and the discovery of large igneous provinces associated with continental break-up at volcanic margins. EuroMARC is an essential enabling tool to boost European leadership in the planning of marine drilling and coring expeditions and the execution of European proposals, hence ensuring the effective exploitation of research opportunities.
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. CO_2 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 data base 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.
www.esf.org/euroclimate

Dynamic Nuclear Architecture and Chromatin Function (EuroDYNA)
The one-dimensional structure of the genome of a variety of eukaryotes, including man, has recently been elucidated. One of the major challenges now is to understand how the genome functions in terms of orchestration of the expression of the many thousands of genes it encodes.
This EUROCORES Programme intends to tackle the problem of nuclear organisation in relation to the control of gene expression. It will explore the molecular mechanisms that underlie the dynamic positioning of transcriptionally active and epigenetically silenced loci in eukaryotic cells. In parallel, it intends to analyse the structure and function of nuclear compartments (e.g. nuclear bodies), as well as their interaction with specific genomic loci. In addition to modern molecular biological and biochemical technologies, advanced microscopy will be used, ranging from electron microscopy to super resolution light microscopy on living cells.
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 km^2 of abyssal plains and the 65,000 km long mid-oceanic ridge system. At the same time, it encloses relatively small (hundreds of km^2 to only a few m^2), 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% of species collected in a typical abyssal sediment sample are new to science. EuroDEEP will develop a multidisciplinary programme to explore and identify 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.
www.esf.org/eurodeep

European Mineral Sciences Initiative (EuroMinSci)
Shared with PESC
In the last ten years there have been major advances in the use of physics-based experimental techniques such as nuclear magnetic resonance spectroscopy, synchrotron radiation, neutron scattering, phonon spectroscopy, laser-ablation based techniques, and so on, to study mineral properties and behaviour. Similar advances have also been made in atomistic computer simulation. At the same time, it has become possible to make measurements of many properties of minerals in situ at extreme conditions of temperature and pressure corresponding to those existing in the earth's interior. A recent prominent example was the experimental and theoretical determination of the temperature at the inner core/outer core boundary and of the chemistry of the Earth's core. New experimental techniques have benefited from the parallel development of computer simulation.
The EuroMinSci Programme draws together the experimental and computational activities, and the different experimental techniques, into integrated research projects. It also addresses the need for young researchers from a background in earth sciences to be trained more in the physics-based techniques, where the methods are very different from traditional earth science.
www.esf.org/eurominsci

Processes in the Passive Continental Margins (EUROMARGINS)
The nations of Europe share one of the world's longest passive margin systems, 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.
www.esf.org/euromargins

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Humanities (SCH)

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.
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 last 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.
www.esf.org/cncc

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, neuro-physiology, 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.
www.esf.org/omll

Social Sciences (SCSS)

European Collaborative Research Projects (ECRP) I (2005 Call)
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. Funding agencies of twenty countries have agreed to the Protocol for this Programme, while agencies of four other countries have an associate status. An annual deadline for the submission of proposals on 28 April has been agreed. Proposals are submitted to a single European peer review process, with common criteria and procedures. Funding decisions are taken subsequently at the national level by the agencies 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, a list of eight Collaborative Research Projects awarded in the 2005 competition is available.
www.esf.org/ecrp

Research Networking Programmes

For the latest information, please visit www.esf.org/programmes

Often long-term, ESF Research Networking Programmes (formerly known as Scientific Programmes) bring together substantive research projects carried out by multinational teams of scientists, and may include workshops, summer schools and fellowship schemes.
The following pages give concise information of the ESF Research Networking Programmes supported by ESF in 2005.

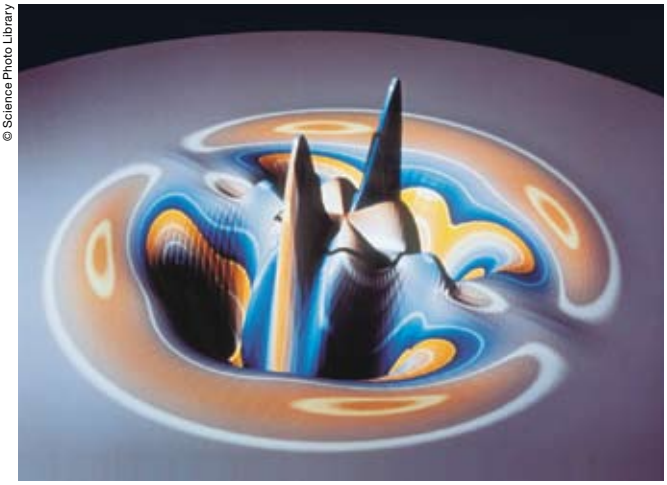
Physical and Engineering Sciences (PESC)

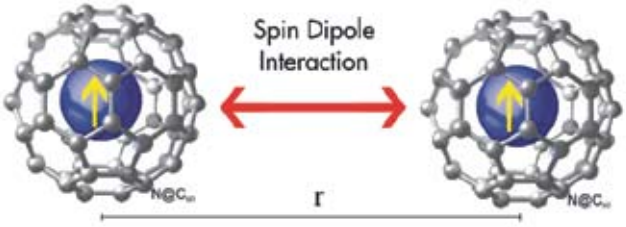
Arrays of Quantum Dots and Josephson Junctions (AQDJJ)
2004-2009
13 contributing organisations
The physics and the properties of materials at reduced dimensionality are among the main emerging issues of research in condensed matter physics. These aspects are combined in arrays of Josephson junctions (JJ), of nanoparticles and of quantum dots, which are the subject of this Programme. 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.
www.esf.org/aqdjj

Cosmology in the Laboratory (COSLAB)
2001-2006
13 contributing organisations
It is a fundamental principle of physics that there is a unified system of laws governing all scales from subatomic particles to the cosmos. It is believed that the universe, evolving from an initial hot Big Bang, would have undergone a series of symmetry-breaking phase transitions with observationally significant consequences such as the formation of topological defects. Direct experimental tests of these ideas are not feasible, but transitions described by very similar equations occur in experimentally accessible condensed-matter systems at low temperatures. The aim of this Programme is to exploit this analogy through studies of ultra-low-temperature superfluid helium and of other condensed-matter systems, together with theoretical work to establish the validity of the analogy.
www.esf.org/coslab

Electron Induced Processing at the Molecular Level (EIPAM)
2004-2009
13 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.
www.esf.org/eipam

Global and Geometrical Aspects of Nonlinear Partial Differential Equations (GLOBAL)
2004-2009
10 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.
www.esf.org/global





Innovative Control Technologies for Vibration Sensitive Civil Engineering Structures (CONVIB)
2001-2005
12 contributing organisations
This Programme focuses on emerging concepts such as semi-active or hybrid control of civil engineering and industrial structures. In Europe, structural control is just moving towards civil engineering applications. From its inception the European Association for the Control of Structures was established directly at a European level and not merely as a cooperation of nationally established associations: this explains the impossibility of finding in a single country large research groups specialised in structural control. The main purpose of this Programme is to promote the use of experimental facilities to study the mitigation of vibration in civil engineering structures by means of innovative semiactive control technologies.
www.esf.org/convib

Methods of Integrable Systems, Geometry, Applied Mathematics (MISGAM)
2004-2009
9 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.
www.esf.org/misgam

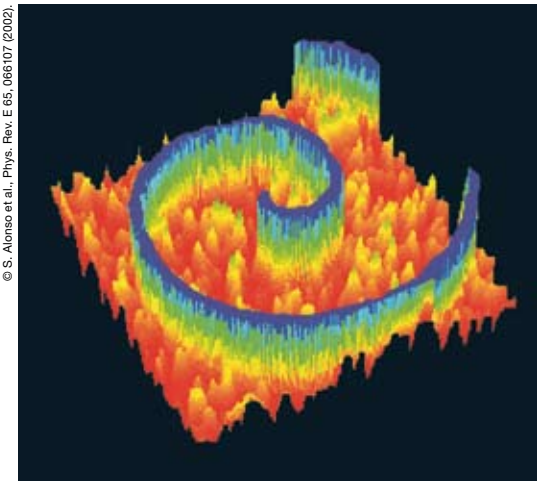
Middleware for Network Eccentric and Mobile Applications (MINEMA)
2003-2008
11 contributing organisations
During the last decade it has been possible to observe impressive scientific, technological and experimental advances in the area of ad hoc networks. Although this technology is considered one of 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.
www.esf.org/minema

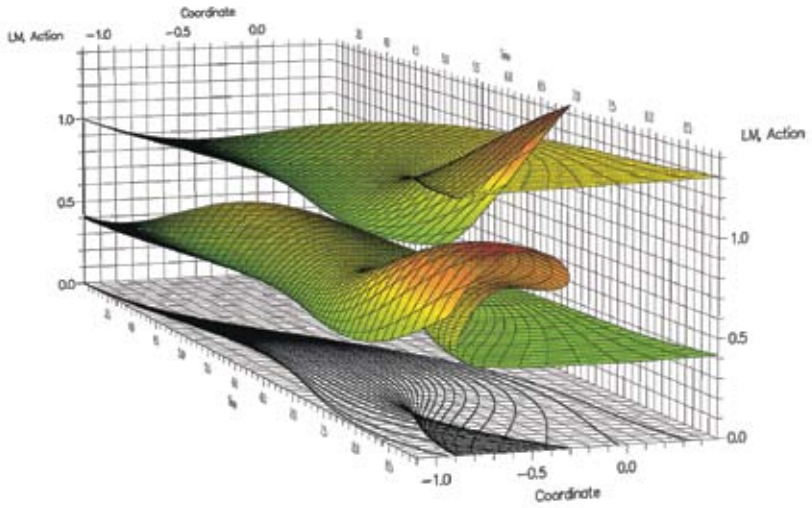
Nanotribology (NATRIBO)
2002-2007
14 contributing organisations
This Programme aims to improve collaboration between experimentalists and theoreticians in the field of tribology on the nanometer scale. Recently, experimental and modelling tools have become available for the study of small (nano) contacts under pressure in relative motion. The understanding of friction, adhesion, fracture and wear on the nanometer scale, atomic-scale stick slip on solid surfaces, confinement of liquids between surfaces, electrical and mechanical properties of quantum contacts are subjects of this research. Other questions which are being addressed by NATRIBO include: dissipation mechanism of contacts in relative motion; novel nano-materials for tribology, tribochemistry, triboluminescence; and mechanical properties of quantum contacts.
www.esf.org/natribo

Nonlinear Acoustic Techniques for Micro-Scale Damage Diagnostics (NATEMIS)
2000-2004, extended to August 2005
8 contributing organisations
Among the various non-destructive evaluation (NDE) techniques, acoustic methods are perhaps the most frequently used. Recent advances in modern material technology require the development of NDE techniques that quantify micro-scale damages in a variety of materials, both during their production and life cycle. This Programme concerns the creation of a very broad and interdisciplinary network for the purpose of studying experimentally and theoretically (by means of phenomenological models and supercomputer simulations) the effects of nonlinearity at a mesoscopic level.
www.esf.org/natemis

Novel Applications of Josephson Junctions in Quantum Digital Circuits (PiShift)
2001-2006
10 contributing organisations
This Programme aims to establish a European platform for groups working on novel applications of Josephson junctions in quantum digital devices, exploiting the remarkable properties of pi-Josephson junctions. Utilising their unique properties, pi-Josephson junctions have been suggested as central elements for new classes of superconducting devices, ranging from digital electronic circuits extending the Rapid Single Flux Quantum architecture, to qubits for quantum computation.
www.esf.org/pishift

Optimisation of Solid State Electrochemical Processes for Hydrocarbon Oxidation (OSSEP)
2000-2005
10 contributing organisations
In the search for new, improved energy systems for the 21st century, the emphasis is on environmentally-friendly, efficient means of energy conversion and storage. High-temperature fuel cells offer energy conversion efficiencies as high as 70% although there are still problems to overcome before the optimum fuel – natural gas – can be utilised without difficulty. This Programme enables the participants to enhance their investigations of the processes involved in the solid state electrochemical oxidation of hydrocarbons and hence to develop new fuel cell materials and systems.
www.esf.org/ossep





Phase Transitions and Fluctuation Phenomena for Random Dynamics in Spatially Extended Systems (RDSES)
2002-2007
15 contributing organisations
The Programme is centred on new themes in mathematical statistical physics. The main goal is to study random dynamics in spatially extended systems through the application of powerful probabilistic techniques – fluctuation theory and large deviation theory. Spatially extended systems consist of a large number of components that interact locally but that may nevertheless exhibit a long-range dependence, resulting in anomalous fluctuation phenomena and phase transitions.
www.esf.org/rdses

Quantum Degenerate Dilute Systems (QUDEDIS)
2004-2008
14 contributing organisations
The Programme builds on the synergy which was achieved in the ESF PESC Programme "BEC2000+ – Bose-Einstein Condensation and beyond". The new 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.
www.esf.org/qudedis

Spectral Theory and Partial Differential Equations (SPECT)
2002-2007
15 contributing organisations
This Programme aims to stimulate the theoretical study of spectral properties of partial differential operators, a subject with many practical applications including problems appearing in solid state physics, super-conductivity, and problems concerning stability of matter, telecommunications, and others. Stimulated by these and other applications, this area of mathematical physics contains many outstanding and difficult problems which mathematicians have been trying to solve for decades. Recent progress in solving some of these problems is a major motivation for joining forces with different European research groups.
www.esf.org/spect

Stochastic Dynamics: fundamentals and applications (STOCHDYN)
2003-2008
14 contributing organisations
Stochastic tools have successfully been used both for theoretical modelling of complex systems and for the analysis of experimental data. They have proved 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.
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 (substrateinduced) 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.
www.esf.org/thiox

Towards Atomistic Materials Design (Psi-k)
2003-2007
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.
www.esf.org/psik

Towards Electronic Democracy: Internet based complex decision support (TED)
2002-2006
11 contributing organisations
Coherent analysis and evaluation of complex decision problems necessarily involve the weighing of multiple sources of uncertainty, highly conflicting objectives, time-evolving and multifaceted preferences, and the integration of opinions and desires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of disparate stakeholder groups. The overall objective of this Programme is to develop Bayesian methodologies and computational tools for the rational, inclusive, analytic support of such decisions. Their development will do much to enable true mechanisms of e-democracy.
www.esf.org/ted

Medical Sciences (EMRC)

Integrated Approaches for Functional Genomics
2000-2005
Joint activity with LESC
23 contributing organisations
Following the exponentially growing amount of genomic sequence data from the Human Genome project and other related projects, the challenge is now to unravel gene functions from DNA sequence information. This is the new discipline known as "functional genomics". The technologies that are used for this are extremely diverse and integration and networking between European laboratories, which this programme aims to foster, are essential for the optimal use of resources. The final conference Functional Genomics and Diseases was held from 6-10 September 2005 in Oslo, Norway.
www.esf.org/genomics

Life, Earth and Environmental Sciences (LESC)

Environments and Ecosystem Dynamics of the Eurasian Neogene (EEDEN)
2000-2005
13 contributing organisations
The geological history of terrestrial ecosystems is an important topic for both biologists and earth scientists, touching on such fundamental problems as environmental fragmentation versus biodiversity. This Programme investigates changes in terrestrial ecosystems during the Neogene, a time interval that witnessed enormous geographical and environmental changes in Europe, yet is close enough in time that we can understand floral and faunal change by reference to present-day genera in present-day ecosystems.
www.esf.org/eeden

European Project for Ice Coring in Antarctica (EPICA)
1996-2000, extended to 2006
9 contributing organisations
EPICA is a multinational European project for deep ice core drilling in Antarctica. Its main objective is to obtain full documentation of the climatic and atmospheric record archived in Antarctic ice by drilling and analysing two ice cores and comparing these with their counterparts in Greenland. Evaluation of these records will provide information about the natural climate variability and mechanisms of rapid climatic changes during the last glacial epoch.
www.esf.org/epica

Holocene Climate Variability (HOLIVAR)
2001-2006
10 contributing organisations
This Programme has two general objectives: to understand climate variability within Europe and Africa focusing on inter-annual, decadal and centennial variability over the last 6,000 years. This is a period over which climatic boundary conditions and forcing processes have been broadly comparable to those prevailing during the centuries prior to industrialisation. The second objective is to compare proxy records of past climate change with the output of climate models in order to improve model predictability for the future.
www.esf.org/holivar

Integrated Approaches for Functional Genomics
2000-2005
Joint activity with EMRC
23 contributing countries
Following the exponentially growing amount of genomic sequence data from the Human Genome project and other related projects, the challenge is now to unravel gene functions from DNA sequence information. This is the new discipline known as "functional genomics". The technologies that are used for this are extremely diverse and integration and networking between European laboratories, which this programme aims to foster, are essential for the optimal use of resources. The final conference Functional Genomics and Diseases was held from 6-10 September 2005 in Oslo, Norway.
www.esf.org/genomics

Integrating Population Genetics and Conservation Biology: merging theoretical, experimental and applied approaches (ConGen)
2004-2009
15 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 socio-economical reasons 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


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levels: (i) experimental population genetics, (ii) theoretical and computational population genetics, and (iii) practical conservation genetics of captive and natural populations.
www.esf.org/congen

Interdisciplinary Tropospheric Research: from the laboratory to global change (INTROP)
2004-2008
21 contributing organisations
Climate change and air quality are key societal challenges. It has become clear over the last decade that the development of our societies cannot be uniquely wealth-orientated but that a sustainable development requires an "environmentally friendly" approach. However, such an approach is only possible if scientifically sound knowledge is made available to our societies. The aim of this Programme is to respond to issues of strategic importance in European science policy and to strengthen collaborative research.
www.esf.org/introp

Protein Cross-Linking – the ESF Transglutaminases Programme (PCL)
2000-2005
6 contributing organisations
This Programme focuses on the subject of structures, functions, and applications of transglutaminases. This class of enzymes is currently relatively unexplored and deserves much greater attention. In particular, little is known about the three-dimensional structures of transglutaminases, and about their enzymatic mechanisms and their roles in signal transduction, apoptosis, and blood coagulation. Clearly, a multidisciplinary approach is needed to better understand this important class of enzymes and to provide a better basis for utilising its great potential in biotechnological applications. Despite the poor current status of our knowledge on transglutaminases, the interesting protein-crosslinking activities of these enzymes are already being used in food processing and surgery.
www.esf.org/pcl

The Role of Soils in the Terrestrial Carbon Balance (RSTCB)
2002-2007
9 contributing organisations
Carbon stored in soils represents the largest terrestrial carbon pool. Knowledge of the dynamics of this pool is essential if we are to understand the terrestrial carbon balance as a whole. Without this knowledge we will be severely lacking in our understanding of the global carbon cycle, and we can have little hope of predicting what will be the impacts of climate change. Consequently, this Programme aims to bring together soil carbon researchers to create a Europe-wide perspective on the role of soils in the terrestrial carbon balance.
www.esf.org/rstcb

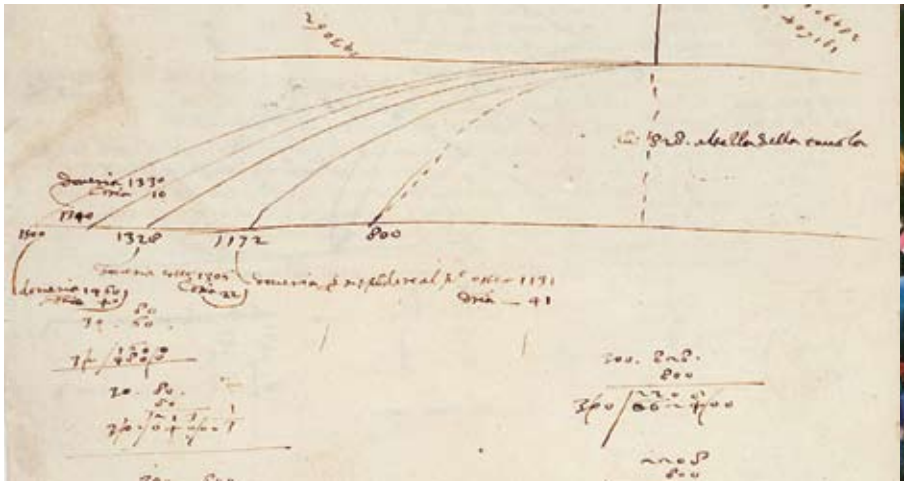
Stable Isotopes in Biospheric-Atmospheric Exchange (SIBAE)
2002-2007
11 contributing organisations
This Programme aims to study the role of terrestrial ecosystems in the global carbon budget. Specifically, it aims to study the CO_2 and H_2O gas exchange between terrestrial ecosystems and the atmosphere using stable isotopes. This involves networking European scientists from various disciplines ranging from atmospheric physics to micrometeorology and from plant ecophysiology to biogeochemistry.
www.esf.org/sibae

Volatile Organic Compounds in the Biosphere-Atmosphere System (VOCBAS)
2004-2009
14 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 and ecosystems 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.
www.esf.org/vocbas

Humanities (SCH)

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.
www.esf.org/earth

From Natural Philosophy to Science (NPHS)
2003-2007
13 contributing organisations
This Programme addresses an important but difficult question, namely, which were the factors involved in transforming natural philosophy into physics as we know it today? For our understanding of the nature



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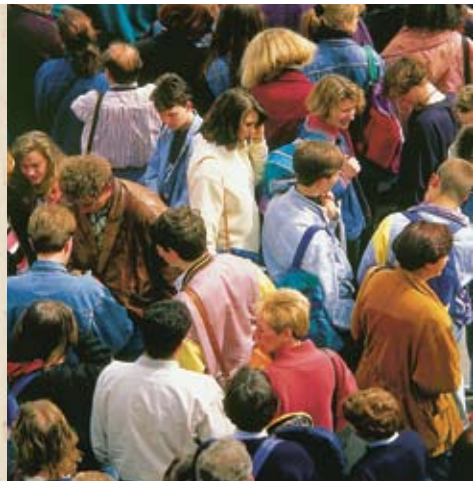


of modern science, it is essential that we know the history of its philosophical beginning. The Programme focuses its research efforts on the period of the formation of European "natural philosophy", the cradle of modern scientific thought. The corner dates usually given for this period are 1200 and 1700.
www.esf.org/nphs

Representations of the Past: The Writing of National Histories in Europe (NHIST)
2003-2008
23 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.
www.esf.org/nhist

Social sciences (SCSS)

European Social Cognition Network (ESCON)
2003-2008
20 contributing organisations
The objective of the 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, and by helping to lay the foundations of an advanced European research training programme in social cognition that gives young scholars the opportunity to learn about cutting-edge developments that may be unavailable in their local institutions. This enables them to develop scientific networks early on in their careers.
www.esf.org/escon

Quantitative Methods in the Social Sciences (QMSS)
2003-2007
22 contributing organisations
The aims of this Programme are to advance knowledge in the methods of analysing increasingly complex social scientific data; to increase the human capacity to analyse such data; and to engender analysis of the large pan-European data sets and thus to advance comparative quantitative social science. This is achieved through a series of integrated workshops and seminars which train junior social scientists in the latest methods of analysis of social scientific data and provide the opportunity for senior researchers working at the cutting edge of analysis to share their research.
www.esf.org/qmss

Scientific Networks

ESF Scientific Networks provide support for coordinating activities aimed at stimulating and consolidating the European scientific community in a specific field. Interdisciplinary in nature, they normally run for a period of three years.
No calls for new Networks are planned.
The following pages give details of the currently running Scientific Networks. For detailed information about each Network, please visit the relevant noted location on the ESF website.

Physical and Engineering Sciences (PESC)

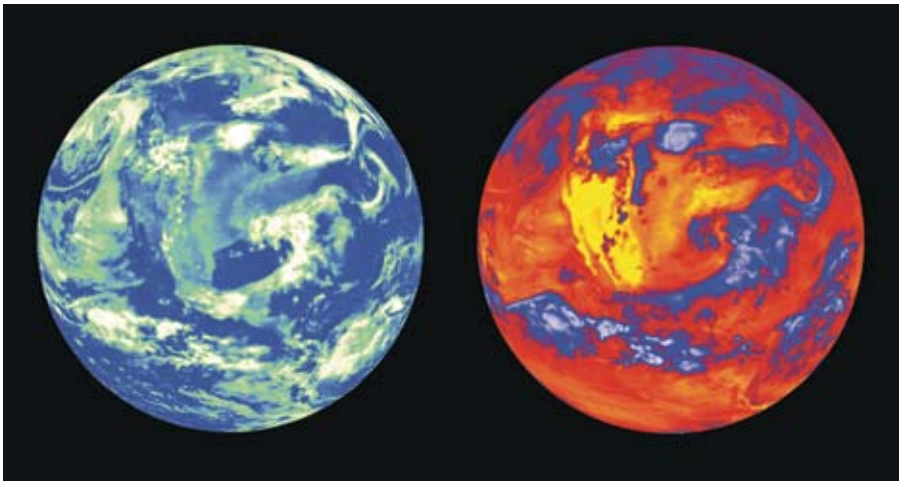
Biomass Fermentation Towards Usage in Fuel Cells (BFCNet)
2002-2005
The combination of fuel cell (FC) and biomass fermentation (BF) technologies has emerged as a primary candidate for generating heat and power on a decentralised basis in a renewable and environmentally-friendly way. But until recently, the two technologies have evolved largely independently of each other, with the result that the common base of knowledge and skills necessary for successful development of fuel cells fed by BF does not exist. This Network will focus on such a common base of knowledge and expertise.
www.esf.org/bfcnet

Collisions in Atom Traps (CATS)
2003-2006
The investigation of low temperature phenomena has been revolutionised by the development of the techniques for cooling and trapping atoms and molecules, providing new opportunities for the development of nanoscale instrumentation and emerging technologies such as atom lasers, quantum computing and quantum cryptography. However, further progress requires increased collaboration between the previously distinct scientific fields of quantum chemistry, condensed matter, and low temperature plasmas. This Network provides the necessary framework for such collaboration.
www.esf.org/cats

Future Advanced Light Sources (FALS)
2003-2006
The goal of this Network is to facilitate the merging of two existing, large and multi-disciplinary research communities, namely those based on lasers mainly working in the infrared/visible regimes and those based on synchrotron radiation covering a large spectral region from the infrared to hard X-rays but with incoherent radiation. This Network intends to cross-fertilise ideas both in terms of research applications and technology developments between the traditional laser and synchrotron radiation communities.
www.esf.org/fals

Research Links to Explore and Advance Software Evolution (RELEASE)
2002-2005
The goal of this Network is to facilitate interdisciplinary exchange of ideas and interaction on software evolution in a broad sense. In general, the focus of interest will be on the guiding principles of, and better tools for, software evolution. The objective is to suitably link theory-based and empirical approaches, to enhance mutual exchange of ideas and to foster collaborative research amongst the leading European groups on these topics. The topics will naturally include the use of mathematical formalisms as a foundation for industrial tools and processes to support software evolution.
www.esf.org/release

Statistical Analysis of Complex Data with Robust and Related Statistical Methods (SACD)
2004-2006
Joint activity with SCSS
In almost any area of scientific research, there is an increasing availability of data. These data sets are not only becoming larger in size, but also in complexity. Extracting essential features and finding structures and relations in datasets can be done with statistical methods. But it has been observed that many classical statistical techniques are not resistant in presence of outliers and become completely invalid.
The aim of this Network is to coordinate the increased research being conducted within the robust statistics area in Europe and to foster interdisciplinary collaboration.
www.esf.org/sacd



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Medical Sciences (EMRC)

The Meso-telencephalic Dopamine Consortium (DopaNet)
2003-2005
The aim of this Network is to mobilise European scientific expertise in molecular and cellular neurobiology in order to investigate precisely and quantitatively all aspects of neurotransmission – at the levels of the molecule, the supramolecular assembly, the neuronal cell and the neuronal network – in a specific neuronal system, involved in many neuropathologies, such as Parkinson's disease, schizophrenia and drug abuse.
The resulting integrated knowledge will not only provide relevant, up-to-date information, methods and tools for the diagnosis and treatment of such pathologies, but will also form a firm basis on which to link the function of the neurobiological structures and the implementation of cognitive and mental abilities.
www.esf.org/dopanet

Multilingual Multidisciplinary Studies on Brain and Language (MMSBL)
2003-2006
Neurolinguistics, the scientific study of how language is organised at the neuronal level, has been revolutionised in the last 15 years by the application of emerging neuroimaging techniques. This has enabled the classical approach of studying brain/language interaction through brain-damaged individuals to be extended to "normal" people without any aphasia (loss of communication ability through damage to the central nervous system).
The new insights and alternative ways of testing and refining cognitive models provided by modern neuroimaging, have exacerbated problems of interdisciplinary communication, particularly between the neuroimaging and cognitive language modelling communities.
The aim of the Network is to bring together European experts in these two fields, with the goal of creating a unified methodology for brain/language studies across European countries and languages.
www.esf.org/mmsbl

Myelin Structure and its Role in Autoimmunity (MARIE)
2004-2006
Joint activity with LESC
This Network is galvanising European research into the role of myelin and its structure in a range of autoimmune degenerative diseases such as multiple sclerosis (MS). Myelin is the multi-layered membrane rich in lipids (fats) providing the electrically insulating sheath for axons, whose deterioration causes disease by disrupting the conduction of nerve impulses.
The Network aims to: promote the interest of biophysicists in structural studies of myelin proteins and of the peptides involved in the antigen presentation, as well as to have neurologists and neuroimmunologists participate more directly in structural studies; develop a common language to facilitate interaction between experts in the different fields; promote the training of young scientists in different fields and develop their ability to organise research projects and carry out experiments with various approaches and techniques.
www.esf.org/marie

Life, Earth and Environmental Sciences (LESC)

Adaptation and Constraints in Avian Reproduction: Integrating Ecology and Endocrinology (E-BIRD)
2003-2006
Bird populations are globally threatened by accelerated changes in climate and habitats often attributed to human activities. In order to understand and predict how birds respond to these environmental changes, it is essential to study how the environment affects reproduction in wild bird populations.
The influence of the environment on different stages of reproduction, such as when and how many eggs are produced, how offspring are raised, and how reproduction ensures contributions to following generations, can be studied from an ecological and endocrinological point of view. The aim of this Network is to foster the necessary exchange of knowledge and expertise between ecologists and endocrinologists.
www.esf.org/e-bird

Isotope Analysis by Accelerator Mass Spectrometry in Support of Earth and Environmental Sciences (IAAMS)
2004-2006
Accelerator mass spectrometry (AMS) facilities in Europe support a wide range of environmental research and related studies. Such facilities analyse key cosmogenic nuclides and provide valuable quantitative data for many fields of research, including oceanography, paleoclimatology, volcanology, surface exposure dating, tectonic and geomorphological research, archaeology, and palaeoceanography. Many of these facilities also analyse long-lived anthropogenic radionuclides, which can be used as environmental process tracers, for example, in pollution pathways.
The aim of this Network is to facilitate the use and availability of AMS measurements by establishing a critical mass of

accelerator mass spectrometry facilities and their "feeder" laboratories within Europe, encouraging collaboration and cooperation.
www.esf.org/iaams

Myelin Structure and its Role in Autoimmunity (MARIE)
2004-2006
Joint activity with EMRC
This Network is galvanising European research into the role of myelin and its structure in a range of autoimmune degenerative diseases such as multiple sclerosis (MS). Myelin is the multi-layered membrane rich in lipids (fats) providing the electrically insulating sheath for axons, whose deterioration causes disease by disrupting the conduction of nerve impulses. The Network aims to: promote the interest of biophysicists in structural studies of myelin proteins and of the peptides involved in the antigen presentation, as well as to have neurologists and neuroimmunologists participate more directly in structural studies; develop a common language to facilitate interaction between experts in the different fields; promote the training of young scientists in different fields and develop their ability to organise research projects and carry out experiments with various approaches and techniques.
www.esf.org/marie

Sedimentary Source-to-Sink Fluxes in Cold Environments (SEDIFLUX)
2004-2006
Changes in climate have a major impact on the Earth's surface systems, especially in high-latitude and high-altitude environments, affecting processes involved in sediment transfer. Yet until now quantitative analysis of sediment transfers have largely been confined to other climatic zones, so a properly integrated study of source-to-sink sediment fluxes in cold environments is overdue. The aim of this Network is to perform the quantitative analysis of sediment transfers in cold environments that has been lacking so far.
www.esf.org/sediflux

Humanities (SCH)

Discourses of the Visible: National and International Perspectives (DVNIP)
2004-2006
The aim of this Network is to explore the state of the discipline of art history in Europe at the beginning of the 21st century. Its focus is the diversity of practices within current scholarship, with a particular emphasis on the range of national differences. It approaches the topic by examining both the intellectual traditions within the history of European discourses on art and also by considering the differing responses within European institutions to some of the current conceptual challenges to art history.
www.esf.org/dvnip

Social Sciences (SCSS)

Identity and Socio-Political Participation (ISPP)
2004-2007
This Network is investigating the links between collective identity and participation in socio-political activity at various levels in the contexts of migration, globalization and in particular of the forces shaping an enlarged Europe. The focus is on how people identify themselves within multiple scales of social inclusiveness, such as local, regional, national and European, and also within different categories such as ethnic and even socio-economic.
www.esf.org/ispp

Statistical Analysis of Complex Data with Robust and Related Statistical Methods (SACD)
2004-2006
Joint activity with PESC
In almost any area of scientific research, there is an increasing availability of data. These data sets are not only becoming larger in size, but also in complexity. Extracting essential features and finding structures and relations in datasets can be done with statistical methods. But it has been observed that many classical statistical techniques are not resistant in presence of outliers and become completely invalid.
The aim of this Network is to coordinate the increased research being conducted within the robust statistics area in Europe and to foster interdisciplinary collaboration.
www.esf.org/sacd

ESF Research Conferences

The European Science Foundation (ESF) is developing a new high-level Conference Scheme, principally through the establishment of long-term partnerships between the ESF and national and international organisations, including universities.

The new Scheme is known as ESF Research Conferences. Topics are at the forefront of scientific research and interdisciplinary when appropriate. The Scheme provides the opportunity for the world's leading scientists and other participants, including young researchers, to meet informally for discussions at the highest level on the most recent developments in their fields of research. It acts as a catalyst for creating new synergistic contacts throughout Europe and the rest of the world.
Conferences may be single events, or a series, usually with a biennial meeting focussing on specific aspects of the same general topic. They will normally last for four or five days and up to 150 participants and invited speakers may attend. The Chairs, who are leading scientists in their fields, will select participants from applications received as a result of publicising the Conferences.
A multi-lateral agreement has also been established under the umbrella of the ESF Research Conferences Scheme, involving the co-sponsorship of a series of advanced scientific training Summer and Winter Schools in High Energy Physics, Astrophysics and Astronomy.

16 conferences and 1 winter school have taken place in 2005, in Europe and Japan, attracting more than 1 600 participants from 46 different countries:

- **Quantum Information and Quantum Physics,** S. Tarucha (Tokyo) & M. Plenio (London), Kanagawa, Japan, 12-18 March
- **Biomedicine within the Limits of Human Existence: Biomedical Technology and Practice Reconsidered,** M. Düwell (Utrecht), Doorn, Netherlands, 8-13 April
- **Molecular Bioenergetics of Cyanobacteria: EuroConference on Genomics, Proteomics and Structure for Functional Understanding,** H.C. Matthijs (Amsterdam), Sant Feliu de Guixols, Spain, 21-26 May
- **Molecular Crystal Engineering: EuroConference on Evaluations and Predictions of Solid State Materials Properties,** K.T. Rissanen (Jyväskylä), Helsinki, Finland, 17-22 June
- **Biological Surfaces and Interfaces: EuroConference on Biomaterials, Biosensors and Analytical Techniques,** B. Kasemo (Göteborg), Sant Feliu de Guixols, Spain, 18-23 June
- **NMR in Molecular Biology: EuroConference on Structural Genomics: Structure, Dynamics and Interactions of Biomolecules,** A. Graslund (Stockholm), Höör, Sweden, 20-25 August
- **Fundamental Problems of Mesoscopic Physics: Entanglement and Coherence in Nanoelectronics,** R. Fazio (Pisa), Acquafredda di Maratea (near Naples), Italy, 3-8 September
- **Bose-Einstein Condensation: EuroConference on Ultracold Gases and their Applications,** G. Shlyapnikov (Orsay), Sant Feliu de Guixols, Spain, 10-15 September
- **Geometric Representation and Invariant Theory: Algebraic Quantization and Deformations,** F. Van Oystaeyen (Antwerp), Spa, Belgium, 16-21 September
- **Membrane Dynamics in Endocytosis, M.S. Robinson (Cambridge),** Sant Feliu de Guixols, Spain, 17-22 September
- **Polar Regions and Quaternary Climate: EuroConference toward an Integrative View of Climate in Antarctica and Circum-Antarctic Regions,** J. Chappellaz (Saint Martin d'Hères), Acquafredda di Maratea (near Naples), Italy, 24-29 September
- **Brain Development and Cognition in Human Infants: From Action to Cognition,** C. Von Hofsten (Uppsala), Acquafredda di Maratea (near Naples), Italy, 1-6 October
- **Three-Dimensional Sensory and Motor Space: Probabilistic Mechanisms of Learning and Development in Sensorimotor Systems,** D. Wolpert (London), Sant Feliu de Guixols, Spain, 8-13 October
- **Supramolecular Chemistry: Molecular Architectures and Systems,** M.W. Hosseini (Strasbourg), Obernai (near Strasbourg), France, 14-19 October
- **Probing the Molecular Basis of Protein Function through Chemistry: Scope of Chemical Protein Synthesis,** M. Engelhard (Dortmund), Sant Feliu de Guixols, Spain, 29 October-3 November
- **Comparative Genomics of Eukaryotic Microorganisms: Eukaryotic Genome Evolution, Approaches with Yeasts and Fungi,** J.-L. Souciet (Strasbourg), Sant Feliu de Guixols, Spain, 12-17 November
- **String Theory: Symmetries and Dynamics,** D. Gross (Santa Barbara) & E. Rabinovici (Jerusalem), Jerusalem, 28 December-6 January

ESF Publications in 2005

The ESF disseminates information about its activities through a variety of channels, including a wide range of publications. Listed here is a selection of publications resulting from ESF activity in 2005.

Up-to-date information on the Foundation's activities is also available at its web site: www.esf.org

Corporate Publications

Fostering international cooperation between scientists in Europe: the role of Research Councils
NWO-ESF Conference, Amsterdam, 4-5 November 2004
24 pp. ISBN 2-912049-47-4. ESF, Strasbourg, France, February 2005

About the ESF 2005
60 pp. ESF, Strasbourg, France, May 2005

ESF Policy Briefing N° 23: Nanomedicine
6 pp. ESF, Strasbourg, France, February 2005

ESF Annual Report 2004
64 pp. ISBN 2-912049-50-4. ESF, Strasbourg, France, August 2005

ESF Policy Briefing N° 24: Research on Infectious Diseases
4 pp. ESF, Strasbourg, France, March 2005

ESF Policy Briefing N° 25: Systems Biology: A Grand Challenge for Europe
6 pp. ESF, Strasbourg, France, October 2005

Marine Science

Modelling in Coastal and Shelf Seas – European Challenges
Marine Board Position Paper 7
32 pp. ISBN 2-912049-49-0.
ESF, Strasbourg, France,
June 2005

Life, Earth and Environmental Sciences

ESF Research Networking Programme

Behavioural Ecology of Insect Parasitoids: from theoretical approaches to field applications (BEPAR)
An ESF research networking programme
8 pp. ESF, Strasbourg, France,
September 2005

Space Sciences

Scientific Perspectives for ESA's Future Programme in Life and Physical sciences in Space
ESSC-ESF Recommendations
88 pp. ISBN 2-912049-51-2.
ESF, Strasbourg, France,
September 2005

ESF Publications in 2005

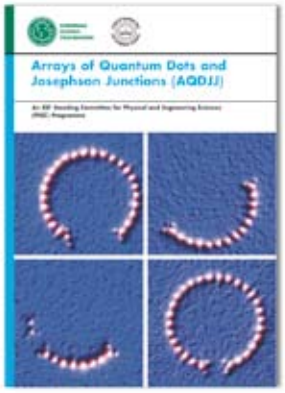
Physical and Engineering Sciences

ESF Research Networking Programmes

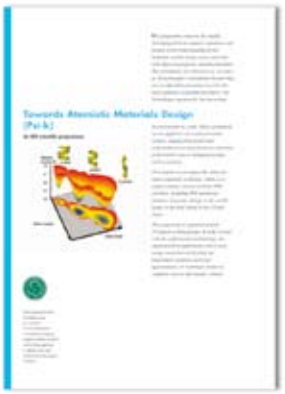
Middleware for Network Eccentric and Mobile Applications (MINEMA)
An ESF research networking programme
8 pp. ESF, Strasbourg, France, February 2005

Quantum Degenerate Dilute Systems (QUDEDIS)
An ESF research networking programme
6 pp. ESF, Strasbourg, France, October 2005

Thin Films for Novel Oxide Devices (THIOX)
An ESF research networking programme
8 pp. ESF, Strasbourg, France, June 2005



Arrays of Quantum Dots and Josephson Junctions (AQDJJ)
An ESF research networking programme
8 pp. ESF, Strasbourg, France, October 2005



Towards Atomistic Materials Design (Psi-k)
An ESF research networking programme
8 pp. ESF, Strasbourg, France, September 2005

EUROCORES Programmes

Self-Organised NanoStructures (SONS)
SONS News
The newsletter of the EUROCORES Programme in Self-Organised NanoStructures
N° 2. 8 pp. ESF Strasbourg, France, September 2005

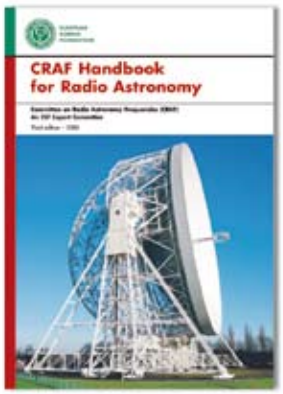
Social Sciences

Expert Committees

Committee on Radio Astronomy Frequencies (CRAF)

CRAF News 11
The newsletter of the ESF Expert Committee on Radio Astronomy Frequencies
Nº 11. 6 pp. ESF Strasbourg, France, January 2005

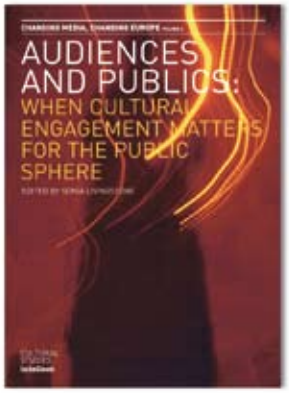
CRAF News 12
The newsletter of the ESF Expert Committee on Radio Astronomy Frequencies
Nº 12. 6 pp. ESF Strasbourg, France, July 2005



CRAF Handbook – 3rd edition
Edited by J Cohen, T Spoelstra, R Ambrosini and W van Driel.
170 pp. ISBN 2-912049-48-20.
ESF, Strasbourg, France, May 2005

ESF Research Networking Programmes

European Social Cognition Network (ESCON)
An ESF research networking programme
6 pp. ESF, Strasbourg, France, January 2005



Changing Media – Changing Europe

Audiences and Publics: When Cultural Engagement Matters for the Public Sphere
Edited by S Linvingstone
244 pp. ISBN 1-84150-129-8.
Published by Intellect Books, USA, 2005

Social Sciences in Europe

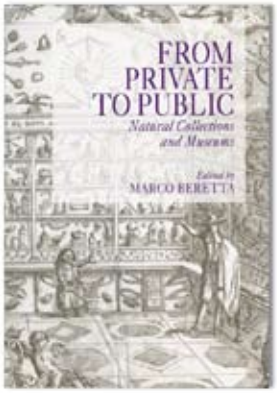
An ESF Standing Committee for the Social Sciences (SCSS) report
24 pp. ISBN 2-912049-46-6
ESF, Strasbourg, France, February 2005

ESF Publications in 2005

Humanities

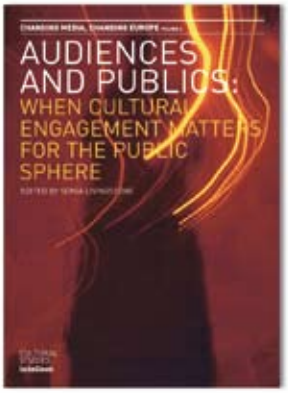
ESF Research Networking Programmes

Early Agricultural Remnants and Technical Heritage (EARTH)
An ESF research networking programme
8 pp. ESF, Strasbourg, France, February 2005



New Perspectives in the Enhancement of European Scientific Heritage

From Private to Public Natural Collections and Museums
Edited by M Beretta
252 pp. ISBN 0-88135-360-4.
Published by Science History Publications, Watson Publishing International, USA, 2005



Changing Media – Changing Europe

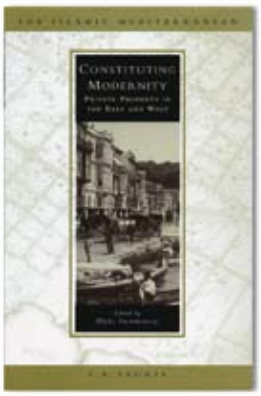
Audiences and Publics: When Cultural Engagement Matters for the Public Sphere
Edited by S Linvingstone
244 pp. ISBN 1-84150-129-8.
Published by Intellect Books, USA, 2005

The Convergence and Divergence of Dialects in a Changing Europe

Dialect Change Convergence and Divergence in European Languages
Edited by P Auer, F Hinskens and P Kerswill
416 pp. ISBN 0-521-80687-9.
Published by Cambridge University Press, United Kingdom, 2005

Individual and Society in the Mediterranean Muslim World (ISMM)

Shattering Tradition Custum, Law and the Individual in the Muslim Mediterranean
Edited by W Dostal and W Kraus
328 pp. ISBN 1-85043-634-7.
Published by I.B. Tauris, London, United Kingdom, 2005



Constituting Modernity Private Property in the East and West
Edited by H Islamoglu
336 pp. ISBN 1-86064-996-3.
Published by I.B. Tauris, London, United Kingdom, 2004

Crafts and Craftsmen of the Middle East Fashioning the Individual in the Muslim Mediterranean
Edited by S Faroqhi and R Deguilhem
380 pp. ISBN 1-86064-700-6.
Published by I.B. Tauris, London, United Kingdom, 2005

Standing Trial Law and the Person in the Modern Middle East
Edited by B Dupret
382 pp. ISBN 1-86064-997-1.
Published by I.B. Tauris, London, United Kingdom, 2004

Human Resources

Human capital is an essential component for the delivery of ESF's Mission and Strategy.

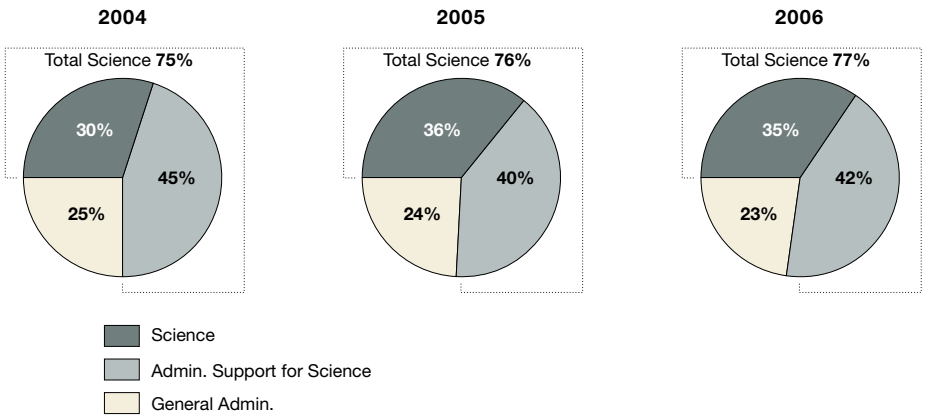
A certain number of actions were already started in 2005 and will be reinforced in the coming years. Main achievements include specific training for managers and their staff to develop a professional management culture and the implementation of a performance based remuneration system. With the recruitment of a Head of Human Resources, further actions will be initiated based on a dedicated Human Resources Strategic Plan. These will mainly consist of upgrading job responsibilities, enhancing profiles of competences to support strategic priorities, developing people accordingly and improving recruitment processes in order to attract talented employees throughout Europe.

Table 1, below, illustrates overall evolution of staff in the equivalent of FTE during 2005. It mainly reflects the development of EUROCORES coordinators and the necessary strengthening of the COST office. The main increase has been in the number of scientific staff and staff providing administrative support to science. General administration show a very reasonable evolution due to efficiency measures such as no paper between the COST office in Brussels and ESF office in Strasbourg and the implementation of full electronic payments.

This evolution is in line with the principles indicated in the ESF Strategic Plan.

Evolution of Staff per Category and per Source of Funding

	2004 FTE Actual	2005 FTE Actual	FTE Evolution 2005-2004	2006 FTE Revised Budget
Science & science management	**29,1**	**41,7**	**12,6**	**44,2**
General Budget	11,8	14,0	2,2	13,7
Other Sources	17,3	27,7	10,4	30,5
Administrative support for science	**43,1**	**46,2**	**3,1**	**54,4**
General Budget	21,0	21,0	0,0	23,1
Other Sources	22,1	25,2	3,1	31,3
General administration:	**23,8**	**28,4**	**4,6**	**29,0**
General Budget	18,1	19,0	0,9	21,9
Other Sources	5,7	9,4	3,7	7,1
Total ESF Staff (full time equivalents)	**96,0**	**116,3**	**20,3**	**127,6**
General Budget	50,9	54,0	3,1	58,7
Other Sources	45,1	62,3	17,2	68,9



Finance

In order to provide the latest available information on ESF Finances, the 2005 accounts are published in this Report. The accounts have been presented to and discussed by the Finance and Audit Committee at its March 2006 meeting and by the Governing Council in April 2006, and will be presented to the Assembly in November 2006. Any modification requested will be clearly identified in next year's Report.

ESF and its activities are mainly funded by contributions from ESF Member Organisations and grants from the European Commission. The General Budget is used to finance the running of the office and general infrastructure (employment and running expenses) and core activities that are essential for the proper implementation of the ESF mission (meetings of the Standing Committees, Forward Looks, various workshops – especially Exploratory Workshops –, scientific networks, science policy initiatives, quality control, communication and governance). All ESF Member Organisations contribute to the General Budget according to a scale of contributions set out according to the Statute and outlined in Table 6. Other activities are funded *à la carte*, by those Member Organisations interested in participating. These are the ESF Research Networking Programmes and ESF Expert Committees and Boards. The ESF also runs special budgets involving partnerships, such as the ESF Research Conferences. In addition, the European Commission provides funding to ESF for the management of COST activities, which accounts for almost half of total expenditure in 2005, for the support of EUROCORES, the coordination of the EURYI scheme and the participation in several ERA-Net programmes.
Whereas 2004 was a year of substantial changes that included the development of new responsibilities and science activities, 2005 can be seen as a transition year where ESF has consolidated its positions. The level of funds managed by the organisation had significantly increased from around 17 Mio€ in 2003 to around 39 Mio€ in 2004. It has further developed by 5% in 2005, resulting in a total amount of around 41 Mio€ as described in the Consolidated Income and Expenditure Statement (Table 1).
ESF management accounts globally end the year with a consolidated surplus of 11 K€. The statutory accounts show a consolidated excess of income of 1 635 K€ at year end, which is reconciled to the 11 K€ in Table 5.
The development of income mainly relates to activities within the General Budget, the EUROCORES support contract and implementation of ERA-Nets. At the same time the funding of ESF Research Networking Programmes has decreased, corresponding to a lower number of active programmes, which is expected to increase again in 2006.
The evolution in expenditure is in line with the objectives defined in the strategy and the necessary means to manage new responsibilities attached to EC contracts. General Budget expenditure in science activities includes the developments in foresight activities (Forward Looks and Exploratory Workshops) and quality assurance (evaluation of instruments).
At the same time employment costs and running expenses of the General Budget have been kept at their expected level.
The evolution of expenditure in other budget components is coherent with the efforts in the coordination of EUROCORES, EURYI and ERA-Nets.
The ESF Consolidated Balance Sheet (Table 2) gives an instant picture of the patrimonial situation of the organisation at the end of the year. The significant restructuring of the ESF main building started in 2004 with grants provided by the City of Strasbourg, the Urban Community of Strasbourg, the General Council of the Department and the Regional Council of the Alsace Region and was completed at the very end of the year. Related acquisitions explain the increase in fixed assets disclosed in table 2. Liabilities include, as a matter of caution, provisions for contingencies built in the management accounts to face possible risks attached to the running of external contracts.

The following tables are enclosed to provide a consolidated overview of all funds managed by ESF in 2005:
Management Accounts:
Table 1: Income and Expenditure Statement
Table 2: Balance Sheet
Statutory Accounts:
Table 3: Income and Expenditure Statement
Table 4: Balance Sheet
Table 5: Reconciliation of the balance of the year between Management and Statutory Accounts. This table explains differences between the Management Accounts (which take into account some business situations not necessarily reflected in statutory terms) and the Statutory Accounts, which follow International Accounting Standards.
Other information
Table 6: Scale of Contributions

Table 1. **Management Accounts: 2005 Consolidated Income and Expenditure Statement (in k€)**

Expenditure	2004	2005	2005 Balance	Net Income	2004	2005
General Budget	**10272**	**11607**	**6**	**General Budget**	**10285**	**11613**
Expenditure	**7883**	**9025**		**Internal Income**	**6926**	**7072**
Science, Science Policy and Strategy	2811	3319		Contributions from Member Organisations	6180	6335
Employment costs	4271	4647		Additional contributions		21
Running expenses, equipment & maintenance	801	1059		ESF administrative overhead	451	462
ESF management provisions for contingencies linked to external contracts	**1350**	**1821**		Financial earnings of the year	208	188
				Use of provisions	87	66
Residual costs from external contracts	**1039**	**761**		**External Funding**	**3359**	**4541**
Account for Closed Programmes	**924**	**1073**	**5**	**Account for Closed Programmes**	**935**	**1078**
Expenditure	85	83		Transfer from Closed Programmes	641	240
Allocation to dedicated funds	839	990		Reversal of dedicated funds	292	838
				Bank interest	1	
ESF Research Networking Programmes	**4937**	**3986**		**ESF Research Networking Programmes**	**4937**	**3986**
Expenditure	4937	3986		Contributions to ESF Research Networking Programmes	4937	3986
***À La Carte* Expert Committees**	**965**	**782**		***À La Carte* Expert Committees**	**965**	**782**
Expenditure	965	782		Contributions to *À La Carte* Expert Committees	965	782
ESF Research Conferences	**1402**	**1491**		**ESF Research Conferences**	**1402**	**1491**
Expenditure	1402	1491		Reimbursement of costs from participants	413	544
				European Union grants	610	283
				Sponsoring and miscellaneous income	154	281
				Contributions from General Budget	226	383
COST Contract	**18634**	**18733**		**COST Contract**	**18634**	**18733**
Direct incurred expenditure	14064	16606		EC contribution	22194	22821
Depreciation of fixed assets	62	87		Bank interest	196	82
Accrued expenses	4508	2040		Other contributions	130	
				Overhead on direct expenditure	-3886	-4170
EUROCORES Support Contract	**1340**	**2130**		**EUROCORES Support Contract**	**1340**	**2130**
Direct expenditure	1340	2130		EC contribution	1631	2466
				Bank interest	28	31
				Overhead on direct expenditure	-318	-367
EURYI Support Contract	**299**	**479**		**EURYI Support Contract**	**299**	**479**
Direct expenditure	299	479		EC contribution	347	468
				Bank interest	3	15
				Overhead on direct expenditure	-52	-4
ERA-Net Contracts	**–**	**487**		**ERA-Net Contracts**	**–**	**487**
Direct expenditure	0	487		EC contribution	0	487
Total Expenditure	**38773**	**40768**	**11**	**Total Income**	**38798**	**40779**

Table 2. **Management Accounts: 2005 Consolidated Balance Sheet (in k€)**

Assets	2004	2005
Fixed Assets	**762**	**1650**
Receivables	**2351**	**2412**
Cash Positions	**17965**	**18142**
Securities	11447	17121
Cash at banks	6518	1021
Total Assets	**21078**	**22204**

Liabilities	2004	2005
Working Capital	**693**	**707**
Capital endowment	224	224
Other reserves	469	483
Reserve on Account for Closed Programmes	**601**	612
Grants Received for Building Works	**845**	**850**
Dedicated Funds	**1130**	**1275**
Networks	223	96
ESF Research Conferences	69	69
Publications	287	234
Exploratory Workshops	150	84
ESF-COST Synergy	–	150
Interdisciplinary New Initiatives Fund and other scientific activities	401	642
Provisions	**1751**	**3540**
Contingencies linked to external contracts	1350	3171
Related to personnel liabilities	401	369
Payables	**7329**	**6509**
Received in Advance and Committed	**8704**	**8700**
Final Balance	**25**	**11**
Total Liabilities	**21078**	**22204**

Table 3. **Statutory Accounts: 2005 Income and Expenditure Statement (in €)**

2005 Income and Expenditure	31/12/05	31/12/04
Operating Revenues		
Contributions	38 262 943,34	37 557 702,83
Use of provisions	67 227,40	158 599,62
Total Operating Revenues	**38 330 170,74**	**37 716 302,45**
Operating Expenses		
Purchases	385 342,49	448 343,58
External charges	26 905 595,99	26 814 036,76
Taxes	637 435,30	428 978,69
Salaries	5 993 224,43	4 976 945,58
Social contributions	2 531 113,61	2 135 931,93
Depreciation of fixed assets	198 634,96	157 212,78
Provisions	67 751,00	182 387,14
Other charges	139 645,53	132 293,63
Total Operating Expenses	**36 858 743,31**	**35 276 130,09**
Operating Contribution		
Total Operating Contribution	**1 471 427,43**	**2 440 172,36**
Financial Contribution		
Financial income	316 601,99	436 325,27
Financial expenses	1 994,78	4 138,45
Total Financial Contribution	**314 607,21**	**432 186,82**
Exceptional Contribution		
Exceptional income	0,00	30 925,15
Exceptional expenses	5 217,25	927,67
Total Exceptional Contribution	**-5 217,25**	**29 997,48**
Intermediate Balance	**1 780 817,39**	**2 902 356,66**
Reversal of dedicated funds	1 129 894,29	292 480,18
Allocation to dedicated funds	1 275 282,80	888 058,31
Balance of the Year	**1 635 428,88**	**2 306 778,53**

Table 4. **Statutory Accounts: 2005 Balance Sheet (in €)**

	Assets	31/12/05			31/12/04
		Gross	Depr	Net	Net
Fixed Assets	**Intangible Assets**				
	Softwares	12 061,85	11 460,67	601,18	8 168,59
	Tangible Assets				
	Buildings	967 628,56	20 000,00	947 628,56	136 955,26
	Furniture and office equipment	1 966 116,21	1 271 939,26	694 176,95	610 174,91
	Financial Assets				
	Guarantee deposits	7 330,00		7 330,00	6 798,68
Total I		**2 953 136,62**	**1 303 399,93**	**1 649 736,69**	**762 097,44**
Current Assets	**Advance Payments**	60 696,48		60 696,48	62 045,07
	Receivables				
	Customers and related accounts	1 136 185,10	153 444,74	982 740,36	741 084,82
	Other receivables	340 296,83		340 296,83	653 529,96
	Securities	17 120 557,59		17 120 557,59	11 446 912,55
	Cash at Bank	1 021 581,23		1 021 581,23	6 518 232,83
	Prepayments	1 028 344,78		1 028 344,78	894 002,29
Total II		**20 707 662,01**	**153 444,74**	**20 554 217,27**	**20 315 807,52**
General Total (I+II)		**23 660 798,63**	**1 456 844,67**	**22 203 953,96**	**21 077 904,96**

	Liabilities	31/12/05	31/12/04
Association Funds	**Working Capital**		
	Capital endowment	223 909,81	223 909,81
	Balance brought forward	553 213,50	553 213,50
	Current year balance	1 635 428,88	2 306 778,53
	Accumulated balances from previous years	2 222 056,51	-84 722,02
	Reserve on account for Closed Programmes	601 486,44	601 486,44
	Investment subsidies	850 100,00	844 882,75
Total I		**6 086 195,14**	**4 445 549,01**
Provisions	**Provisions for Contingencies and Charges**	368 900,00	400 621,40
Dedicated Funds	**Dedicated Funds**	1 275 282,80	1 129 894,29
Total II		**1 644 182,80**	**1 530 515,69**
Payables	**Suppliers and Related Accounts**	1 559 190,98	907 812,68
	Social and Tax Liabilities	1 728 765,06	1 167 589,67
	Other Payables	3 221 288,87	5 254 696,47
	Received in Advance and Committed	7 964 331,11	7 771 741,44
Total III		**14 473 576,02**	**15 101 840,26**
General Total (I+II+III)		**22 203 953,96**	**21 077 904,96**

Table 5. **Reconciliation of balance of the year between Statutory and Management Accounts (in k€)**

Final Balance - Statutory Accounts	**1 635**
Provisions built in the Management accounts for contingencies attached to external contracts	-1 821
Variation of anticipated overhead on accrued expenditure not yet reported for EC contracts (statutory requirement)	197
Final Balance - Management Accounts	**11**

Table 6. **Scale of Contributions**

	2005	2006
Austria	2,16	2,16
Belgium	2,55	2,53
Bulgaria	0,29	0,30
Croatia	0,31	0,32
Cyprus	0,20	0,20
Czech Republic	0,76	0,84
Denmark	2,13	2,10
Estonia	0,21	0,22
Finland	1,43	1,42
France	14,30	14,40
Germany	19,85	19,71
Greece	1,39	1,45
Hungary	0,71	0,76
Iceland	0,18	0,18
Ireland	1,40	1,45
Italy	11,65	11,62
Lithuania	0,23	0,24
Luxembourg	0,31	0,31
Netherlands	4,18	4,18
Norway	1,95	1,92
Poland	1,94	1,89
Portugal	1,36	1,36
Romania	0,52	0,54
Slovakia	0,32	0,34
Slovenia	0,36	0,36
Spain	6,33	6,81
Sweden	2,69	2,63
Switzerland	2,73	2,74
Turkey	1,91	1,84
United Kingdom	15,67	15,19
Total	**100,00%**	**100,00%**

Picture captions

Page 35

(Left) Field of human red blood cells.
Individual disk-shaped red blood cells appear colorless when viewed under a microscope.
The pink tint on the left of the image is due to clotting of several layers of red blood cells.

(Right) Earth from Space.

Page 36

(Left) Aggregation: Typical growth process – ruled by stochastic dynamics, characterized by fractal dimensions and fingering structures.

(Right) Hajj Abu Al-Hassan chart, mid 16th century. Topkapi Sarayi Müzesi Kütüphanesi, Istanbul.

Page 37

Neighbours talking to each other.

Page 38

(Left) Commissioned in October 1990, the multi-purpose Research Vessel *L'Atalante* is dedicated to research in marine geosciences, oceanography and marine biology. The picture shows an *in vivo* observation.

(Right) Deep Ocean Drilling in the Central Arctic during the ACEX project.

Page 39

(Left) The Horsehead located in the constellation Orion.

(Right) The 76-m diameter Lovell Telescope at Jodrell Bank Observatory, UK, came into operation in 1957 and has operated continuously since then, 24 hours per day, apart from stoppages for maintenance, painting, repairs, and two major upgrades to the primary reflecting surface.

Page 40

Artists interpretation of Atoms.

Page 42

(Left) Antibody based microbubble conjugates as targeted *in vivo* ultrasound contrast agents and advanced drug delivery systems.

Page 43

(Left) Moore's law: "integrated circuit density doubles every 18 months (or 2 years)".
The technological limit lies at the bottom of the nanometre scale expected to be reached within 10 years (Silicon-based technologies).

(Right) Aerial view of Paris.

Page 45

(Left) Lithium atoms hoovering over an atom chip, cooled to be loaded into a microtrap.

(Right) Al-Qur'an, 17 × 12.4 cm, 1796, National Library of the Czech Republic.

Page 47

(Left) High-resolution STM image of a molecular assembly on a Cu(100) surface (Group Prof. Kern, MPI-FKF Stuttgart). Project FUN-SMARTS, coordinated by Dr. M. Ruben (Research Centre Karlsruhe).

(Right) Mouse embryonic stem cells with stained nuclei.

Page 48

(Left) Structure of the human protein interferon α-2a.

(Right) A fluorescently stained image of a cultured epithelial showing the nucleus (yellow) and actin (red).

Page 49

(Left) 2500 m depth: *bathypterois tripod* fish.

(Right) Passive continental margins are ocean-continental boundary regions where tectonic activity is subsiding.

Page 50
(Left) Cuneiform tablet from Tell Beydar, Jezirah (c. 2415 BC).

(Right) A traditional sing-sing being performed in Togarao, Bougainville, Papau New Guinea.

Page 52

(Left) Two Buckyballs. A Buckyball is a C-60 fullerene molecule, containing an encased atom. The encased atom behaves as a qubit. Therefore this is an array of two quantum dots. Such arrays are easily scalable to any number of Buckyballs.

(Right) A computer simulation of gravitational waves emitted by a disturbed black hole. In this frame, the black hole is beginning to return to an equilibrium state. The colour and height of each point represent aspects of the gravitational wave fields; the black line near the centre is the apparent surface of the black hole.

Page 53

(Left) Spiral wave under spatio-temporal fluctuations in a two-dimensional excitable medium. Values of the activator field (cold colours corresponding to higher values of the concentration) are superposed on the value of the external stochastic background.

(Right) The figure shows the origin of singularities in the pattern of optimal fluctuational paths for a generic non-equilibrium system (a periodically driven double-well Duffing oscillator). The Langrangian manifold (middle sheet) acquires a fold, leading to intersecting action surfaces (upper sheet). The most probable paths are those of least action which, projected down onto the coordinate plane (bottom) lead to a pattern of optimal paths with two caustics emanating from a cusp point. Physically meaningful paths cannot cross the switching line defined by the intersection of the action surfaces.

Page 54

(Left) Ice core from the EPICA deep drilling (–3264.75 m) at Dome C.

(Right) Mature trees with fungus as a case study of stable isotopes in biospheric-atmospheric exchange.

Page 55

(Left) Polar stratospheric clouds lit from below near Kiruna, Sweden.

(Right) Mother and daughter carrying karaavlik (*Chondrilla juncea L.*) in Niğde, central Turkey, 1999. This is normally used as animal fodder, but is also edible when tender. Crops, wild plants and livestock are all integral parts of the agricultural and social system.

Page 56

(Left) *Galileo Galilei's Notes on Motion*, Manuscript 72, Folio 116v kept in the Biblioteca Nazionale Centrale in Florence.

Page 58

NASA's latest Earth Observing System satellite—Aqua—is dedicated to advancing our understanding of Earth's water cycle. Launched on May 4, 2002, Aqua has successfully completed its checkout period and is fully operational. Using multiple instruments, Aqua data and images are crucial toward improving our knowledge of global climate change.

Page 59

(Left) Auguste Rodin, *Le Penseur*, musée Rodin, Paris.

(Right) Demonstrators in Paris.

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