Welcome to EuroScience Open Forum 2004
Stockholm 25|28 August

Meet scientists, decision makers and journalists
Discover and influence European science in the making
The EuroScience Open Forum, due to be held in Stockholm in August 2004, is the first pan-European meeting of its kind ever staged. The EuroScience Open Forum is not the conventional conference, but a totally new concept. Participants are invited to bring forward their own proposals for sessions and, if successful, to win a place on a fully European platform to hold their own event. Euroscience and the other EuroScience Open Forum partners are providing this platform and all its associated infrastructure and media connections. The prize for the winners is the venue, the platform and the attention of the world outside – all for free. The rest is up to you! So, win the competition to bring your event to EuroScience Open Forum, and you will give it a real pan-European resonance!

For too long, Europe has lacked an independent arena for open dialogue on the role of all the sciences, including the humanities, in society. We have it now with EuroScience Open Forum. Science and technology are becoming increasingly important as they concern and affect everybody. The EuroScience Open Forum invites your contribution to this open dialogue on all the sciences and on their role in shaping a knowledge-based society.

The EuroScience Open Forum is the place to meet some of Europe’s most exciting and distinguished contributors to science, engineering, and the humanities. EuroScience Open Forum 2004 provides the best opportunity in Europe to listen to and to discuss the latest results from leading scientists of international reputation in all fields. “Science and Society” will be a central issue, plus a broad outreach programme aimed at the general public.

Highlighting Science, Technology, and Innovation in Europe

The main aims of EuroScience Open Forum are to:
• present science and the humanities at the cutting-edge
• stimulate scientific awareness
• foster the debate on science and society

As from 2004, the EuroScience Open Forum will be held in a prestigious European City of Science every other year. Our ambition is that ESOF meetings will become the major biennial event of the European Research Area.

Welcome to the EuroScience Open Forum 2004!

Professor Jean-Patrick Connerade
Imperial College, London, and President of Euroscience

“THE EUROSCIENCE OPEN FORUM 2004 HAS GREAT POTENTIAL:
• TO MOBILISE THE SCIENTIFIC COMMUNITIES IN EUROPE
• TO SHARE EXCITING NEW KNOWLEDGE
• TO GENERATE A SPACE FOR SCIENCE AND SOCIETY TO MEET AND ENGAGE IN WHAT MUST BECOME A CONTINUING DIALOGUE
• TO RAISE AWARENESS OF THE NEED TO INVEST JOINTLY INTO THE SCIENTIFIC CULTURE OF EUROPE”

Professor Helga Nowotny
Chair, European Research Advisory Board
You too can contribute to the programme

The intention is to create an inspiring and exciting open forum of highest quality. To ensure this, the EuroScience Open Forum invites individuals and organisations within the scientific community as well as outside it, to submit their best ideas in the form of proposals for the programme. Potential themes suggested by a Programme committee are primarily intended to stimulate thought on creation of sessions. The EuroScience Open Forum welcomes proposals even if they cannot be placed in one of these themes.

We are encouraging proposals from a wide variety of organisations, and on subjects from many different perspectives. The audience will primarily be composed of non-specialists, and proposers should:

- think about how to attract such an audience for their particular topic, and
- choose speakers best able to communicate with this audience. The EuroScience Open Forum is primarily a European forum and Europe will be its main focus, but contributions from outside Europe are also welcome.

Your proposal might be a symposium, debate, seminar, interview, workshop or another communication activity on a specific topic.

For further information on the on-line submission of proposals see www.esof2004.org

Proposals will be judged in a review process on which the EuroScience Open Forum 2004 Programme Committee will base its selection. The criteria will include scientific quality and relevance, the potential to attract public interest and the degree of interactivity. The originality of the idea and the feasibility of the “business plan” for each proposal will be taken into account as well as the organisational resources available and a detailed description of how further funding will be obtained.

Last day for submitting proposals for the programme is Monday, 15 September 2003.

As from January 2004 we will start posting the programme on www.esof2004.org

“I APPLAUD THE EMPHASIS OF ESOF 2004 ON OUTREACH: OUTREACH BETWEEN DISCIPLINES AND OUTREACH BETWEEN SPECIALISTS, STAKEHOLDERS AND PUBLICS. THIS IS A UNIQUE OPPORTUNITY FOR PEOPLE WHO CARE ABOUT SCIENCE AND ITS CONSEQUENCES, ACROSS EUROPE AND BEYOND.”

Dr. Philip Campbell
Editor-in-Chief, Nature

Welcome to Stockholm – a City of Science

The EuroScience Open Forum is open to scientists from all fields: policy makers, politicians, the media, industry, teachers, students, as well as the general public. The first ESOF convention will be held in August 2004, in Stockholm, Sweden.

Stockholm – beauty on water

Stockholm, the capital of Sweden, is one of the most beautiful cities in the world. Stockholm is also known as “The City of Science” because of its many universities and technology-based industries and because the Nobel Prizes are awarded here. Sweden is one of the most R & D intensive countries in the world and more than half of the country’s research activities are conducted in the Stockholm/Uppsala region.
The themes

To create an inspiring programme, the EuroScience Open Forum Programme Committee has selected a wide range of themes. Proposals for sessions containing high-quality science on these themes presented in a challenging format are the basis for attracting a large participation.

Humanity and Space
Space exploration, the position of man in the universe and the origin of the cosmos fascinate all of us. What are the philosophical implications? Modern astronomy and particle physics illuminate the structure and evolution of the universe. The Big Bang, the Big Crunch and questions on the nature of time are at the heart of modern physics and cosmology. High energy physics and astrophysics have come together. What drives our thinking on the unification of forces, the quest for the Higgs boson, etc.? Can we justify the high financial or human costs involved in this research?

Evolution of Life
How many times has life evolved? Could it have happened in another way? Can we reconcile the timescales of palaeontology and molecular biology? Are carbon-based life forms the only possibility? How are complex life forms built with comparatively few genes? Why does evolution happen faster than Darwin thought? How will better understanding of these processes affect our political response to genetic change in ourselves, in animals and in plants?

The Human Brain
The relationship between the brain and behaviour is most evident in the case of brain diseases. New technologies allow us to visualise these relationships and analyse their underlying chemistry in animals and humans. What is the neural basis of cognitive processes, such as memory, language, musical ability, perception, executive functions? What is the neural basis of emotion, addiction, depression and schizophrenia? Are there gender differences in the neural basis of cognition and emotion?

Mind and Behaviour
Human behaviour can be observed directly, whereas the human mind cannot. However, these two areas are both sides of the same coin. Research that tries to understand thought and behaviour in different cognitive domains is at the focus of psychological and educational sciences, linguistics and philosophy. These domains are problem solving and decision making, memory and attention, communication, social competence, musical abilities, theory of mind, and the learning aspects and development of these functions throughout life.

Ageing: the Demographic Challenge
Why are there fewer babies in Europe today? With increasing numbers of old people spending more time in retirement, how can society foot the bill? Will pensioners have to return to compete in the labour market? Can immigration solve this problem? Will a significant part of the workforce remain permanently excluded from the labour market? Will Europe, like former advanced cultures, fall behind in the global competition?

Health
What is the role of the new biology in health care? What factors make some people nervous about using stem cells or about gene therapy? Why can’t we raise the level of debate in this difficult area? Who should lead the public debate about what proteomics might offer? How will the public respond in cases where new drugs may benefit only an identifiable sub-set of the population? What steps do we need to take to evaluate health gains in an ageing population? Would you accept a GM kidney, or some “stem-cell grown” new myocardium? If not, why not?

Energy
We all depend on energy, but does this dependence limit human development? Can we foresee new forms of energy generation? How should we balance fossil fuels against nuclear power? What factors should be included in the cost–benefit analysis? What do existing data show as to the potential and consequences of various forms of renewable energy? Should there be a Europe-wide approach to policy in this area?

Climate and Environmental Change
Do we need to refine our thinking about climate change? The concentrations of carbon dioxide and other greenhouse gases are rising in the atmosphere. Is this an inevitable consequence of the increasing population? The effects on climate, water circulation and extreme weather events are a subject of broad debate. There may be other, long-term causes of climate change. What do we know for sure? What is still speculation? What is likely to happen? What should politicians do?

Predictability and Chaos
Predicting the behaviour of complex systems poses a formidable new challenge to all our mathematical and computational skills. The problem is fundamental and appears in many areas of science as well as in the area of human activity. What are the effects of chaos at the quantum level? How can we improve our understanding of the money markets, which seemingly defy rationalisation even by the most astute analysts? What impact can modern scientific methods make on studying the general properties of complex systems and their self-organisation?

“I WELCOME THE ESOF 2004, WHICH WILL ENABLE RESEARCHERS TO SPEAK BOTH TO EACH OTHER AND TO THE SOCIETY ABOUT THE HIGHLIGHTS OF EUROPEAN RESEARCH.”

Professor Enric Banda, Secretary General, ESF.
Dealing with Risk
Population growth, large-scale technological and economic activities, increased consumption and radical cultural transformation processes all over the world have altered perceptions of risk and generated new hazards. Life expectancy continues to rise in most European countries, yet there is a disorienting increase in the perception of threats to human life, ecosystems and property. One indicator for this increase is the exponential growth of insurance pay-outs for natural disaster relief. How can we assess complex diffuse and interrelated risks? How can we manage them in a way that overall resilience is improved? How can we communicate about risk so that people are better informed about the potential side-effects of their choices and preferences?

Communicating Science
Most people admit that they have lost track of scientific progress and its potential impacts on economy, society and culture. Surveys reveal a growing distrust in the objectivity of and mechanisms for ensuring the impartiality of scientific advice. Along with this unease goes a decrease in the number of young people choosing scientific or technological careers. What is the role of communication in bridging the gap between the scientific community and the rest of society? What are the concerns of people regarding scientific discoveries and technological applications? How can one address these concerns? What is the most appropriate way to convey complexity and appreciate the degree of uncertainty attached to scientific results? What is the role of science journalism in facilitating the exchange? What types of public involvement and participation should be used to bring public concerns closer to science-based decision making?

Knowledge in Society
In our IT-driven world, are we suffering from information overload? What is the difference between “information” and “knowledge”? In addition, economic performance relies increasingly on knowledge management. Can scientific methodology and/or prudent deliberation test knowledge and truth claims? Can better science education enhance economic success and the quality of the environment? Is the purpose of education to enhance economic growth? What impact do new information and communication technologies have on knowledge generation, distribution and storage? How do these technologies affect learning?

Transformation of Cultures
All cultures are increasingly exposed to outside influences. This process is exaggerated by greater mobility and technical innovations, especially in the field of communication. Will the collision of profoundly different cultures provoke deep disruption, leading to rejection or to partial adaptation? Societies may also respond to these challenges by reaffirming their traditional identities. Should this arouse our concern?

Emerging Technologies
How much of science fiction will become fact? Emerging fields open new possibilities and horizons. Topics might include: pervasive computing, imaging techniques and application integration, quantum computing and cryptography, biotechnology and bio-engineering, bioelectronics, neuro-informatics and the fabrication of human organs. What are the societal impacts of these and other emerging technologies?

Nanoscience and Nanotechnology
As the sizes of devices are reduced, and as more and more information is packed into a smaller and smaller volume, nanotechnology tends towards an ultimate limit, which is set by the quantum properties of matter. Just where does that limit lie? How small are the smallest devices that can be made? Should nanoscale devices be built up atom by atom or engineered by refining conventional fabrication techniques? What will be the applications of nanotechnology in computing or in medicine? Will nanotechnology revolutionise our future? Does the nanoscale hold new and fundamental scientific and social challenges?

Science and Ethics
Has ethics kept up with science? Ethical behaviour, in relation to scientific fraud and issues of intellectual property, are naturally central to good and successful scientific practice. Ethical frontiers now limit the subject matter of scientific research rather than merely the methods. Stem cell debates illustrate the new caution accompanying scientific breakthroughs, and make clear the ways in which cultural differences between European countries produce contradictory outcomes, such as incompatible legal contexts. How can this be avoided? Does the “precautionary principle” help? Should ethics committees act as gatekeepers for broader social and political ideas or prejudices? Will scientists relocate to find other, more welcoming legislation?

Science and Arts
Does an equation have to be beautiful to be correct, as famously argued by Dirac? Artists use science for inspiration but is there any feedback from the arts to the sciences? Are the universal use of digital techniques and the development of new materials radically transforming the production, reproduction and consumption of art? Can science lead to good drama? We welcome proposals incorporating drama, music, poetry, visual arts, in addition to dialogue.

Science Policy Issues in Europe
We invite proposals on science governance in Europe, addressing also careers for young scientists, women in science, funding of research, peer review, technology transfer and commercialisation, etc.

Open Forum
Since ESOF 2004 is an open forum, proposals that fall outside the themes will also be considered by the Programme Committee.

“EUROPE NEEDS INDEPENDENT ARENAS FOR AN OPEN DIALOGUE ON THE ROLE OF ALL SCIENCES, INCLUDING HUMANITIES, IN SOCIETY.”

Professor Jean-Patrick Connerade
Imperial College, London and President of Euroscience
The initiative

The initiative was taken by scientists. The main organisation promoting the meeting is Euroscience, which was founded in 1997 in order to:

- offer an open forum for scientists, industrialists and the general public interested in science and technology
- strengthen the links between European research and European society
- contribute to the creation of an integrated space for science and technology in Europe
- influence science and technology policies

Euroscience is open to scholars, engineers and individuals from the public and business sectors, but also to anyone interested in implementing societal demands on science and technology and monitoring the impact of science on society.

Euroscience currently has members in 40 countries. It operates by running workshops, setting up regional sections, and by providing expertise on request to governments, parliaments and the European Commission.

The programme

The programme will offer various types of presentation at the venue and out in Stockholm and its surroundings.

Plenary lectures, symposia and seminars, workshops, interactive discussions, pro and contra debates, poster presentations are among the different ways that scientists can reach their audience.

Outreach activities such as a science film festival, science theatre, science and art exhibitions, meetings in schools and museums, experiments, as well as visits to the Nobel Museum, the Vasa Museum, the Old Observatory and Birka the Viking Town etc. will be chosen to present top science.

All speakers and proposals for presentations will be selected on the basis of a peer review process involving high-level experts within each field. The programme will be based on a number of themes (see middle pages) under which individuals and organisations are invited to submit proposals. A form for on-line proposals can be found at www.esof2004.org

The intention

The EuroScience Open Forum 2004 will provide a unique insight into European science and will present vibrant cutting-edge research and innovation. Dialogue is necessary to bind Europe and the world together. Such dialogue between scientists from all fields, policy makers, business people, teachers, students, the media and the general public will create a melting pot of knowledge and creativity.

Bringing people together

One of the main aims is to bring people interested in science and technology from all over Europe to one meeting where it is planned to have:

- cross-disciplinary interaction
- communication on current trends and future directions for the sciences
- a broad dialogue on and about science
- popular science presentations of frontline research

Further, an open forum of this kind will:

- offer a platform for European dialogue
- facilitate the formation and further development of a European Research Area
- enhance the European public’s awareness of and interest in science and technology
- enhance scientists’ awareness of the public’s rightful role

“CLEARLY THE 2004 FORUM IS AN INITIATIVE THAT COMMANDS SUPPORT, AND ON BEHALF OF ACADEMIA EUROPaea, I AM MOST PLEASED TO OFFER THAT SUPPORT AND HOPE THAT THE UNDERTAKING PROCEEDS TO A VERY SUCCESSFUL CONCLUSION.”

Professor Jürgen Mittelstrass
President Academia Europaea
The organisation

The governing structure of EuroScience Open Forum 2004 consists of a Steering Committee, an Advisory Board and other committees for different areas of the project. A project team, located in Stockholm, prepares and conducts the meeting along the guidelines set by the Steering Committee.

EuroScience Open Forum 2004: Steering Committee
Prof. Jean-Pierre Bourguignon, Director Institut des Hautes Études Scientifiques, Paris
Prof. Jean-Patrick Connerade, Physics Department, Imperial College, London, and President of Euroscience
Jens Degett, Head of Communication, European Science Foundation, Strasbourg
Dr. Christine Heller del Riego, Escuela Técnica Superior de Ingenieria Universidad Pontificio de Comillas, Madrid
Gabriella Norlin, (Secretary), Project Leader EuroScience Open Forum 2004, Stockholm

The organisation

The Chair of the Finance Committee, Tony Mayer, European Science Foundation, also attends Steering Committee meetings

EuroScience Open Forum 2004: Advisory Board
Prof. Hans Wigzell, (Chair), President, Karolinska Institutet, Stockholm
Dan Brändström, Director, Riksbankens Jubileumsfond, Stockholm
Dr. Philip Campbell, Editor-in-Chief, Nature, London
Prof. Dr. José Mariano Gago, Instituto de Prospectiva (LIP), Lisboa
Prof. Dr. Peter Gruss, President, Max Planck Gesellschaft, Munich
Dr. Wilhelm Krull, (Vice-Chair), Secretary General of the Volkswagen Foundation, Hannover
Prof. Dr. Helga Nowotny, Director, Society in Science, ETH Zentrum, Zürich
Prof. Ion Siotis, President, National Hellenic Research Foundation, Greece
Associate Professor Carl Johan Sundberg, (Secretary), Karolinska Institutet, Stockholm
Dr. Christine Heller del Riego, Escuela Técnica Superior de Ingeniera Universidad Pontificio de Comillas, Madrid
Gabriella Norlin, (Secretary), Project Leader EuroScience Open Forum 2004, Stockholm

EuroScience Open Forum 2004: Programme Committee
Sir Colin Berry, Professor of Pathology, Royal London Hospital, London
Prof. Dr. Wim Blockmans, President, Netherlands Institute for Advanced Study in the Humanities and Social Sciences (NIAS), Wassenaar
Prof. Jean-Pierre Bourguignon, Director Institut des Hautes Études Scientifiques, Paris
Dr. Gail Cardew, Head of Programmes, The Royal Institution, London

EuroScience Open Forum 2004: Local Organising Committee
Prof. Anders Bárány, Senior Curator, Nobel museum, Stockholm
Prof. Uno Lindberg, Head of Dept. of Cell Biology, Stockholm University, Stockholm
Camilla Modéer, Director, Vetenskap & Allmänhet, Royal Swedish Academy of Engineering Sciences (IVA), Stockholm
Gabriella Norlin, (Secretary), Project Leader, EuroScience Open Forum 2004, Stockholm
Christina Polgren, Manager of Swedish Centre for School Biology and Biotechnology, Uppsala
Anna Schytt, Head of Science Unit, Swedish Television, SVT, Norrköping
Associate Professor Carl Johan Sundberg, (Chair), Karolinska Institutet, Stockholm
Uno Svedin, Head of International Department, Swedish Research Council for Environment Agricultural Sciences and Spatial Planning (Forms), Stockholm
Katarina Villner, Head of Information and Marketing, Vasamuseum, Stockholm
Dr. Ekkehard Winter, Deputy Secretary General, Stifterverband, Essen
EuroScience Open Forum 2004 – the partners

EuroScience Open Forum 2004 welcomes collaborative arrangements with partners and funders. The partners to date are as follows:

The Bank of Sweden Tercentenary Foundation supports scientific research by awarding grants for projects to individual researchers and teams of researchers within the humanities and social sciences.

The European Science Foundation (ESF) is committed to promoting high-quality science at the European level. It is the European association of national organisations responsible for the support of scientific research.

Formas, the Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning supports basic and applied research. Formas promotes ecologically sustainable growth and development in society, multidisciplinary and interdisciplinary research, international research cooperation and the exchange of experience.

Karolinska Institute is one of Europe’s largest medical universities. It is also Sweden’s largest centre for medical training and research. Leading-edge research at the Karolinska Institute includes work on biostatistics, allergies, integrative physiology, stem cell research, diabetes, Alzheimer’s disease, molecular oncology, genomics, and neurocognitive research.

Nature publishes groundbreaking, original scientific research across all the disciplines. Published weekly, it also contains a lively collection of secondary comment, including authoritative and topical reviews, essays, news and views, job opportunities, and more.

The Robert Bosch Foundation (Robert Bosch Stiftung GmbH) is one of the largest German foundations associated with a private company. The Foundation’s five areas of support and its institutions in Stuttgart (the Robert Bosch Hospital, the Dr Margarete Fisch–Bosch Institute for Clinical Pharmacology, and the Institute for the History of Medicine) are dedicated to promoting public health care, international understanding, social work, education, the arts and culture, the humanities, and the social and natural sciences.

Stifterverband für die Deutsche Wissenschaft is a joint action by industry involving around 3 000 companies, industrial associations and individuals who wish to promote science and the humanities, research, education, and public understanding of science.

The Sveriges Television (SVT) is the Swedish public service television company. SVT operates five channels: four national and one European. The digital terrestrial net can be reached by approximately 90% of Swedish households.

The Swedish Agency for Innovation Systems, VINNOVA, is a government agency with the aim of promoting sustainable growth in business, society and working life by developing effective innovation systems and funding needs-driven research.

The mission of the Swedish Council for Working Life and Social Research, is to promote the accumulation of knowledge on working life, social conditions, societal institutions, and social processes through the promotion and support of basic and applied research, identification of important research needs, dialogue, dissemination of information, and transfer of knowledge.

The Swedish Research Council is a government agency under the aegis of the Ministry of Education and Science, responsible at the national level for the development of basic research and information about research in Sweden. From its annual budget of around 2 000 million SEK (approximately 216 million EUR), scientists at Swedish universities and university colleges compete on a national basis for research grants.

The objective of the Swedish Foundation for Strategic Research is to support research in the natural sciences, engineering and medicine. The Foundation promotes the development of strong research environments of the highest international standards and of significance for the development of Sweden’s long-term competitiveness. The research programmes supported may include both basic and applied research and, not least, areas in between.

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