www.esof2010.org

TORINO 2010
SCIENCE IS IN THE AIR

ESOF2010 EUROSCIENCE OPEN FORUM
TORINO, JULY 2-7
PaSsionForScienCe

Torino

Programme Book

Explanation of Symbols

Scientific Programme

1. **Sustainable living and moving**
2. **Evolution, development and adaptation of organisms**
3. **Moving into and up from our quantum world**
4. **Responding to global needs**
5. **Frontiers in energy research**
6. **Science, knowledge and belief**
7. **Memory and learning in organisms, social and artificial systems**
8. **Languages, cultures and variability**
9. **Integrating science with health care**
10. **Policy: what follows?**

Career Programme

Exhibition

Science to Business

Social Events and Cultural Agenda

Suggested to School Programme participants

Site Visits

WebESOF
These events are broadcast live

Satellite Events

Science in the City

(see page 112 for details)

Information

Welcome to Torino

Dear Participant,
It is a great honour to welcome you to Torino for ESOF2010, the biennial Euroscience Open Forum, which has come to its fourth edition after Stockholm, Munich and Barcelona. A fantastic team has been able to transform a gigantic amount of raw material in what will, hopefully, remain an unforgettable scientific gathering of multidisciplinary nature. The times of crisis have not helped, but have triggered further our determination to do well. All figures of the previous editions in terms of proposals received (over 400), sessions accepted (over 170), speakers and organizers from all over the world (over 700) have been bettered – and what is much more important, the quality of the speakers is absolutely first class.
Alongside the *Scientific Programme* (the core of the event), you will enjoy a rich *Career Programme* dedicated to young researchers, and a *Science to Business* programme (with the new *Showcase* format) targeted at the industrial world. Both have been for the first time the subject of an international call for proposals. Many traditional and new features – like *Pizza with the Prof*, the *School Programme*, the *Science Shuttles*, the *Site Visits*, the *European Research&Business Speed Dating*, have been included in ESOF. People from all over the world will be able to follow thanks to *WebESOF*. Interesting *Satellite Events* have also been included. Last but not least, a spectacular and multifaceted outreach programme, named *Science in the City*, will offer you a unique opportunity to enjoy in full a city and a region where science, technology, innovation and culture – in its widest sense – are just as familiar and traditional as superb cuisine. Welcome to ESOF2010, and enjoy!

Enrico Predazzi,
Chair of the ESOF2010 Steering Committee
and Professor Emeritus, University of Torino

A Passion for Science

Passion for Science opens the door for the joy of discoveries. It drives the desire to share with others and forms the basis for the desirability to collaborate. It pushes us to move further into the territory of the yet unknown and to explore what lies beyond the horizon. Passion for Science fuels curiosity which is the main driving force for doing science and learning about science.
But science also has much to do with our life, how we lead it and how we use what science and technology have to offer for improving the human condition. Science is an intrinsically social and culture activity, the ultimate manifestation of what human creativity can achieve. There is still enormous potential to be tapped and fruitfully deployed. Unprecedented in history, the level of education of the population is higher than ever. Are we aware how crucial it is to produce the scientific knowledge that will prepare the next generation for the uncertainties of the future? Will it be transmitted in a socially robust way? Will science and society listen to what each has to say? At this time of a crisis which is not only economic and financial, but also a political and intellectual crisis of orientation, the future seems ever more fragile. Science does not hold the solutions for every problem, nor for all ills that beset us. But we can confidently assert that without the cultivation of scientific knowledge and wise investment in its human and technological potential, we will be much worse off. The time has come to reassess the place of science in society and the societal dimension within science. It should allow us to build on the excellent science base that Europe has in order to meet the challenges ahead, while remaining open to societal expectations.
In the ESOF2010 days to come, let us celebrate a Passion for Science and cultivate it. May it be a long lasting passion, to be shared with all those who visit ESOF and beyond.

Helga Nowotny,
Chair of the ESOF2010 Programme Committee
and President, European Research Council

About Euroscience

Euroscience is a pan-European association of individuals interested in constructing scientific Europe "from the bottom-up". It was founded in 1997 by members of Europe's research community to:

- provide an open forum for debate on science and technology and research policies
- strengthen the links between science and society
- contribute to the creation of an integrated space for science and technology in Europe, linking research organisations and policies at national and EU levels; strive for a greater role of the EU in research
- influence science and technology policies.

Euroscience represents scientists of all disciplines (natural sciences, mathematics, medical sciences, engineering, social sciences, humanities and the arts), institutions of the public sector, universities, research institutes as well as the business and industry sector. The organisation is open to research professionals, science administrators, policy-makers, teachers, PhD students, post-docs, engineers, industrialists, and generally to any citizen interested in science and technology and its links with society.

www.euroscience.org

4 July, 14:15 - 17:00, Auditorium

Euroscience General Assembly

About ESOF

For too long, Europe was lacking an independent arena for open dialogue on the role of all the sciences, including the humanities, in society. We have it now with the Euroscience Open Forum. The initiative was created in 1998 by the researchers themselves: ESOF was brought to life by Euroscience.

The ESOF Concept

ESOF is not an ordinary scientific conference, but a totally new concept. It consists of a Forum for discussion of topical issues, an embedded conference (with an exhibition), and an outreach programme, with a large number of events and happenings throughout the ESOF host city.
ESOF also serves as a young scientists' forum, encouraging students, PhD students and post-docs to share their experience and participate in debates.
ESOF's aims are:

- present scientific and technological developments at the cutting edge in all their variety from natural sciences to the social sciences and the humanities
- stimulate the public's awareness of and interest in science and technology
- foster an international dialogue on science and technology, society and policy by offering a platform for cross-disciplinary interaction and communication on current trends and future roads for science and technology, their interaction with society and policy and the role of the public.

ESOF's European itinerary

ESOF is held every other year, visiting the major scientific cities of Europe and bringing European science to the attention of all citizens.
The starting point of ESOF's European journey was Stockholm, Sweden, in 2004. Two years later, 2006, ESOF's itinerary took the road to Munich, Germany. The route continued southwards to the capital of Catalonia, Barcelona, Spain in 2008, and then to Torino. In 2012 ESOF will be held in Dublin, Ireland.

The ESOF Hub

To ensure continuity from one ESOF to the next, the ESOF Hub was recently created within the Euroscience Headquarters in Strasbourg. This has been possible thanks to the partnership of five European Foundations: Compagnia di San Paolo, Fondazione Cariplo, Riksbankens Jubileumsfond, Robert Bosch Stiftung GmbH and Stifterverband für die Deutsche Wissenschaft. Future ESOF events include ESOF2014. Euroscience is inviting cities, regions, countries or local, regional or national consortia to submit bids to host ESOF2014. All necessary information regarding bid requirements and the selection procedure can be found on Euroscience website.

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Coordinator, Experimenta

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Gian Paolo Caprettini
Founder, Extracampus TV

Battista Gardoncini
Director, TG3 Leonardo RAI

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ESOF2010 organizers and Euroscience would like to thank all people who donated their time and energy to help ESOF2010.

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M.A.F. Servizi Srl, Torino/Genova, www.mafservizi.it

Thanks to a remarkable response to the call for volunteers and explainers, 90 people were selected and trained. A fundamental contribution was also given by Torino 2006 Olympic Winter Games Volunteers Associations, with more than 130 people. Thank you!

Meeting Location

Centro Congressi Lingotto
Via Nizza 280
10126 Torino

Please refer to the maps on pages 129, 161, 162, 163 for exact locations

Contact

General Information
(2-7 July, 09:00 - 18:00)

+39 011 6702740
info@esof2010.org

Exhibition and Logistics Information
(2-7 July, 08:30 - 18:30)

+39 011 505900
esof2010@mafservizi.it

Opening Hours

Registration Desk

The Registration Desk is located in the Exhibition Area

Friday	**2 July**	**12:00 - 20:00**
Saturday	**3 July**	**08:15 - 18:00**
Sunday	**4 July**	**08:15 - 18:00**
Monday	**5 July**	**08:15 - 18:00**
Tuesday	**6 July**	**08:30 - 18:00**
Wednesday	**7 July**	**08:30 - 12:00**

Information Point

The General Information Point is located in the Registration Area. An additional Tourist Information Point is located within the Città di Torino - Provincia di Torino - Regione Piemonte booth, Exhibition Area A.

Exhibition

Friday	**2 July**	**12:00 - 20:00**
Saturday	**3 July**	**09:00 - 18:30**
Sunday	**4 July**	**09:00 - 18:30**
Monday	**5 July**	**09:00 - 18:30**
Tuesday	**6 July**	**09:00 - 18:30**
Wednesday	**7 July**	**09:00 - 14:00**

Coffee Break Area

Saturday	**3 July**	**10:15 - 17:30**
Sunday	**4 July**	**10:15 - 17:30**
Monday	**5 July**	**10:15 - 17:30**
Tuesday	**6 July**	**10:15 - 17:30**
Wednesday	**7 July**	**10:15 - 13:00**

Speakers Service Area

Friday	**2 July**	**12:00 - 18:30**
Saturday	**3 July**	**08:30 - 18:00**
Sunday	**4 July**	**08:30 - 18:00**
Monday	**5 July**	**08:30 - 18:00**
Tuesday	**6 July**	**08:30 - 18:00**
Wednesday	**7 July**	**08:30 - 12:00**

Internet Corner

Saturday	**3 July**	**08:30 - 18:00**
Sunday	**4 July**	**08:30 - 18:00**
Monday	**5 July**	**08:30 - 18:00**
Tuesday	**6 July**	**08:30 - 18:00**
Wednesday	**7 July**	**08:30 - 13:00**

Please note: The Exhibition Area and the Media Centre are equipped with free Wi-Fi. An additional Wi-Fi hot-spot is located in the Auditorium foyer. To access the service participants need to obtain an individual password at the Registration Desk. *According to Italian law, a valid proof of identity is required.*

Media Centre

2-7 July **09:00 - 19:00**

Medical Care

Friday	**2 July**	**12:00 - 20:00**
Saturday	**3 July**	**08:30 - 19:30**
Sunday	**4 July**	**08:30 - 19:30**
Monday	**5 July**	**08:30 - 19:30**
Tuesday	**6 July**	**08:30 - 19:30**
Wednesday	**7 July**	**08:30 - 14:00**

Science in the City

At Lingotto:
3-6 July **10:00 - 17:00**
7 July **10:00 - 14:00**

Downtown:
Opening hours vary, please refer to pages 114 - 126

Daily overview

Please refer to page 16 for the daily overview of Science in the City activities

FRIDAY 2 JULY

15:00 - 16:30

Ristorante La Pista del Lingotto p.143
«Friends of ESOF» reception (by invitation only)

18:00 - 20:00

Auditorium p.18, 142
Opening Ceremony
Opening Lecture: Julia Fischer, *Animal minds talk*

18:00 - 20:00

Palazzo Madama, Museo Civico di Arte Antica p.143
JRC-AAAS International Dinner (by invitation only)

SATURDAY 3 JULY

09:00 - 10:15

Sala 500 p.73
Career Programme Opening Session and Keynote Talk
Mariano Gago,
The future of science and technology in Europe

Sala Londra 31
Of genes and bodies: developmental perspectives in vertebrate evolution

Sala Istanbul 31
Scientific rationality and policymaking: making their marriage work

Sala Madrid 32
Sustainable nuclear energy in the 21st century: challenges for the fuel cycle

Sala Roma 32
Advancing science in developing countries

Sala Atene 32
Dietary polyphenols: what is their role in combating chronic disease?

Sala Dublino 33
Informing and engaging citizens on climate change issues

Sala Copenaghen 33
Anticipatory governance of emerging technologies: foresight, engagement and integration

09:00 - 11:45

Auditorium p.31
The state of the art of quantum mechanics: basics and applications

Sala Parigi 98
Biotech, pharma industry and the academic world: why do they need each other and why is this needed for the benefit of society/patients

10:30 - 11:45

Sala 500 p.33
From disease management to health management: population studies and their role in prevention

Sala Londra 34
Understanding and predicting functional responsiveness to physical activity in humans: a systems biology approach

Sala Madrid 34
Are science journalists too tame to be a watchdog?

Sala Roma 35
Another eye in the sky? What kind of security can we expect from the EU's satellite based Global Monitoring System GMES?

Sala Dublino 35
The role of networks in shaping urban and territorial policies

Sala Istanbul 74
Nature & Naturejobs guide to career alternatives

Sala Atene 74
Employment opportunities for PhDs: the ABG experience in France and its applicability to the Italian situation

Sala Copenaghen 74
Science communication training for talking and listening: 1. Introduction

12:00 - 12:45

Auditorium p.21
Keynote Lecture
Elena Cattaneo, *Scientific knowledge, a labour of love*

Sala 500 21
Keynote Lecture
Ernst Fehr, *The nature of human altruism*

Sala Parigi 75
The geographical distribution of grants in Europe: brain-gain or brain-drain?

13:00 - 14:00

East Corridor p.85, 86
Pizza with the Prof

14:00 - 18:00

Site Visit. Light Bulb Museum and Tallone's Printing House p.148

14:15 - 15:30

Sala Londra p.36
Food allergies: tracking the enemy within

Sala Istanbul 36
Particle physics research: why does it matter?

Sala Madrid 37
From molecules to ecosystem: applying genomics to environmental research

Sala Parigi 37
Science in a borderless world

Sala Atene 37
Making science understandable: learning from agricultural extension

Sala Roma 75
Breaking into the media: what training do scientists need?

Sala Copenaghen 76
What is the impact of the European Charter for Researchers on my work?

14:15 - 17:00

Auditorium p.35
Why the hell should I become an academic scientist? A debate on visions and realities of careers and lives in science

Sala 500 36
When the final hour comes: end-of-life care, ethics, costs and the role of the media

Sala Dublino 75
The funding challenge for European research careers

15:45 - 17:00

Sala Londra p.38
Plants for sustainable food supply

Sala Istanbul 38
How do mathematics contribute to cancer modelling and healing therapies?

Sala Madrid 39
Evidence-based policy versus policy-biased evidence: EU/US perspectives

Sala Parigi 39
When scientists read literature

Sala Roma 76
Good research needs good management: and this can be learned!

Sala Atene 76
Scientific communication and the training of young researchers

Sala Copenaghen 77
Misconduct in science communication and the role of editors as science gatekeepers

17:00 - 18:00

Sponsored Events Area p.143
European Medical Journalism Award

17:15 - 18:00

Auditorium p.22
Keynote Lecture
Sheila Jasanoff, *A new enlightenment: science and the future of humanity*

Sala 500 22
Keynote Lecture
Jean-Claude Guédon, *The impact of open access on academic research and publishing*

18:15 - 19:15

Auditorium p.19
Plenary Lecture
Kurt Wüthrich, *Science as an odyssey in the protein universe*

19:00 - 20:30

Piazza Carlo Alberto p.70
Science Meets Poetry

20:30 - 23:00

Circolo dei lettori p.143
ESOF2012 evening reception (by invitation only)

SUNDAY 4 JULY

09:00 - 10:15

Sala 500 p.40
The challenges of a changing environment: how do animals cope?

Sala Istanbul 40
European Research Area: an ERA of excellence and cohesion

Sala Madrid 41
Personalized nutrition: fitting into your genes

Sala Atene 41
ATLAS (Automatic TransLAtion into Sign language): a project to improve deaf people inclusion

Sala Dublino 42
High altitude research stations: new insights on climate change

Sala Londra 77
New comparable data on young researcher's mobility patterns available: what are the consequences for European Research Policy?

Sala Roma 77
Free your mind and the rest will follow: how to use entrepreneurial tools to boost your career

09:00 - 11:45

Auditorium p.40
Feeding the world in times of global changes

Sala Parigi 41
Shedding light on neutrinos

Sala Copenaghen 78
Science communication training for talking and listening: 2. Writing a press release

10:30 - 11:45

Sala 500 p.42
The dynamics of epidemics: how human mobility affects patterns

Sala Londra 43
The role of science and expertise in environmental disputes

Sala Madrid 43
Do children play along with stereotyping?

Sala Atene 44
Science education + scientific interest = more scientists. Magical formula or wishful thinking?

Sala Roma 78
Energy and enthusiasm is contagious: how early career scientists can help the world reach excellence in science

Sala Dublino 78
What's up with peer review? The future of peer review in policy, research and public debates

Innovation Arena 128
IncoNets: aims and potential of the Western Balkan and Eastern Europe/Central Asia

10:30 - 13:00

Business Centre p.43
Inspiring future politics: how technology assessors can best stimulate the political debate

12:00 - 12:45

Auditorium **p.23**
Keynote Lecture
Tom Kirkwood, *How long will you live?*

Sala 500 **23**
Keynote Lecture
Felicitas Pauss, *The archeology of the universe*

12:30 - 14:00

Centro Congressi Lingotto **p.142**
ESOF2012 lunchtime reception

13:00 - 14:00

East Corridor **p.87, 88**
Pizza with the Prof

14:00 - 18:00

Site Visit. Dinamitificio Nobel **p.148**

14:15 - 15:30

Sala 500 **p.44**
Sustainability: compromises and costs

Sala Londra **44**
State-of-the-art nanofood technology: risks and benefits

Sala Istanbul **45**
The idea of space: mathematical musings on a fundamental concept

Sala Madrid **45**
Taming the wind: a strategic energy option for Europe

Sala Parigi **46**
Addiction treatment: the limits of research findings

Sala Atene **46**
International research infrastructures: the future of the European Research Area

Sala Roma **79**
Would Einstein be on Twitter? Exploring the potential and limits of Web 2.0 in science and science communication

Business Centre **79**
Redefining the Research University: collaborating over and beyond the walls of tradition

Innovation Arena **128**
Global ESOF: a digital bridge connecting Barcelona, Torino and Dublin

14:15 - 17:00

Auditorium **p.4**
Euroscience General Assembly (members only)

Sala Copenaghen **p.79**
Science communication training for talking and listening: 3. Being interviewed

15:45 - 17:00

Sala 500 **p.46**
The promises of gender medicine: are sex and gender the key to a better health care?

Sala Londra **47**
DNA patenting: truths and fears

Sala Madrid **47**
Ions, light and antimatter: how do they help us address present health and energy problems?

Sala Parigi **47**
Scientists in the classroom and students in the lab: the making of future scientists

Sala Roma **48**
Lands contaminated by nuclear testing: the Semipalatinsk experience

Sala Atene **48**
MYMOSA: the pros and cons of motorcycles

Sala Istanbul **80**
International careers in science

Sala Dublino **80**
What would science look like if it were invented today?

17:15 - 18:00

Auditorium **p.24**
Special Invited Talk
A. S. Byatt and Giacomo Rizzolatti, *The art and science of the brain*

18:15 - 19:15

Auditorium **p.19**
Plenary Lecture
Peter Agre, *Aquaporin water channels: from atomic structure to malaria*

19:00 - 20:30

Piazza Carlo Alberto **p.70**
Science Meets Poetry

20:30 - 24:00

Castello del Valentino **p.142**
ESOF2010 Party (extra fee)

MONDAY 5 JULY

09:00 - 10:15

Sala 500 **p.49**
How much can robots learn?

Sala Londra **49**
Scientific cultures across Europe: similarities and differences

Sala Madrid **49**
Science without borders: democratization of society and the development of science and technology

Sala Parigi **50**
The challenge of biodiversity

Sala Roma **50**
Europe 2014 and onwards: a new deal between member states and the European Commission

Sala Atene **81**
Added value of structured doctoral training and postdoctoral mobility

Sala Copenaghen **81**
Taking your passion for science to a career away from research

Sala Dublino **99**
Life sciences, scientists and regional development: does the international dimension matter?

09.00 - 11.45

Sala Istanbul p.98
Innovation beyond the lab: sciences and the service sector

10:30 - 11:45

Sala 500 p.50
The European Research Area: an ERA addressing the "Grand Challenges"

Sala Londra 51
Closing the loop: from body to mind and from mind to body

Sala Madrid 51
Who is leading research policy?

Sala Parigi 52
SmartOcean: technology solutions for intelligent monitoring of marine resources

Sala Roma 52
MRI scanners and the impact of the EU Physical Agents (EMF) Directive

Sala Atene 81
Is tenure track an attraction for young principal investigators?

Sala Copenaghen 81
Dual career: could it be an advantage?

Sala Dublino 99
Support programmes for commercialisation of research results in knowledge-based economies: the example of the Innovation Forum International

Innovation Arena 128
CommNet: a passion for food science

12:00 - 12:45

Auditorium p.25
Keynote Lecture
Angelika Brandt, *Deep-sea research in the Southern Ocean: from patterns to processes*

Sala 500 25
Keynote Lecture
Raghavendra Gadagkar, *War and Peace: conflict and cooperation in an insect society*

Sala Londra 82
The world needs science, and science needs women

Sala Roma 99
Showcase. South Africa, a strategic science and technology partner for Europe

Sala Atene 100
Showcase. Compost, from waste to resource, from research to business

Sala Dublino 100
Showcase. Global comparison of public R&D programmes in the automotive sector

Sala Copenaghen 100
Showcase. The Nordic Top-level Research Initiative: a model for co-operation in Europe?

12:30 - 14:00

Ristorante Esperia p.142
BioLunch (registration required)

13:00 - 14:00

East Corridor p.89, 90
Pizza with the Prof

14:00 - 18:00

Site Visit. Cittadella Politecnica p.148
Site Visit. Grugliasco Campus p.149

14:15 - 15:30

Sala 500 p.52
Towards the next generation Digital Earth: new approaches to the creation and sharing of environmental information

Sala Londra 53
The double-edged sword of ICT in energy consumption

Sala Istanbul 53
New opportunities in European drug research: the Innovative Medicines Initiative

Sala Madrid 53
The Cosmos: a journey through its bright and dark constituents

Sala Atene 82
A career that's out of this world! The insider's guide to working in space exploration

Sala Copenaghen 82
Project management for young researchers: a fallacy spelled out

Sala Roma 101
Micro start-up: a new model for bringing bioscience from the bench to the market

Sala Dublino 101
CReATE: creative industries from science to business

Innovation Arena 128
Betting on the unexpected

14:15 - 17:00

Sala Parigi p.54
Nano to touch communication workshop

15:00 - 17:00

Site Visit. Royal Library and Leonardo's self portrait visit p.148

15:45 - 18:00

Innovation Arena p.144
Rammal Award Ceremony

15:30 - 16:15

Sala Lisbona (Media Centre) p.83
Special Session (in Italian) Il precariato della ricerca in Italia

15:45 - 17:00

Sala 500 p.54
Origin of the universe: its shape and evolution

Sala Londra 54
Warriors against claptrap: are myth busters the new generation of scientist-citizens?

Sala Istanbul p.55
African Observatory for Sustainable Development: science in support to decision-making for development policies and programs

Sala Madrid 55
From LHC to cancer therapy: how particle accelerators like cyclotrons and synchrotrons can be a tool to help in the fight

Sala Atene 83
Passionate about research? Funding opportunities in Europe for creative minds from anywhere in the world

Sala Copenaghen 83
Getting to the top of a big pile: how to succeed at grant-writing

Sala Roma 101
Do companies need mathematics?

Sala Dublino 101
The STARTENT Project: a case study on university-business collaboration for entrepreneurship education in Europe

17:15 - 18:00

Auditorium p.26
Keynote Lecture
Tecumseh Fitch, *Science at the interfaces: the biology of music and language*

Sala 500 26
Keynote Lecture
Andrea Ferrari, *Carbon nanotechnology*

Sala Roma 102
Showcase. Human resource management and innovation

Sala Atene 102
Showcase. Ultrafast science with Free Electron Lasers

Sala Dublino 102
Showcase. Collegio Carlo Alberto, committing to research in social sciences

Sala Copenaghen 103
Showcase. Nanotechnology and light, from nanomedicine to solar cells

18:15 - 19:15

Auditorium p.20
Plenary Lecture
Anton Zeilinger, *Quantum information and the foundations of quantum mechanics*

19:00 - 20:30

Piazza Carlo Alberto p.70
Science Meets Poetry

19:00 - 21:00

Museo Regionale di Scienze Naturali p.142
Research&Business reception (restrictions apply)

20:00 - 24:00

Parco Le Serre, Grugliasco (TO) p.143
Youth Party (restrictions apply)

20:30 - 02:00

Mole Antonelliana p.143
Media Party (restrictions apply)

TUESDAY 6 JULY

09:00 - 10:15

Sala 500 p.56
The science of humour

Sala Londra 56
Disaster prediction and management: breaking a seismo-ill-logical circulus vitiosus

Sala Istanbul 56
Tomorrow's photovoltaics: the new technology revolution

Sala Madrid 57
Renaissance for discovery at CERN

Sala Atene 57
New definitions in the International System of Units (SI) and development of European metrology

Sala Copenaghen 58
Environmental risks for metals: from structures to artifacts

Sala Roma 103
In search of a new model of innovation: the effective network between knowledge, finance and entrepreneurship

Sala Dublino 103
What is Venture Capital and how can it help innovative business ideas? a theatrical presentation

Innovation Arena 128
The newly founded Karlsruhe Institute of Technology: excellence in natural sciences and engineering

09:00 - 11:45

Sala Parigi p.57
Network or perish: a gender perspective on access to project funding and management

10:00 - 18:00

East Corridor 109
European Research&Business Speed Dating

10:30 - 11:45

Sala 500 p.58
The electricity transmission grid: how to integrate more renewable energy sources

Sala Londra 58
From fish to humans: the evolution of regeneration and repair

Sala Istanbul 59
Improving the patient partnership in clinical research

Sala Madrid 59
Synchrotron light for Europe: widening access to science

Sala Atene 60
Towards an effective nutrition labeling scheme in Europe

Sala Roma 104
The different perceptions of patents

Sala Dublino 104
Accelerating innovation: lessons from experienced entrepreneurs

Sala Copenaghen 104
Identifying ethical issues of emerging Information and Communication Technology (ICT) applications

10:30 - 14:00

Innovation Arena p.144
Euroscience Media Awards

12:00 - 12:45

Sala 500
Keynote Lecture
Mohamed Hassan **p.27**
Global partnership to promote excellence in scientific research and education for sustainable well-being in Africa

Sala Roma **104**
Showcase. European accelerator models

Sala Atene **105**
Showcase. Controversial spaces and disputed periods: could simulators be developed into tools for handling complex issues?

Sala Dublino **105**
Showcase. Simulating complex socio-economic systems: business and policy applications

Sala Copenaghen **105**
Showcase. From the clinic to the home: how technologies can help older people in the community

14:00 - 15:30

Sala Madrid **p.144**
High School Competition Award Ceremony – "What can science do for society?"

14:00 - 17:00

Site Visit. Villa della Regina **p.149**

14:00 - 18:00

Site Visit. Centro Ricerche Fiat **p.149**
Site Visit. INRIM and IVV **149**

14:15 - 15:30

Sala Londra **p.60**
More years – more life: tapping into the potential of the extended life

Sala Istanbul **61**
Epigenetics: changes in genome functions that control differentiation, stem cell tumors, and ageing

Sala Parigi **61**
Reducing the toll of smoking-related disease and death: the case for tobacco harm reduction

Sala Roma **62**
The European Galileo and EGNOS satellite navigation systems as key technologies for a sustainable green evolution of the transportation paradigm

Sala Atene **62**
Tackling social tension through science communication

Sala Copenaghen **62**
European Energy Research Alliance: the top of the league in energy research

Sala Dublino **106**
Enhancing value extraction from existing patent portfolios

Innovation Arena **128**
Life Watch: what's in for me?

14:15 - 17:00

Sala 500 **p.60**
What are the challenges to a democratic participation in scientific progress?

15:45 - 17:00

Sala Londra **p.63**
Practical uses of recent developments in genetic technology

Sala Istanbul **63**
Climate change prediction models: what's the point?

Sala Madrid **63**
GMO testing: a global and scientific challenge

Sala Parigi **64**
Bodily awareness and empathy: new trends in philosophy and cognitive neuroscience

Sala Atene **64**
Access to scientific knowledge: sustainable development issues and the need for a new type of metaknowledge

Sala Copenaghen **65**
High risk - high reward research under the FP7-Cooperation programme: the Energy Theme experience

Sala Roma **106**
Education for the next generation of innovators: Tyndall-Intel-IRCSET Collaboration

Sala Dublino **106**
National innovation policies: a cross-country perspective

17:15 - 18:00

Auditorium **p.27**
Keynote Lecture
Vladimir Kutcherov, *The "end of the beginning" of the petroleum era*

Sala 500 **28**
Keynote Lecture
Marie-Pierre de Béthune, *Old and new challenges in the discovery and development of drugs to treat infectious diseases*

Sala Londra **97**
Science to Business Keynote Session. Building the entrepreneurial economy

Sala Roma **107**
Showcase. Best practice model of academia and industry working towards a common goal

Sala Atene **107**
Showcase. Monitoring for art safeguard and tourism management in Piedmont: harmonisation of technologies, policies and actors

Sala Dublino **107**
Showcase. A trip to Torino Valley

Sala Copenaghen **107**
Sponsored Showcase session. Research and innovation for sustainable chemistry: the Bracco Imaging and Novamont cases

18:15 - 19:15

Auditorium **p.20**
Plenary Lecture
Ada Yonath, *Hibernating polar bears and the secrets of structural-based drug design*

19:00 - 20:30

Piazza Carlo Alberto **p.70**
Science Meets Poetry

WEDNESDAY 7 JULY

09.00 - 10.15

Sala 500 **p.66**
Neuroscience, technology and the self-image of man

Sala Londra **66**
450 million years of evolution: what can bats, plants and fish tell us about climate change?

Sala Istanbul **66**
Economics at work: what economic research says on the minimum wage, development and the crisis

Sala Madrid **67**
Scientists in direct contact with the public in science centres and museums

Sala Parigi **67**
Fibres from asbestos to carbon nanotubes: science, health and policy making

Sala Roma **108**
How can different organisational cultures benefit from working closely together?

Sala Copenaghen **108**
Showcase. You can neutralize carbon emissions with microalgae

10:30 - 11:45

Sala 500 **p.67**
Ten years of human presence on the International Space Station

Sala Londra **68**
Regenerative medicine: the long winding road from promise to reality

Sala Istanbul **68**
The missing mediator: science debates in a knowledge-based society

Sala Madrid **69**
The impact of new technologies on education and learning mechanisms

Sala Parigi **69**
Simplifying the EU Framework Programme: making EU research funding more science friendly

Sala Atene **69**
Re-creating a Mediterranean identity through science

Sala Roma **108**
Exploring Earth from space: challenges and opportunities

Sala Copenaghen **108**
Showcase. The little, the larger and the best: a successful venture-capital-backed start-up

12:00 - 12:45

Auditorium **p.28**
Keynote Lecture
Serge Feneuille, *Revisiting the past of a scientific career to build future scientific careers*

Sala 500 **29**
Keynote Lecture
O+A (Sam Auinger and Bruce Odland), *Toward a hearing perspective*

14:00 - 18:00

Site Visit. Thales Alenia Space **p.149**

14:15 - 15:30

Lingotto Roof-top track **p.142**
Transfer event to ESOF2012 Dublin

15.30 - 20.00

Site Visit. **p.149**
University of Gastronomic Science

16:00 - 18:00

Site Visit.
Royal Library and Leonardo's self portrait visit **p.148**

THURSDAY 8 JULY

06.45 - 19.30

Site Visit. JRC **150**

06.45 - 20.30

Site Visit. CERN **150**

Where/When	Friday 2	Saturday 3	Sunday 4	Monday 5	Tuesday 6	Wednesday 7
LINGOTTO		**10.00 - 17.00** WORKSHOPS	**10.00 - 17.00** WORKSHOPS	**10.00 - 17.00** WORKSHOPS	**10.00 - 17.00** WORKSHOPS	**10.00 - 13.00** WORKSHOPS
PIAZZA SAN CARLO		**19.30** NOBEL NIGHT: Peter Agre, Gerard 't Hooft, Harold Kroto, George Smoot, Piergiorgio Odifreddi (host) **22.30** ANTONELLA RUGGIERO AND BANDA DI PIAZZA CARICAMENTO	**21.30** PASSION FOR SCIENCE Piero Angela, Elena Cattaneo	**21.30** END OF THE ROAD? Mario Tozzi	**23.00** GREEN PORNO Piergiorgio Odifreddi (host)	
PIAZZA CASTELLO	**17.30 - 23.30** WORKSHOPS	**17.30 - 23.30** WORKSHOPS	**17.30 - 23.30** WORKSHOPS	**10.00 - 12.00 / 17.30 - 23.30** WORKSHOPS	**10.00 - 12.00 / 17.30 - 23.30** WORKSHOPS	**10.00 - 13.00** WORKSHOPS
PALAZZO DELLA REGIONE	**17.30 - 23.30** SWITCH ON YOUR BRAIN!	**17.30 - 23.30** SWITCH ON YOUR BRAIN!	**17.30 - 23.30** SWITCH ON YOUR BRAIN!	**17.30 - 23.30** SWITCH ON YOUR BRAIN!	**17.30 - 23.30** SWITCH ON YOUR BRAIN!	**17.30 - 23.30** SWITCH ON YOUR BRAIN!
PALAZZO MADAMA				**18.00 - 19.00** SCIENCE IN ART		
PIAZZA CARLO ALBERTO	**17.30 - 23.30** WORKSHOPS	**17.30 - 23.30** WORKSHOPS	**17.30 - 23.30** WORKSHOPS	**10.00 - 12.00 / 17.30 - 23.30** WORKSHOPS	**10.00 - 12.00 / 17.30 - 23.30** WORKSHOPS	**10.00 - 13.00** WORKSHOPS
CIRCOLO DEI LETTORI EN PLEN AIR		**18.00 - 19.00** EXTREME EXPERIMENTS **19.00 - 20.30** SCIENCE MEETS POETRY	**18.00 - 19.00** EXTREME EXPERIMENTS **19.00 - 20.30** SCIENCE MEETS POETRY	**18.00 - 19.00** EXTREME EXPERIMENTS **19.00 - 20.30** SCIENCE MEETS POETRY	**18.00 - 19.00** EXTREME EXPERIMENTS **19.00 - 20.30** SCIENCE MEETS POETRY	
PALAZZO CARIGNANO COURTYARD	**21.00** EXCELLENT ENCOUNTERS: Umberto Guidoni, Tommaso Pincio	**17.30 - 18.00 / 19.30 - 20.00** THE TRIP OF CHICCO AND KERNY **18.30 - 19.05/23.00 - 23.35** NANOMETAMORPHOSIS **21.00** EXCELLENT ENCOUNTERS: Paolo De Bernardis	**17.30 - 18.00/ 19.30 - 20.00** THE TRIP OF CHICCO AND KERNY **18.30 - 19.05** NANOMETAMORPHOSIS EXCELLENT ENCOUNTERS: **20.00** Edoardo Lombardo Vallauri **21.00** Patrizio Roversi, Stefano Oss, Laura Romanò	**10.00 - 10.40/19.00 - 20.00** CIRCUSCIENCE **11.15 - 11.35/11.50 - 12.10** THE TRIP OF CHICCO AND KERNY **17.30 - 18.05** NANOMETAMORPHOSIS **21.00** EXCELLENT ENCOUNTERS: Gian Luigi Beccaria, Ruggero Pierantoni		
BIBLIOTECA NAZIONALE UNIVERSITARIA	**16.30 - 18.30** DECIDE! & M.I.C. **17.00 - 23.30** EXPLORING SPACE **18.30 - 20.30** MINDS-ON 44 **21.00 - 23.00** DECIDE! & M.I.C.	**16.30 - 18.30** MINDS-ON **17.00 - 22.00** EXPLORING SPACE **18.30 - 20.30** DECIDE! & M.I.C. **21.00 - 23.00** MINDS-ON **22.30 - 23.30** ON THE TRAIN WITH ALBERT	**16.30 - 18.30** MARS CHALLENGES YOU! **17.00 - 22.00** EXPLORING SPACE **18.30 - 20.30** MINDS-ON **21.00 - 23.00** DECIDE! & M.I.C. **22.30 - 23.30** ON THE TRAIN WITH ALBERT	**16.30 - 18.30** DECIDE! & M.I.C. **17.00 - 23.30** EXPLORING SPACE **18.30 - 20.30** MARS CHALLENGES YOU! **21.00 - 23.00** MINDS-ON	**10.00 - 10.40** CIRCUSCIENCE **11.15 - 11.35/11.50 - 12.10** THE TRIP OF CHICCO AND KERNY **17.30 - 18.30** CIRCUSCIENCE **19.00 - 19.30** SCIENCE IN AN ART MUSEUM **21.00** EXCELLENT ENCOUNTERS: Luisa Cifarelli, Simona Di Pippo, Maria Antonietta Perino	**10.00 - 10.40** CIRCUSCIENCE **11.00 - 11.40** CIRCUSCIENCE
CIRCOLO DEI LETTORI	**17.00 - 23.00** TO BET OR NOT TO BET	**17.00 - 23.00** TO BET OR NOT TO BET **17.30 - 19.30** WOMEN AND ASTRONOMY	**17.00 - 23.00** TO BET OR NOT TO BET **17.30 - 19.00** PRIMO LEVI, WRITER AND CHEMIST	**17.00 - 23.00** TO BET OR NOT TO BET **17.30 - 19.30** EXPLORING THE SEA **21.00 - 22.30** MATHEMATICS AND PATHOLOGY IN GAMBLING	**17.00 - 23.00** TO BET OR NOT TO BET **18.00 - 19.00** SCIENCE GOES LIVE	
MUSEO REGIONALE DI SCIENZE NATURALI	**10.00 - 19.00** A JOURNEY THROUGH THE WORLD OF BIOTECHNOLOGY **10.00 - 19.00** EXPLORERS OF THE UNIVERSE	**10.00 - 19.00** A JOURNEY THROUGH THE WORLD OF BIOTECHNOLOGY **10.00 - 19.00** EXPLORERS OF THE UNIVERSE **18.30 - 19.30** BEAUTIFUL AND USEFUL PARTICLES	**10.00 - 19.00** A JOURNEY THROUGH THE WORLD OF BIOTECHNOLOGY **10.00 - 19.00** EXPLORERS OF THE UNIVERSE **18.30 - 19.30** BEAUTIFUL AND USEFUL PARTICLES	**10.00 - 19.00** A JOURNEY THROUGH THE WORLD OF BIOTECHNOLOGY **10.00 - 19.00** EXPLORERS OF THE UNIVERSE **18.30 - 20.00** PRAETER NATURAM	**10.00 - 19.00** A JOURNEY THROUGH THE WORLD OF BIOTECHNOLOGY **10.00 - 19.00** EXPLORERS OF THE UNIVERSE **18.30 - 19.30** BEAUTIFUL AND USEFUL PARTICLES	**10.00 - 19.00** A JOURNEY THROUGH THE WORLD OF BIOTECHNOLOGY **10.00 - 19.00** EXPLORERS OF THE UNIVERSE
CAVALLERIZZA - MANEGGIO REALE	**21.30 - 22.30** THE SIGN OF THE CHEMIST	**19.00 - 20.00 /23.00 - 24.00** THE SIGN OF THE CHEMIST	**20.00 - 21.00** THE SIGN OF THE CHEMIST	**21.00 - 22.00** LIGHT FROM THE STARS	**11.00 - 12.00** LIGHT FROM THE STARS	
CAVALLERIZZA - MANICA CORTA		**17.30 - 21.00** BEYOND THE WORLD **21.30 - 22.30 / 1.00 - 2.00** HARLEQUIN AND THE COLOUR OF QUARKS **23.00 - 00.30** BEYOND THE WORLD	**17.00 - 18.00 / 18.00 - 19.00** RICHARD FEYNMAN: THE BEAUTY OF DISCOVERY **21.30 - 22.30** HARLEQUIN AND THE COLOUR OF QUARKS	**10.00 - 11.00** HARLEQUIN AND THE COLOUR OF QUARKS		
RETTORATO COURTYARD	**7.30 - 19.30** EXTREME EXPERIMENTS	**7.30 - 19.30** EXTREME EXPERIMENTS	**7.30 - 19.30** EXTREME EXPERIMENTS	**7.30 - 19.30** EXTREME EXPERIMENTS	**7.30 - 19.30** EXTREME EXPERIMENTS	**7.30 - 19.30** EXTREME EXPERIMENTS
CAFFÈ FIORIO			**18.30 - 19.30** SCIENTIFIC CAFÉ			
MUSEO NAZIONALE DEL CINEMA	**9.00 - 20.00** PARTICLES OR STRINGS?	**9.00 - 20.00** PARTICLES OR STRINGS?	**9.00 - 20.00** PARTICLES OR STRINGS?	**9.00 - 20.00** PARTICLES OR STRINGS?	**9.00 - 20.00** PARTICLES OR STRINGS?	**9.00 - 20.00** PARTICLES OR STRINGS?
ACCAD. ALBERTINA DI BELLE ARTI	**9.30 - 18.30** ARTEMATICA	**9.30 - 18.30** ARTEMATICA	**9.30 - 18.30** ARTEMATICA	**9.30 - 18.30** ARTEMATICA	**9.30 - 18.30** ARTEMATICA	**9.30 - 18.30** ARTEMATICA
MUSEO DI ANTROPOLOGIA ED ETNOGRAFIA	**17.30 - 23.30** ART BRUT	**17.30 - 23.30** ART BRUT	**17.30 - 23.30** ART BRUT	**17.30 - 23.30** ART BRUT	**17.30 - 23.30** ART BRUT	**17.30 - 23.30** ART BRUT
PINACOTECA AGNELLI	**10.00 - 19.00** THE MUSEUM OF EVERYTHING	**10.00 - 19.00** THE MUSEUM OF EVERYTHING	**10.00 - 19.00** THE MUSEUM OF EVERYTHING		**10.00 - 19.00** THE MUSEUM OF EVERYTHING	**10.00 - 19.00** THE MUSEUM OF EVERYTHING
PAV - PARCO D'ARTE VIVENTE	**15.00 - 18.00** WORKSHOP_16 PAV_ECOACTION	**10.00 - 18.00** WORKSHOP_16 PAV_ECOACTION	**10.00 - 18.00** WORKSHOP_16 PAV_ECOACTION		**19.00** PRAETER NATURAM	**15.00 - 19.00** PRAETER NATURAM **10.00/11.00/15.00/16.00** CREATIVE a & BIO JELLY POP

SCIENTIFIC PROGRAMME

Opening and Plenary Lectures

All Plenary and Keynote Lectures are broadcast live and are suggested to School Programme participants

2 July, 18:00 - 20:00, Auditorium
The Opening Lecture is part of the Opening Ceremony

Julia Fischer
German Primate Centre, Göttingen, Germany

Animal minds talk

What do animals know about the world they live in? What do they communicate to each other, and how? And how has our understanding of animal minds change over time? In this talk, we will examine the frontiers and boundaries in the study of animal thinking, with a focus on nonhuman primates. Current evidence suggests that nonhuman primates have complex representations of their physical and social surroundings. For instance, they can accurately discriminate between different sizes and quantities – although greed may interfere with their performance. Monkeys also have a good understanding who in their group is friends with whom, who outranks whom and who is currently courting whom. Quite clearly, nonhuman primates are excellent observers, and they can make accurate inferences based on subtle social cues. Likewise, monkeys and apes are able to attribute meaning to fine-grained variation in the structure and sequential composition of vocal signals.
Yet, it appears that monkeys do not understand that others have a mental life of their own – and apes do not fare so much better. Neither monkeys nor apes intend to inform each other about the things they know – two key components of human social cognition and communication. It appears that the social cognition and communication of nonhuman primates is characterized by a deep dichotomy in terms of their abilities to provide information compared to their adeptness at seeking information. The challenge for future research will be to uncover the changes in brain architecture and genetic make-up that allowed humans to integrate these two domains and additionally take in the perspective of others.

Julia Fischer obtained her PhD from the Free University of Berlin in 1996 with a study on the vocal communication of macaques. After research visits to the NIH and Harvard University, she was offered a postdoctoral position at the University of Pennsylvania. During this time, she conducted 18 months field research on wild baboons in the Okavango delta in Botswana. In 20001, she moved to the Department of Developmental and Comparative Psychology at the Max-Planck-Institute for Evolutionary Anthropology in Leipzig. In 2004, she became a professor at the Georg-August-University of Göttingen, a joint appointment with the German Primate Centre, where she is head of the Cognitive Ethology Laboratory. Her research centres on the vocal communication, cognition and social behavior of nonhuman primates, but she also studied the word learning abilities of a domestic dog and the ultrasonic communication of mice. She recently established a field station in Senegal to study Guinea baboons and West African vervet monkeys. In 2007, she was elected to the Berlin-Brandenburg Academy of Science. She is the president of the European Federation of Primatology, member of the board of the Ludwig-Maximilian-University Munich and serves as a panel member for the ERC.

3 July, 18:15 - 19:15, Auditorium

Kurt Wüthrich
The Scripps Research Institute, La Jolla, CA, USA,
and ETH Zürich, Switzerland

Science as an odyssey in the protein universe

Kurt Wüthrich started his professional life in natural sciences by obtaining university degrees in chemistry, physics, mathematics and sports. This multifaceted training made him particulalry perceptive to the reactions of his body to stress in sports competition, and this awakened his curiosity to get deeper insight into the mechanisms by which nature works on the level of the molecules of life. For example, being interested in the interplay between oxygen uptake and performance in physical exercise, his early work in structural biology was focused on the oxygen-transporting protein hemoglobin, and today he is heavily involved with the problem of blood-doping in amateur and professional sports. This lecture intends to convey an impression of the joy and excitement that a scientist had the privilege to experience during decades of exploring ever new secrets of living organisms.

Born in Switzerland in 1938, Kurt Wüthrich was educated in chemistry, physics, and mathematics at the University of Bern before pursuing his PhD at the University of Basel. He then left to work at the University of California, Berkeley and then at the Bell Telephone Laboratories. Wüthrich returned to Zurich in 1969, where he began his career at the ETH, rising to Professor of Biophysics by 1980. He currently shares his time between the ETH Zurich and the Scripps Research Institute in La Jolla, California. His research interests are in molecular structural biology, and in structural genomics. His specialty is nuclear magnetic resonance (NMR) spectroscopy with biological macromolecules, where he contributed the NMR method of three-dimensional structure determination of proteins and nucleic acids in solution. He was awarded the Nobel Prize in Chemistry in 2002, the Prix Louis Jeantet de Médecine, the Kyoto Prize in Advanced Technology, and a number of other awards and honorary degrees.

4 July, 18:15 - 19:15, Auditorium

Peter Agre
Director, Johns Hopkins Malaria Research Institute,
Bloomberg School of Public Health, USA

Aquaporin water channels: from atomic structure to malaria

Found throughout nature, aquaporin water channels confer high water permeability to cell membranes. Discovered in human erythrocytes, AQP1 has been characterized biophysically, and the atomic structure of AQP1 is known. Twelve homologous proteins exist in humans. Some transport only water (aquaporins); others transport water plus glycerol (aquaglyceroporins). These proteins are required for generation of physiological fluids (urine, cerebrospinal fluid, aqueous humor, sweat, saliva, and tears). Involvement of aquaporins in multiple clinical states is becoming recognized—renal concentration, fluid retention, cataract, skin hydration, brain edema, thermal stress, glucose homeostasis, malaria, and even arsenic poisoning. Aquaporins are also known to protect micro-organisms from freezing and osmotic shock. Plant aquaporins are involved in numerous processes including the uptake of water by rootlets and carbon dioxide by leaves. The physiological roles of aquaporin homologs are being pursued by multiple laboratories worldwide. This information now provides the challenge of developing new technologies to manipulate aquaporins for clinical or agricultural benefits.

Born in 1949 in Minnesota, Peter Agre received his MD in 1974 from the Johns Hopkins University School of Medicine. He then served as the Vice Chancellor for science and technology at Duke University. Agre leads the Johns Hopkins Malaria Research Institute (JHMRI). He was elected to the National Academy of Sciences in 2000 and to the American Academy of Arts and Sciences in 2003. He is also a founding member of Scientists and Engineers for America (SEA), and serves on its Board of Advisors.
In 2003 he was awarded the Nobel Prize in Chemistry (which he shared with Roderick MacKinnon) for his discovery of aquaporins, water-channel proteins that move water molecules through the cell membrane.
In 2009, Peter Agre held the post of 163rd president of the American Association for the Advancement of Science (AAAS).

5 July, 18:15 - 19:15, Auditorium

Anton Zeilinger
Professor of Quantum Optics,
Quantum Nanophysics, Quantum Information
University of Vienna, Austria

Quantum information and the foundations of quantum mechanics

Research on the foundations of quantum mechanics has given rise to the field of quantum information science. It should be stressed that this research beginning around the 1970s was not motivated by search for applications but rather by pure fundamental curiosity. Today, quantum computation, quantum teleportation, quantum communication, or quantum cryptography are novel concepts in information technology with no classical parallel. The resulting experimental development in quantum information science has led to unprecedented control of quantum systems which again opens up the door for novel fundamental experimental research directions. For example, the high-precision control of entangled photon states even over very large distances allows novel tests of the concepts of nonlocality and realism or the development of quantum microoptics opens up new experiments in higher-dimensional Hilbert spaces. It is to be expected that such experiments in turn will again give rise to new possibilities in quantum information science.

Anton Zeilinger (born May 20, 1945 in Ried im Inkers, Austria) is currently professor of physics at the University of Vienna. He is also the director of the Vienna branch of the Institute for Quantum Optics and Quantum Information at the Austrian Academy of Sciences. Zeilinger has performed many experiments including quantum teleportation, quantum cryptography, and quantum computation. He has also performed a number of experiments in atom interferometry and in quantum interference of large molecules, like C60 and C70. He has held positions at the University of Innsbruck, the Technical University of Munich, the Technical University of Vienna and at the MIT. Zeilinger received many awards for his scientific work, among which an honorary professorship at the University of Science and Technology of China and two honorary doctorates as well as the King Faisal Prize of Science, the German Order of Merit, a Fellowship of the American Physical Society and the Isaac Newton Medal of the British Institute of Physics. Recently, he received the Wolf-Prize.

6 July, 18:15 - 19:15, Auditorium

Ada Yonath
Department of Structural Biology, Weizmann Institute,
Rehovot, Israel

Hibernating polar bears and the secrets of structural-based drug design

Detailed three-dimensional structures are essential for the understanding of the mechanisms of life process. One of the most vital life processes is the production of proteins, the cellular "workers". The information for protein composition in encoded in DNA genes, and the ribosomes are the universal cellular "factories" that translate the genetic code into proteins.
Owing to the multiple functional conformations of the ribosomes, their structural complexity, their large size and their marked tendency to deteriorate, the determination of their structure was considered to be formidable. Hints obtained from the hibernating polar bears, opened the way for these studies. Constant methodological innovations and technical developments enabled the determination of the high resolution structure of the ribosomes and shed light on the critical mechanisms of antibiotics activity, thus providing imperative tools for structural based drug design and improvement.

Ada E. Yonath (born 1939) is the current director of the Helen and Milton A. Kimmelman Center for Biomolecular Structure and Assembly of the Weizmann Institute of Science. In 2009, she received the Nobel Prize in Chemistry along with Venkatraman Ramakrishnan and Thomas A. Seitz for her studies on the structure and function of the ribosome, becoming the first Israeli woman to win the Nobel Prize. Yonath's work focuses on the mechanisms underlying protein biosynthesis, by ribosomal crystallography, a research line she pioneered over twenty years ago. Additionally, she studied the modes of action of over twenty different antibiotics targeting the ribosome, the mechanisms of drug resistance and synergism, and the structural basis for antibiotic selectivity, paving the way for structure-based drug design.

3 July, 12:00 - 12:45, Auditorium

Elena Cattaneo
Director, Laboratory of Stem Cell Biology and Pharmacology of Neurodegenerative Diseases, University of Milano, Italy

Scientific knowledge, a labour of love

Just as desert roads shift over time to fulfill their critical functions, scientific knowledge proceeds through various trajectories and multiple dimensions to generate a dense network of hypotheses, uncertainties, results, failures, emotional distresses, and hopes. These scientific investigations may begin at a single molecule, a stem cell, or an evolutionarily distinct species, but entrance into the laboratory inevitably leads to systematic dissection and elucidation of the unknown that surrounds them. Science, however, does not occur in a vacuum, and its inextricable links to philosophy, politics, and society should be taken seriously. Public outreach, accountability, transparency, and integrity should be the banners of any scientific endeavour, as they all contribute to the strengthening of the bond between science and society. Taken together, these seemingly diverse factors synergise to turn the desert of the unknown into a desirable land of knowledge and love.

Elena Cattaneo is Director of the Laboratory of Stem Cell Biology and Pharmacology of Neurodegenerative Diseases at the Department of Pharmacological Sciences, as well as a co-founder and first appointed Director of UniStem, the Centre for Stem Cell Research of the University of Milan. The main research theme of her lab is neural stem cells, and the molecular pathophysiology of Huntington's Disease. Funders of Cattaneo's lab include the Huntington's Disease Society of America (H.D.S.A.), Hereditary Disease Foundation, High Q Foundation, the European Union, and Telethon Italy. Prof Cattaneo's studies on neural stem cells and Huntington's disease saw her awarded the Gold Medal by the President of the Italian Republic in 2001.

3 July, 12:00 - 12:45, Sala 500

Ernst Fehr
Director, Institute for Empirical Research in Economics, University of Zürich, Switzerland

The nature of human altruism

Self-interest constitutes a powerful motive in humans which has led many social scientists to assume that it typically overrides non-selfish, social, motives. However, a large body of evidence over the last two decades indicates that this view is wrong. Many people exhibit non-selfish motives, but there is also strong heterogeneity in the strength of social motives and a significant share of people seems to be predominantly selfish. This heterogeneity of social motives gives rise to seemingly paradoxical outcomes. Sometimes the vast majority of all people seem to behave in a selfish manner, while almost all people seem to cooperate at other times, despite material incentives to the contrary. These puzzling phenomena will be explained on the basis of important insights generated in experimental economics.

Ernst Fehr was born in Austria in 1956. He studied economics at the University of Vienna, where he earned his doctorate and completed his education. He has been affiliated faculty member of the Department of Economics at MIT, former president of the Economic Science Association and the European Economic Association, an honorary member of the American Academy of Arts and Sciences, and John Kenneth Galbraith Fellow of the American Academy of Political and Social Sciences. He received the Marcel Benoist Prize in 2008. His research focuses on the proximate patterns and the evolutionary origins of human altruism and the interplay between social preferences, social norms and strategic interactions. Fehr's work is characterized by the combination of game theoretic tools with experimental methods and the use of insights from economics, social psychology, sociology, biology and neuroscience for a better understanding of human social behavior.

3 July, 17:15 - 18:00, Auditorium

Sheila Jasanoff
Pforzheimer Professor of Science and Technology Studies, Harvard Kennedy School, USA

A new enlightenment: science and the future of humanity

For much of the 20th century two radically opposed strains of discourse about science and technology met and clashed in public debate. The optimistic strain held that scientific innovation brings continual progress, in the form of better and longer lives, enhanced creativity and communication, and reduction of disease and poverty. The pessimistic strain held that science and technology enable domination, rationalize human actions and rob them of meaning, and bring unintended harm to health, safety, and the environment. But we need a new, less polarized discourse on science and technology, one that can celebrate their genuine achievements without neglecting their real limitations. Skepticism, humility, experimentalism, and civic engagement are virtues that science shares with democracy, and they need to be restored

Sheila Jasanoff is Pforzheimer Professor of Science and Technology Studies at the Harvard Kennedy School. A pioneer in studying the role of science and technology in the law, politics, and policy of modern democracies, she has written more than 100 articles and chapters and is author or editor of a dozen books, including Controlling Chemicals, The Fifth Branch, Science at the Bar, *and* Designs on Nature. *Known for her prominent role in building in the field of Science and Technology Studies, she was founding chair of the STS Department at Cornell University (1991-1998). She has held guest professorships at numerous institutions, including MIT, Cambridge (UK), Kyoto, and the University of Vienna. Jasanoff has served on the Board of Directors of the American Association for the Advancement of Science and as President of the Society for Social Studies of Science. Among her many academic grants and honors are a 2010 Guggenheim Fellowship, an Ehrenkreuz from the Government of Austria, and a fellowship at the Berlin Center for Advanced Study. She holds AB, JD, and PhD degrees from Harvard, and an honorary doctorate from the University of Twente.*

3 July, 17:15 - 18:00, Sala 500

Jean-Claude Guédon
University of Montreal, Canada

The impact of open access on academic research and publishing

Open access is free, permanent, full-text, online access to peer-reviewed scientific and scholarly material. The present debates about open access slowly bring about the need to look beyond the simply functional dimensions of self-archiving or open access journals to reach the level of what might be called a new "political economy" of knowledge. The complex, mixed roles of scientific publications are not there by chance. Instead, they represent the difficult materialization of protracted negotiations between various types of players beyond publishers and authors: librarians, research administrators and granting agencies are also involved in this process. Furthermore, none of thee categories are homogeneous and, in particular, publishers act on behalf of extremely diverse crowds: scientists, of course, but also stockholders, and mixed, hybrid organizations abound. One of the more interesting facet of this whole debate, in the recent past, has been the question of how to build an open access world and why it has turned out to be more difficult than initially envisioned. Ultimately, science as a competitive sharing of minds, as a system of distributed intelligence, will be much enhanced by open access even as individual scientist will find themselves leaving scientific feudalism to enter a true Republic of science at long last.

Jean-Claude Guédon (born 1943 in France) studied chemistry at Clarkson University in Potsdam, New York, and earned a PhD in history of science at the University of Wisconsin, Madison. He has been a professor at the Université de Montréal since 1973, and he is a long-time member of the Internet Society. He has advised numerous governmental bodies, including the Ministère de la Recherche (France) for their e-publication project in the humanities and the social sciences; the Agence de la francophonie for matters pertaining to new technologies; the Quebec Minister of Communication in charge of the information highway; and the Quebec Ministry of Education for the integration of the new technologies into the curriculum.

4 July, 12:00 - 12:45, Auditorium

Tom Kirkwood
Institute for Ageing and Health, Newcastle University, UK

How long will you live?

Life expectancy is increasing by 5 hours a day in developed nations and by more than this in some developing countries. The implications for society are profound. At the same time, science is beginning at last to unravel the deep mysteries of the ageing process. Ageing is more malleable than was previously thought. It arises not from a strict genetic programme but from the gradual accumulation of damage in cells and tissues of the body. This can be modulated for example by nutrition, lifestyle and environment. What is the future of ageing? How can we make it better?

Tom Kirkwood is Professor of Medicine, Co-Director of the Institute for Ageing and Health at the University of Newcastle, and Director of the Centre for Integrated Systems Biology of Ageing and Nutrition. Educated at Cambridge and Oxford, he worked at the National Institute for Medical Research until 1993, when he became Professor of Biological Gerontology at Manchester. His research focuses on ageing and on understanding how genes as well as non-genetic factors, such as nutrition, influence longevity and health in old age. He has published more than 250 scientific papers and won several international prizes for his research. His books include the award-winning Time of Our Lives: The Science of Human Ageing *(1999).*

4 July, 12:00 - 12:45, Sala 500

Felicitas Pauss
Coordinator for External Relations, CERN,
Geneva, and professor of Experimental Particle Physics,
ETH Zürich, Switzerland

The archeology of the universe

The research goals of particle physics are to study the structure of the Universe at its most fundamental level by exploring the basic physics laws that govern the fundamental building blocks of matter and to explore the structure of space-time.
The next important step for the advancement of fundamental science is the Large Hadron Collider (LHC) at CERN, the European Particle Physics Laboratory in Geneva (Switzerland). Proton-proton collisions at an unprecedented energy will in the coming years illuminate a new landscape of physics, possibly answering some of the most fundamental questions in modern physics, such as the origin of mass, the unification of fundamental forces and new forms of matter.

Felicitas Pauss received her PhD degree in Theoretical Physics and Mathematics at the University of Graz (Austria) in 1976. She continued her research at the Max-Planck Institute in Munich (Germany), Cornell University (USA) and CERN, before she was elected professor at ETH Zurich in 1993. From 1997 to 2007 she was the director of the Institute for Particle Physics of ETH Zurich. Since January 2009 she has been in charge of coordinating CERN's external relations. Her research activities concentrate on two main research fields: particle physics at the high-energy frontier and astroparticle physics. She has published more than 450 scientific papers and given more than 260 talks at international conferences, colloquia and seminars as well as presentations for government officials, funding agencies and general public. She has received the "Grand Decoration of Honour" of the Federal Province of Styria (Austria) and "Cross of Honour for Science and Art, First Class" of the Republic of Austria. She is member of the German Academy of Science Leopoldina.

Special Invited Talk

4 July, 17:15 - 18:00, Auditorium

A. S. Byatt (Antonia Duffy)
Novelist, UK
Giacomo Rizzolatti
Head, Department of Neurosciences,
University of Parma, Italy

The art and science of the brain

"When scientists describe the relations between axons, dendrites, perception, memory, concepts and the world outside a brain, I feel I am reading a description of what I always sensed was happening, but could not describe" (A.S. Byatt).
What can science learn from art and what can science say about the triggering of the creative process? A novelist and a leading neuroscientist (whose team discovered mirror neurons), world-class personalities in their fields, will talk about their work and seek to explore common grounds. What happens in the brain of a novelist when she is sketching the outline of a new work, chiseling characters, connecting places and memories, playing with the rhythm of the language? Are mirror neurons (which may be important for understanding the actions of other people, and for learning new skills by imitation) somewhat involved in the process? Is empathy towards fellow human beings the key factor? Conversely, is it possible that a deeper exploration of the creative process could help neuroscientists in their interpretation of the brain's workings? Maybe even put forth new hypotheses or devise new experiments? The ultimate goal is to explore the possibility of true interdisciplinarity and to shed light on the shadow of metaphors in different contexts.

Dame Antonia Susan Duffy, usually known as A. S. Byatt, is an English novelist, poet and Booker Prize winner. In 2008, The Times named her among their list of "The 50 greatest British writers since 1945". Born as Antonia Susan Drabble, she was educated at The Mount School, York, Newnham College Cambridge, Bryn Mawr in the United States, and at Somerville College, Oxford. She lectured in the Department of Extra-Mural Studies of London University, at the Central Saint Martins College of Art and Design and at University College London. Among her best known novels: Possession *(1990),* Angel and Insects *(1992), and* Babel Tower *(1996). More recent books by Byatt have brought to the fore her interest in science, particularly cognitive science and zoology.*

Giacomo Rizzolatti was born in Kiev and studied in Padua, where he graduated in Medicine and specialized in neurology. After three years in Pisa, his academic carrier took place mostly at the University of Parma, where he became professor of Human Physiology, his present academic position. He became famous worldwide when his research team discovered mirror neurons in the frontal and parietal cortex of the macaque monkey. Giacomo Rizzolatti has been President of the European Brain Behavior Society and Italian Society for Neuroscience. Among his major awards are the Golgi Prize for Physiology, the George Miller Award of the Cognitive Neuroscience Society, the Feltrinelli Prize for Medicine 2000, and the Grawemeyer Prize for Psychology. He received Honorary Degrees from the University Claude Bernard of Lyon, from the University of St. Petersburg and from the University of Leuven.

5 July, 12:00 - 12:45, Auditorium

Angelika Brandt
Head, Zoological Museum, University of Hamburg, Germany

Deep-sea research in the Southern Ocean: from patterns to processes

The ANDEEP (ANtarctic benthic DEEP-sea biodiversity: colonisation history and recent community patterns) expeditions recovered a tremendous number of organisms of all size classes, making it possible for the first time to compare Southern Ocean deep-sea faunas to those collected elsewhere using similar sampling strategies and the same array of gear. Based on this rich and diverse material we were able to characterise faunal communities in terms of their composition and their relation to depth and region, latitude and longitude. ANDEEP increased our knowledge of the scale and patterns of species diversity in the deep ocean and improved our understanding of the origins of the abyssal fauna, its degree of endemism as well as species' bathymetric ranges.
While the ANDEEP project has revealed patterns of biodiversity within different faunal group and documented that these can vary significantly, we still do not know anything about the processes behind these biodiversity patterns, and we know very little about the ecology and role of deep-sea fauna. To fill this knowledge gap, a successor to the ANDEEP project, ANDEEP-SYSTCO (SYSTem COupling) has been started in the Atlantic sector of the Southern Ocean within the framework of the International Polar Year.

Angelika Brandt studied education, biology and English, and passed a research diver's examination at the University of Oldenburg. Her first thesis on the ultrastructure of an isopod's sensory organ and her dissertation thesis on the origin of Antarctic Isopoda were awarded by the Ministry for Science and Technology. Her post-doc started in 1992 in the Institute for Polar Ecology in Kiel, where she studied community patterns and particle flux in the European Northern Seas. Brandt joined 12 expeditions to the Arctic and Antarctic including a Brazilian-German diving expedition in 1989-90 on King George Island. In 1995 she became professor at the University of Hamburg and since 2004 she is the head of the Zoological Museum. In 2008 she was awarded the SCAR Medal for excellence in Antarctic Research. Her science focuses on systematics, evolution, ecology, biogeography and biodiversity of peracarid crustaceans in the deep sea and polar regions.

5 July, 12:00 - 12:45, Sala 500

Raghavendra Gadagkar
Centre for Ecological Sciences and Centre for Contemporary Studies, Indian Institute of Science, Bangalore, India

War and Peace: conflict and cooperation in an insect society

Some species of insects such as ants, bees and wasps organize themsleves into colonies with social organization and integration, division of labour and caste systems that parallel if not better human societies. The rules governing the workings of such insect societies are of obvious interest to us. Gadagkar's team has spent many years studying and understanding the workings of one such tropical wasp society. Their motivation for studying these insect societies is similar to that of an anthropologist studying other human societies - the goal is not to imitate them or to justify our own behaviour but instead to reflect on how we conduct our affairs. One of the most interesting findings is that these wasps are extremely aggressive to, and highly intolerant of, other members of their species which do not belong to their colonies. However, the wasps are highly tolerant of each other and display almost no aggression to colony members even when there is considerable conflict. The lecture will describe and contrast such "war" towards foreigners and "peace" with insiders and also illustrate the research methodology that permits an understanding of these insect societies.

Raghavendra Gadagkar obtained his PhD in Molecular Biology from the Indian Institute of Science, Bangalore, where he has established an active school of research in the area of animal behaviour, ecology and evolution. Gadagkar is also professor at the Centre for Ecological Sciences, Indian Institute of Science Bangalore and non-resident Permanent Fellow of the Wissenschaftskolleg, Berlin. He has published over 250 research papers and articles and two books, entitled Survival Strategies and The Social Biology of Ropalidia, both published by Harvard University Press. He is an elected Fellow of the Indian National Science Academy, the Academy of Sciences for the Developing World (TWAS) and Foreign associate of the National Academy of Sciences, USA. As founder Chairman of the Centre for Contemporary Studies, Gadagkar has initiated a new experiment that brings together different disciplines in the human sciences, such as philosophy, sociology, economics, law, literature, poetry, art, music, cinema etc. and aims to forge meaningful interaction with the natural sciences.

5 July, 17:15 - 18:00, Auditorium

W. Tecumseh Fitch
Department of Cognitive Biology,
University of Vienna, Austria

Science at the interfaces: the biology of music and language

In the last decade, exploring questions about the evolution of human language has gone from being scientifically disreputable to one of the "hot topics" in current psychology and biology. It has not been uncommon for scientists to switch track and become interested in this new and exciting field. As a matter of fact, Fitch was one of them – after undergraduate training and research as a biologist, he went on to do a PhD in cognitive and linguistic sciences, and then a post-doc in speech & hearing sciences. He was thus able to explore some neglected corners of the field and make some surprising discoveries about similarities between human and animal communication. More recently, the new interdisciplinary area of "biolinguistics" has emerged, incorporating linguists, psychologists, speech scientists, and biologists. Fitch, who has done some significant work in the field, will discuss positive and negative outcomes of this approach. Looking forward, we will also see what the budding new field of biomusicology has in store for the future, in terms of enriching our understanding of human music. While such interdisciplinary work is not for the faint of heart, biolinguistics and biomusicology are fascinating and exciting fields, rich with open questions and unexplored avenues for research.

William Tecumseh Fitch (born in 1963 in Boston) currently teaches at the University of Vienna. He studied biology, linguistics and cognitive sciences at Brown University and obtained a postdoctoral position at Harvard University. His current research interests are the evolution and neural basis of cognition and communication; biolinguistics; physiology and perception of vertebrate vocalization (including human speech); the evolution of animal communication systems, including speech, language and music; auditory display of data; aesthetics. In addition to his academic work, Fitch has lectured to popular audiences, and his articles have been featured in many newspapers and magazines including The New York Times, the Guardian, Der Spiegel, Le Monde, *and* The New Yorker.

5 July, 17:15 - 18:00, Sala 500

Andrea Ferrari
Department of Engineering, University of Cambridge, UK

Carbon nanotechnology

Carbon-based materials play a major role in today's science and technology. Carbon is a very versatile element, which can crystallise in the form of diamond or graphite. Great excitement has followed the discovery of new forms of carbon, including fullerenes, nanotubes and single layer graphene. This fuels the enormous amount of research in the ever-growing field of nanotechnology. In recent years, there have been continuous important advances in the science of carbon such as chemical vapour deposition of diamond, the discovery of fullerenes and carbon nanotubes, and the production of isolated single layer graphene. There are also many non-crystalline carbons, known as amorphous carbons and nanostructured carbons (mixture of amorphous and graphitic carbon, nanotubes and fullerenes). Diamond-like carbons play an important role, being a key element in numerous everyday-life applications, in the information technology, telecommunications and automotive market. Their great versatility arises from the strong dependence of the physical properties on the ratio of sp2 (graphite-like) to sp3 (diamond-like) bonds. We will review the main deposition methods, characterisation techniques and applications of graphene, nanotubes and diamond-like carbons.

Andrea C. Ferrari earned a PhD in electrical engineering from Cambridge University, after a degree in nuclear engineering from the Milan Polytechnic in Italy. He is the head of the Nanomaterials and Spectroscopy group at the Department of Engineering and Nanoscience Centre of Cambridge University. He is a University Reader in Nanotechnology, a Royal Society University Research Fellow and a Fellow of Pembroke College, Cambridge. His research interests include nanomaterials growth, modelling, characterization and devices. In particular, he focuses on graphene, nanotubes, diamond-like carbon, and nanowires for applications in electronics and photonics. He has published over 200 papers and given over 130 invited presentations to international conferences.

6 July, 12:00 - 12:45, Sala 500

Mohamed Hassan
Executive Director, The Academy of Sciences for the Developing World (TWAS), Trieste, Italy

Global partnership to promote excellence in scientific research and education for sustainable well-being in Africa

This lecture will highlight a number of key issues that African countries and their global partners should address to promote S&T-based development in the continent. These are the fact that African school education and universities must be reformed, that African institutions must build and sustain scientific centres of excellence and that institutions in Africa and other developing countries must learn to share successful experiences in the application of science and technology to address critical social and economic needs. Also, the international community must help bolster merit-based science academies in Africa. African countries must follow the path of other countries in establishing and supporting science foundations that provide merit-based, competitive grants to young scientists and research teams. Finally, Africa and its global partners must collaborate in building science centres and science museums as important institutions for bringing science to the public and promoting scientific awareness and public understanding of science.

Born in Elgetina, Sudan, in 1947, Hassan is executive director of the Academy of Sciences for the Developing World (TWAS), president of the African Academy of Sciences (AAS) and Co-Chair of the InterAcademy Panel (IAP). After obtaining his PhD at the University of Oxford in 1973, he returned to Sudan as professor and dean of the School of Mathematical Sciences at the University of Khartoum. Since 1986 he has been working in Trieste, first as executive secretary and then as executive director of TWAS. His research interests include plasma physics and environmental modelling of air pollution and soil erosion in drylands. He received the Comendator, Grand Cross, and National Order of Scientific Merit, Brazil; and Officer, Order of Merit of the Italian Republic. His membership includes: Fellow, TWAS; founding fellow, AAS; fellow, Islamic World Academy of Sciences; honorary member, Academia Colombiana de Ciencias Exactas, Físicas y Naturales; corresponding member, Académie Royale des Sciences d'Outre-Mer, Belgium; foreign fellow, Pakistan Academy of Sciences; honorary member, Palestine Academy of Science and Technology; and founding member, Academy of Sciences of Lebanon.

6 July, 17:15 - 18:00, Auditorium

Vladimir Kutcherov
Royal Institute of Technology, Sweden

The "end of the beginning" of the petroleum era

The oil and gas industry has become a global branch of the world economy, an important political and economic factor of our civilization. At this time, there is no alternative source of energy which could be able to compete with hydrocarbons for availability, abundance, efficiency, and safety. However, one may hear apocalyptic prophecies wailing about a supposedly-imminent approach of the end of a petroleum era; such prophecies are universally accompanied by appeals to repent our sins of using oil and gas, and to operate our industrial societies by energy from wind farms, photovoltaic power, etc. Contrarily, scientific consideration about the genesis of hydrocarbons provide an understanding of the presence of enormous, inexhaustible resources of hydrocarbons
The concept of the abyssal abiogenic origin of petroleum which has been developed during the last 50 years in Russia and Ukraine recognizes that petroleum is a primordial material of deep origin which has migrated into the crust of the Earth. The main goal of this presentation is to provide convincing arguments from both laboratory experiments and geological data supporting the theory of abyssal, abiogenic petroleum origin and to show that this theory allows us to apply a new approach to methods for petroleum exploration, oil and gas formation, to re-examine the structure, size and location of the potential world oil and gas resources, and to develop a completely new scenario of energy production in the XXI century.

Vladimir Kutcherov obtained a Master of Science and a PhD in Technical Sciences at the Russian State University of Oil and Gas. He held various academic positions in Russia and then became professor at the Energy Department of the Royal Institute of Technology in Sweden. He was International Expert of NorForsk program, and INTAS and TEMPUS projects coordinator. Kutcherov is a well known champion of the controversial theory of the abiotic deep petroleum origins, according to which petroleum is a primordial material of deep origin which has erupted into the crust of the Earth: it is not a "fossil fuel" and has no intrinsic connection with any biological detritus in the sediments.

6 July, 17:15 - 18:00, Sala 500

Marie-Pierre de Béthune
Vice-President Scientific Affairs at Tibotec and Senior Scientific Expert, Johnson and Johnson Corporate Office of Science and Technology (COSAT), Belgium

Old and new challenges in the discovery and development of drugs to treat infectious diseases

Already at the beginning of the 20th century, Nobel Prize winner Paul Ehrlich advocated the use of combination therapy to treat infectious diseases, in order to prevent the emergence of resistant pathogens. One century later it appears we have not listened carefully to this enlightened advice: multi-drug resistance has become a major obstacle to the treatment of infections. Treatment of HIV infection is no exception – moreover, it needs to be life-long, as the infection cannot be cured, and side effects of medications, as well as inconvenient intake schedules and high pill burden, are hampering adherence to therapy, resulting in failure and emergence of resistance. At a time when only 3 antiretroviral drugs were available, our team embarked on program aiming to identify new drugs that would retain activity against multi-drug resistant HIV. We implemented a multi-disciplinary approach and improved formulations to decrease pill burden. As a result, we succeeded in gaining regulatory approval for two new antiretroviral drugs, darunavir and etravirine, to treat patients infected with multi-drug resistant HIV. Moreover, we studied the combination of those two drugs in Phase III clinical trials, the results of which demonstrated once more that Ehrlich's visionary advice holds true over the years.

Marie-Pierre de Béthune trained as a biologist at the Catholic University of Louvain (Belgium). After a postdoc in molecular biology, she joined Medgenix, a Belgium-based biotech start-up, where she founded and led the virology department. In 1994, she was hired as the first employee at the biotech start-up Tibotec, where over the last 15 years she has successively led the discovery, the clinical candidate selection, and the clinical virology of darunavir (PREZISTA), etravirine (INTELENCE), and TMC278. In 2008, she took the position of Vice-president for Scientific Affairs, Infectious Diseases. In this role, she explores the possibilities and opportunities for academic collaboration in private public partnerships. Recently, de Béthune combined her position at Tibotec with the role of Senior Scientific Expert at the Johnson and Johnson Corporate Office of Science and Technology (COSAT). She is the author of more than 150 publications and presentations in the fields of antibiotics and HIV research.

7 July, 12:00 - 12:45, Auditorium

Serge Feneuille
Former chairman of the High Council for Science and Technology, France

Revisiting the past of a scientific career to build future scientific careers

Starting from his own experience, the speaker will try to understand why scientific careers appear today much less appealing than in the 1960s, when he was a young man. For this purpose, he will go beyond trivial effects related to the social environment. More precisely, he will analyze the dominant representations of science and technology in our post-modern societies as well as some new practices of scientific communities which can divert a young student from scientific research or convince a mature scientist to leave it. Power games, lack of poetry and absence of metaphysical implications in present science appear to be key factors of explanation for these retreat phenomena.
This pessimistic conclusion could appear as a pure consequence of the usual nostalgia which invades the elderly when they speak about their past life, but it is not the case as far as the speaker concerned. His objective is only to issue a call to arms to fight against obscurantism and intellectual decline. It is also a call to fight in favour of beauty, of culture and especially of poetry. Science and humanities are in the same boat. They will be saved from the wreck by the same struggle. If they still believe in a future for humanity which is not to be a new totalitarianism or a global society purely devoted to consumerism, scientists as well as educated people should participate in this battle.

Born in France in 1940, Serge Feneuille graduate from École Normale Supérieure de Saint-Cloud, and he was awarded a PhD in Physical Sciences in 1967. From 1969 to 1981 he pursued an academic career, becoming head of a major research laboratory working in the field of quantum optics and atomic physics. In 1981 he joined Lafarge Coppée (a company producing building materials), where he became Managing Director of Research. In 1986 he left the private sector to preside over the Centre national de la recherche scientifique, but two years later he returned to Lafarge Coppée, where he was nominated Executive Vice-president. Retired and free from any professional activity since 2001, Serge Feneuille served from 2006 to 2009 as chairman on the High Council for Science and Technology, a new body created by the President of France. Since 2002, he has been participating as an unpaid member of two archaeological teams excavating in Egypt and Sudan. He has published two books and a contribution to a collective book on ancient Egyptian literature.

7 July, 12:00 - 12:45, Sala 500

O+A (Sam Auinger and Bruce Odland)
Experimental Sounddesign, UDK Berlin, Germany

Toward a hearing perspective

Since the Renaissance we have had an agreed visual perspective, and language to speak accurately about images. This we still lack in the world of sound, where words fail us to describe for instance even the complex waveforms of an urban environment, much less what those sounds do to us and how they make us feel.
For over 20 years, O+A have made the chaotic soundscapes of urban culture perceivable as music and as environments in public art installations around the world. Now they go further by asking us all to listen to and find meaning in the cultural waveform – that vast waste stream of unintentional sounds produced by fossil-fuelled culture that we normally spend so much effort shutting out. Using examples from their work, they will take the audience on a journey through the failed "sonic commons" on a search for information hidden in the cultural noise. They propose that after centuries of pursuing the implications of a visual perspective it is time to take steps toward a "hearing perspective" of the world we live in.

Sam Auinger (www.samauinger.de), sonic thinker, composer and sound-artist, is guest professor at UDK Berlin, running the department of Experimental Sounddesign at the Master's Program in Sound Studies. Together with Bruce Odland he founded O+A in 1989 (www.o-a.info). Auinger is also a founding member of stadtmusik (www.stadtmusik.org), which deals with sound in cities by analysing sound structures which are triggered by urban buildings and facilities. He was recently nominated "city sound artist" of Bonn, an award given for the first time.

Bruce Odland, sonic thinker, composer, and sound artist, is internationally known for large scale, public space sound installations with Sam Auinger (O+A) which transform city noise into harmony in real-time, changing the sonic identity of public spaces around the world. His many collaborations with artists such as Laurie Anderson and his work in film, radio, museums and theatre has won numerous awards. Sounds from the Vaults*, a playable orchestra of virtual instruments for the Field Museum in Chicago, won the Gold Muse Award for interactivity from the Association of American Museums. He is currently co-directing a sound park on the Novartis Campus in Basel with Laurie Anderson, composing a major work named* Saga *and preparing a tour of the* Requiem for fossil fuels.

Scientific Sessions

The Scientific Programme is the heart of ESOF2010, featuring talks, seminars, workshops and debates in various fields of knowledge. Among the guests will be outstanding international figures, noted not only for their scientific pre-eminence, but also for their communication skills. The speakers' cultural and gender diversity is also significant.

The Programme Committee has chosen ten main themes as a focus for debate:

1. **Sustainable living and moving**
2. **Evolution, development and adaptation of organisms**
3. **Moving into and up from our quantum world**
4. **Responding to global needs**
5. **Frontiers in energy research**
6. **Science, knowledge and belief**
7. **Memory and learning in organisms, social and artificial systems**
8. **Languages, cultures and variability**
9. **Integrating science with health care**
10. **Policy: what follows?**

Please note: in the following pages, the number printed to the right of each session title refers to the theme

These events are broadcast live

Suggested to School Programme participants

3 July, 09:00 - 11:45, Auditorium

The state of the art of quantum mechanics: basics and applications

3

Quantum mechanics today represents one of the pillars of modern physics: so far a huge amount of theoretical predictions deriving from this theory has been confirmed by very accurate experimental data, while Theory is at the basis of a huge spectrum of research going from solid state physics to cosmology, from bio-physics to particle physics. Furthermore, in recent years the possibility of manipulating single quantum states has fostered the development of promising quantum technologies such as quantum information (calculus, communication, etc.), quantum metrology, quantum imaging etc.
Nevertheless, many problems related to the foundations of this theory persist, like non-local effects of entangled states, wave function reduction and the concept of measurement in quantum mechanics, the transition from a microscopic probabilistic world to a macroscopic deterministic world described by classical mechanics (macro-objectivation) and so on. Problems that, beyond their fundamental interest in basic science, now also concern the impact of these developing technologies.
In this session, some of the most important personalities in the field will debate different opinions on these problems, presenting the present status of the art of the interpretation of quantum mechanics and outlining the lines of development of these studies.

ORGANIZER:
Marco Genovese, National Institute of Metrological Research (INRIM), Italy

SPEAKERS:
Gerard 't Hooft, Institute for Theoretical Physics, University of Utrecht, The Netherlands
Quantum mechanics, discretization and local determinism
Marisa Dalla Chiara, University of Firenze, Italy
How quantum information has challenged and changed logical semantics
Augusto Garuccio, University of Bari, Italy
Local realistic models
Gian Carlo Ghirardi, University of Trieste, Italy
Dynamical reduction models
Nino Zanghi, University of Genova, Italy
The de Broglie-Bohm model
Heinz Dieter Zeh, University of Heidelberg, Germany
The decoherence model

MODERATOR:
Marco Genovese, National Institute of Metrological Research (INRIM), Italy

3 July, 09:00 - 10:15, Sala Londra

Of genes and bodies: developmental perspectives in vertebrate evolution

2

The field of evolutionary developmental biology has traditionally striven to explain the evolutionary diversity of animals by focusing on molecular-level changes in developmental mechanisms. But the tendency has been to look at embryo-wide patterns known as body plans, which differ only at very broad taxonomic levels, such as phyla. This wide-view approach does not, however, fully address some of the best-known evolutionarily-determined innovations, such as the giraffe's neck, the elephant's trunk, or the bat's wing, which are much more specific in terms of both the taxa and the anatomic structures involved. This is not to say that such questions are beyond the scope of molecular genetics, but rather that, by focusing on the cellular and molecular levels, modern developmental biology is too often uninformed by a solid grasp of comparative gross anatomy. In this session, we will highlight some of the connections between developmental changes at the molecular level and changes in the anatomical organization in vertebrates over evolutionary time.

ORGANIZER:
Naoki Namba, RIKEN Center for Developmental Biology, Japan

SPEAKERS:
Ann Burke, Wesleyan University, USA
Development and evolution of the musculoskeletal system of vertebrates
Shigeru Kuratani, RIKEN Center for Developmental Biology, Japan
Turtle shell development and evolution
Filippo Rijli, Friedrich Miescher Institute for Biomedical Research, Switzerland
Molecular mechanisms of craniofacial development

MODERATOR:
Elisabetta Tola, Formicablu, Italy

3 July, 09:00 - 10:15, Sala Istanbul

Scientific rationality and policymaking: making their marriage work

4

In a climate of deep recession and profound revisiting of principles and worldviews, the relationship between science and policymaking assumes ever greater importance. Can it be "improved" and how? What would serve as indicators of "improvement"? These questions are both pertinent and far from trivial, as was shown in recent cases with global repercussions (recall the belated debate on the link between biofuels and food prices as food riots broke out in 2007-08, or the cavalier use by both banks and regulators of financial risk management based on 70s models and the normal distribution, which does not fit the data!). In this revisiting one should emphasise the role and future of universities, which provide a key platform for the science-policymaking interaction, furnishing advice, receiving funding, enshrining views and passing then on. The panel combines strong academic, university leadership, and policy experience, and will provide a well-rounded discussion of the issues at hand.

ORGANIZER:
David Merino, European Commission - Joint Research Centre (JRC), EU

SPEAKERS:
Ignacio Zubiri, University of the Basque Country, Spain
Panayotis Gavras, Department Head, Black Sea Trade and Development Bank (BSTDB), Thessaloniki, Greece
Paolo Blasi, University of Firenze, Italy

MODERATOR:
Dimitris Kyriakou, European Commission - Joint Research Centre (JRC), EU

3 July, 09:00 - 10:15, Sala Madrid

Sustainable nuclear energy in the 21st century: challenges for the fuel cycle 5

If nuclear energy is to contribute to the fulfilment of growing energy needs and to the diversification of energy sources, an optimized sustainable use of nuclear fuel has to be implemented. The most recurrent issue of concern expressed by the public with respect to nuclear energy is the safe disposal of long-lived, highly radioactive waste. In this context, the new concepts of nuclear reactors and related fuels aim at solving and/or minimizing issues associated with the current nuclear energy production technology, such as the quantity and life-time of high-level waste. Achieving this poses significant challenges in terms of nuclear reactor and fuel design and fabrication, experimental characterization and modelling of fuel behaviour.

ORGANIZER:
Gabriele Tamborini, European Commission - Joint Research Centre (JRC), EU

SPEAKERS:
Sunil Felix, Commissariat à l'Energie Atomique (CEA), France
How new reactors can contribute to solving the problem of nuclear waste
Tadashi Inoue, Central Research Institute of Electric Power Industry (CRIEPI), Japan
The minor actinide challenge
Joseph Somers, European Commission - Joint Research Centre (JRC), EU
Properties and behaviour of advanced nuclear fuels

MODERATOR:
Peter Rullhusen, European Commission - Joint Research Centre (JRC), EU

3 July, 09:00 - 10:15, Sala Roma

Advancing science in developing countries 6

We are up against an almost unprecedented economical crisis, which is questioning our model of production and consumption, and our faith in the ability of science and technology to cope with the ongoing challenges that humanity faces due to its impact on the planet. Promoting the advancement of knowledge and human endeavour based on scientific principles is a priority everywhere, but this is particularly true in the case of developing countries. Science is the most effective tool in the struggle for the reduction of poverty. It constitutes an essential basis for the empowerment of people, for socio-economic development and for the improvement of the quality of life in any continent.
In this session we will point out the key role of science culture and science education in developing countries as a priority for building democratic knowledge societies. In particular, we will explore this possibility in an open-minded approach bringing out the best knowledge of local cultures and rethinking – with a post-colonialist approach – the meeting between traditional knowledge and western science; encouraging scientific culture in developing countries, respecting diversity and strengthening co-operation and experience-sharing in the various fields of scientific culture; showcasing a project aimed at the development of a science centre in Nigeria, promoted by IDIS and the Vatican City and based on an intercultural exchange between Italy and Nigeria.

ORGANIZER:
Michaela Riccio, Fondazione IDIS-Città della Scienza, Italy

SPEAKERS:
Vincenzo Lipardi, Fondazione IDIS-Città della Scienza, Italy
Science communication and education as a key instrument for the empowerment of people in developing countries
Melchor Sanchez de Toca y Alameda, Pontifical Council for Culture, Vatican City
Can science and religion advance together in order to improve development?

DISCUSSANT:
Mohammed Hassan, The Academy of Sciences for the Developing World (TWAS), Italy

MODERATOR:
Lidia Brito, Director, Science Policy and Sustainable Development, UNESCO, France

3 July, 09:00 - 10:15, Sala Atene

Dietary polyphenols: what is their role in combating chronic disease? 9

The Grand Challenge of chronic non-communicable diseases is poorly recognized, but its severity and the economic burden it will place on societies over the next 50 years are enormous. A significant proportion of chronic diseases can be prevented by reducing socio-behavioural risk factors, increasingly the most significant of which is an unhealthy diet.
We have expanded fundamentally the understanding of how polyphenols can promote health and prevent chronic disease through diet. Success was due to the fact that: our research was publicly funded, focusing on foods that were most nutritionally relevant to European consumers rather than pushed by commercial agendas; we used isogenic food materials, allowing precise assignment of health-promoting effects to specific polyphenols in a food context; we used animal models of disease as "black boxes" to assess the efficacy of phytonutrients supplied in foods avoiding complications associated with bioavailability, metabolism or dosage.
Our research is already impacting dietary recommendations and messages in the popular press. However, our progress marks only the foundations of the understanding required for the role of dietary polyphenols in promoting health and combating chronic disease. Investigations need to be extended so understanding can be translated into accurate dietary recommendations and preventive medicine strategies.

ORGANIZER:
Cathie Martin, John Innes Centre, UK

SPEAKERS:
Maria Benedetta Donati, Catholic University, Campobasso, Italy
Chiara Tonelli, University of Milan, Italy
Marie-Claire Toufektsian, Université Joseph Fourier, Grenoble, France

MODERATOR:
Cathie Martin, John Innes Centre, UK

3 July, 09:00 - 10:15, Sala Dublino

Informing and engaging citizens on climate change issues 4

Climate change issues are clearly a growing concern for the public today. In recent years, people have received a great deal of information from media on the causes and consequences of climate changes, but – depending on countries and regions – the understanding of citizens and their engagement in these topics is still varied. Communication professionals are making effort to convey the messages correctly. This panel session proposes to contribute to a global effort to develop news tools and actions on climate change from "informative" to the "active" procedures through the exchange and dissemination of practices that involve citizens in actions and dialogue.
The session will tackle with the complexity of public communication due to the huge amount of scientific data and the interaction of numerous fields of interest, from the local to the global level. Concerning "active procedures", new methods – hand-on exhibitions, participative games, local citizens forums and many others – used by the science centres find ways for the public to be effectively engaged in such issues. Changing people's behaviour – as consumers and as citizens – is notoriously difficult, but many social change campaigns have been wildly successful.
The central issue in this session is to better understand and facilitate the two-ways communication channels between the scientific community and the public. Specific attention will be given to the development of communication tools, fostering a correct and clear information to the non-expert public.

ORGANIZER:
Ilenia Picardi, Fondazione IDIS-Città della Scienza, Italy

SPEAKERS:
Bruna Valettini, Acquario di Genova, Italy
European projects: a link between researchers and large public on climate change issues
Giuseppe Pellegrini, Observa - Science in Society, Italy
ACCENT project: Involving experts and citizens on global warming debate
Walter Staveloz, Association of Science and Technology Centers (ASTC), USA
IGLO International action on global warming

MODERATOR:
Luigi Amodio, Fondazione IDIS-Città della Scienza, Italy

3 July, 09:00 - 10:15, Sala Copenaghen

Anticipatory governance of emerging technologies: foresight, engagement and integration 10

Nanotechnologies and other emerging technologies challenge existing institutions of governance because they: 1) contribute to novel and unpredictable, yet potentially revolutionary, innovations; 2) develop in uncertain ways in conjunction with dynamic public attitudes; and 3) require hard-to-develop collaborations between scientists and engineers on the one hand, and social scientists and humanists on the other, to develop crucial knowledge and wisdom. "Anticipatory governance" is designed to build broad societal capacities to address these challenges through: 1) foresight activities to extend our socio-technical imaginations to plausible future nanotechnologies; 2) engagement activities to elicit detailed perspectives from publics on their hopes, fears, and expectations of nanotechnologies; and 3) integration activities to generate more reflexive decision-making among all expert participants. This panel provides an overview of anticipatory governance and develops examples of foresight, engagement, and interaction in a variety of international contexts.

ORGANIZER:
David Guston, Consortium for Science, Policy & Outcomes, USA

SPEAKERS:
Ulrike Felt, Department of Social Studies of Science, University of Vienna, Austria
Making futures present: on the co-production of nano and society in the Austrian context
Erik Fisher, CSPO, Arizona State University, USA
Socio-technical integration research: embedding social scientists in natural science and engineering laboratories
Matthew Kearnes, Durham University, UK
Upstream public engagement: building social intelligence into nanoscale science and engineering research

MODERATOR:
David Guston, Consortium for Science, Policy & Outcomes, USA

3 July, 10:30 - 11:45, Sala 500

From disease management to health management: population studies and their role in prevention 9

Demographic change and an ageing population will most likely lead to a change in disease patterns and shift the illness profile from acute care towards the management of chronic illnesses. Chronic and slowly progressive diseases such as diabetes, dementia and cancer cause a large direct and indirect economic burden across Europe. The research involved in population surveys and biobanking can help understand interactions between genes, the environment, lifestyle and disease, and then translate that knowledge into clinical practice quickly through innovative diagnostics, therapeutics and preventive treatment strategies. Through the genetic assessment of both healthy and disease-specific biospecimens obtained from biobanks, the potential for personalized medicine is becoming realized.

Other expectations are related to the economic benefits of biobanks both boosting the national or regional biotechnology and pharmaceutical sector. There has been an increasing demand to study the costs related to the maintenance of biobanks e.g. storage, anonymization, consent and ethics. Yet very little information is currently available on the actual costs entailed.
The Helmholtz Association has long experience in large-scale studies such as EPIC and CORA. It is now working on a newly launched national cohort study, which will observe 200,000 healthy men and women for a period of 10-20 years. The goal of the study will be to illuminate the causes of common health problems like cardiovascular disease, cancer, diabetes and dementia, as well as to identify risk factors and effective methods of prevention. Such studies have also been conducted in other European countries and have led to changes/better treatment of diseases at an early stage.

ORGANIZER:
Effrosyni Chelioti, Helmholtz Association, Germany

SPEAKERS:
Erich Wichmann, Helmholtz Zentrum München and German Research Center for Environmental Health, Germany
Large cohort studies for the early detection of cardiovascular and metabolic diseases: findings from 25 years of the KORA study
Paul Burton, Leicester University, UK
Biobanking in the UK
Pauline Mattsson, Karolinska Institutet and Technopolis, Sweden
The economy of being healthy: findings related to the socio-economic impact of BBMRI, a pan-European network of biobanks
Rudolf Kaaks, German Cancer Research Center, Germany
The European prospective investigation into cancer and nutrition (EPIC): major findings relating lifestyle, metabolism and genetics to cancer risk

MODERATOR:
Clive Cookson, The Financial Times, UK

3 July, 10:30 - 11:45, Sala Londra

Understanding and predicting functional responsiveness to physical activity in humans: a systems biology approach

2

Cardiovascular disease, obesity and diabetes are – in part – lifestyle dependent diseases, and constitute a main healthcare burden. Low aerobic capacity is one of the strongest risk factors for development of cardiovascular disease and premature death in mammals. Exercise, the sole strategy for increasing aerobic capacity in humans, affects many organs and tissues in a beneficial way. The adaptations are mediated through various changes in tissue environments which influence protein modifications and gene expression. Regular physical activity in humans affects the activity (mRNA copy number) of around 1,000 genes and several RNA interference mechanisms which through complex networks regulate adaptation.
Still, training is ineffective in a significant number of people. The molecular governors of a low or high propensity for aerobic capacity adaptation are unknown, and population genetics alone has not easily resolved the genetic variants that quantitatively contribute to cardiorespiratory adaptation. In this session, genetic, epigenetic and genomic findings that can explain parts of the inter-individual variation will be discussed. These approaches to identify high- and low-responders will be discussed in the larger context of "personalised medicine". Finally, the possibility that variations in responsiveness to life style interventions play a role for health outcomes and the risk for premature death will be discussed from health care system and ethical perspectives.

ORGANIZER:
Carl Johan Sundberg, Karolinska Institutet, Sweden

SPEAKERS:
Carl Johan Sundberg, Karolinska Institutet, Sweden
Regular physical activity prolongs life and improves quality of life and physical health
Claude Bouchard, Pennington Biomedical Research Center, USA
Evidence for genetic components to sedentary time, physical activity level and cardiorespiratory fitness
Jamie Timmons, RVC, University of London, UK
Variation in responsiveness to exercise training: genomic level measurements provide new insights

MODERATOR:
Carl Johan Sundberg, Karolinska Institutet, Sweden

3 July, 10:30 - 11:45, Sala Madrid

Are science journalists too tame to be a watchdog?

6

In the last few years, two parallel trends have emerged, which threaten the independence of science journalism: the workload of journalists has increased significantly and public information offices have been enlarged. Today, press releases often constitute well-written accounts of scientific results, including quotes and pictures. This gives journalists the opportunity to generate science features without putting in much effort of their own. However, not infrequently, the material is used without mentioning the source and without checking the claims being made. This undermines the standards of the trade. According to the professional self-image of science journalists, science journalism is not designed to foster acceptance of science, but rather to analytically examine scientific progress and present the findings to a non-specialist audience. The WPK, the German Science Journalists' Association, would like to initiate a discussion between scientists, press officers and journalists on the issues surrounding communication between the professional domains.

ORGANIZER:
Lynda Lich-Knight, German Science Journalists' Association (WPK), Germany

SPEAKERS:
Patrick Imhasly, Neue Zuercher Zeitung am Sonntag, Switzerland
Are we good enough to handle professionally attempts of "agenda setting" by scientific institutions?
Hans Peter Peters, Forschungszentrum Jülich, Germany
Science PR is both necessary and legitimate, but it must be counterbalanced by strong science journalism

Don Powell, Wellcome Trust Sanger Institute, UK
Is journalism to tell stories – good or bad – about science? Should we lose the snobbery of "proper" journalism?

MODERATOR:
Alexander Maeder, Stuttgarter Zeitung, Germany

3 July, 10:30 - 11:45, Sala Roma

Another eye in the sky? What kind of security can we expect from the EU's satellite based Global Monitoring System GMES? 4

The EU's Global Monitoring for Environment and Security (GMES) system shall provide the basis for sustainable spaceborn services in the environmental and the security area - so what do we have to expect from GMES on security? Will we all be monitored and traced from the sky in the future? Will crime only occur in cloudy nights? What is meant if satellite imagery experts talk about "real-time monitoring"? And can't we get it all from Google Earth? The session will address the GMES policy impact in security as well as social concerns against "being monitored for security". It will give insight to the technical status of satellite imagery analysis for GMES, into the civil security areas that technically could evolve for Global Monitoring and into the dynamics of controls with remote sensing based on some examples (such as border security, maritime surveillance or detection of illegal activities).
Answers will be provided on the current and future capabilities of civil satellite sensors, covering optical and radar technologies. Recent results (inter alia from the European Commission's Joint Research Center) will assure that there is an up-to-date information also on the data analysis and data fusion side. The session will include two regional perspectives, namely the south-east European and the international / global.

ORGANIZER:
Stephan Lechner, European Commission - Joint Research Centre (JRC), EU

SPEAKERS:
Stephan Lechner, European Commission - Joint Research Centre (JRC), EU
Richard Bamler, DLR, Germany
Huadong Guo, Chinese Academy of Science, China
Nikola Kolev, Agricultural Academy of Bulgaria, Bulgaria

MODERATOR:
Patrick Cunningham, Chief Scientific Adviser to the Irish Government, Ireland

3 July, 10:30 - 11:45, Sala Copenaghen

The role of networks in shaping urban and territorial policies 1

The metaphor of the network is currently one of the most popular ways of describing our contemporary society. Thanks to the employment of modern information technologies, in particular Internet and telecommunication networks, people, private and public actors and places are in relationship worldwide. Networks can ignore boundaries, shorten distances, the "space of flows" goes side by side with the "space of places". However, although some analysts have even foreseen the coming of a "flat world", many signals give grounds for a different analysis: space is being deeply reshaped, geographical scales or levels are interlaced one another, underlining, thus, the strong relationships between actors and places. It is therefore important to highlight the quality and the effects of the relations among actors, territories and institutions, in particular the role of networks in shaping/influencing the urban and territorial policies. All these processes raise many issues which politicians, academics, representatives of "society" should be discussing: how do these networks interact with policies occurring at different territorial levels (local, regional, national)? how are they taken into account by policy makers? what are the network policies implemented or which need to be activated in order to increase the value of specific traits and potentials of different territories? do these networks have effects on real life, or are they just "representations"?

ORGANIZER:
Costanzo Mercugliano, EU-POLIS - Dipartimento Interateneo Territorio - Polytechnic and University of Torino, Italy

SPEAKERS:
Piero Gastaldo, Compagnia di San Paolo, Italy
Potential territorial outcomes of network policies
Jacques Levy, Ecole Polytechnique Federale de Lausanne, Switzerland
Places, areas and networks
Oriol Nel·lo, Generalitat de Catalunia, Spain
Reshaping territorial policies

MODERATOR:
Giuseppe Dematteis, EU-POLIS - Dipartimento Interateneo Territorio - Polytechnic and University of Torino, Italy

3 July, 14:15 - 17:00, Auditorium

Why the hell should I become an academic scientist? A debate on visions and realities of careers and lives in science 10

In European policy, initiatives to attract young people to scientific careers abound: visions of future lives in science are depicted as fascinating, rewarding and a good career choice. However, there are many indicators that for a considerable number of those who choose an academic scientific career, the circumstances they encounter do not measure up to these high expectations, such as for example short-term contracts, long periods of recurring mobility and the partially fierce competition for academic positions with a more long-term perspective overshadow the fascination for science.
This session aims at opening an interdisciplinary debate on careers and lives in science. Its goals are: to engage perspectives of junior and senior scientists, policy makers and social scientists on visions and realities of careers and lives in science; to critically discuss the basic values guiding current career patterns in science; to scrutinise the role and responsibility of scientific institutions for shaping careers and providing perspectives; to compare how national and institutional contexts matter in shaping increasingly mobile and boundaryless careers; to seek out the motives which draw young people into science, as well as for the

reasons why young scientists choose to leave academia to pursue different careers.

ORGANIZER:
Maximilian Fochler, University of Vienna, Department of Social Studies of Science, Austria

SPEAKERS:
Philip Campbell, Editor-in-Chief, Nature, UK
Ulrike Felt, Department of Social Studies of Science, University of Vienna, Austria
Francesco Lescai, Young European Biotech Network, Italy
Marcela Linkova, Institute of Sociology, Academy of Science, Czech Republic
Helga Nowotny, European Research Council, Austria

MODERATOR:
Maximilian Fochler, University of Vienna, Department of Social Studies of Science, Austria

3 July, 14:15 - 17:00, Sala 500

When the final hour comes: end-of-life care, ethics, costs and the role of the media

9

Advances in life sciences provide life-prolonging treatments that could stretch our life span beyond borders once unimaginable, but European countries are deeply split over how to treat terminally ill or non-curable patients. The public debate is even more dividing and emotional when it comes to euthanasia and its legislation. These matters raise complex ethical, legal and practical questions. How do we define life and death and where's the dividing line? Who should decide for non-competent patients, like individuals on long-term coma? Should physicians always seek to prolong life? At any cost? These and other questions will challenge scientists, GPs, philosophers and the public during the first session of this event.
But a debate on these themes would not suffice without taking into account end-of-life narratives, since various surveys show that for European citizens TV and print media are still the main source of information about science related issues. Hence, in the second session four European journalists and the audience will confront on a set of issues strictly related to the first ones. How is the public debate on end of life care framed? How do the media tell end-of-life stories? And what's the role of the media: to inform or to orient?

ORGANIZER:
Emiliano Feresin, International School for Advanced Studies (SISSA), Trieste, Italy

SPEAKERS:
Alison Abbott, Senior European Correspondent, Nature, Germany
How scientific journals may influence the end-of-life debate
Carlo Alberto Defanti, Azienda Ospedaliera Niguarda Ca' Granda, Italy
The concepts of "brain death" and "persistent vegetative state": similarities and differences
Iona Heath, President, Royal College of General Practitioners, UK
End of life: "If it be not now, yet it will come"
Steven Laureys, Cyclotron Research Centre, University of Liege, Belgium
Measuring consciousness in coma and vegetative state
José María Valderas, Editor-in-Chief, Mente y Cerebro, Spain
The end of life according to science communication journals
Penney Lewis, School of Law and Centre of Medical Law and Ethics, King's College London, UK
European perspectives on legal and ethical issues in end of life care
Marina Verna, La Stampa, Italy
Telling stories to catch attention

MODERATOR:
Gianna Milano, Freelance journalist, Italy

3 July, 14:15 - 15:30, Sala Londra

Food allergies: tracking the enemy within

1

Around 2% of adults (and 8% of children) suffer from food allergies across the globe. For some, the intake of even small amounts of an allergen can cause serious health problems - some of which can be life-threatening. To date there is no effective treatment available. Science provides the basis for food safety, while legislation ensures that appropriate controls are made to protect consumers. Incidences of food allergies appear to be increasing, and some argue that consumer fear and avoidance of certain foodstuffs may actually feedback and contribute to this increase. The scope of this symposium will range from suitable analytical methodology for the detection of allergen traces to policy requirements, health issues and communication

ORGANIZER:
David Anderson, European Commission - Joint Research Centre (JRC), EU

SPEAKERS:
Franz Ulberth, European Commission - Joint Research Centre (JRC), EU
Detecting food allergens: The best analytical tools for the job
Andrew Thomas Clark, Addenbrookes NHS Trust, UK
Taking on food allergies: A cure within our grasp?
Elizabeth Naomi Clare Mills, Institute of Food Research, UK
Ronald Van Ree, University of Amsterdam, The Netherlands
Food allergies across Europe and Asia: Towards improved diagnosis and novel therapies

MODERATOR:
Krzysztof Maruszewski, European Commission - Joint Research Centre (JRC), EU

3 July, 14:15 - 15:30, Sala Istanbul

Particle physics research: why does it matter?

3

The Large Hadron Collider (LHC) particle accelerator, at CERN, will offer a new level of understanding of matter and forces in the universe, including the search for the Higgs-boson, a.k.a. the God particle. Looking beyond 2010, when the LHC has become fully operational, there are a number of new particle accelerators under consideration,

which will aim to probe the laws of nature and expand the frontier of particle physics research.
This session aims to explore current European particle physics research activities, primarily focusing on the work that is scheduled to be undertaken at the LHC, but will also highlight the facilities that will be needed in 2020 and beyond. The challenging nature of particle-physics research has and continues to require paradigm shifts in the technical development of accelerators, sensors, microelectronics, data-acquisition methods, computing and analysis techniques. The session will also highlight the many economic and societal impacts that have arisen as a consequence of research in particle physics that is seeking to expand the boundaries of fundamental knowledge through large-scale, global, collaborative research.

ORGANIZER:
Tajinder Panesor, The Institute of Physics, UK

SPEAKERS:
Tara Shears, University of Liverpool, UK
Why are the leading industrialised nations engaged in particle physics research? What's going on?
Mark Lancaster, University College London, UK
The benefits from particle physics experiments
Michelangelo Mangano, CERN, Switzerland
The future of particle physics research

MODERATOR:
Fernando Ferroni, The National Institute of Nuclear Physics (INFN), Italy

3 July, 14:15 - 15:30, Sala Madrid

From molecules to ecosystem: applying genomics to environmental research 4

Our environment is changing at an increased pace mainly due to anthropogenic activities. Changes such as the global temperature increase, CO2 increase, and the emission of chemical pollutants could have deleterious effects on organisms, their communities, and ultimately on the health of ecosystems. In the past few years, molecular biology techniques have revolutionised ecological research. The availability of inexpensive ways to genetically characterise individuals and species has allowed the quantification genetic diversity, tracking movement of individuals, characterising new species, and investigating interactions among the communities at ecosystem level.
One of these technologies is DNA microarray, which progressed rapidly in biological research for gene expression analysis. This analysis can also provide a global view of how organisms respond to stressors (such as chemical pollutants, UV light, temperature changes, etc.) and has a great potential role in discovering molecular biomarkers to anticipate the harmful effects of stressors in aquatic ecosystems. This will be an occasion for researchers to explain the role of molecular biology applied to environmental studies, and their contribution to understanding how the ecosystem will be affected by global change.

ORGANIZER:
Teresa Lettieri, European Commission - Joint Research Centre (JRC), E

SPEAKERS:
Teresa Lettieri, European Commission - Joint Research Centre (JRC), EU
Guido Kopal, Roche Diagnostics, Germany
Aldo Viarengo, University of Piemonte Orientale, Italy

MODERATOR:
Teresa Lettieri, European Commission - Joint Research Centre (JRC), EU

3 July, 14:15 - 15:30, Sala Parigi

Science in a borderless world 10

Science has always been an international endeavour, with scientists freely exchanging information and attending meetings world-wide. However, largely triggered by new technologies and cultural globalization, internalisation has entered into a borderless world. Today's science environment is characterized by the high mobility of researchers, a growing number of multi-sector international R&D partnerships, an increased number of multinational research facilities, and open access to publications and data. Global challenges, particularly in environment and health, highlight the importance of promoting and supporting partnerships that bring together talent and perspectives from across nations and disciplines. Meanwhile, the recent economic crisis faced by all nations has focused their attention on investment in S&T for their own prosperity and future.
The challenge is to build the flexibility and dexterity needed to participate in highly complex and dynamic R&D networks, while maintaining a balance between domestic and global interests. How can national research systems respond to these trends? What has been achieved? What opportunities need to be explored and promoted? How can funding agencies co-operate in responding to these challenges? How can international policy support both access to knowledge and protection of intellectual property? The session aims to address and discuss these questions, encourage discussion, and outline a course of action.

ORGANIZER:
Suzanne Fortier, Natural Sciences and Engineering Research Council, Canada

SPEAKERS:
Suzanne Fortier, Natural Sciences and Engineering Research Council, Canada
Arden Bement, National Science Foundation, USA
Ernst-Ludwig Winnacker, Human Frontier Science Programme, France

MODERATOR:
Suzanne Fortier, Natural Sciences and Engineering Research Council, Canada

3 July, 14:15 - 15:30, Sala Atene

Making science understandable: learning from agricultural extension 6

This interdisciplinary session will discuss the case of agricultural extension services. These services were created specifically to bridge science and society for farm production and environmental issues. They are linked to universities in many countries and lie in a long tradition

of "popularisation" of scholarship from various disciplines, especially biotechnical sciences such as agronomy and animal husbandry, as well as other natural and social sciences. Extensive surveys and reviews show that several types of "bridges" are needed to fully consider the time frame of action (design, implementation, assessment) and to contextualize the scientific knowledge in specific situations. In particular, they stress that the different groups of actors concerned with these situations (policy makers, farmers, researchers, etc.) have varying capacities to access and use scientific knowledge, but that all of them need a clear picture on scientific production, and on the actual limits of the validity of the research outcomes.
But the results of this research remain fragmented. Our goal is to put these reflections in a global and interdisciplinary perspective in order to discuss the types of meta-knowledge (models, levels of proof, types of evidence, boundary objects, etc) that various stakeholders need in three different situations: management of innovation, implementation of new practices, and assessment of services.

ORGANIZER:
Pierre Labarthe, National Institute for Agricultural Research (INRA), France

SPEAKERS:
Pierre Labarthe, National Institute for Agricultural Research (INRA), France
Kristin E. Davis, International Food Policy Research Institute (IFPR), USA
Catherine Laurent, National Institute for Agricultural Research (INRA), France
Ismail Moumouni, Faculté d'Agronomie, Université de Parakou, Benin
Moussa N'Dienor, Institut de Recherche pour le Développement (IRD), Senegal

MODERATOR:
Pierre Labarthe, National Institute for Agricultural Research (INRA), France

3 July, 15:45 - 17:00, Sala Londra

Plants for sustainable food supply

The Millennium Development Goals set in the 1990s aimed at reducing by half the number of the undernourished by 2015, but it looks like they won't be achieved. The most probable scenarios of population growth predict a world population of 9 billion by 2050, living mostly in 400 megacities of more than 10 million inhabitants. In this context food security, food safety and food health appear as both essential and hard to achieve goals for agricultural production in the near future.
However, present efforts to fulfill the need of food production may hinder adequate food availability for future generations, taking into account the effect of agriculture on soil and water use and pollution, and the way agriculture impacts climate change. Therefore, the sustainability of current practices is also important when taking decisions on agricultural policies. Important new advances are being produced through the application of molecular genetics to plant biology including basic knowledge on plant productivity, resistance to pathogens or tolerance to adverse conditions. The availability of an increasing number of plant genomes, the analysis of the genetic basis of the variability of crop populations or new crops, and the genetic modification of plants provide tools that may help humankind in tackling this fundamental task.

ORGANIZER:
Dorothée Bongaerts, European Plant Science Organisation (EPSO), Belgium

SPEAKERS:
Pere Puigdomènech, CSIC, Instituto de Biología Molecular de Barcelona, Spain
The state of the art
Chiara Tonelli, University of Milan, Italy
Boosting sustainable crop productivity
Wilhelm Gruissem, ETH Zurich, Switzerland
Novel crops and novel traits

MODERATOR:
Karin Metzlaff, European Plant Science Organisation (EPSO), Belgium

3 July, 15:45 - 17:00, Sala Istanbul

How do mathematics contribute to cancer modelling and healing therapies?

This session is a joint initiative of SMAI and SIMAI, the French and Italian Societies of Applied and Industrial Mathematics. It is motivated by the experience of European co-ordination of an MC Research Training Network 2004-2008 devoted to the interactions of mathematical and biological sciences focused on mathematical modelling of cancer phenomena. The session is focused on the modelling and simulation of the complexity of cancer phenomena covering the whole path from the molecular (genetic) scale to that of tissues, through the description, by mathematical actions, at the cellular scale. The final, and main, objective of the modelling is focused on the optimization of therapeutic actions. The motivation is the idea that mathematics can effectively contribute to research activity in the field of biology by involving both mathematicians and biologists.
On the other side, this interaction can contribute to the development of mathematical sciences considering that the complexity of the system needs the development of new mathematical tools, possibly mathematical theories that can contribute to modelling complex systems in general. The session will be focused on the following topics: cancer as a genetic disease and quantitative impact on the society; multiscale modelling of cancer phenomena; contribution of mathematics to the development of therapeutic actions and medical care in general.

ORGANIZERS:
Nicola Bellomo, Polytechnic di Torino, Italy
Maria Esteban, Université Paris-Dauphine, France

SPEAKERS:
Vincenzo Capasso, University of Milan, Italy
Contribution of mathematics to cancer modeling and healing therapies
Jean Clairambault, National Institute for Research in Computer Science and Control (INRIA), France
Cell proliferation, circadian clocks and molecular pharmacokinetics-pharmacodynamics to optimise cancer treatment
Luigi Preziosi, Polytechnic di Torino, Italy
The European research on cancer modeling

Vitaly Volpert, Université de Lyon 1, France
Hybrid models for normal and leukemic hematopoiesis

MODERATORS:
Nicola Bellomo, Politecnico di Torino, Italy
Maria Esteban, Université Paris-Dauphine, France

3 July, 15:45 - 17:00, Sala Madrid

Evidence-based policy versus policy-biased evidence: EU/US perspectives

10

Both the US and the EU have recently undergone major administrative changes, which not only offer the potential for a restart in trans-Atlantic cooperation in tackling global challenges, but have equally triggered a debate about the role of science in policy-making. The Obama Administration has sought to put science back into the core of the policy agenda by increasing investment in research and education, appointing respected scientists to senior-level positions, including the former President of the American Association for the Advancement of Science (AAAS), John Holdren, to the re-elevated science adviser position of Assistant to the President and Nobel Laureate Stephen Chu to be Secretary of Energy, and re-invigorating the President's Council of Advisers on Science and Technology (PCAST). Similarly, the Barroso Commission has identified growth based on knowledge and innovation as key to its mandate and announced the creation of a Science Adviser post, while its independent research arm under Máire Geoghegan-Quinn, the Joint Research Centre, is embarking on a new 10 year strategy responding to an ever-growing demand for customer-driven S&T support to policy-making.
In October 2009, the AAAS and JRC took the initiative of organising a Trans-Atlantic Workshop, bringing together 25 high-profile individuals from government, industry, academia, interest groups etc, each with experiences of real-life scientific support to policy-making. The symposium will reveal what was identified in terms of best practices and pitfalls on both sides of the Atlantic. Speakers will evidence these findings with timely examples of "positive" and "negative" case-studies, exposing those efforts which were effective or not, the actors involved, the stakes, and the conclusions that can be drawn about the bigger picture of "evidence based policy versus policy-biased evidence".

ORGANIZER:
Aidan Gilligan, European Commission - Joint Research Centre (JRC), EU

SPEAKERS:
Alan Leshner, CEO, American Association for the Advancement of Science (AAAS), USA
Roland Schenkel, Director-General, European Commission - Joint Research Centre (JRC), EU

MODERATOR:
Patrick Cunningham, Chief Scientific Adviser to the Irish Government, Ireland

3 July, 15:45 - 17:00, Sala Parigi

When scientists read literature

6

How do the cultural activities of practicing scientists affect their scientific thought? In particular, do scientists read literary texts in different ways from non-scientists? And do their literary experiences, tastes and preferences influence the construction and presentation of their own work? In order to understand how science and literature interact today, we need to examine their relationships in the period in which both fields were forming mature identities as professional disciplines. Accordingly, this session will discuss the influence of literature in science through four case-studies of major 19th-century scientists who were also prolific and enthusiastic readers: Alexander von Humboldt, Michael Faraday, James Clerk Maxwell and Darwin's rival naturalist, Richard Owen.
Each of the four panel speakers is an expert in the interdisciplinary field of literature and science studies. Each is also an experienced and talented speaker. In this session front-line interdisciplinary research that is accessible and engaging for general audiences will be presented. The map of literature and science that emerges will give us a basis for wide-ranging discussion of 19th-century as well as contemporary issues of science in culture.

ORGANIZER:
Alice Jenkins, University of Glasgow, UK

SPEAKERS:
Alice Jenkins, University of Glasgow, UK
Michael Faraday's literary taste and scientific style
Gowan Dawson, University of Leicester, UK
The novelist puts this and that together: Richard Owen's reading of serialized fiction
Alison Martin, Martin Luther University Halle-Wittenberg, Germany
A sentimental journey? Alexander von Humboldt as a reader of English literature
Stuart Robertson, University of Uppsala, Sweden
"Fle'ing through the air": James Clerk Maxwell and the poetry of motion

MODERATOR:
Alice Jenkins, University of Glasgow, UK

4 July, 09:00 - 11:45, Auditorium

Feeding the world in times of global changes

4

Food security is a key challenge for mankind. Global agricultural production needs to be doubled to feed an ever-growing world population that may reach nine billion by 2050. We will address these global issues in a two-part session. A panel involving scientists, stakeholders and civil society will discuss with the audience how to adapt the current agro-food system to the food security challenge, as well as ethical, social and other concerns such as safety, productivity versus environmental sustainability, preservation of the biodiversity, and third world development issues. The first part – Matching food demand and food supply – presents the many factors that will drastically affect the production and distribution of food worldwide (climate change, availability of land, demographic changes, etc.), as well as public policies (EU CAP, production of bio-energy) and social drivers (life style, consumption trends) that determine the market economy of the agro-food system. The second part – Can science and technology help find sustainable solutions to feed nine billion people? – discusses scientific and bio-technological developments aiming at improving the quality, productivity and adaptability of plants to environmental conditions, notably using agro-engineering and land management strategies, as well as genetic engineering to improve agricultural production in a sustainable manner.

ORGANIZERS:
Alessandra Bendiscioli, European Molecular Biology Organization (EMBO), Germany
Gerlind Wallon, European Molecular Biology Organization (EMBO), Germany

SPEAKERS:
David Baulcombe, University of Cambridge, UK
Science and the sustainable intensification of global agriculture
Susanne Benner, BASF Plant Science Company, Germany
Prem Bindraban, Director, ISRIC World Soil Information, Wageningen University, The Netherlands
Regional interdependency to reach at global food security
Gianluca Brunori, University of Pisa, Italy
The role of European agriculture and its contribution to world food security – or insecurity?
Salvatore Ceccarelli, International Center for Agricultural Research in the Dry Areas (ICARDA), Syria
Plant breeding, biodiversity and food (in)security
Andrea Ferrante, Italian Association for Biological Agriculture (AIAB), Italy
Panel discussant

MODERATOR:
Pallab Ghosh, BBC News, UK

4 July, 09:00 - 10:15, Sala 500

The challenges of a changing environment: how do animals cope?

2

We all know that human life is full of compromises. Perhaps less appreciated, however, is the fact that all life, including our species, is the product of many compromises through the process of evolution. On one hand, the environment tests individuals continuously, and through natural selection, organisms become better adapted to prevailing conditions. On the other hand, genes and development influence how quickly, how well, and what way species can adapt. With climate change, the issue of how well evolution can track changing conditions is becoming an ever more timely topic. In other words, is there a risk that the changing climate outstrips the ability of species to adapt?
The objective of the session is to address this question by first illustrating how development is modified during evolution. Then, using examples ranging from butterflies to mammals, the session will demonstrate how adaptability of species may be compromised due to factors such as genetic interactions and rapid environmental fluctuations. In many species there is a continuous crosstalk between ecology and development, and a special emphasis is to point out how climate change can affect species at multiple steps of their life cycle. The proposed sessions will consist of an interdisciplinary panel highlighting the recent advances in studies integrating developmental genetics and ecology, and each presentation is planned as a starting point for discussions with the audience.

ORGANIZERS:
Risto Alatarvas, Academy of Finland
Karin Hannukainen, University of Helsinki, Finland

SPEAKERS:
Jukka Jernvall, University of Helsinki, Finland
Evolution of mammals in changing environments: worrying about how the teeth are getting along
Patricia Beldade, Instituto Gulbenkian and University of Leiden, Portugal/The Netherlands
Pulling butterfly wings: genes and environment in evolutionary diversification
Scott Gilbert, University of Helsinki and Swarthmore College, Finland/USA
EcoEvoDevo: The study about how environment gets involved with animal development

MODERATOR:
Jukka Jernvall, University of Helsinki, Finland

4 July, 09:00 - 10:15, Sala Istanbul

European Research Area: an ERA of excellence and cohesion

10

Excellence and cohesion are potentially opposing goals. But both must be addressed in the European Research Area. In this session the steps towards selecting excellent projects will be addressed with the realisation that mere quality is not sufficient if research is also going to be an economic driver. How should peer reviewing - characterised as it is as being risk-averse - address the challenge of selecting the best projects and, simultaneously, ensure that sufficient outcomes from the labs will translate directly or indirectly to the economic sector? Will the selection of the top applications on quality only result in the exclusion to large areas of the European Community and what steps should be taken to achieve coherence and cohesion in such a system? Will the processes to increase the quality and the impact of research in the ERA eventually become common to all member states? Excellence can also mean excellent strategies on how to improve science

and research in a given region. Ultimately the ERA will have to achieve an increase in quality in a manner that strengthens all countries and this means developing a wide range of funding instruments – cohesion programmes, infrastructure development, mobility grants and developing tools to make the most prudent choices to match specific needs in the system.

ORGANIZER:
Ingrid Wünning Tschol, Head of Science, Robert Bosch Stiftung, Germany

SPEAKERS:
Helga Nowotny, President, European Research Council (ERC), Austria
How the ERC strengthens excellence of European research
Frank Gannon, European Research Area Board (ERAB), EU
Are excellence and cohesion potentially opposing goals in a European research policy?
Giovanni Colombo, European Institute of Innovation and Technology (EIT) and Istituto Mario Boella, Italy

MODERATOR:
Ingrid Wünning Tschol, Head of Science, Robert Bosch Stiftung, Germany

4 July, 09:00 - 10:15, Sala Madrid

Personalized nutrition: fitting into your genes

9

Personalized nutrition attempts to deliver dietary advice at a personal level based on genotype data or on detailed phenotype data. It brings together many disciplines, of which molecular nutrition is the most preminent. But ethical and legal issues must also be addressed, and consumers response to genetic testing needs to be examined. Thus the need of new home based technologies for monitoring health, such as mobile mini bone scans, visual testing, muscle function tests and so forth.
From the molecular nutrition side, we need to study not only common variations in gene sequencing but also metabolomics, which measures very precise metabolic signatures. With these new data we can expect to cluster people together so that some personalized nutrition will be devised at group rather than personal level. The project will draw on the international research consortium www.food4me.org.

ORGANIZER:
Mike Gibney, Institute of Food and Health, Ireland

SPEAKERS:
Ulf Gorman, Ethics Division, University of Lund, Sweden
The Ethics of personalised nutrition
Barbara Stewart-Knox, University of Ulster, UK
Personalised nutrition: the consumers perspective
Ben van Ommen, TNO Quality of Life, The Netherlands
The science and business of personalised nutrition

MODERATOR:
Josephine Wills, European Union Food Information Council, EU

4 July, 09:00 - 11:45, Sala Parigi

Shedding light on neutrinos

3

The most mysterious particles in our current model of the universe are the neutrinos. They pass through space and the Earth with almost no interaction. They are difficult to detect and yet they are thought to play a fundamental role in the formation of the Universe. This makes attempts to understand their nature of crucial importance to our understanding of where we came from. Over time there has been improvements in techniques to understand their nature which have revealed surprising results. Neutrinos can change their type! Theories predict only three types of neutrinos and do not predict neutrinos can change from one type to another. The result that they can change type has profound implications on our understanding of the Universe.
In this session we will introduce these mysterious particles and explain their importance in physics which attempts to describe the Universe. We will also survey the current findings including the latest hot-off-the-press news in the continuing effort to uncover these elusive, but critical little neutral ones.

ORGANIZER:
Francesca Di Lodovico, Queen Mary University of London, UK

SPEAKERS:
Carlo Giunti, INFN Torino and University of Torino, Italy
Neutrino mysteries, surprises and promises
Federico Sanchez, Universitat Autònoma de Barcelona, Spain
Status of neutrino oscillations & recent results
Mauro Mezzetto, The National Institute of Nuclear Physics (INFN), Padova, Italy
Future long baseline neutrino experiments
Lee Thompson, University of Sheffield, UK
Searching for high energy neutrinos

MODERATOR:
Francesca Di Lodovico, Queen Mary University of London, UK

4 July, 09:00 - 10:15, Sala Atene

ATLAS (Automatic TransLAtion into Sign language): a project to improve deaf people inclusion

8

The integration difficulties of persons who were born deaf or became deaf in the first years of life are higher, since they could not acquire the knowledge of the spoken language. Sign Languages allow deaf children to acquire a full cognitive development within their community, which is composed of both hearing and deaf persons. Such cognitive development represents the prerequisite to a full access to education, culture and complete inclusion in working and social environments. An increasing request for Sign Languages interpretation in educational, legal, and healthcare context is today registered, and expected to be extended soon to culture and entertainment.
The ATLAS project exploits the convergence between cognitive sciences and ICT to build innovative services to provide deaf people with the access to broadcast commu-

nications, through the automatic translation of the written Italian natural language into the animated Italian Sign Language (LIS). In particular, the tangible objective of the project is the development of a translator able to translate sentences from the Italian natural language into the corresponding sequence of signs, through an intermediate translation into a written form of the LIS. This will involve the analysis of the natural language from both linguistic and structural point of view and the generation of virtual interpreters to visualize LIS sentences.

ORGANIZER:
Paolo Prinetto, Torino Polytechnic, Italy

SPEAKERS:
Leonardo Lesmo, University of Torino, Italy
Vincenzo Lombardo, Virtual Reality MultiMedia Park, Torino, Italy
Raffaele Menolascino, Microsoft Research Center Torino, Italy
Alberto Morello, RAI, Italy

MODERATOR:
Paolo Prinetto, Torino Polytechnic, Italy

4 July, 09:00 - 10:15, Sala Dublino

High altitude research stations: new insights on climate change

4

The high mountain observatories have played a crucial role in atmosphere physics, chemistry, astronomy, cosmic ray physics, astrophysics, high energy and particle physics. Before the construction of the particle accelerators, the observation of cosmic rays at high altitude was the only way to study the high energy interaction mechanism. The first High Mountain Observatories (HMO), built all around the world in the first half of the 20th century, were witnesses of an extraordinary era in which the most important physicists devised new detection techniques and discovered new particles, setting up the bases of modern astrophysics. Today, HMOs still give a substantial contribution to fundamental research and are a network of excellence, both in environmental and climate change science and in space sciences. In the session we discuss the most recent findings on climate and glaciological observations related to climate change in the Himalayas, aimed at understanding the impact on human life and the environment. This research is carried out in the in the framework of the WMO - GAW (World Meteorological Organization - Global Atmosphere Watch) programme, of the ABC (Atmospheric Brown Clouds) UNEP project, and of SHARE (Stations at High Altitude for Research on the Environment), a project by EV-K2-CNR carried out at the Everest Pyramid Observatory and in other HMOs. We will also take a look at the latest results in space weather forecasting.

ORGANIZERS:
Alba Zanini, The National Institute of Nuclear Physics (INFN), Torino, Italy
Arnaldo Longhetto, University of Torino, Italy

SPEAKERS:
Francesco Zaratti Sacchetti, Universitad S. Andres, La Paz, Bolivia
The new GAW station in the Central Andes: Mount Chacaltaya laboratory
Paolo Bonasoni, ISAC-CNR and EV-K2-CNR Committee, Italy
The Nepal Climate Observatory - Pyramid: atmospheric composition change in the Himalayas
Erwin Flueckiger, University of Bern, Switzerland
Long-term environmental and climate research at the High Altitude Research Station Jungfraujoch
Claudio Smiraglia, University of Milan, Italy
Glacier variations and climate change: Italian Alps and Himalayas-Karakorum case studies

MODERATOR:
Marisa Storini, INAF and IFSI-CNR, Italy

4 July, 10:30 - 11:45, Sala 500

The dynamics of epidemics: how human mobility affects patterns

4

People interact. They travel. They move from households to schools, to workplaces, to distant places on trips. And diseases might travel with them. The current swine flu epidemic is just the last example of the crucial role that human mobility and interactions have on the spread of infectious diseases. People interact in workplaces, and their homes, and meet in crowded places. Rapid transportation infrastructures allow us to cover long distances on short time scales, and at the same time to carry a disease from an outbreak zone to a not yet infected region of the globe, reaching a propagation of pandemic proportion.
How much do we know about human interactions and mobility patterns? Recent years have witnessed a tremendous effort in the gathering, exploration and characterization of a huge flow of quantitative social, demographic and behavioural data. Quantitative studies of these datasets are key elements to the understanding of the spatial dynamics of human infectious diseases. They constitute the main ingredients of sophisticated large-scale models that can account, quantify and potentially predict the dynamics of emergent infectious diseases. This session will bring together the major experts in the field of human contact patterns and mobility of individuals at different scales.

ORGANIZER:
Vittoria Colizza, ISI Foundation, Italy

SPEAKERS:
Alain Barrat, Centre of Theoretical Physics, Marseille, France
Sociopatterns.org: dynamics of face-to-face human proximity
Dirk Brockmann, Northwestern University, USA
Feel sick? Follow the money!
Marta Gonzales, Massachusetts Institute of Technology, USA
From human mobility to transportation networks

MODERATOR:
Vittoria Colizza, ISI Foundation, Italy
Alessandro Vespignani, Indiana University, USA

4 July, 10:30 - 11:45, Sala Londra

The role of science and expertise in environmental disputes 6

The reproductive basis of highly differentiated societies is increasingly dependent on knowledge and expertise as well as on equally specialized roles and institutions. In these societies the problem of political decision is particularly delicate, because those who decide almost always have a deficit of knowledge and expertise related to the complexity of the relevant field of action. Hence the need to use ad hoc experts. This problem pervades many areas of policy choice, such as major infrastructures for mobility, technologies for energy production, environmental risks like climate change, genetic engineering, measures for environmental transition. Basically, we wonder if scientific expertise might be used in decision-making processes in a neutral and impartial way, and if the dichotomy between "democracy" and "expertocracy" can be resolved.
Experts have long been trapped in a perpetual dialogue within their community, but recently the role of pressure groups and bottom-up actors has increased. This workshop will analyze issues such as: expertise and society; expertise and definition of risk; expertise and decision making; expertise and environmental transition; models of expertise; mass-media, language, and rhetorical expertise; genealogies of expertise; expertise, trust and credibility.

ORGANIZER:
Dario Padovan, Department of Social Sciences, University of Torino, Italy

SPEAKERS:
Simone Arnaldi, Jacques Maritain Institute, Italy
Experts and prophets? A teleological perspective on environmental controversies
Yannick Barthe, Ecole des Mines, Paris, France
Socio-technical disputes and public policies
Luigi Pellizzoni, University of Trieste, Italy
Environmental conflicts and expertise: theoretical insights and empirical evidence on the dynamics of politicization and depoliticization
Brian Wynne, Faculty of Arts and Social Sciences, Lancaster University, UK
Public engagement as a means of restoring public trust in science

MODERATOR:
Dario Padovan, Department of Social Sciences, University of Torino, Italy

4 July, 10:30 - 13:00, Business Centre

Inspiring future politics: how technology assessors can best stimulate the political debate 10

Politicians aim to shape the world according to deeply felt ideals. To do this well, politicians need to be knowledgeable on expected future developments. Parliamentary technology assessment (PTA) supports them in anticipating and managing the impact science and technology (S&T) will have on future societies. PTA-practitioners are not alone in their desire to stimulate future politics on S&T. Critical scientists, societal organisations and private companies also seek to engage with parliamentarians to discuss the societal meaning of new developments. PTA operates at a higher level because it is scrupulously independent and operates in the interests of no-one. It seeks solely to ensure that legislators have the fullest information and analysis to inform decisions. The rapid advance of S&T, where the full life-cycle of developments can be very short, its impact on the economy, society and the environment growing more than at any time before, the extremely high level of knowledge required to promote or regulate new technologies are all further challenges. As a result, a high level of continual scientific analysis is necessary, sometimes best provided immediately or, at least, in parallel with the R&D process. To do this, scientists have to be familiar with the political approach and the needs of policy makers and with the timely and appropriate ways of helping politicians to put the impact of S&T on the public agenda. We will discuss the matter in an interactive panel, with the help of Members of European and National Parliaments and PTA practitioners.

ORGANIZERS:
Miklós Györffi, European Parliament Science and Technology Options Assessment (STOA), EU
Mahshid Sotoudeh, ITAS, Vienna, Austria

SPEAKERS:
Members of the European Parliament:
Antonio Correia de Campos, Malcolm Harbour, Vittorio Prodi, Paul Rübig, Csaba Tabajdi, Salvatore Tatarella, Silvia Adriana Ticau
Members of National Parlaments:
Claude Birraux (France), **Andrea Gibelli** (Italy), **Irene Oskarsson** (Sweden), **Kathy Riklin** (Switzerland)
PTA practitioners:
Susanne Brenner, Judit Castella, Daniela Chiassi, Helene Limen, Elisabetta Mirra, Andrea Ricci, Jan Staman

FACILITATORS:
PTA practitioners:
Michel Antoine, Sergio Bellucci, Claudio Caviezel, André Gazsó, Theodoros Karapiperis, Lars Klüver, Geert Munnichs

4 July, 10:30 - 11:45, Sala Madrid

Do children play along with stereotyping? 8

Many institutions of society reinforce traditional gender stereotypes. In the media, for example, women predominantly appear as objects of action, as victims and as caretakers, whereas men are usually portrayed as creative, strong, clever and full of initiative. While the media highlights a man's power and achievement, a woman, even an accomplished woman, is usually first evaluated by her appearance. These images contribute to the lack of women in education involving technology and a lack of men in education involving care-taking.
Gender education, especially if it addresses both girls and boys, can be a positive force for creating gender equality in modern society. It seeks to change the roles that girls, boys, women and men play in private and public life. By reducing gender stereotypes, gender education assists children in building a genuine civic equality where males and females live in relationships of cooperation and in mutual respect

ORGANIZER:
Janna Wellander, Euroscience, Strasbourg, France

SPEAKERS:
Thomas Gazlig, Helmholtz Association, Germany
Science, toddlers and teenagers: Haus der kleinen Forscher and MINTIFF initiatives
Håkan Larsson, The Swedish School of Sport and Health Sciences, Sweden
Exploring the world through motion: A gender perspective
Gaby Weiner, Edinburgh University, UK
Everyday images in family life: what can they tell us about stereotyping?

MODERATOR:
Janna Wellander, Euroscience, Strasbourg, France

4 July, 10:30 - 11:45, Sala Atene

Science education + scientific interest = more scientists. Magical formula or wishful thinking?

6

This session will look at how the EU is tackling one of the current challenges facing science education today: to increase students' scientific literacy as well as promote scientific interest, thereby helping to counteract the drastically dropping numbers of young people taking up scientific careers. The results of the 2006 OECD Programme for International Student Assessment (PISA) heightened the debate surrounding science education across Europe. The results showed that students who enjoyed learning science were more likely to perform better and that, although the majority were motivated to learn science, only a small number took a "close interest" – an indication that a high level of scientific proficiency, together with a high level of scientific interest is required for continuing the next generation of scientists.
Using the PISA results as a starting point, this session will explore and discuss how science literacy and scientific interest can be raised. Good practice examples from Germany, UK and Norway will be presented from different perspectives – the scientist, the teacher, the psychologist. We will demonstrate successful and new ways in which science is not just being taught, but also communicated, in order to encourage more young people to take a greater interest in these subjects.

ORGANIZER:
Louise Baker, Robert Bosch Stiftung, Germany

SPEAKERS:
Joachim Dengg, Leibniz-Institute of Marine Sciences (IFM-GEOMAR), Germany
Crossing borders with outreach programs and educational networks: a research institute's novel and daring approach to science education
Elisabeth Engum, Bjørgvin videregående skole, Norway
Carboschools: an EU funded project that is building bridges between researchers and kids from secondary schools across Europe
Michela Mayer, National Institute for the Evaluation of the Education System (INVALSI), Italy
PISA: the facts behind the statistics.
Dirk Hillebrandt, Institute of Psychiatry, King's College London, UK
Getting your head around science education: It's not just what you do, but also how you do it.

MODERATOR:
Ingrid Wünning Tschol, Robert Bosch Stiftung, Germany

4 July, 14:15 - 15:30, Sala 500

Sustainability: compromises and costs

1

In all the discussions about climate change the "lifestyle" question is never far from the surface: will we be obliged to change our behaviour in fundamental ways? And is it essential that we do so? It hardly needs noting that limiting growth in material standards goes against the grain of our modern consumer society.
So what should we do? Do we look into existing ways of living "within our means" environmentally speaking, with a concomitant shift away from the values of the consumer society, or do we invest in new technologies in the hope that they will allow us to maintain our current standard of living – and allow others to attain this as well? In this session we will look at this issue as we discuss different approaches to sustainability, from practical action at a local level, to the creation of a truly sustainable global financial market. Throughout, we will focus on the way that we make choices and adapt to change. The format of this session will be a panel discussion with specialists on sustainable technologies, architecture, design, psychology, and economy. After we have heard from our speakers we will encourage participation from the audience during an open debate.

ORGANIZER:
Yasemin Koc, British Council, UK

SPEAKERS:
Michael Obrist, Feld72, Austria
Sustainability in architecture according to Feld72
Peter Harper, Centre for Alternative Technology, UK
What can households contribute to national decarbonisation processes?
Andreas Loeschl, Centre for European Economic Research, Germany
Sustainable growth: an economic perspective
Theodore Zamenopoulos, The Open University, UK
A design perspective of sustainable living (1)
Katerina Alexiou, The Open University, UK
A design perspective of sustainable living (2)

MODERATOR:
Quentin Cooper, BBC, UK

4 July, 14:15 - 15:30, Sala Londra

State-of-the-art nanofood technology: risks and benefits

1

Recent opinion polls regarding nanotechnology applications identify one particular sensitive area: the use of nanotechnology in food and feed. Consumer groups who demonstrate, in general, a positive attitude towards nanotechnology including applications in many consumer products are very negative towards nanotechnology in food.

The advent of nanotechnologies has brought enormous new prospects to a wide range of industrial sectors. At the same time, these pioneering processes, materials, and applications have raised fresh concerns over their safety to human health and the environment. Particularly sensitive areas of application include medicine, personal care products, agriculture and food, as well as those applications that involve the deliberate large-scale release of nanoparticles into the environment, such as water treatment and remediation of polluted soil.
This session will focus on state-of-the-knowledge studies of nanotechnology applications for the food sector, identify current knowledge gaps, and suggest possible ways forward. We will discuss the potential benefits and risks of the new technology and consider strategies on how to communicate them to the public without jeopardizing the wider benefits of the new technology to society. The session also addresses the apparent global absence of a nano-specific regulation.

ORGANIZER:
Hermann Stamm, European Commission - Joint Research Centre (JRC), EU

SPEAKERS:
Thane S. Thurmond, U. S. Food and Drug Administration, Center for Food Safety and Applied Nutrition, USA
Regulatory frameworks for nanotechnology applications in food: are they adequate?
Hermann Stamm, European Commission - Joint Research Centre (JRC), EU
Nanofood: how to assess risks?
Qasim Chaudhry, The Food and Environment Research Agency, York, UK
Food applications of nanotechnologies: an overview of potential benefits and risks

MODERATOR:
Elke Anklam, European Commission - Joint Research Centre (JRC), EU

4 July, 14:15 - 15:30, Sala Istanbul

The idea of space: mathematical musings on a fundamental concept

8

The space we live is taken as a given fact by most of us. It seems to be flat and simple, but mathematicians and physicists have developed more general ideas, such as spaces that can have four or more dimensions and which may be curved. This session will outline the historical development of these more general notions, will touch upon their applications to fields as different as cosmology and criminology, will see how exciting new research in algebraic geometry (the marriage of algebra and geometry) is looking for new spaces in which humankind might think of "natural" the future, and will discuss how to tackle the geometrical properties of finite spaces (as opposite to continuous, infinite ones). Finally, we'll see how digital 3D shapes – now commonplace in many areas of our life – are created and manipulated with the help of special mathematical representations and algorithms.

ORGANIZER:
Yuri Tschinkel, Courant Institute, New York University, USA

SPEAKERS:
James Carlson, Clay Mathematical Institute, USA
The idea of space
Fabrizio Catanese, University of Bayreuth, Germany
The marriage of geometry with algebra and the birth of new spaces
Alexander Gorban, University of Leicester, UK
Geometry of data sets
Olga Sorkine, Courant Institute, New York University, USA
Shape spaces: representation, interpolation and editing of 3D objects

MODERATOR:
Yuri Tschinkel, Courant Institute, New York University, USA

4 July, 14:15 - 15:30, Sala Madrid

Taming the wind: a strategic energy option for Europe

5

Many regions of Europe enjoy an abundance of wind energy. Yet despite its distinct advantages (clean, renewable, distributed, not competing with food production), wind currently contributes less than 4% to Europe's electrical energy. Can its apparent drawbacks (intermittency, geographical variability, unpredictability) be mitigated sufficiently for it to become a large-scale contributor to Europe's future energy requirements? This session will hear from four visionary speakers who believe that the answer is "yes" and who will outline how this goal can be achieved. Niels-Erik Clausen will present an overview of the state-of-the-art in wind energy technology and set out a vision for the future of wind energy in Denmark and Europe. Aidan Corcoran will review how EirGrid and other European transmission system operators are building the transmission infrastructure necessary to support large-scale wind generation and will also outline plans for a European, offshore SuperGrid. Paul Dowling will outline the next stage in the evolution of offshore wind with the award of leases for sites that have the potential to generate 4,000-9,000 MW, and he will discuss the SuperGrid as a potential solution to building large scale offshore wind. Igor V. Shvets will outline an imaginative proposal to combine large pumped-storage reservoirs with large-scale wind farms to give Ireland significant export capacity for electricity.

ORGANIZER:
Eamonn Cahill, Office of the Chief Scientific Adviser, Ireland

SPEAKERS:
Niels-Erik Clausen, Risø National Laboratory for Sustainable Energy, Denmark
Towards 50% electricity from wind
Aidan Corcoran, Eirgrid, Ireland
Building a transmission system for wind
Paul Dowling, SSE Renewables, Ireland
Taming offshore wind
Igor V. Shvets, School of Physics, Trinity College, Ireland
Wind and water: Ireland and the European energy landscape

MODERATOR:
Patrick Cunningham, Chief Scientific Adviser to the Irish Government, Ireland

4 July, 14:15 - 15:30, Sala Parigi

Addiction treatment: the limits of research findings

9

Addiction is a disease combining physical, psychological and social aspects. Addiction treatment is an excellent case to study how research findings have effected clinical practice and what can hinder its implementation. The session focuses on experiences and possibilities to improve implementation of findings, where speakers concentrate on examples of successful transfer and describe problems on the other side.
In the first part we describe how research has informed clinical practice and what problems this process can face. Clinical research on pharmacological and psychosocial treatment has changed the understanding and treatment of addictions, whereas behavioural treatment has partly developed through advances in qualitative research. In the second part we discuss how to improve integration of scientific output into addiction treatment and discuss what help systematic reviews can provide, how to integrate evidence into guidelines, how to handle lack of evidence and asks the question, and what clinicians can get from guidelines. The input should feed a debate between panel and audience on the relationship between research and practice in this specific field of treatment.

ORGANIZER:
Roland Simon, European Monitoring Centre for Drugs and Drug Addiction, EU

SPEAKERS:
John Strang, National Addiction Centre, Institute of Psychiatry, UK
Where transfer works/worked for pharmacological treatment
Michael Farrell, South London and Maudsley Trust, UK
Where transfer works/worked for psychosocial/behavioural treatment
Gerhard Bühringer, Addiction Research Unit, Technische Universität Dresden, Klinische Psychologie & Psychotherapie and Institut für Therapieforschung (IFT), Munich, Germany
What limits and hinders transfer
Marina Davoli, Department of Epidemiology, ASL RM E, Italy
From research synthesis to clinical guidelines
Pier Paolo Pani, Unità di Coordinamento Regionale Dipendenze (UCRD), Italy
Are guidelines of any use to clinicians?

MODERATOR:
Marina Davoli, Department of Epidemiology, ASL RM E, Italy

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4 July, 14:15 - 15:30, Sala Atene

International research infrastructures: the future of the European Research Area

10

International experts in different fields of research (from social and human sciences to biomedical, engineering and physical sciences) will try to underline the central role of international and pan-European research infrastructures (RIs) in supporting the ever-changing needs of Europe's scientific community. RIs act as quality benchmarking on research, technologies and training, and they offer an international service based on a peer review selection of users, who are offered the best instruments and environment. The first example are the medieval libraries-abbeys: the places where scholars met and exchanged information on the basis of the preservation and diffusion of the Roman, Greek and Arab cultures, but also the places where several technologies evolved, from chemistry to agriculture. This concept has been retrieved in the large postwar facilities like CERN, EMBL and ESO, and is now being extended to all fields of research.
But what is the key of the RIs' success? There is a co-existence of basic research and applications, as well as training of young researchers and technicians (core of the knowledge triangle), and many RIs are attractive for public-private investments, being the source of new technologies (like Internet, CCD cameras, PCR). The action is supported by the European Forum on Research Infrastructures (ESFRI), which is developing, within the Lisbon and Lubjana agendas, the integration of the efforts of the EU countries.

ORGANIZER:
Laura Bibi Palatini, Sincrotrone Trieste, Italy

SPEAKERS:
Liselotte Højgaard, Department of Clinical Physiology, Nuclear Medicine & PET, Rigshospitalet, University of Copenhagen & Technical University of Denmark
European research infrastructures and the Grand Challenges in medical research
Peter Farago, Swiss Centre for Expertise in the Social Sciences (FORS), Lausanne, Switzerland
European research infrastructures in social sciences and humanities
Norbert Kroo, Hungarian Academy of Sciences, Hungary
The mobility and career paths in research infrastructures
Carlo Rizzuto, Sincrotrone Trieste, Italy
European research infrastructures: what, why and how

MODERATOR:
Matteo Merzagora, Freelance science communicator, France

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4 July, 15:45 - 17:00, Sala 500

The promises of gender medicine: are sex and gender the key to a better health care?

9

In recent decades a wealth of new knowledge has been produced concerning the biological (sex) and socio-cultural (gender) factors that influence individual health and health-care of women and men. This innovative science field is known by the catchword "gender medicine". Despite the existence of handbooks in English and German, specialized centres in Europe and an international society, the scope and impact of this field are not widely known. It promises to innovate drug development and therapies by taking account of sex differences, to unravel "stereotypical" gender roles that impede proper health preventive behaviour, and to redress the neglect of the other sex if a disease becomes labelled as a "female" (osteoporosis) or "male" (coronary heart) disease. EU research has stimulated this kind of biomedical and health research; unfortunately these issues are not yet taught on a regular basis in (bio) medical curricula nor spread among society at large.
This session will sensitize the wider community of (young) scientists, policy makers and the general public to the relevance of gender medicine for health care by an inter-

active discussion and exchange of best practices. Expert contributions and telling examples from various research fields (basic/preclinical research, physical health, mental health, public health) will be the core elements of this session in order to disseminate the new insights and to stimulate its application. The Project GenderBasic will be the starting point.

ORGANIZER:
Ineke Klinge, Caphri School for Public Health, Maastricht University, The Netherlands

SPEAKERS:
Flavia Franconi, University of Sassari, Italy
Gender pharmacology: a new Cinderella story
Jan-Åke Gustafsson, Karolinska Institutet and University of Houston, Sweden/USA
Gender differences in nuclear receptor actions
Anita Holdcroft, Imperial College London, UK
What influence do sex and gender have on pain relief for men and women?
Vera Regitz-Zagrosek, Institute for Gender in Medicine, Charite University, Berlin, Germany
Sex, gender and cardiovascular disease, or why do we need gender medicine?
Alan White, Centre for Men's Health, Leeds Metropolitan University, UK
Sex, gender and cancer risks

MODERATOR:
Ineke Klinge, Caphri School for Public Health, Maastricht University, The Netherlands

4 July, 15:45 - 17:00, Sala Londra

DNA patenting: truths and fears

9

Misunderstanding and widespread feelings of fear and danger still surround the issue of DNA patenting. The 1998 European Directive on protection of biotechnological inventions requires EU Member States to recognise isolated genes and nucleotide sequences as patentable inventions. Recent rulings of the Board of Appeal of the European Patent Office have illustrated that patents can also be granted for methods of genetic testing without claiming genes themselves. These rulings upheld patents granted for BRCA1-related cancer tests, in the face of considerable opposition from European scientists, who consider DNA patents as a barrier to the progress of genomic research. However, there is not much empirical evidence on how patenting is affecting clinical genetic testing.
Two independent in-depth studies mapping the complex landscape of diagnostic DNA patents in the US and Europe have recently been conducted. These will be presented with a view to discussing the barriers, the opportunities, the actual and potential threats of DNA patenting trying to address some of the following key questions raised by the scientific world and by society: Is patenting affecting accessibility to genetic testing? Are prices higher because of the requirement of licenses? Is there a visible impact on test development as a result of patenting? Is DNA patenting a fair and reasonable way to encourage and protect innovation, or is it a threat to patient rights?

ORGANIZER:
David Merino, European Commission - Joint Research Centre (JRC), EU

SPEAKERS:
Robert Cook-Deegan, Centre for Genome Ethics, Duke University, USA
Michael Hopkins, SPRU, University of Sussex, UK
Daniele Paci, European Commission - Joint Research Centre (JRC), EU
Isabelle Huys, Catholic University of Leuven, Belgium

MODERATOR:
Daniele Paci, European Commission - Joint Research Centre (JRC), EU

4 July, 15:45 - 17:00, Sala Madrid

Ions, light and antimatter: how do they help us address present health and energy problems?

3

Electrons, ions and light have been used successfully as probes to disentangle the nature of correlated quantum systems for more than a century. With the aim of understanding and possibly even controlling fundamental interactions at the smallest scales, scientists have been developing and exploiting many-particle imaging methods in combination with novel particle storage rings and light sources and thus pushed the limits of technology ever further.
In this session we will first give a historical overview of this interdisciplinary field with an emphasis on the link between fundamental research and societal and ecological problems: How can an understanding of the correlation effects in atoms help us address present health and energy problems? What is the impact on cells of different kinds of radiation we are exposed to every day? How can we link observations at sub-atomic systems to macroscopic objects or even galaxies? We will then explain in an interactive setting how the shortest light pulses with highest brilliance, radiation in the THz-regime, exotic highly charged ions, and even antimatter are produced in laboratories around the world and why these measurements are the ideal way to move into and up from the quantum world.

ORGANIZER:
Carsten Welsch, Cockcroft Institute of Accelerator Science and Technology, UK

SPEAKERS:
Carsten Welsch, Cockcroft Institute of Accelerator Science and Technology, UK
Sara Tegami, Max Planck Institute for Nuclear Physics, Heidelberg, Germany
Amy Schofield, University of Liverpool, UK

MODERATOR:
Sara Tegami, Max Planck Institute for Nuclear Physics, Heidelberg, Germany

4 July, 15:45 - 17:00, Sala Parigi

Scientists in the classroom and students in the lab: the making of future scientists

6

Promoting science in schools is an investment for the future. Who will be part of the next generation of scientists? As fewer students decide to follow a career in science, we need to sow the seeds of interest on a European level.

A tried and tested formula is to bring scientists' expertise into the classroom, while inviting students to experience real experiments in the laboratory. These activities seem to be quite effective: visits to laboratories for students and teachers (a joint initiative by JRC in Ispra and the Italian School Authority has resulted in an increase of more than 10% of students who chose science in the first year of secondary school since 2004); projects that allow students and teachers to exchange views about science in school; national science competitions to motivate students and teachers of science, art, technology and languages through interdisciplinary activities (e.g. the "Science and creativity in the classroom" competition in 2009 and the Irish Young Scientists and Technology Exhibition).
While students get to experience "real" science, scientists get feedback on their activities from a vast audience outside the laboratory, listen to fresh and innovative ideas, and set up a network for the scientists of the future.

ORGANIZER:
Silvia Imarisio, European Commission - Joint Research Centre (JRC), EU

SPEAKERS:
Ulla Engelmann, European Commission - Joint Research Centre (JRC), EU
Giovanna Guslini, MIUR - Ufficio Scolastico Regionale per la Lombardia, Italy
Creativity, curiosity, dialogue, direct experience, multidisciplinary approach: how young people and JRC projects make students have a good feeling with science in Europe
Tony Scott, President, The Royal Dublin Society, Ireland
Science beyond the classroom
Alessandro Zunino, IPSCT Caboto, Chiavari, Italy
A lost opportunity: video production as an educational tool

MODERATOR:
Elena Ceva, Freelance journalist, Italy

4 July, 15:45 - 17:00, Sala Roma

Lands contaminated by nuclear testing: the Semipalatinsk experience

4

The Semipalatinsk Nuclear Test Site (STS) in NE Kazakhstan was the first proving grounds for the testing of nuclear weapons by the former Soviet Union. From the first explosion in 1949 to the cessation of testing in 1989 over 450 tests were conducted in the atmosphere and underground at this site. Testing not only contributed to the global nuclear weapons fallout budget but also left a dangerous legacy of radioactive contamination on the surface of the test site and its surroundings.
In recent years international effort has been made to assess the radioecological status of the STS and to evaluate the dosimetric implications posed by long-lived radioactive fallout products to populations living in the vicinity. This has been prompted by local pressure to reclaim contaminated steppe lands for agricultural use and to facilitate the exploitation of important mineral resources such as gold and coal. Other concerns have extended to issues of nuclear security and non-proliferation including the risk of "dirty" bombs. In this session, we will present the main findings of a recently completed 6-year project, funded under NATO's Science for Peace Programme, whose primary focus was on the identification and characterisation of areas of contamination and the determination of the pathways of radionuclide exposure to local populations.

ORGANIZER:
Peter Mitchell, University College Dublin, Ireland

SPEAKERS:
Luis Leon Vintro, University College Dublin, Ireland
History and radioactive legacy of nuclear tests at the Semipalatinsk Test Site (STS)
Nicholas Priest, Atomic Energy of Canada Limited (AECL), Canada
Radiological and health consequences of testing at the STS

MODERATOR:
Mukash Burkitbayev, Al-Farabi Kazakh University, Kazakhstan

4 July, 15:45 - 17:00, Sala Atene

MYMOSA: the pros and cons of motorcycles

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According to the WHO 2008 global status report on safety, about half of the estimated 1.27 million people that die each year in road traffic accidents around the world are pedestrians, motorcyclists and cyclists. It's a staggering number. On the other hand, at a time when resources become increasingly more limited, the motorcycles show several economic and ecological advantages against their direct competitor, the car: less fuel (more than 50km/l), less expensive to buy and maintain, easy to move and easy to park. Is there a way we can improve the negative safety record of motorcycles and other over-exposed groups?
In this session, we will be present what has been done in this areas with EU support, thanks to projects such as MYMOSA, PISA, SIM (Safety In Motion), APROSYS, APSN, 2-BE-SAFE, eSUM, SAFERIDER and others. After a brief presentation of the projects, four experts from several areas – namely a politician, an expert in road safety, a representative of motorcyclist association and a scientist – will discuss the issue and engage the audience in a debate on the pros and cons of motorcycles.

ORGANIZER:
Pedro Talaia, University of West Bohemia, Czech Republic

SPEAKERS:
Ugo Galvanetto, University of Padua, Italy
What is MYMOSA, deliverables and challenges
Steffen Peldschus, Ludwig Maximilians University Munchen, Germany
Case studies from MYMOSA and other projects involving motorcycles
Marco Pierini, University of Firenze, Italy
MYMOSA and other projects: how they improve safety and what are the challenges
John Chatterton-Ross, Union Européenne de Motocyclisme (UEM) and Fédération Internationale de Motocyclisme (FIM), Belgium
Filipe Fraga, TNO Science and Industry, The Netherlands

MODERATOR:
Pedro Talaia, University of West Bohemia, Czech Republic

5 July, 09:00 - 10:15, Sala 500

How much can robots learn?

The secret in developing more human-like robots lies in teaching them to learn – like children. Children practices their senses and movement co-ordination by acting in ever-changing surroundings; they have the ability to observe and conclude, to adapt and optimize their behaviour autonomously. By contrast, a conventional industrial robot needs to be programmed with every behaviour it is supposed to carry out. More complex and flexible reactions can only be achieved if it acquires the ability to learn.
To develop learning robots, scientists take their inspiration from nature. Insights from brain research can be put into mathematical algorithms used to control the robot. Scientific models can thus be tested by observing the robot's behaviour, so that robotics is also a vehicle for better understanding of the brain. As soon as robots acquire the ability to learn, they will become better at seeing, hearing and moving. This, in turn, is a prerequisite for them to learn from instructions or from experimenting. With all these aspects, robotics is just at the beginning of a major new development.
After a scientific overview, this session will discuss where robotics may lead us. How autonomous will robots ever become? Will they acquire very advanced abilities such as reasoning and emotions? And in the background of all this lurks the paradox whether there will ever be autonomous systems that nonetheless will obey the will of their creators.

ORGANIZER:
Katrin Weigmann, Bernstein Network Computational Neuroscience, Germany

SPEAKERS:
Edgar Körner, Honda Research Institute Europe, Germany
Learning to behave
Giulio Sandini, Italian Institute of Technology (IIT), Italy
Humans and robots
Florentin Wörgötter, Georg-August University, Göttingen, Germany
Robots under neural control

MODERATOR:
Katrin Weigmann, Bernstein Network Computational Neuroscience, Germany

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5 July, 09:00 - 10:15, Sala Londra

Scientific cultures across Europe: similarities and differences

How alike or unlike each other are European countries in terms of their "scientific culture"? Can we describe and measure scientific culture by means of opinion and attitude surveys? How do the ideologies and belief systems, including the prevailing religious beliefs, influence the scientific culture of individual countries? These and other questions will be explored in this session to examine similarities and differences in the scientific culture of selected European countries, principally Italy, Finland and Ireland, and of the European Union as a whole, as evidenced principally in Eurobarometer surveys. Drawing also on national surveys on public attitudes to science and technology and analyses of media coverage of science and technology, the panel will aim to characterise the scientific culture of these countries. The panel will consider historical trends and regional patterns in responses to surveys over three decades on science and technology generally and on particular issues. The panellists are social scientists and communication specialists with a particular interest in perceptions and representations of science and technology, and experience in working directly with natural scientists on science-in-society and communication projects. Those attending the session, of whatever disciplinary background, will be invited to join the discussion on the shaping of a country's scientific culture, which will also be framed in terms of national and supra-national policy.

ORGANIZER:
Brian Trench, Dublin City University, Ireland

SPEAKERS:
Brian Trench, Dublin City University, Ireland
Ireland, an aspirant knowledge economy
Martin Bauer, London School of Economics, UK
How to develop comparative measures of "scientific culture" as context indicators for science communication and public mobilisation activities
Massimiano Bucchi, University of Trento, Italy
Italy's scientific culture: evidence from public opinion surveys and media coverage analysis
Esa Valiverronen, University of Helsinki, Finland
Finland's image as an internationally advanced knowledge society

MODERATOR:
Brian Trench, Dublin City University, Ireland

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5 July, 09:00 - 10:15, Sala Madrid

Science without borders: democratization of society and the development of science and technology

Science in times of crisis usually becomes an agent of competitiveness for individual countries. On the other hand, it is becoming more and more clear that only in the context of international cooperation, with the establishment of international research teams, scientists are able to succeed. The session will discuss the following topics: science without borders as a new factor in the development of mankind, which helps to overcome inter-ethnic conflicts; science as a factor in consolidating the society; the role of young scientists with new knowledge and experience, more cosmopolitan in their nature; supranational, national, international nature of science; the global democratization and liberalization as a factor of progress; the scientific community and its ability to influence science policy; scientists' migration, foundation of international research centers, development of international research projects, activity of science foundations as tools for fostering the creative nature of modern science.

ORGANIZER:
Nelli Didenko, St. Petersburg Academic University and Euroscience Governing Board, Russian Federation

SPEAKERS:
Georges Waysand, Observatoire de la Côte d'Azur, Université de Nice Sophia-Antipolis and Laboratoire Souterrain Bas Bruit de Rustrel, France
Citizenship and science: New challenges facing the crisis

Irina Eliseeva, Sociological Institute of RAS, Russian Federation
Science for people
Alan Leshner, American Association for the Advancement of Science (AAAS), USA
Integration of the global scientific community
Wilhelm Krull, VolkswagenStiftung, Germany
Science and politics in science policy-making

MODERATORS:
Nelli Didenko, St. Petersburg Academic University and Euroscience Governing Board, Russian Federation
Georges Waysand, Observatoire de la Côte d'Azur, Université de Nice Sophia-Antipolis and Laboratoire Souterrain Bas Bruit de Rustrel, France

5 July, 09:00 - 10:15, Sala Parigi

The challenge of biodiversity

1

The UN has designated 2010 as the International Year for Biodiversity. The year-long event will culminate with a special high-level meeting at the UN headquarters in New York, in September, during the UN's General Assembly. The Academy of Sciences for the Developing World (TWAS) and the InterAcademy Panel on International Issues (IAP), have jointly organized this session that examines the complex issue of biodiversity conservation and sustainable use from a variety of perspectives that lie at the science-policy interface. We will try to look at biodiversity as a basic science by exploring what we know and what we don't about the planet's species and ecosystems.
In particular, the session is intended to: examine the progress (or lack of it) that has been made since the publication of the Millennium Ecosystem Assessment in understanding the ecosystem services; discuss the role of open space and Nature reserves in the preservation of habitats keeping in mind that it is tenuous to pretend to conserve single species (e.g. by the construction of corridors) if their habitats are destroyed; outline how international organizations can assist in the governance of places that do not fall under the jurisdiction of a single nation (oceans and polar regions); seek to analyze efforts to assign economic value to ecosystems services so that the full measure of a nation's wealth can be accurately assessed. We will also discuss the need to build scientific capacity in the developing world, and address what the generic public knows about biodiversity and how people do perceive the related problems, along with Governments actions taken worldwide and aimed at understanding and protecting biodiversity.

ORGANIZER:
Daniel Schaffer, The Academy of Sciences for the Developing World (TWAS), Italy

SPEAKERS:
Decio Ripandelli, International Centre for Genetic Engineering and Biotechnology (ICGEB), Trieste, Italy
Biotechnologies and biodiversity in the developing countries
Ferdinando Boero, University of Salento, Italy
Overview of biodiversity in marine and terrestrial habitats
Marco Cattaneo, Le Scienze, Italy
Public perception of biodiversity

MODERATOR:
Cristina Serra, The Academy of Sciences for the Developing World (TWAS), Italy

5 July, 09:00 - 10:15, Sala Roma

Europe 2014 and onwards: a new deal between Member States and the European Commission

10

Europe's future growth and wealth depends on its ability to identify Grand Challenges in a transparent way and to bring forward issue-oriented research and innovation with a potential to turn problems into solutions and world-wide progress that goes beyond the problem-solving capacity of each Member State. The future organization of EU research and innovation activities requires thus that the Member States and the Commission build a new deal to set up new transparent processes and use more efficient instruments, through community programmes, joint programming or other common endeavors. It should also enable a risk-tolerant and trust-based approach in research funding. The Lund declaration that resulted from the first conference of the Swedish EU-Presidency on research policy "New Worlds New Solutions" has started a new phase in a course on how to respond to the Grand Challenges. With this panel discussion we wish to build upon the Lund declaration to bring about suggestions on the processes needed to build the new deal. Such processes, which need political support, should gradually move away from current thematic approaches, towards a structure where research priorities are based on the Grand Challenges. The development of such processes is a matter of urgency.

ORGANIZERS:
Ana Beramendi Heine, Swedish Research Council, Sweden
Annette Moth Wiklund, Swedish Research Council, Sweden

SPEAKERS:
Charlotte Petri Gornitzka, International Save the Children Alliance, UK
Jerzy Langer, Polish Academy of Science, Poland
Inge Maerkedahl, Danish Agency for Science, Technology and Innovation, Denmark
Montserrat Torné Escasany, Ministry of Science and Innovation, Spain
Clara de la Torre, European Commission, EU

MODERATOR:
Gunnel Gustafsson, Director, Nordforsk, Norway

5 July, 10:30 - 11:15, Sala 500

The European Research Area: an ERA addressing the "Grand Challenges"

10

The European Research Area (ERA) is part of the global research environment facing common "Grand Challenges", such as energy supply, climate change, water resources, ageing, healthcare, and sustainable prosperity for all. Never before in history have we had so large a technical workforce, working on so many different kinds of problems, the solutions of which will determine our very survival. The ideal of the university as ivory tower has toppled, and is being replaced by an image of the open, digitally networked, knowledge institution working in collaboration with industry and society. Europe must develop new university structures to permit the multi-disciplinarity, on

which many new insights will depend – to break away from our inward looking regional, institutional or disciplinary cultures, so as to be able to address the complexity of the Grand Challenges. Technological solutions alone will not solve the problems we face. Over the next decades we will build on economic, behavioural and medical research and sustainability, in chemistry, energy, transport and all forms of industry. Research in the humanities and social sciences will help us find the way to re-organize our lives and cultures to adapt and thrive. Indeed, Europe's strength in the humanities and social sciences, drawing upon its rich cultural heritage, may prove its greatest contribution to our global challenges.

ORGANIZER:
I**ngrid Wünning Tschol,** Head of Science, Robert Bosch Stiftung, Germany

SPEAKERS:
Jürgen Mlynek, President, Helmholtz Association, Germany
Liselotte Højgaard, EMRC Chair, University of Copenhagen, Denmark
Margret Wintermantel, President, German Rectors' Conference, Germany
Jean-Michel Baer, Director, Science, Economy and Society, EU Commission for Research, EU

MODERATOR:
Ingrid Wuenning Tschol, Head of Science, Robert Bosch Stiftung, Germany

5 July, 10:30 - 11:45, Sala Londra

Closing the loop: from body to mind and from mind to body

6

Most people have the feeling of having conscious experiences (Descartes' res cogitans) and in parallel of being well immersed in a physical world (Descartes' res extensa). The ancient problem of how the mind emerges in living organisms has divided generations of philosophers and scientists alike. Neuroscience is beginning to throw some light on this problem by recognising that consciousness emerges in parallel with the brain as it develops in an intimate relationship with the body and via it with the external world. This interaction occurs both ways with exposure to the world shaping the brain/mind and with the brain and mind acting in the world. This mutual interaction can be regarded as a loop. Traditionally each arm of this loop has been considered in isolation. The emergence of the "self" depends so much on the ongoing experience of the world. The influence of our brain on our behaviour is a well-accepted concept. However, how the neural circuits of the brain with their specific chemical neurotransmitters control behaviour is only in its infancy.
In this session we will clarify how this occurs in determining impulsive and affective behaviour; discuss the influence of the mind over the body focusing on the so called "placebo" effect; underline the remarkable ability of humans to readily accept what other humans do thanks to "mirror neurons", the discovery of which has opened an entire new field of research on the bases of the "social brain" and its relation with the body. Finally we will discuss with the audience the implications for society of the dynamics of the full experiential loops from body to mind and from mind to body.

ORGANIZER:
Marcello Costa, Flinders University, Australia

SPEAKERS:
Fabrizio Benedetti, Medical School, University of Torino and National Institute of Neuroscience, Italy
The placebo effect: how words and rituals change the patient's brain
Vittorio Gallese, University of Parma, Italy
The body, the self and others
Donatella Marazziti, University of Pisa, Italy
Neurobiology of romantic relationships

MODERATOR:
Marcello Costa, Flinders University, Australia

5 July, 10:30 - 11:45, Sala Madrid

Who is leading research policy?

10

The involvement of Europe in research has been bringing added value through collaborative funding projects (Framework Programmes) designed to tackle issues of European and global importance. These programmes provide funds for transnational collaboration by focusing on thematic areas of importance to Europe. There have also been horizontal actions to give researchers greater access to European research infrastructure and promote the transnational mobility of researchers (Marie Curie). The principle of subsidiarity has always been paramount; the European Commission would not intervene in areas of national responsibility. This was rigidly adhered to with each Member State closely guarding national research policy and funding.
The winds of change came in 2000 with the Lisbon Agenda and the policy objective of developing a European Research Area. The EC moved from being a funder of Research to setting R&D policy. This session will focus on the evolution of a Research Career policy across Europe and how the EC now plays a central role in this area. Looking to the future the speakers will show how conflicts between European and national research policy have been overcome and that in many areas it is now hard to distinguish national from European policy. The question remains as to who is leading this European project, the Commission or the Member States and ultimately will it lead to a European federal system of research policy?

ORGANIZER:
Conor O'Carroll, Irish Universities Association, Ireland

SPEAKERS:
Iain Cameron, Research Councils, UK
The interaction between UK and EU research policy
Fulvio Esposito, University of Camerino, Italy
Active involvement of EU Member States in setting and implementing EU policy on research careers
Isi Saragossi, European Commission, EU
Towards 2020: the evolution of European Research Area
Nina McGuinness, University of Hannover, Germany
Does the Open Method of Coordination (OMC) lay the foundations for a supranational research policy?

MODERATOR:
Conor O'Carroll, Irish Universities Association, Ireland

5 July, 10:30 - 11:45, Sala Parigi

SmartOcean: technology solutions for intelligent monitoring of marine resources

4

Efficient management of water resources is a key global challenge. Technology-based approaches have the potential to provide rapid feedback on the quality and status of our oceans. Several European initiatives have promoted the installation and deployment of surface data buoys, cabled networks, and remote vehicle systems to enhance ocean observation and fill current knowledge gaps by increased frequency and variation in sampling. This session will present three seminars describing current capabilities and cutting-edge research and demonstration initiatives in Ireland, Spain, and Portugal.
The first part will describe SmartBay Galway, a test-bed facility comprising a network of buoys and other infrastructure that supports a range of sensors, information systems, telemetry and communication technologies for in-situ, real time oceanographic monitoring. The second will describe observational capabilities of the OBSEA installation in Spain, and address the benefits of long-term & high-resolution observatories for the characterization of ocean processes. The third presentation will discuss the role of networked vehicle systems in field studies with reference to recent technological developments, trends and the major challenges associated with this vision. The discussion is illustrated with examples of developments from the Underwater Systems and Technologies Laboratory from Porto University.

ORGANIZER:
Barbara Fogarty, National Centre for Sensor Research, Ireland

SPEAKERS:
Barbara Fogarty, National Centre for Sensor Research, Ireland
SmartBay: technology enabled solutions for the sustainable management of ocean resources
João Tasso de Figueiredo Borges de Sousa, Faculty of Engineering, Porto University, Portugal
Sensor systems on networked vehicles
Juan José Dañobeitia, Director, Castelldefels UTM-CSIC, Spain
OBSEA: a north-west coastal Mediterranean observatory

MODERATOR:
Geoffrey O'Sullivan, Irish Marine Institute, Ireland

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5 July, 10:30 - 11:45, Sala Roma

MRI scanners and the impact of the EU Physical Agents (EMF) Directive

9

Magnetic resonance imaging (MRI) is a powerful imaging technique and one of the outstanding developments in medical diagnosis of the past century. It is a cornerstone of modern medical practice and it continues to make inroads as a clinical and research tool. This session will show how it allows medical practitioners to rapidly and effectively examine the human body without the use of ionising radiation. In addition, the session will explore current developments, such as the use of MRI during surgery, giving surgeons a constantly updated, 3-D map of the patient they are treating.
In 2004, the EU adopted the Physical Agents (EMF) Directive, restricting occupational exposure to electromagnetic fields, including those used in MRI. Implementation in all EU Member States is mandatory, but was delayed until April 2012 when it was shown that some of the exposure limits in the Directive impact on the current use and future development of MRI technology. The MRI community is currently working with the European Commission in an attempt to find a solution that guarantees full use and development of MRI, whilst also ensuring appropriate protection of workers. This session will also include discussion of the background to this issue and an update on the current situation with the Directive.

ORGANIZER:
Tajinder Panesor, The Institute of Physics, UK

SPEAKERS:
Penny Gowland, University of Nottingham, UK
Future developments in MRI technology
Stephen Keevil, King's College London, UK
MRI and the Physical Agents Directive
Georges Herbillon, European Commission, EU
The European Commission's perspective on the Directive

MODERATOR:
Luisa Cifarelli, Italian Physical Society, Italy

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5 July, 14:15 - 15:30, Sala 500

Towards the next generation Digital Earth: new approaches to the creation and sharing of environmental information

7

Just over ten years ago, US Vice President Al Gore put forward a vision of Digital Earth as a multi-resolution, 3-dimensional representation of the planet that would make it possible to find, visualize, and make sense of vast amounts of geo-referenced information on the physical and social environment. Such a system would allow users to navigate through space and time, access historical data as well as future predictions based on environmental models, and support access and use by anybody, from scientists to children. At the time, this vision seemed almost impossible to achieve given its requirements on access to computer processing cycles, broadband internet, interoperability of systems, and above all data organization, storage, and retrieval.
Ten years later, many elements of Digital Earth are not only available but also used daily by hundreds of millions of people worldwide thanks to innovative ways to organize and present the data and rapid technological advancements. Moreover, individuals have now become empowered to produce vast quantities of geo-referenced information which is becoming increasingly relevant to help us monitor and understand the environment we live in. This session will explore these recent developments and show how close we have now come to achieving the vision of Digital Earth, particularly in relation to environmental information.

ORGANIZER:
Max Craglia, European Commission - Joint Research Centre (JRC), EU

SPEAKERS:
Max Craglia, European Commission - Joint Research Centre (JRC), EU
From INSPIRE to the Next Generation Digital Earth
Jeff Huntington, European Environment Agency (EEA), EU
Towards the next generation Digital Earth
Ed Parsons, Google Inc., UK
Google Earth: a community approach to global spatial data infrastructures

MODERATOR:
Max Craglia, European Commission - Joint Research Centre (JRC), EU

5 July, 14:15 - 15:30, Sala Londra

The double-edged sword of ICT in energy consumption

1

Information and communication technology (ICT), seen as the provisioning of communications, storage, and processing capabilities, is a major consumer of energy, whose cost ranks in the top expenditure list for any major telecom operator - in fact Telecom Italia is the second largest energy consumer in Italy. The increase in usage of communications, storage and processing, and the growing number of always-on broadband terminals threat a drastic increase in energy consumption. New technologies, architectures, and solutions, are at hand to quench the thirst for energy of future infrastructures.
However, ICT can also be exploited to reduce energy consumption. With sensor networks and smart applications it is possible to reduce consumption as well as rebalance load to avoid peaks of demand. Smart cars, info mobility, smart agriculture and enhanced distribution are just a few of the areas where ICT can also contribute to decreased energy consumption. ICT will also promote energy consumption reduction by substituting the need to involve atoms, be it by using either videoconferencing to decrease travel or e-ink to decrease paper production and consumption. Finally, ICT is bound to play a major role in increasing the efficiency in energy production and distribution.

ORGANIZER:
Marco Ajmone Marsan, Torino Polytechnic, Italy

SPEAKERS:
Luis Neves, GeSI Chairman, Vice President Corporate Responsibility, Deutsche Telekom AG, Germany
Axel Haentjens, VP OBS for Green IT, Orange France Telecom Group, France
Jurgen Quittek, General Manager, Network Research Division NEC, Germany
Mario Pickavet, University of Gent, Belgium
Stefano Frattesi, Indesit, Italy
Sabine Bulteel, GCD WW Product Marketing Manager & Product Manager ECO Connect Division - Thomson/ Technicolor, Belgium

MODERATOR:
Roberto Saracco, Telecom Italia, Italy

5 July, 14:15 - 15:30, Sala Istanbul

New opportunities in European drug research: the Innovative Medicines Initiative

9

The new research projects funded by the Innovative Medicines Initiative (IMI) focus on key questions in medical science. What makes the IMI research projects unique is that they bring together several large pharmaceutical companies, academia, smaller companies and other research organisations, and regulatory agencies and patient organisations as well. With its 2 billion euro research programme, IMI is the biggest public-private partnership of its kind. It receives 1 billion euro funding from the European Commission's Seventh Framework programme, which will be matched by at least equal in kind contributions (consisting mainly of research activities) by the member companies of the European Federation of Pharmaceutical Industries and Associations (EFPIA).
The main goal of IMI's unique and innovative funding scheme is to enable the faster and more efficient development of safer and better drugs for patients, by improving the tools and technologies (such as biomarkers, imaging techniques, knowledge management platforms and others) that are needed to make drug development more successful.

ORGANIZER:
Kim De Rijck, Innovative Medicines Initiative (IMI), Belgium

SPEAKERS:
Michel Goldman, Executive Director, Innovative Medicines Initiative, Belgium
The outcome of the first two IMI Calls for proposals
Elaine Irving, Glaxo Smith Kline, UK
The industry perspective: safety of drugs, and the input of patients in the understanding of diseases
Stephen Brendan McMahon, King's College London, UK
IMI projects from an academic perspective

MODERATOR:
Kim De Rijck, Innovative Medicines Initiative (IMI), Belgium

5 July, 14:15 - 15:30, Sala Madrid

The Cosmos: a journey through its bright and dark constituents

3

The ordinary (baryonic) matter appears to constitute only a very tiny part of the total matter/energy content in our universe. Dark matter and dark energy are currently invoked as the main ingredients of the Cosmos. Their presence in the universe is supported by a large host of independent cosmological and astrophysical data. But very challenging questions arise: What is the nature of dark matter and dark energy? How are the dark constituents distributed in the Cosmos? These fundamental puzzles are at the origin of an incredibly large research activity in cosmology, astrophysics and particle physics. The experimental activity involves measurements in underground laboratories, in ground-based observatories and in airborne detectors. Interpretation of the vast host of data which can be derived from these experiments as well as from completely independent investigations at the Large Hadron Collider at CERN leads researchers to investigate the most advanced theories about fundamental physics.

This seminar aims at giving a general overview of ideas at present being investigated in this field.

ORGANIZER:
Alessandro Bottino, The National Institute of Nuclear Physics (INFN), Italy

SPEAKERS:
Attilio Ferrari, University of Torino, Italy
The dark sides of the Cosmos
Nicolao Fornengo, University of Torino, Italy
A formidable task: searching for elementary particles as constituents of dark matter
Lars Bergstrom, Oskar Klein Centre and Stockholm University, Sweden
Observing the Cosmos by gamma-rays: does the dark matter shine?
Pierre Binetruy, APC and Université Paris-Diderot, France
A daring challenge: decrypting the dark energy

MODERATOR:
Attilio Ferrari, University of Torino, Italy

5 July, 14.15 - 17.00, Sala Parigi

Special session. Nano to Touch communication workshop

Delegates are invited to take part in an interactive workshop on direct communication between scientists the public, to discover new ways of engaging with audiences of all kinds. A professional facilitator animates a lively workshop with practical examples of what works and what doesn't work when speaking directly to the public. Tips and techniques will be given to engage people in discussion, handle controversy in the public, answer difficult questions and get the core science-related message across in a discussion.

ORGANIZER:
Jennifer Palumbo, Ecsite, Belgium

SPEAKERS:
Paul Hix, Sabine Grossmann, Hans-Christian Becker, Ellen Biermans

MODERATOR:
Frank Burnet, Burnet Consultancy, UK

5 July, 15:45 - 17:00, Sala 500

Origin of the universe: its shape and evolution

The session is focused on recent observational and theoretical progress on the Cosmic Microwave Background (CMB), dark matter, dark energy, dark ages, and theory of the early universe with predictive power, based on recent observation from scientific satellite WMAP, Planck, Hershel. The aim of the session is to put together real cosmological data and hard theory predictive approach connected to them in the framework of the Standard Model of the Universe. Infact the last experimental observation of the CMB, the first detectable radiation signal emitted 380,000 years after Big Bang, when the universe became transparent, makes it possible to test out theoretical models concerning the origin of the universe, its shape and its evolution. Panelist George Smoot (Nobel Prize for Physics in 2006) was a key figure on the road from CMB discovery (from the first CMB antenna observation to the straospheric baloons and COBE satellite data and the last measurement with WMAP satellite) to the understanding of how fluctuations in the primordial fireball survive to an epoch when galaxy formation is possible, giving shape to the universe as it appears today. In the first part of the workshop the evidence of experimental data is reported, while in the second part theoretical hypoteses are compared to measurements.

ORGANIZER:
Alba Zanini, The National Institute of Nuclear Physics (INFN), Torino, Italy

SPEAKERS:
Hector De Vega, Laboratory of Theoretical and High Energy Physics (LPTHE), Paris, France
Inflation at the origin of the universe and its consequences today
Nazzareno Mandolesi, IASF, Italian National Institute of Astrophysics (INAF), Italy
Meausurements of the fossil radiation of the universe with the Planck satellite
Norma Sanchez, Observatoire de Paris, France
Gravitational waves at the origin of the universe and a new expansion era
George Smoot, Lawrence Berkeley National Laboratory (LBNL), USA
The discovery of the anisotropy of the fossil radiation of the universe

MODERATOR:
Enrico Predazzi, University of Torino and ESOF2010 Champion, Italy

5 July, 15:45 - 17:00, Sala Londra

Warriors against claptrap: are myth busters the new generation of scientist-citizens?

There is a growing focus on the responsibility of scientists and engineers to communicate the implications of their work to the public and take a public participation in science policy. This has led to the new generation of researchers experimenting with different ways of raising the quality of science in public debates, and correcting issues that capture public imagination. For two years running, US researchers published articles in the British Medical Journal critically examining the evidence for common medicine myths such as drinking 8 litres of water a day. In 2007 Voice of Young Science, a UK network of early career scientists, launched a campaign hunting for the evidence behind pseudoscientific claims, and published their findings in a dossier, "There Goes the Science Bit…". This was picked up by media worldwide and had over 40,000 copies disseminated. These campaigns have led to similar investigations springing up in other countries and a growing network of researchers tackling pseudoscientific myths. Looking at the impact of these campaigns, this session will discuss the impact of scientists taking on the responsibility of debunking common scientific misconceptions that have captured public imagination and whether myth busting is creating a new generation of civic minded scientists. The session will also discuss what the impact

of these campaigns on public debates about science and science policy is and what effect it will have on the public perception of scientists.

ORGANIZER:
Julia Wilson, Sense About Science, UK

SPEAKERS:
Sergio Della Sala, University of Edinburgh, UK
Do all scientists have a civic responsibility? Is myth busting creating a skeptical informed public or a creating a culture of cynicism?
Clive Cookson, The Financial Times, UK
Has the relationship between science and media changed with the new generation of scientists? What impact does myth busting have on how science is reported?
Ana Godinho, Instituto Gulbenkian de Ciência, Portugal
What role does social media have in a myth busting?
Daniella Muallem, Sackler Medical School, Tel Aviv University, Israel
The Voice of Young Science

MODERATOR:
Tracey Brown, Sense About Science, UK

5 July, 15:45 - 17:00, Sala Istanbul

African Observatory for Sustainable Development: science in support to decision-making for development policies and programs 4

Africa's forests and biodiversity have high social and economic value, but they are often over-exploited, with damaging consequences for ecosystem sustainability and local economies. All too often poverty, economic decline, environmental degradation, desertification, and unequal access to resources and land lead to conflict and to migration. Africa's fast growing population and economic development put growing pressure on the environment to provide food, water and fibre. Information on the location, condition and evolution of resources is an important step towards sustainability, but unfortunately such information is often difficult to get, especially in parts of Africa.
Earth observing satellite technology, combined with geographical information management, can help fill the gap and really make a difference, providing crucial information for decision-makers, both African and from the donor community, allowing reliable assessments of situations and trends. As a result, both the formulation of development policies and the design of cooperation projects and programs can be improved, and African ownership can be fostered.
This session will illustrate the case of the Digital Observatory of Protected Areas (DOPA) and of the Observatory other Forests of Central Africa (OFAC), and it will show the role satellites can have to help decision-makers foster the Millennium Development Goals, for poverty alleviation and for improved environmental sustainability.

ORGANIZER:
Paolo Roggeri, European Commission - Joint Research Centre (JRC), EU

SPEAKERS:
Paolo Roggeri, European Commission - Joint Research Centre (JRC), EU
Why an ACP Observatory?
Alan Belward, European Commission - Joint Research Centre (JRC), EU
The role of science in policy making: the example of DOPA
Samy Mambaele Mankoto, President, Network of Protected Areas of Central Africa (RAPAC), France
The point of view of UNESCO and of RAPAC
Carlo Paolini, Biodiversity and conservation expert, independent consultant, Italy
The perspective of park managers
Mathieu Bousquet, DG Development, European Commission, EU
Forest management and monitoring: the needs of the donor community
Philippe Mayaux, European Commission - Joint Research Centre (JRC), EU
The case of OFAC
Andrea Micconi, ONG Piemonte, Italy
Needs and role of the NGOs in the process

MODERATORS:
Paolo Roggeri, European Commission - Joint Research Centre (JRC), EU
Alan Belward, European Commission - Joint Research Centre (JRC), EU

5 July, 15:45 - 17:00, Sala Madrid

From LHC to cancer therapy: how particle accelerators like cyclotrons and synchrotrons can be a tool to help in the fight 9

Cancer is the second cause of death in western countries and many are the tools that are used to fight against it. Radiation therapy is widely used and the goal is to deposit a large amount of energy on the target, sparing healthy tissue around. In standard radiation therapy, electrons and photons are used. Although technologically very challenging, hadrons like protons and carbon ions can be extremely useful and effective. The seminar will describe this type of therapy, often called hadrontherapy.
After a brief introduction on the rationale for exploiting protons and carbon ions to treat cancer, the panel will describe how cyclotrons and synchrotrons are currently used (and may be used in the future) in hadronterapy. Focus will be put on the similarities between the physics and technology of these accelerators, in comparison to research accelerators.

ORGANIZER:
Roberto Cirio, University of Torino and INFN Torino, Italy

SPEAKERS:
Luciano Calabretta, The National Institute of Nuclear Physics (INFN), Catania, Italy
Superconducting cyclotrons for hadrontherapy
Thomas Haberer, Heidelberger Ionenstrahl-Therapiezentrum (HIT), Germany
Tumour therapy with charged particles at a synchrotron-based clinical facility

MODERATOR:
Roberto Cirio, University of Torino and INFN Torino, Italy

6 July, 09:00 - 10:15, Sala 500

The science of humour

8

What would a visiting alien make of human laughter? We throw our heads back and show our teeth, water streaming from our eyes as we bark, choke and snort at each other. What is this strange behavior? How did it evolve? And what makes one thing funny and others not at all? This session will assess what we have learned so far about humour. A roundtable of experts from the sciences and humanities will share progress from their respective fields in understanding humour's origins, mechanisms, and functions. In non-technical language, they will address such mysteries as the giggling of rats and the play of children, the power of satire and the infectious spread of yawns and laughter.

ORGANIZER:
John Bohannon, Science Magazine, USA

SPEAKERS:
Allan Reiss, Stanford University, USA
Salvatore Attardo, Texas A & M University, USA
Tom Flamson, University of California Los Angeles, USA

MODERATOR:
John Bohannon, Science Magazine, USA

6 July, 09:00 - 10:15, Sala Londra

Disaster prediction and management: breaking a seismo-ill-logical circulus vitiosus

4

Contemporary geophysics and seismology are responsible for not coping with changes of exposures and vulnerability, which result in the observed steady increase of social losses due to natural hazards. Recent disastrous earthquakes including those in Wenchuan (China), L'Aquila (Italy), and Port-au-Prince (Haiti) are on the limit of a man-made fault committed by technocratic authorities and their advisers. The workshop intends to demonstrate that contemporary science can do a better job in disclosing natural hazards, assessing risks, and delivering such information in advance, in the case of catastrophic events, by means of pattern recognition, multiscale analysis, and neodeterministic seismic hazard modeling.
Geoscientists must initiate shifting the minds of community from pessimistic disbelieve to optimistic debate on hazard predictability – based on the recent progress in real-time data retrieval and monitoring of distributed multiple geophysical characteristics world-wide. Geoscience must become a knowledgeable "brain" of preventive disaster management. Geoscientists have to revolutionize the current situation and eventually start protecting (to some extent) human life and property by a systematic, uninterrupted chain of tasks. These must substitute the existing practice of ill-logic cycle of quickly decaying interest and aftershock support, disaster after disaster.

ORGANIZER:
Vladimir G. Kossobokov, IUGG Commission on Geophysical Risk and Sustainability and Russian Academy of Sciences, Russian Federation

SPEAKERS:
Vladimir G. Kossobokov, IUGG Commission on Geophysical Risk and Sustainability and Russian Academy of Sciences, Russian Federation
Statistics of extreme seismic events and their predictability
Alik Ismail-Zadeh, International Union of Geodesy and Geophysics (IUGG) and Karlsruhe Institute of Technology, Germany
From earthquake science to preventive disaster management
Giuliano F. Panza, University of Trieste, Italy
Neodeterministic seismic hazard assessment
Jacques Zlotnicki, Laboratoire Magmas et Volcans, France
Tracking electromagnetic phenomena associated with earthquakes

MODERATOR:
Alik Ismail-Zadeh, International Union of Geodesy and Geophysics (IUGG) and Karlsruhe Institute of Technology, Germany

6 July, 09:00 - 10:15, Sala Istanbul

Tomorrow's photovoltaics: the new technology revolution

5

The current emergence of photovoltaics as a mainstream source of electric energy is seen as only the first step in a long-term process of learning how best to exploit our most abundant source of renewable energy. This leads to the question: what will be the next paradigm shift in photovoltaic technology to help it fulfil its potential? In today's society reeling from energy crises and financial instability, there is a need to look beyond short-term solutions to examine how best to invest in a new generation of infrastructure and technologies, bearing in mind that these may have profound implications for our society and lifestyle. Indeed realising our ambitions for photovoltaics will require high levels of innovation at all stages of the cycle, from device conception and mass production to distribution and consumption. To examine these issues, the session brings together three short talks by leading experts from the areas of research, industry and European renewable energy policy, followed by an interactive discussion to critically assess the different perspectives and implications for our society.

ORGANIZER:
Nigel Taylor, European Commission - Joint Research Centre (JRC), EU

SPEAKERS:
Heinz Ossenbrink, European Commission - Joint Research Centre (JRC), EU
Innovation and large scale PV: EU outlook
Winfried Hoffman, Applied Materials, Germany
Technologies for mass production of PV
Daniel Lincot, CNRS Institute for Research and Development of Photovoltaic Energy (IRDEP), France
New PV technology directions

MODERATOR:
Ewan Dunlop, European Commission - Joint Research Centre (JRC), EU

6 July, 09:00 - 10:15, Sala Madrid

Renaissance for discovery at CERN 3

Europe's largest particle physics project, the Large Hadron Collider (LHC), will peer into the physics of the shortest distances (down to a nano-nanometer) and highest energies ever reached. For the next two decades particle physicists at the European Organisation for Nuclear Research will be able to explore the new energy domain beyond the Standard Model of particle physics, where new physics is expected to occur, such as the quark-gluon plasma (a novel state of matter) and the particle that constitutes the dark matter that makes up most of the matter in the universe. As the LHC will unveil the mysteries surrounding the structure of matter, this will also have far-reaching implications for cosmology and will allow us to learn more about the early universe. The matter of which we and the whole universe are made was probably born during the first microseconds after the Big Bang from a soup of elementary particles. The new LHC machine will make it possible to create the conditions similar to the Big Bang in the laboratory and will contribute to answer one of the basic questions of humanity: where did we come from? This session aims to make the general scientific goals at the LHC facility known to a broader audience and will discuss the impact of the expected results to the society.

ORGANIZER:
Andre Mischke, Utrecht University, The Netherlands

SPEAKERS:
Geraldine Servant, European Organization for Nuclear Research (CERN), Switzerland
The particle accelerator - cosmology connection
Andre Mischke, Utrecht University, The Netherlands
Big Bang in the laboratory

MODERATOR:
Andre Mischke, Utrecht University, The Netherlands

6 July, 09:00 - 11:45, Sala Parigi

Network or perish: a gender perspective on access to project funding and management 10

This session intends to explore the relation between women scientists' participation in research funding and the importance of networking. Statistics demonstrate the low rates of women scientists applying to, participating in and leading funded research projects. This scarcity of women is detrimental to scientific excellence. Attracting a large pool of excellent candidates to funding programmes is crucial to providing the best conditions for the advancement of knowledge in science and technology in Europe. A greater involvement of women in research funding programmes at all levels would also contribute to enrich research projects in terms of methods, subjects and objectives assigned to scientific research.
The goal of the session is to identify how to enhance proactive participation of women in funded research projects. The focus will be on networking activities as an instrument to enhance their involvement at all levels. More particularly, the session will look at the role of networking during the preparation stages of applications as well as throughout the project phase, e.g. regards the distribution of project tasks and in reaching positions in management bodies of funded projects and/or funding schemes. The position of the session co-organisers in the research community (COST, ESF, and EPWS) will ensure that within the framework of ESOF this session will actively contribute to stimulate changes in the administration of funding projects and in the political environment.

ORGANIZER:
Caroline Whelan, European Cooperation in Science and Technology (COST), EU

SPEAKERS:
Martin Grabert, European Cooperation in Science and Technology (COST), EU
Maren Jochimsen, European Platform of Women Scientists (EPWS), Belgium
Carl Jacobsson, Department of Research Policy Analysis, Swedish Research Council, Stockholm, Sweden
Luisa Prista, European Commission, EU
Britta Thomsen, Socialist Group in the European Parliament, Denmark

MODERATOR:
Heather van der Lely, Harvard University, USA

6 July, 09:00 - 10:15, Sala Atene

New definitions in the International System of Units (SI) and development of European metrology 4

For many years the goal of world metrologists has been to advance and improve the International System of Units (SI) by defining the base units in terms of the invariants of nature – the fundamental constants. This dream could soon become reality. The coming years might see a new definition of four SI base units (kilogram, ampere, kelvin, mole), according to Resolution 12 of the 23rd meeting of the Conférence Générale des Poids et Mesures. At present National Metrological Institutes (NMIs) are carrying out experiments aiming at measuring precisely the fundamental constants involved (h, NA, kB), in attempts to redefine the above four base units and make them traceable to fundamental constants. Progress in quantum optics is also stimulating studies addressing a possible future redefinition of the second and of the candela.
To have close and secure access to accurate measurements that are traceable to the International System of Units (SI) (metre, kilogram, second, etc.) is a prerequisite for a modern industrial society. The scope of today's challenges can only be met by multinational cooperation – hence the timeliness of a major new metrology research programme (EMRP), organised by EURAMET, the association of European NMIs in 34 countries. The EMRP is one of the most integrated collaborations in the flagship European Research Area.

ORGANIZER:
Marina Sardi, National Institute of Metrological Research (INRIM), Italy

SPEAKERS:
Walter Bich, National Institute of Metrological Research (INRIM), Italy, and **Michael Kuehne,** Bureau International des Poids et Mesures (BIPM), Sèvres, France
Intended new definitions in the International System of Units (SI)

Luc Erard, Laboratoire national de métrologie et d'essais, France and **Leslie Pendrill,** EURAMET Chair, Technical Research Institute, Sweden
Development of European metrology

MODERATOR:
Elio Bava, National Institute of Metrological Research (INRIM), Italy

6 July, 09:00 - 10:15, Sala Copenaghen

Environmental risks for metals: from structures to artifacts

4

Conservation and valorisation of cultural heritage is an essential mission of the European and especially Mediterranean countries, where most of the ancient artifacts are – a legacy of human creativity. Dissemination is essential to ensure that innovative materials, analytical techniques and conservation methodologies developed and tested in research projects reach the world of curators of tangible cultural heritage.
The session aims to bring together a group of material scientists involved in an Italian project with groups working on metal protection from other Mediterranean countries, for an exchange of experiences on sustainable safeguard and valorisation of cultural heritage of artistic and historical interest. Our goal is also to foster access to knowledge and expertise developed in the field of materials science and provide an opportunity to participate in scientific exchanges at an international level.

ORGANIZER:
Emma Angelini, Department of Material Science and Chemical Engineering, Politecnico di Torino, Italy

SPEAKERS:
Fabrizio Zucchi, Department of Chemistry, University of Ferrara, Italy
Outdoor bronze corrosion and protection
Marco Parvis, Department of Material Science and Chemical Engineering, Politecnico di Torino, Italy
Monitoring of environmental conditions in indoor environments
Panayota Vassiliou, National Technical University of Athens, Greece
Innovative protective coatings and methodologies

MODERATORS:
Mario Piacentini, Department of Energetic, University of Rome, Italy
Venice Gouda, National Research Center, Egypt

6 July, 10:30 - 11:45, Sala 500

The electricity transmission grid: how to integrate more renewable energy sources

5

The European Union's objective of raising the share of Renewable Energy Sources in its final energy consumption to 20% in 2020 calls for a significant increase in RES deployment in the electricity sector. Several analyses consider that up to 35-40% of electricity demand should be covered by RES in 2020 in order to fulfil the EU ambitions. The need to accommodate such large RES share has significant implications on how the electricity arteries crossing the European countries/continent – i.e. the transmission networks – and the electricity capillaries covering much shorter distances – i.e. the distribution grids – have to be operated, designed and developed.
Focus of this session is on key regulatory, technical and technological challenges linked with integrating the ongoing swift and expected increasing penetration of RES in the transmission grid. We will stress in particular the aspects related to find sustainable pathways for scaling up renewable energy and promoting viable solutions for super grids, considering also the potential political impact of changed energy structures. Additionally, the session offers an international perspective on the issues faced by the European system and makes use of an interdisciplinary approach, thanks to speakers with diversified political, regulatory, technical and scientific background.

ORGANIZER:
Gianluca Fulli, European Commission - Joint Research Centre (JRC), EU

SPEAKERS:
Nicholas Dunlop, e-Parliament Initiative, UK
How can legislators promote a shift to increasing renewable energy sources in the electricity grids?
Jorge Vasconcelos, Portuguese Energy Regulator, Portugal
How can energy regulation reconcile RES promotion with efficient electricity markets and infrastructure development?
Gianluca Fulli, European Commission - Joint Research Centre (JRC), EU
What role does High Voltage Direct Current (HVDC) play and what HVDC backbones or supergrids does Europe need?
Maria Rosa Palacín, Institut de Ciència de Materials de Barcelona, Spain
What storage do we need to reach the targets?

MODERATOR:
Arnulf Jaeger-Waldau, European Commission - Joint Research Centre (JRC), EU

6 July, 10:30 - 11:45, Sala Londra

From fish to humans: the evolution of regeneration and repair

2

Animals that are very simple in their architecture, such as invertebrates, can easily regenerate large parts of their body. Some vertebrates, such as salamander, can regenerate whole limbs and large portions of the nervous system. Mammals, including humans, as more complex organisms, have far smaller regenerative capacities. In the last few years, biomedical research has been pursuing the goal of cell replacement in human tissues, dreaming of the so-called "regenerative medicine". The discovery of stem cells in many organs, even in the highly complex, non-renewable tissue that makes the nervous system, opened new hopes for healing pathologies that are at present untreatable, such as for example the neurodegenerative diseases.
Why regenerative processes seem to slow down throughout evolution? Is it just a matter of complexity in the architecture of biological structures? Do successful regeneration in simple organisms and abortive repair in humans share the same mechanisms? Is repair in humans a physiological

function or should it be artificially created? In this workshop, the issue of regeneration and repair through evolution is discussed by speakers working on different aspects of the nervous system regenerative processes, spanning from fish to humans.

ORGANIZER:
Luca Bonfanti, Department of Veterinary Morphophysiology, University of Torino, Italy

SPEAKERS:
Luca Bonfanti, Department of Veterinary Morphophysiology, University of Torino, Italy
Stem cells and stem cell niches: theme and variations
Gunther Zupanc, Department of Biology, Northeastern University, Boston, USA
Regeneration across phyla
Ferdinando Rossi, Department of Neuroscience, University of Torino, Italy
Evolution of brain repair
Ernest Arenas, Department of Medical Biochemistry and Biophysics, Karolinska Institutet, Stockholm, Sweden
Generation and regeneration of dopamine neurons: therapeutic approaches to Parkinson's disease

MODERATOR:
Ferdinando Rossi, Department of Neuroscience, University of Torino, Italy

6 July, 10:30 - 11:45, Sala Istanbul

Improving the patient partnership in clinical research 9

Clinical research plays a vital part in making progress towards better knowledge and understanding of human health and disease, and the development of new, safe and effective treatments. The dialogue between science and society is particularly important in clinical research, which involves patients and healthy volunteers. In this field, patients and citizens not only support, through taxes, the cost of research and development, but are also the end-users of the resulting therapeutic, diagnostic and preventive agents, and take risks as voluntary participants in clinical studies.
The European Clinical Research Infrastructures Network (ECRIN) aims to facilitate clinical research at the European level, taking advantage of the size of EU population to enhance the competitiveness of European academic research and the attractiveness of the EU for health research and development. The objective of this panel discussion is to highlight the importance of patient involvement in clinical research, and the need for a strong clinical research capacity and for appropriate funding mechanisms in Europe. The session will feature presentations from patient groups and the clinical research community at a European level. Using the example of Ireland, where IPPOSI is commissioning a survey of public attitudes to clinical research, the session will explore how patient organisations, working closely with the clinical research community, may address barriers to clinical research.

ORGANIZER:
Christine Kubiak, European Clinical Research Infrastructures Network (ECRIN), France

SPEAKERS:
Silvio Garattini, Istituto Mario Negri, Italy
Involvement of patients in clinical research
Paola Mosconi, Istituto Mario Negri, Italy
Involve lay people, patients' associations and scientific-medical representatives on the health debate: the PartecipaSalute project
Eibhlin Mulroe, Irish Platform for Patients' Organisations, Science and Industry (IPPOSI), Ireland
What do the public know about clinical research?
Jacques Demotes-Mainard, ECRIN and INSERM, France
Clinical research as a model for the dialogue between science and society
Ruth Barrington, Molecular Medicine, Ireland

MODERATOR:
Christine Kubiak, European Clinical Research Infrastructures Network (ECRIN), France

6 July, 10:30 - 11:45, Sala Madrid

Synchrotron light for Europe: widening access to science 4

With Europe gathering 13,000 synchrotron light source users and an average production of 10,000 scientific papers every year, synchrotron light sources have been Europe's best kept secret... well not anymore! The European network of synchrotron light sources is joining forces to foster stronger collaborations and help promote this special area of science to the general public. If you're wondering what synchrotron light sources are and what on earth they do, this session will introduce their role across Europe and unveil some of their latest scientific achievements.
Four leading scientists will showcase their projects, demonstrating the relevance of synchrotron science in the fields of nano-scale materials, infrared imaging and environmental science. For those interested in the latest synchrotron-based research and wanting to explore the area of cross country collaboration and the benefits it can bring to research, public engagement campaigns and institutes as a whole.

ORGANIZER:
Sarah Bucknall, Diamond Light Source, UK

SPEAKERS:
Nick Brooks, Imperial College London, UK
Using high pressure to expand our knowledge of biological molecules
Paul Dumas, Synchrotron SOLEIL, France
Infrared light: moving knowledge forward for science and society?
Mark E. Hodson, University of Reading, UK
Metal munching earthworms helping us to clean up the environment
Richard Pattrick, University of Manchester, UK
Illuminating the amazing talents of bacteria and minerals to create miniature bio-magnets

MODERATOR:
Toby Murcott, Ketoe Communications, UK

6 July, 10:30 - 11:45, Sala Atene

Towards an effective nutrition labeling scheme in Europe

8

Healthier food choices by European consumers hold the potential to significantly contribute to the health and well-being of the European community. It is generally believed that better and more transparent information on the nutritional content of food products could help consumers make more informed and hence more healthy food choices. However, there are many uncertainties as well as serious gaps in the scientific evidence about whether nutrition information on food labels is exerting an effect on healthy food choices among consumers. If there is an effect, it is not known how strong it is, under which circumstances it occurs, what factors are responsible for it occurring, or whether the effect differs between consumer groups.
With this background and in the context of the current revision of the nutrition labelling legislation, the European Commission funded a three year strategic research project – Food Labelling to Advance Better Education for Life (FLABEL) with two strategic objectives: to determine how nutrition information on food labels can affect dietary choices, consumer habits and food-related health issues; and to provide the scientific basis on use of nutrition information on food labels, including scientific principles for assessing the impact of different food labelling schemes, to be shared with the EU institutions, the food industry, and other stakeholders.

ORGANIZER:
Stefan Storcksdieck, European Food Information Council (EUFIC), Belgium

SPEAKERS:
Klaus Grunert, Aarhus University, Denmark
Do consumers understand nutrition information on labels?
Hans van Trijp, Wageningen University, The Netherlands
Consumers attention to labels and their effect on making healthy choices
Grazyna Wasowicz-Kirylo, Warsaw University, Poland
Consumers perceptions in emerging markets: the case of Poland

MODERATOR:
Josephine Willss, European Food Information Council (EUFIC), Belgium

6 July, 14:15 - 17:00, Sala 500

What are the challenges to a democratic participation in scientific progress?

6

The public accountability of scientific-technological innovation is the key issue of contemporary democracies. Yet, if the experimentation with the options that science offers is an increasingly central feature of our lives, a similar degree of experimentation with the democratic forms that should channel that offer seems to be less prominent. This is particularly the case for the life sciences, where the debate is still dominated by a law-lag or policy-lag narrative, according to which science proceeds down an inevitable slope of innovation with institutions and citizens in the equally inevitable downstream position of resisting or accepting change at the bottom of the slope. But if scientific-technological development needs to be publicly accountable, also by virtue of its deep impact, this accountability is bound to include forms of participation that accompany and shape the trajectory of the innovation slope, rather than wait passively at its bottom to reap or destroy the harvest. And yet, precisely what it means in real terms to participate in scientific progress is an unresolved issue that confronts the very foundations of democratic life, both in their theoretical underpinnings and their practical dispensations. The aim of this session is thus to highlight the current challenges in the democratic deliberation around the life sciences, through an interdisciplinary approach that brings together science and technology studies, epistemology, bioethics and political sciences.

ORGANIZER:
Giuseppe Testa, European Institute of Oncology and European School of Molecular Medicine, Italy

SPEAKERS:
Massimiano Bucchi, University of Trento, Italy
Of ducks and rabbits, geese, cats and dogs: is consensus possible in a pluralist society?
Giuseppe Testa, European Institute of Oncology and European School of Molecular Medicine, Italy
Rethinking democracy in the biotechnological age
Giovanni Boniolo, Firc Institute of Molecular Oncology and European School of Molecular Medicine, Italy
Deliberating ethical issues
Herbert Gottweis, Life-Science-Governance Research Platform, University of Vienna, Austria
Life, death, and democracy
Christine Hauskeller, ESRC Centre for Genomics in Society, UK
Scientific progress and the limits of regulation
Matteo Mameli, King's College London, UK
Science and democracy: rights and duties

MODERATOR:
Giuseppe Testa, European Institute of Oncology and European School of Molecular Medicine, Italy

6 July, 14:15 - 15:30, Sala Londra

More years - more life: tapping into the potential of the extended life

9

An individual in Europe ages very differently these days than she/he did at the beginning of the 20th century. Back then, average life expectancy was 48 years for women and 45 for men. Forty years ahead from now, people will live nearly twice as long: 90 years for women and 86 years for men are predicted by demographers. But not only has the number of years increased – the quality of life also has. Lifestyles are more diverse than ever, and more and more people reach old age in good health, mental and physical fitness. Research has shown that neither learning abilities nor creativity or productivity of healthy people necessarily decline with age. The weight of the last third of life has started to force open the current understanding of retirement and life structure. After scrutinizing the relation between life and learning opportunities on the one hand and human abilities on the other, a multidisciplinary working group of the German Academy of Sciences Leopoldina, including science, humanities and industry practitioners,

has presented evidence-based recommendations to society and individual, to entrepreneurs, politicians, and civil society. It has also identified and disproved commonly held myths on aging. It has started to discuss with societal actors what can be done to fully tap the potential of the extended life and how aging societies and our minds need to transform accordingly. The coming decade (2010-20) will be decisively shaped by debate and action on demographic aging.

ORGANIZER:
Katja Patzwaldt, Jacobs University Bremen and Leopoldina, Germany

SPEAKERS:
Vegard Skirbekk, International Institute for Applied Systems Analysis (IIASA), Austria
Productive aging and learning: how do creativity and productivity change throughout a life time? Economic effects for individual and society
Claudia Voelcker-Rehage, Jacobs University Bremen and Leopoldina, Germany
Plasticity of aging: the effect of physical training on cognitive functioning
Elisabeth Steinhagen-Thiessen, Charité Berlin, Germany
Healthy aging: how can medicine foster autonomous living?

MODERATOR:
Katja Patzwaldt, Jacobs University Bremen and Leopoldina, Germany

6 July, 14:15 - 15:30, Sala Istanbul

Epigenetics: changes in genome functions that control differentiation, stem cell tumors, and ageing 2

Epigenetics describes the study of heritable changes in genome function that occur without a change in DNA sequence. In the nucleus of eukaryotic cells, genomic DNA is highly compacted with histone and non-histone proteins into a dynamic polymer called chromatin. Gene expression, chromosome segregation, DNA replication, repair, and recombination all act on the chromatin template. Epigenetic marks, such as DNA methylation and chromatin modifications, play key roles in development and differentiation, and their deregulation is implicated in human genetic diseases and in cancer. Unlike the DNA sequence, epigenetic modifications vary among cell types, throughout the cell cycle, or in response to specific stimuli. Consequently, many epigenomes must exist, raising the question of how to interpret them all.
The study of epigenetic mechanisms of gene regulation in early embryos, germ cells, stem cells, and tumors will enlighten the molecular mechanisms. Detailed understanding of the mechanism involved in the regulation of epigenetic modifications will be valuable for the detection and eradication of immortal cancer cells. This knowledge will also be important for manipulating stem cells and adult cells for the repair and rejuvenation of diseased body tissues, and for the discovery of new therapeutic agents that can prevent or reverse the trend in ageing tissues towards debilitating diseases such as Alzheimer's and cardiac conditions.

ORGANIZER:
Salvatore Oliviero, University of Siena, Italy

SPEAKERS:
Valerio Orlando, Dulbecco Telethon Institute, Italy
Epigenetic control of cell identity
Wolf Reik, University of Cambridge, UK
Epigenetic control of imprinting

MODERATOR:
Salvatore Oliviero, University of Siena, Italy

6 July, 14:15 - 15:30, Sala Parigi

Reducing the toll of smoking-related disease and death: the case for tobacco harm reduction 9

Tobacco control is of such global concern that it is at the centre of the world's first international public health treaty, the Framework Convention on Tobacco Control (FCTC). Traditionally tobacco control has centred around cessation policies, and while these policies have gradually reduced smoking rates, many in the tobacco-control community believe that they have lost momentum. Indeed, despite the well-known health risks and warnings, there are still hundreds of millions of committed smokers, and the number is growing especially in Asia. Currently accepted cessation aids have a poor success record, with less than 15% abstinence rates after one year.
Harm reduction (HR) strategies hold significant promise to reduce smoking-related disease and death. HR has been effectively used in other areas, e.g. HIV reduction via clean needles. With tobacco, HR refers to issues raised by products designed to continue nicotine use but at reduced risk of disease. Evidence shows that not all forms of tobacco are equally lethal. In Sweden, men have taken up smokeless tobacco en masse, and Sweden now has the lowest rate of lung cancer of any comparable developed nation, and lower levels of oral cancer and vascular disease. In the US, one year ago the FDA tobacco regulation bill was enacted. We will provide new data on the Swedish experience, discuss THR in light of the anniversary of the historic FDA legislation, as well as discuss the role THR could play in the ongoing work of the FCTC.

ORGANIZER:
Gilbert Ross, The American Council on Science and Health, USA

SPEAKERS:
Karl-Olov Fagerstrom, Smokers' Information Centre, Sweden
The health effects of different nicotine products or all tobacco products are not equally harmful
Karl Erik Lund, Norwegian Institute for Alcohol and Drug Research, Norway
The need for extended strategies: the potential benefits of harm reduction by LOTNIPs (low-toxicity nicotine products)
Lars Ramstrom, Director, Institute for Tobacco Studies, Sweden
The rationale for establishing low-toxicity smokeless nicotine product policies: why are the pros stronger than the cons?

MODERATOR:
Gilbert Ross, The American Council on Science and Health, USA

6 July, 14:15 - 15:30, Sala Roma

The European Galileo and EGNOS satellite navigation systems as key technologies for a sustainable green evolution of the transportation paradigm

1

Satellite navigation has already found widespread applications in a large variety of fields. Given the growing importance of these applications, a European project for a global satellite navigation system named Galileo has been started by the European Commission and the European Space Agency as a strategic priority. Galileo will be a novel system compatible and interoperable with GPS but designed for civil purposes, aiming at creating innovative applications based on positioning. Galileo consists mainly in the realization of a new satellite navigation system able to provide innovative features with world-wide coverage. Galileo will improve performance with respect to the GPS, overcoming some of the present limitations of GPS in terms of precision, reliability and integrity. Galileo is already an important technological success for Europe (two satellites are already in orbit), and following this roadmap, Europe itself is planning to employ Galileo as a key infrastructure for the modernization and harmonization of several application sectors starting from road transportation.
The goal of this session is to define the potential of Galileo in supporting the evolution of transportation in terms of traffic control and optimization, automatic European emergency call (e-112) based on the vehicle position, monitoring and reduction of vehicle pollution (green driving), monitoring of hazardous goods over the European territory and automatic pan-European road tolling.

ORGANIZER:
Paolo Mulassano, Istituto Superiore Mario Boella, Italy

SPEAKERS:
Carmen Aguilera Rios, Galileo Supervisory Authority, European Commission, EU
Opportunities for innovation in transport and mobility applications: a perspective based on the FP7 experience.
Fabio Dovis, Politecnico di Torino, Italy
Role of higher education in Galileo and EGNOS in the innovation value-chain
Joaquim Fortuny-Guasch, European Commission - Joint Research Centre (JRC), EU
The problem of security in GNSS-based critical applications: vulnerabilities and possible solutions
Ha Manh Thu, International Cooperation Department, Hanoi University of Technology (HUT), Vietnam
Galileo as a world-wide system supporting the deployment of innovative mobility-related services in developing countries
Michel Bosco, Deputy Head of Unit, GNSS International *Aspects and Applications, European Commission, EU*
Galileo programme update

MODERATOR:
Michel Bosco, Deputy Head of Unit, GNSS International Aspects and Applications, European Commission, EU

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6 July, 14:15 - 15:30, Sala Atene

Tackling social tension through science communication

4

Can science and science communication experience and skills be used to create places where conflicts and social tension may be addressed, and as a tool for promoting citizenship? Examples from Israel and France show that it can be done, and it is much appreciated – but it takes courage, creativity, hard work and dedicated people. At the Bloomfield Science Museum in Jerusalem, a multicultural team has built a place full of hope for both the Jewish and the Arab populations with many stories to be told. In the suburbs of Paris, a group of academics from Paris-Montagne, an association working with citizen participation, have established a programme aimed at high-school students from disadvantaged areas who are invited to visit research labs. This has been most successful; many of the 500 students involved so far have continued into scientific studies – but they have also become more engaged in their communities and schools. Other initiatives from the world of science events – like the "permanent science café"– will be also presented briefly.

ORGANIZER:
Jan Riise, European Science Events Association (EUSCEA), Sweden

SPEAKERS:
Maya Halevy, Bloomfield Science Museum Jerusalem, Israel
The Bloomfield Science Museum in Jerusalem: a place for social interactions and civil debates through scientific topics
Livio Riboli-Sasco, Paris-Montagne, France
Developing citizenship and social cohesion by experiencing the values of scientific research: student and teacher initiatives in French suburbs, ex-Yugoslavia and Palestine

MODERATOR:
Leonardo Alfonsi, Vice-president, European Science Events Association (EUSCEA), and Director, Perugia Science Fest, Italy

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6 July, 14:15 - 15:30, Sala Copenaghen

European Energy Research Alliance: the top of the league in energy research

5

In an unprecedented move, ten leading European Research Institutes have taken up the challenge and founded the European Energy Research Alliance (EERA) in October 2008. The key objective of the EERA is to accelerate the development of new energy technologies by conceiving and implementing Joint Research Programmes in support of the Strategic Energy Technology (SET) plan by pooling and integrating activities and resources, combining national and Community sources of funding and maximising complementarities and synergies. EERA is a direct answer from the European scientific community to the demand for innovation in the energy sector as some of the greatest problems of our time revolve around energy, namely security of supply, climate change and sustainability.
The creation of EERA triggered already further activities. For example, the European Universities Association announced

the establishment of a new "European Platform of Universities engaged in Energy Research" as a mechanism to bring university-based research into EERA activities. The workshop will demonstrate how the initiatives initiated and carried out by EERA strengthen, expand and optimise EU energy research capabilities through the sharing of world-class national facilities in Europe and the joint realisation of pan-European research programmes.

ORGANIZER:
Piotr Swiatek, Forschungszentrum Jülich, Germany

SPEAKERS:
Britta Thomsen, Socialist Group in the European Parliament, Denmark
Massimo Busuoli, Italian National Agency for New Technologies, Energy and the Sustainable Economic Development (ENEA), Italy
Raffaele Liberali, DG Research, European Commission, EU

MODERATOR:
Piotr Swiatek, Forschungszentrum Jülich, Germany

6 July, 15:45 - 17:00, Sala Londra

Practical uses of recent developments in genetic technology

9

The purpose of the session is to critically assess the recent developments in genetics (including genome-wide scans), their achievements and transferability to prevention, health promotion and health care. The role of genes and of environmental exposures will be compared in increasing risks for chronic diseases such as cancer, cardiovascular diseases and diabetes. Emphasis will be put on the interactions between genetic susceptibility and environmental exposures. Scientific, practical and ethical issues of genetic testing will be discussed.
The session will cover the following areas: achievements of genome-wide scans in cancer, cardiovascular disease and diabetes; the role of the environment and gene-environment interactions in chronic diseases; transfer of genetic information on chronic diseaseas to prevention and medical practice; ethical issues of genetic testing.

ORGANIZER:
Paolo Vineis, Imperial College London, UK

SPEAKERS:
Paolo Vineis, Imperial College London, UK
The role of genes and environment in chronic disease etiology: a long story
Jon Hewitt, Portsmouth Hospitals Trust, UK
The ethical challenges of biobanks for genetic studies
Zdenko Herceg, International Agency for Research on Cancer, France
Understanding gene regulation and the breakthroughs of epigenetics
Miquel Porta, Institut Municipal d'Investigació Mèdica, Universitat Autònoma de Barcelona, Spain
Integrating lifecourse, environmental, molecular and epigenetic epidemiology

MODERATOR:
Paolo Vineis, Imperial College London, UK

6 July, 15:45 - 17:00, Sala Istanbul

Climate change prediction models: what's the point?

4

The challenge of implementing policies and strategies to mitigate the consequences of climate change, such as rising sea levels and adverse weather conditions, is one which occupies an increasing amount of the political agenda. To document changes in the climate and to try to understand the causes of these changes, meteorologists, physicists and other scientists rely on computer-based models of the climate system. These mathematical models draw on our scientific understanding of the climate system which is gained, in part, by analysing a range of climate data gathered from a variety of sources. The ultimate aim of this work is to construct a comprehensive climate prediction model which summarises our physical understanding of the atmosphere-ocean system.
This session aims to discuss the efficacy of climate change prediction models and whether they are sufficiently robust to influence governments to implement policies to mitigate the affects of a changing global climate.

ORGANIZER:
Tajinder Panesor, The Institute of Physics, UK

SPEAKERS:
Paul Williams, University of Reading, UK
Climate change: should we be worried?
Martin Wattenbach, Freie Universität Berlin, Germany
The science behind climate change prediction
Jane Desbarats, Institute for European Environmental Policy, UK
European climate change policies: do they go far enough?

MODERATOR:
Katharine Richardson Christensen, University of Copenhagen, Denmark

6 July, 15:45 - 17:00, Sala Madrid

GMO testing: a global and scientific challenge

4

Genetically modified crops are being developed and planted in more and more countries world wide (125 million hectares and 25 countries in 2008). Yet, before a GMO can be marketed, it has to pass an approval process. The regulations and duration of the approval process for GMOs differ between countries, leading to a situation where GMOs are being marketed and traded with different regulatory approval status world wide.
When implementing this specific GMO legislation, more and more countries around the world are becoming interested in reliable and comparable GMO testing. GMO testing is therefore becoming a topic of global relevance, raising various scientific challenges, from sampling to selection of detection methods and interpretation of results. The workshop will address some of these scientific challenges.

ORGANIZER:
Damien Plan, European Commission - Joint Research Centre (JRC), EU

SPEAKERS:
Emilio Rodriguez Cerezo, European Commission - Joint Research Centre (JRC), EU
Guy Van den Eede, European Commission - Joint Research Centre (JRC), EU
Arne Holst-Jensen, National Veterinary Institute, Norway
Roy Macarthur, Food and Environment Research Agency, UK
Claudia Paoletti, European Food Safety Authority (EFSA), EU

MODERATOR:
Guy Van den Eede, European Commission - Joint Research Centre (JRC), EU

6 July, 15:45 - 17:00, Sala Parigi

Bodily awareness and empathy: new trends in philosophy and cognitive neuroscience

8

The aim of the session is to discuss nature and role of psychological processes and neural mechanisms which characterize most of the communicative interactions that are supposed to be at the basis of our social life. The central question is whether human beings have specific mechanisms enabling and facilitating the transmission of habits and preferences not only between individuals but also reliably down to generations. The relevance of these mechanisms in selecting and consolidating specific social strategies will be then investigated, especially in relation to their effects on one's own needs and emotions as well as on one's own sensitivity, the needs and emotions of others. This session will also look at the question as to whether needs and emotions could be considered as primary feedback sources, which have to be used to assess the main effects of social learning, at least at the basic level. Finally, the relationship between sensor-motor and affective mechanisms and higher order cognitive processes (i.e. conceptual and propositional knowledge) will be investigated. To this regard it will be crucial to take into account what is going on with social learning when the responsiveness to other's needs and emotions is lacking as in autism.

ORGANIZER:
Fondazione Rosselli, Italy

SPEAKERS:
Anna Berti, University of Torino, Italy
Is altered body awareness restricted to one's self?
Corrado Sinigaglia, University of Milano, Italy
The sense of body
Salvatore Maria Aglioti, Fondazione Santa Lucia and University of Rome, Italy
The consciousness of the other's pain
Frédérique de Vignemont, Institute Jean Nicod, Paris, France
What comes first? Affective sharing or affective mind reading?

MODERATOR:
Gabriele Beccaria, Editor, TuttoScienze - La Stampa, Italy

6 July, 15:45 - 17:00, Sala Atene

Access to scientific knowledge: sustainable development issues and the need for a new type of metaknowledge

7

A weak link in the process of bridging science and policy is the transformation of the regime of access to scientific knowledge. This is shown by investigations dealing with the relevant economic and political organisation (e.g. intellectual property rights, role of scientific knowledge in policy design, etc). This change has also an epistemic dimension. The extreme abundance of research outputs, the increasing range of questions addressed by sciences, the plurality of theories within disciplines, make the judicious use of available knowledge for action more and more difficult. Hence the building of metaknowledge (knowledge on knowledge e.g. metanalyses, systematic reviews) in order to circulate better within the universe of available scientific knowledge. Several paths are explored to create such metaknowledge (for instance in the evidence-based tool box). But until now there have been few attempts to present in a synthetic manner the diverse theories that coexist within each discipline, and to show their blind spots for both policy making and research.
The session will be dedicated to this issue. Examples will be taken in a specific domain of action – policies involving agricultural development and biodiversity conservation. The contributions will combine lessons from scientific disciplines (economics, ecology), philosophy of science and policy making.

ORGANIZER:
Catherine Laurent, National Institute for Agricultural Research (INRA), France

SPEAKERS:
Nicole Dewandre, DG Research, European Commission, EU
A policymaker's point of view
Catherine Laurent, National Institute for Agricultural Research (INRA), France
What is "metaknowledge", and what are its implications for research and policymaking?
Nicholette Allsopp, South African Environmental Observation Network, South Africa
An example based on existing research on biodiversity conservation policies

DISCUSSANT:
Daniel Andler, University Paris-Sorbonne (Paris IV) and Ecole Normale Superieure, France

MODERATOR:
Jacques Baudry, National Institute for Agricultural Research (INRA), France

6 July, 15:45 - 17:00, Sala Copenaghen

High risk - high reward research under the FP7-Cooperation programme: the Energy Theme experience

5

Funding agencies are calling nowadays for breakthroughs in energy technology. In his remarks on the need to support transformational technology research, US Energy Secretary Steven Chu explained that there is a need for a "technology that is game-changing as opposed to merely incremental". In Europe, under the 7th Framework Programme for Research (FP7), the Energy Theme is encouraging scientists to think "out-of-the-box" through the FET scheme. This scheme, with its roots based in the FP6 NEST activity, aims at encouraging new ideas in a completely bottom-up approach, stressing multi-disciplinary ideas. In energy, as in many other scientific areas, before a theory is accepted as a breakthrough it's often seen as a crazy idea.
What about turning the CO2 emissions into fuel? This is exactly what an exploratory project did by converting carbon dioxide into hydrocarbons. The idea is to design and manufacture an autonomous fuel cell able to use solar energy to convert CO2 into liquid fuel that can be injected directly into an engine. And can plants make clean hydrogen for us? Photosynthesis has long been studied to reveal how its natural mechanisms could be applied to produce energy. The idea is to integrate artificial photosynthesis in man-made systems and photobiological hydrogen production in living organisms into a functional bio-reactor that can demonstrate the concept of hydrogen production from solar energy and water.

ORGANIZER:
Carlos Saraiva Martins, European Commission, EU

SPEAKERS:
Carlos Saraiva Martins, European Commission, EU
From NEST to FET: encouraging new ideas in a completely bottom-up approach
Dominique Bégin, Louis Pasteur University, Strasbourg, France
Towards solar fuels by a novel photoelectrocatalytic approach
Stenbjörn Styring, University of Uppsala, Sweden
From natural to artificial photosynthesis: hydrogen from solar energy and water

MODERATOR:
Raffaele Liberali, DG Research, European Commission, EU

7 July, 09:00 - 10:15, Sala 500

Neuroscience, technology and the self-image of man

6

The image of man is at the roots of western culture. The following question will be addressed: are the neurosciences generating a new self-image of man ? A number of recent studies suggest that this may be the case, but these views must be critically evaluated in their factual and philosophical robustness, and impact on society, laws and religion. The question will be articulated in four presentation: the brain in development and evolution focusing on how brain connections differentiate in the two very different time scales; brain dynamics, brain imaging and free will with the notion of emerging properties in complex neural circuits; human and artificial intelligence focusing on the differences between human and artificial intelligence; ethical issues related to the neurosciences in particular the puzzling dilemma raised by the mental operations performed by patients in a vegetative state. The four presentations will be delivered by a neuroanatomist interested in the relation between brain structure and function, a neurophysiologist interested in brain dynamics and how they relate to perception, and decision making, a neuroinformatician interested in the basic principles of brain operations to be understood in computational terms and to be embedded into man-made devices, a philosopher with a strong background in science.

ORGANIZER:
Giorgio Innocenti, Department of Neuroscience, Karolinska Institutet,, Sweden

SPEAKERS:
Wilhelm Vossenkuhl, Ludwig-Maximilians-Universitaet Muenchen, Germany
A fragile thinking wicker: man in the universe
Giorgio Innocenti, Department of Neuroscience, Karolinska Institutet, Sweden
The brain in development and evolution
Rodney Douglas, Institute of Neuroinformatics, University/ETH Zurich, Switzerland
Human and artificial intelligence
Wolf Singer, Max Planck Institute for Brain Research, Frankfurt, Germany
Brain dynamics, brain imaging and free will

MODERATOR:
Giorgio Innocenti, Department of Neuroscience, Karolinska Institutet, Sweden

7 July, 09:00 - 10:15, Sala Londra

450 million years of evolution: what can bats, plants and fish tell us about climate change?

2

The Earth's climate and atmospheric composition are changing at unprecedented rates, and by the year 2100 our climate will be drastically warmer than any time during human evolution. The novel integration of palaeontology, ecology and molecular biology is enabling scientists to understand the limits under which ecosystems can function, organisms can survive and biodiversity is sustained. This session will illustrate recent advances in our understanding of how bats, plants and fish have adapted and evolved over 450 million years of environmental change.
We will highlight how fossil plant diversity responded to a catastrophic global warming event 200 million years ago; how a meteorite impact and greenhouse gas warming drove mammal and bat evolution 65-52 million years ago; and how fish populations and our oceans cope with the relentless exploitation by humans and the ever-rising pace of climate change. Our collective studies identify the consequences of exceeding an ecosystem's or an organism's tipping-point but also highlight the incredible wealth of survival capabilities of life on Earth. Only through the integration of these diverse scientific fields can we successful manage the Earth's changing biodiversity in the face of future climate change.

ORGANIZER:
Jennifer McElwain, University College Dublin, Ireland

SPEAKERS:
Jennifer McElwain, University College Dublin, Ireland
Extinction, adaptation and survival: plant responses to a global warming event in the deep past
Stefano Mariani, University College Dublin, Ireland
Best of both: a natural history of sex change in fish
Emma Boston, Centre for Irish Bat Research UCD and Queen's University Belfast, Ireland/UK
Using the past to predict the future: what can bats tell us about climate change?

MODERATOR:
Marco Ferraguti, University of Milano, Italy

7 July, 09:00 - 10:15, Sala Istanbul

Economics at work: what economic research says on the minimum wage, development and the crisis

6

Possibly the most important focus of economic research is the role of economic incentives in shaping individual behavior and how this aggregates within the boundaries of markets. The attention for incentives has directed research in this field toward all the major frictions that affect individual actions and welfare: informational asymmetries, search frictions and institutional constraints. This session provides three instances of this perspective illustrating the advance and the debate around three important issues of the current academic and political debate: whether a country should adopt a minimum wage, why some economies face so many difficulties in developing, and why the latest crisis was so unexpected.

ORGANIZER:
Igor Prünster, University of Torino and Collegio Carlo Alberto, Italy

SPEAKERS:
Christopher Flinn, New York University, USA
Esteban Jaimovich, Collegio Carlo Alberto, Italy
Filippo Taddei, Collegio Carlo Alberto, Italy

MODERATOR:
Pietro Garibaldi, University of Torino and Collegio Carlo Alberto, Italy

7 July, 09:00 - 10:15, Sala Madrid

Scientists in direct contact with the public in science centres and museums

4

The session will explore ways in which scientists can engage with the public in an open dialogue about contemporary or controversial science issues, helping people place global scientific issues into a meaningful context. Direct contact with scientists is an effective way of providing the public with first-hand information not only on the results of cutting-edge research (relevant on a global scale) but also on the people that carry out that research and on the process that allows researchers to come to their conclusions. From the point of view of scientists, engaging in dialogue with the public offers scientists valuable feedback on their work in terms of impact on society.
However, being a good scientist does not necessarily mean possessing the skills to communicate effectively and engage the public in interactive communication. Therefore, science centres and museums and other science communication professionals constantly devise new ways to support scientists in connecting with their audiences and targeting communication effectively. Speakers will relate a variety of methods that leading science communication oganisations in Europe implement to foster direct communication between scientists and professional communicators. Training programmes in communication for researchers, as well as several formats used to involve scientists in a dialogue with the public will be explored by the panel and discussed with the audience.

ORGANIZER:
Jennifer Palumbo, Ecsite - the European network of Science Centres and Museums, Belgium

SPEAKERS:
Sharon Ament, Natural History Museum, London, UK
The power of real people, real specimens and real scientists
Frank Burnet, Burnet Consultancy, UK
When it's about issues, adults want to meet the ventriloquist, not his dummy
Wolfgang Heckl, Deutsches Museum, Technical University of Munich, Germany
Nano to Touch: nanosciences live in science centres and museums

MODERATOR:
Catherine Franche, Ecsite - the European network of Science Centres and Museums, Belgium

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7 July, 09:00 - 10:15, Sala Parigi

Fibres from asbestos to carbon nanotubes: science, health and policy making

9

Canada and other countries still export chrysotile asbestos, a well known carcinogen, to the developing world. This is very controversial. In 2007 the Canadian government assembled asbestos experts of different opinions to see what degree of consensus existed on health risks associated with chrysotile. Once the report was completed, the government did not release the report for a year, presumably in response to industry pressure. This suppression backfired, attracting public and media attention, and the report was finally released. Ironically, Canada has been the first country to introduce a mandatory safety reporting scheme for companies producing nanomaterials.
Carbon nanotubes, one of the most versatile product of nanotechnology, are currently designed for a number of technological applications, including medicine, but their use is controversial because they share with asbestos some features relevant to toxicity. Often science clashes with politics, industrial interests, fears in the general population, regulatory agencies – leave alone what may happen in court. Asbestos and nanoparticles are often in the press, but often the public's perception of the health risks is an overestimate or an underestimate, and seldom close to reality. This session aims at clarifying the current standings on this issue.

ORGANIZER:
Bice Fubini, University of Torino, Italy

SPEAKERS:
Bice Fubini, University of Torino, Italy
Dominique Lison, Catholic University of Louvain, Belgium
Trevor L. Ogden, Annals of Occupational Hygiene, UK

MODERATOR:
Bice Fubini, University of Torino, Italy

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7 July, 10:30 - 11:45, Sala 500

Ten years of human presence on the International Space Station

4

Two years after the launch of Zarya, in 2000 the International Space Station became home for Expedition 1, the first astronaut crew who visited the ISS, opening a new era of human spaceflight. Ten years later, an overview of this international endeavour is presented to the public of Esof2010 to celebrate the importance of having a human outpost in space. During the last decade we have permanently extended the biosphere to the Earth low orbit and the next step will be to further extend it to the Moon and Mars. Human Spaceflight is thus responding to the inevitable global need of exploration and – of the utmost importance – to the global need of new technologies for a more sustainable development of our society.
An astronaut, a representative from ESA Human Spaceflight, a scientist and a representative from the aerospace industry will discuss the importance of the human presence in space from different perspectives. What can only humans achieve in space? Which kind of science requires humans in space to produce high-quality results? Which are the consequences of a human space exploration on the evolution of human society? What is the political value of an international human crew? What is the impact of human spaceflight on the advancement of European scientific and technological knowledge? Will the "overview effect" – the feeling of universal connection experienced by astronauts during spaceflight – ultimately shape our vision of the world?

ORGANIZER:
Cristina Olivotto, European Space Agency Space Research and Technology Centre (ESA-ESTEC), The Netherlands

SPEAKERS:
Paolo Nespoli, Astronaut, European Space Agency (ESA), Italy
Simonetta Di Pippo, Director, Human Spaceflight, European Space Agency (ESA), Italy
Maria Antonietta Perino, Thales Alenia Space, Italy

MODERATOR:
Jonathan Amos, BBC, UK

7 July, 10:30 - 11:45, Sala Londra

Regenerative medicine: the long winding road from promise to reality

9

Regenerative medicine is a broad definition for innovative medical therapies that will enable the body to repair, replace, restore and regenerate damaged or diseased cells, tissues and organs. It might extend healthy life spans and improve the quality of life by supporting and activating the body natural healing capability. But quite a few hurdles must be overcome in order for the reg-med promise to become a reality at hospitals worldwide. First, the convergence of multidisciplinary efforts, from cell biologists and materials engineers, and their collaboration since the inception of projects with clinicians who are aware of the patients' needs. Second, the public acceptance of these revolutionary technologies, the need to adapt the current regulatory framework for their commercialisation as well as make them competitive, cost-wise, so health systems and insurance companies can consider their reimbursement.
Experts from each of these fields will present their point of view, followed by a debate with questions from the audience. We expect to shed some light on the possibly winding road to wonders such as spinal cord injury cure or heart tissue renewal after a infarct.

ORGANIZER:
Arantxa Sanz, Institute for Bioengineering of Catalonia (IBEC), Spain

SPEAKERS:
Josep A. Planell, Institute for Bioengineering of Catalonia (IBEC), Spain
Scientific challenges
Richard Lilford, University of Birmingham, UK
Health economics: cost-benefit analysis
Paul Kemp, Intercytex, UK
The industry point of view
Leen Trommelmans, Centre for Biomedical Ethics and Law, Catholic University of Leuven, Belgium
Ethical issues

MODERATOR:
Josep A. Planell, Institute for Bioengineering of Catalonia (IBEC), Spain

7 July, 10:30 - 11:45, Sala Istanbul

The missing mediator: science debates in a knowledge-based society

10

Members of the German Science Writers TELI started a public science debate in the run-up to the German parliamentary elections 2009. They played out their role as mediators in society. Collecting wishes from scientists and science institutions, the journalists pooled the results and concentrated them into 15 questions which they put forward to candidates. The answers of the politicians were published on the web. This was the starting point of the public "Science Debate Germany 2009" between scientists, public and politicians, reported by the media.
The prototype was the "Science Debate 2008" developed by fellow journalists during the US elections with Barack Obama and John McCain. As a result Obama put science quite high on his agenda. And science became a public topic in a country where the public was considerably less informed about science than in Europe, and where the media clearly separated science and politics from each other.
The speakers will present the results of the science debates in the USA and Germany, look behind the myth that science and science journalism have to be non-political, discuss science PR in relation to cognisant decisions in a democratic society, and show options for similar debates in Europe to be performed by EUSJA. In smaller groups, the audience will discuss options for science debates in Europe, develop ideas for their improvement and questions from scientists will be collected as a basis for debates about European science.

ORGANIZER:
Hanns-J. Neubert, European Union of Science Journalists' Associations (EUSJA) and German Association of Science Writers (TELI), Germany

SPEAKERS:
Hanns-J. Neubert, European Union of Science Journalists' Associations (EUSJA) and German Association of Science Writers (TELI), Germany
The German Science Debate 2009+: a perspective for a EU science debate.
Wolfgang Goede, German Association of Science Writers (TELI) and PM-Magazin, Germany
The historical background and democratic basis of science debates
Shawn Otto, ScienceDebate2008.org, USA
Science Debate 2008+: science in American policymaking and media
Michele Ciavarella, Bari Polytechnic and www.sciencedebate.it, Italy
Italian science debate 2010+

MODERATOR:
Barbara Drillsma, European Union of Science Journalists' Associations (EUSJA) and Association of British Science Writers (ABSW), UK

7 July, 10:30 - 11:45, Sala Madrid

The impact of new technologies on education and learning mechanisms

7

The panel intends to explore the impact of new technologies on education, and specifically on the learning mechanisms. The development of digital technologies is giving rise to new, hitherto unexplored opportunities of interaction at a distance, exploration of virtual environments, and broad access to information. The proposed workshop has its starting point in the widespread questions about the usefulness and most effective means of introducing new technologies into education, at both the formal and informal levels. There are many possible scenarios for this mutation, with widely differing potentialities and side-effects: technology is not good *per se* and it is important to identify the scenarios, positive and negative, that are enabled by technology.
It is important that the pedagogical reflection on new technologies and scenarios for the school and learning of the future be grounded on evidence, and not on mere beliefs and intuitions. The panel will present a systematic approach to the evidence concerning the introduction of new technologies in education. The aim of the panel does not consist in promoting ICT for education, or one pedagogical approach against another, but in informing and discussing the possible and desirable scenarios, and the most promising research directions.

ORGANIZER:
Daniel Andler, Université Paris-Sorbonne (Paris IV) and Ecole Normale Superieure, France

SPEAKERS:
Daniel Andler, Université Paris-Sorbonne (Paris IV) and Ecole Normale Superieure, France
Education and cognitive science in the digital era
Roberto Casati, Institut Jean Nicod - CNRS, France
The myth of the electric teacher
Julien Lanas, Donjon&Radon, France
Video games in education: integration of new media in pedagogical practice

MODERATOR:
Daniel Andler, Université Paris-Sorbonne (Paris IV) and Ecole Normale Superieure, France

7 July, 10:30 - 11:45, Sala Parigi

Simplifying the EU Framework Programme: making EU research funding more science friendly

10

If there was but one thing on which academic researchers and industry could agree, it is in their criticisms of the administrative burden generated by the EU Framework Programme. Anecdotes flourish on the sometimes burlesque requirements imposed, notably, by the financial regulations. But the machinery itself, the Commission, may also carry some responsibility through its lack of flexibility, reactivity and transparency. Just when FP8 starts to be discussed, it is time to recognize, while maintaining high standards of accountability, the specificities of the research process – which are very different from commercial activities – and to adapt the rules to make EU research funding more science friendly. The new Commissioner for Research and Innovation, Máire Geoghegan-Quinn, is said to be committed to addressing excessive bureaucracy and simplify the Framework Programme. Will she be able to move the lines, with – and maybe sometimes against – the machinery, and reach out to other key actors such as the European parliament, which has co-decision power on some of the issues at stake? The aim of the session is to review the problems, and to discuss the need for simplifications and adaptation of the Framework Programme and the financial regulations, as well as their impact.

ORGANIZER:
Martin Andler, Université de Versailles Saint-Quentin, France

SPEAKERS:
Howy Jacobs, IMT Tampere, Finland
Ernst-Ludwig Winnacker, Secretary General, Human Frontier Science Programme Organization (HFSPO), France
Luc Soete, Economic and Social Research and Training Centre on Innovation and Technology, United Nations University, Maastricht, The Netherlands
Waldemar Kütt, European Commission, EU
Malcom Skingle, GlaxoSmithKline, UK

MODERATOR:
Peter Tindemans, Euroscience, The Netherlands

7 July, 10:30 - 11:45, Sala Atene

Re-creating a Mediterranean identity through science

8

Science has no borders and no ideologies: it is a kind of "esperanto" that everybody is allowed to adopt as his how language. In international scientific institutions, like CERN, scientists work side by side, overcoming possible political strains existing between their countries. In the Mediterranean area, we share a long history of scientific achievements: one single thread links ancient Greek and Hellenistic scientists to Arabic and European scientists. But we also share, with different intensity, many problems in supporting science and in increasing the public understanding of science. In this session we will look on different project aimed at improving scientific citizenship in the Mediterranean countries, and we will discuss about how to re-create a Mediterranean cultural identity through science.

ORGANIZER:
Barbara Gallavotti, Mediterranean Association for Science Advancement and Dissemination (MASAD), Italy

SPEAKERS:
Maya Halevy, The Bloomfield Science Museum Jerusalem, Israel
How the network of science communication organizations can help promote the agenda of the Union for the Mediterranean
Sergio Bertolucci, CERN, Switzerland
Connecting people, cultures, ideologies, and beliefs: the experience at CERN
Manuela Arata, CNR and Festival della Scienza di Genova, Italy
A Science Festival as a melting pot of disciplines, cultures, traditions, and people

MODERATOR:
Sergio Bertolucci, CERN, Switzerland

Science Meets Poetry

3-6 July, 19:00 - 20:30
Piazza Carlo Alberto

Since ESOF2006 in Munich and ESOF2008 in Barcelona, we have developed a tradition of bringing together poets from all corners of the earth, as far afield as Russia and USA, to participate in ESOF. With the support of Euroscience, we have then published books, containing original texts in many languages, which serve as mementoes of these great and unique gatherings of talents.
ESOF provides poets interested in science and contemporary society with a unique opportunity to rub shoulders with those from other countries and cultures having similar interests: whether or not you are a speaker, here is an opportunity to participate in the debate. The event provides space for discussion far beyond what is normally possible in this kind of gathering. We aim to foster lasting exchanges between scientists and poets.

ORGANIZER:
Jean-Patrick Connerade (Chaunes)

Session I - Saturday 3 July

19:00
Linguaggi di Versi, introduced by Anne Talvaz
Shelley, science and Italy

19:30
Alla Valeria Mikhalevich, Russian Academy of Sciences, Saint Petersburg, Russia
Poetry in Saint Petersburg since Akhmatova

20:00
Georges Waysand, Physicist and Author, France
CP Snow and the "Two Cultures" revisited

Session II - Sunday 4 July

19:00
Philip Campbell, Editor-in-Chief, Nature, UK
Goethe, Science and Italy

19:30
Nick Norwood, Poet, Columbus State University, USA
Literature and Lepidoptera, the twin passions of Vladimir Nabokov

20:00
Assumpció Forcada, Science teacher and poet, Barcelona, Spain
Biology from Habanera to Tango

Session III - Monday 5 July

19:00
Vital Heurtebize, La Société des Poètes Français, France
Where will poetry be going next? What themes and what forms for out times?

19:30
Jean-Pierre Luminet, Observatory of Meudon, France
The Cosmos as the poem

20:00
Uli Rothfuss, President, die Kogge, Germany
Poetry in the public space

Session IV - Tuesday 6 July

19:00
Serge Feneuille, Physicist and Egyptologist, France
Restoring poetry from ancient times in our modern languages

19:30
Charlotte Ueckert, die Kogge, Germany/Italy
A German poet in Italy

20:00
Maurice Riordan, Poet, Ireland
Dublin, city of poets

CAREER PROGRAMME

ESOF2010 Career Programme: Opportunities in Science

The Career Programme specifically addresses PhDs, postdocs and young researchers, who will be offered the possibility to discuss the future of European research in terms of policies, mobility, science publishing and communication. Other sessions will focus on the development of specific skills for scientific careers, such as communication, writing, interviews, fundraising and entrepreneurial skills.

The aim of the Career Programme is to provide ideas and challenges to stimulate the future generations of researchers, science communicators, science teachers and policy makers. In accordance with the Euroscience spirit, special emphasis will be put on the relationship between science and society.

ESOF2010 Career Programme gains added value by the nomination of Torino as **European Youth Capital 2010** by the European Youth Forum.

Discussion in the Career Programme will focus on the following eight key areas:

Developing your scientific career: practical aspects
Training and research conditions of doctoral and post-doctoral researchers around Europe
Comparison of European policies for young researchers. The Lisbon agenda
Academic and non-academic careers
Researchers mobility
Science publishing and new media
Science communication skills
Entrepreneurial skills

Pizza with the Prof

Younger participants get a chance to meet important figures from the world of research face to face, and to chat about a wide range of topics in a pleasant and informal environment. Details on page 84.

ESOF2010 Internet Platform for young researchers

The ESOF2010 Internet Platform for young researchers was launched on March 12 during the Workshop "Open Science - Science 2.0" at the Eurodoc Annual Conference in Vienna. This innovative platform featured on-line debates, consultations and collaborative document writing by young researchers, aimed at pre-discussing the Career Programme themes and gathering opinions also from those who will not be able to attend ESOF2010. Many interesting documents linked to the Career Programme themes were gathered, tanks to the scientific collaboration of various European Institutions (Association Bernard Gregory, Eurodoc, European science Foundation, European Commission – Marie Curie Actions, Nexa center for Internet and Society, Ways – Word Association of Young Scientists). A report of the ESOF2010lab results is available on request.

Career Programme scientific collaborations

The ESOF Career Programme acknowledges the scientific collaboration of the European Council of Doctoral Candidates and Junior Researchers (Eurodoc) and Association Bernard Gregory (ABG).

eurodoc

Association Bernard Gregory

3 July, 09:00 - 10:15, Sala 500

Career Programme Opening Session

Part 1: Introduction and welcome addresses

Part 2: The European Young Researchers' Award Ceremony, Hosted by Euroscience

The European Young Researchers' Award is granted to doctoral candidates and early post doctorates for demonstrating outstanding research performance as well as deep insight of the European Research Area. It is the only award which inspires doctoral candidates to think 'European' by incorporating the European level into their research. While the award is granted each year, the prize-giving-ceremony is held biennially at the Euroscience Open Forum where the two recipients present their work.

Part 3: Keynote Talk

Mariano Gago
Minister of Science, Technology and Higher Education, Portugal

The future of science and technology in Europe

Professor José Mariano Gago is an experimental high energy physicist and a Professor of Physics of IST (Instituto Superior Técnico, Lisbon). He graduated as an electrical engineer at the Technical University of Lisbon and obtained a PhD in Physics at École Polytechnique and Université Pierre et Marie Curie, in Paris. He worked for many years as a researcher at the European Organisation for Nuclear Physics (CERN), Geneva, and in the Portugal Laboratory for Particle Physics (LIP).
He launched the Ciência Viva movement to promote S&T culture and S&T in society. He is responsible for the reform of higher education and for the policies leading to the development of science and technology in Portugal. During the Portuguese EU presidency (2000), he prepared, along with the EC, the Lisbon Strategy for the European Research Area and for the Information Society in Europe. He chaired the Initiative for Science in Europe (ISE) and campaigned for the creation of the European Research Council. He also chaired the High Level Group on Human Resources for Science and Technology in Europe and coordinated the European report Europe Needs More Scientists (2004). Prof. Gago was the first President of the International Risk Governance Council (IRGC) in Geneva and is a member of IRGC Board. He is a member of the Academia Europaea.

3 July, 10:30 - 11:45, Sala Istanbul

Nature & Naturejobs guide to career alternatives

It is often unclear to young scientists what opportunities are open to them in their career outside of the life of a "normal" academic career. The basis of the editorial content published by Naturejobs is to provide an overview of the whole job market for scientists and often covers career alternatives for scientists with certain skill sets, as well as providing information on how people can develop their careers.
A wide array of careers either impact or support the scientific community. These include multidisciplined academics, entrepreneurs with spin out companies, law (IP protection and the like), finance, journalism, marketing/PR, human resources, industry, teaching and voluntary service organisations. The talks will centre around the personal experiences of the speakers and will provide insight into the types of jobs that they are currently working within as well as the skills (practical and academic) they have needed to develop to become efficient in their current roles. In turn this will give the attendees a better idea of the opportunities which are open to them and the information to be able to progress in their chosen field.

ORGANIZER:
Bryony Lott, Nature Publishing Group, UK

SPEAKERS:
Igor Campillo, Tecnológico Deusto, University of Deusto, Spain
Guido Tarone, Department of Genetics, Biology and Biochemistry, University of Torino, Italy
Federica Castellani, European Medicines Agency, UK
Franck Tetaz, Patent Attorney, Cabinet Regimbeau, France
Michael Hagmann, Swiss Federal Laboratories for Materials Testing and Research (EMPA), Swizerland

MODERATOR:
Gene Russo, Nature Publishing Group, USA

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3 July, 10:30 - 11:45, Sala Atene

Employment opportunities for PhDs: the ABG experience in France and its applicability to the Italian situation

Employment opportunities for PhDs are limited in many European countries, but particularly so in Italy, where this issue has become a serious problem. Here, PhDs face severe difficulties in their approach to the labor market and in many areas, if not all, the doctoral title has become essential only for an academic career. Universities, public institutions and employers' associations are aware of the importance of bringing PhDs in contact with the private sector and with the business community, and several actions have been conceived with this objective.
In this session we will discuss the employment prospects of PhDs educated in the local academic system. This will be done comparing the experience and the opinions of universities, local institutions (Regione Piemonte) and local employers' associations (Unione Industriale di Torino) with that of the Association Bernard Gregory, a French non-profit organization which has longstanding expertise in bringing the academic world and the market together, with the aim of finding new contacts and opportunities for job seekers.

ORGANIZER:
Elio Giamello, Head, Doctoral School in Science and High Technology, University of Torino, Italy

SPEAKERS:
Sophie Pellegrin, Association Bernard Gregory, France
Mario Calderini, Vice-president, Doctoral school of Torino Polytechnic, Italy
Adalberto Merighi, University of Torino and Regione Piemonte, Italy
Bruno Quarta, University of Bologna, Italy
Mauro Zangola, Unione Industriale di Torino, Italy

MODERATOR:
Elio Giamello, Head, Doctoral School in Science and High Technology, University of Torino, Italy

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3 July, 10:30 - 11:45, Sala Copenaghen

Science communication training for talking and listening: 1. Introduction

This session will introduce the ESConet Trainers (www.esconet.org) approach to science communication training, based on many years' experience of working with European research networks. Unlike some other media training programmes, based on the "bag of tricks" approach, it emphasises genuine two-way communication - both talking and listening.
The European Union's "Science and Society Action Plan" underpins much of what is now required from European researchers in terms of their interactions with society at large and with their fellow citizens. This places many demands on researchers for which they get little, if any, training: interactions with the mass media, dialogue with citizens, etc. This session will give participants a chance to make contact and catch up with the latest thinking on training for communicating with their fellow citizens. It will be followed by two practical workshops in science communication (July 4) with a limited number of places and preliminary subscription needed.

ORGANIZER:
Steve Miller, University College London, UK

SPEAKERS:
Blanka Jergovic, Croatian Radio and University of Zagreb, Croatia
Kajsa-Stina Magnusson, University College London, UK

MODERATOR:
Steve Miller, University College London, UK

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3 July, 12:00 - 12:45, Sala Parigi

The geographical distribution of grants in Europe: brain-gain or brain-drain?

Eastern European countries have a low success rate of applications for research support from European organisations, such as the European Research Council or the European Science Foundation. However, it should not to be seen as an "East vs. West" issue. Is it possible that young and brilliant scientists – either from "Eastern" or "Western" countries – who are rejected are victims of the lack of funding of research institutions in their home countries? European research organisations are far from perfect and they need more resources. The resources in turn come from Member States, which requests priority support from their heads of government, and the wheel turns... The aim of this session is to trigger a discussion on the sources leading to the unbalanced situation of grant distribution.

ORGANIZER:
Raymond Seltz, Euroscience, Strasbourg, France

SPEAKERS:
Maciej Wojtkowski, Institute of Physics, Nicolaus Copernicus University, Poland
András Málnási-Csizmadia, Department of Biochemistry, Eötvös University, Hungary
Adrian Curaj, Executive Agency for Higher Education and Research Funding (UEFISCSU), Romania

MODERATOR:
Jerzy Langer, Institute of Physics, Polish Academy of Sciences, Poland

3 July, 14:15 - 15:30, Sala Roma

Breaking into the media: what training do scientists need?

Science communication is an attractive option for researchers who are ready to leave the lab environment but do not want to make a complete break from science. Traditionally, many researchers who are interested in communication have looked to science writing as a new career. Many scientists have also become science communication professionals, working in the areas of public relations, event planning, editorial production, marketing and so on.
Researchers looking for a new career quickly discover that breaking into the field requires appropriate training. Due to the rapidly changing dynamics of the relationship between science and society and the multi-faceted nature of the media system, scientists require more than simple "self-training" if they want to earn a living through science communication. But what does "more" mean? What courses should a scientist take? Are there unmissable subjects? This session will provide an opportunity for some of Europe's most experienced science communication teachers to discuss the matter. Speakers will also comment on their own experience in managing science communication programs, as well as their efforts to establish relations in a common European framework.

ORGANIZER:
Nico Pitrelli, International School for Advanced Studies (SISSA), Trieste, Italy

SPEAKERS:
Steve Miller, University College London, UK
Brian Trench, Dublin City University, Ireland
Vasilis Koulaidis, University of Peloponnese, Greece

MODERATOR:
Nico Pitrelli, International School for Advanced Studies (SISSA), Italy

3 July, 14:15 - 17:00, Sala Dublino

The funding challenge for European research careers

Attractive research careers are essential if European universities are to host the world's strongest research talent. However, academic career paths in Europe are hindered by funding problems that result in low salaries, limited research support and unstable career prospects. This two-part session will explore the many financial challenges that impact on researchers' careers in Europe. In the first part, speakers from different background will provide their perspectives on the main funding problems of supporting researchers' careers, with some insight into how their own institution is addressing these issues. In the second part, participants will discuss – in "brainstorming" fashion – and compare possible approaches and recommendations for meeting these challenges. To conclude, a representative of the League of European Research Universities (LERU) will sum up the proposals presented for addressing the funding challenges at individual, institutional and wider policy levels. These suggestions will then be circulated by LERU to interested universities.

ORGANIZER:
Katrien Maes, League of European Research Universities (LERU), Belgium

SPEAKERS:
Katrien Maes, League of European Research Universities, Belgium
Svetlana Berdyugina, University of Freiburg and Kiepenheuer Institute for Solar Physics, Germany
Karen Maex, University of Leuven, Belgium
Susanne Matuschek, Swiss National Science Foundation, Switzerland
Indi Seehra, University of Cambridge, UK
Stefaan Hermans, DG Research, European Commission, EU

MODERATOR:
Katrien Maes, League of European Research Universities (LERU), Belgium

CAREER PROGRAMME

3 July, 14:15 - 15:30, Sala Copenaghen

What is the impact of the European Charter for Researchers on my work?

Opening up online all publicly funded researchers' positions; ensuring better career development opportunities for young researchers, including more autonomy and training skills; fully recognising researchers' qualifications from other institutions and countries. Whilst these goals are being pursued at political level through the "European Partnership for better careers and more mobility of researchers" between the European Commission and national authorities, at the level of individual research institutions they are the core business of the EU Charter & Code for researchers. A new mechanism, the "Human Resources Strategy for Researchers" providing recognition of the concrete uptake of the Charter and the Code principles has been created. It allows to increase the transparency of career conditions and thus, the attractiveness of universities and research organisations. The "HR Strategy" is a voluntary, light tool, respectful of institutional autonomy, available to research institutions that are seriously engaged in improving their human resource policy, which can also greatly contribute to increasing their international visibility.
How does the "HR Strategy work"? Why is it so important for researchers? Who is making use of it? What concrete changes is it going to make in the academic world? Through practical examples, attendees will gain real benefit from learning more about these initiatives that are going to have a direct impact on their careers.

ORGANIZER:
Dagmar Meyer, European Commission, EU

SPEAKERS:
Ellen Pearce, The Career Development Organisation (CRAC) – Vitae, UK
Thierry Boujard, National Institute for Agricultural Research (INRA), France
Izabela Stanislawiszyn, President, European Council of Doctoral Candidates and Junior Researchers (Eurodoc), Poland

MODERATOR:
Dagmar Meyer, European Commission, EU

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3 July, 15:45 - 17:00, Sala Roma

Good research needs good management: and this can be learned!

Today, scientists must keep all their options open for new career opportunities not only within but also past and alongside research. Whatever the choice, management skills have become an indispensable qualification for a successful career. This is the outcome of a paradigm change: scientists and administrators are gradually realizing the importance of better organization and coordination, lean and efficient work processes and effective leadership. Indeed, good management can lead to better research. As a result, science management is developing into a professional discipline. Universities, research organizations and industry compete in a global market not only for the best scientific talents, but also for the best managers. In this forum we will discuss the principles of effective science management and leadership. We will introduce the innovative approach of the Helmholtz Association to systematically develop these skills within the German research area, and describe how these tools and methods are applied in everyday work. Finally, a representative of the R&D department of a global company will critically reflect upon the impact of management and leadership qualifications on career development, illustrate management practices in industry, and discuss whether they may constitute role models for academic research.

ORGANIZER:
Katrin Rehak, Helmholtz Association, Germany

SPEAKERS:
Sabine Helling-Moegen, Helmholtz Association, Germany
Cornelia Maurer, Max Delbrück Center for Molecular Medicine, Germany
Frederik Wittock, Johnson & Johnson Pharmaceutical Research & Development, Belgium

MODERATOR:
Sabine Helling-Moegen, Helmholtz Association, Germany

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3 July, 15:45 - 17:00, Sala Atene

Scientific communication and the training of young researchers

What are the implications of scientific communication in the education and training of young researchers, and even in the development of the research itself? The need for communication with the media, and with the public at large, is now almost universally acknowledged. However, the actual task is difficult and requires reflexion and training. Communication among peers, on the other hand, is considered a natural and essential part of research activity. Nevertheless, looking more closely, even this is not that simple. "Publish or perish" is mantra that has penetrated the world of the researchers, but a serious discussion on "what" and "how" to publish is often lacking.
In addition, research teams are increasingly multidisciplinary. The dialogue between scientists from different fields is difficult and can hinder cooperation. Thus, the need for developing communication skills needs to be integrated in the training of young researchers. After a general discussion, we will present the case of the Université Libre de Bruxelles, where these new competences are integrated in the syllabus of the Faculty of Science, at graduate and undergraduate level.

ORGANIZER:
Maria José Gama, Université Libre de Bruxelles, Belgium

SPEAKERS:
Maria José Gama, Université Libre de Bruxelles, Belgium
Michel Claessens, DG Research, European Commission, EU
Steve Miller, University College London, UK
Marie-Claude Roland, National Institute for Agricultural Research (INRA),France

MODERATOR:
Steve Miller, University College London, UK

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3 July, 15:45 - 17:00, Sala Copenaghen

Misconduct in science communication and the role of editors as science gatekeepers

The European Association of Science Editors (EASE) is an internationally oriented community of individuals from diverse backgrounds, linguistic traditions and professional experience who share an interest in science communication and editing. The speakers will talk about publication ethics and will approach the problem of misconduct in science and how to detect it. This will be based on a debate with the audience about specific issues in integrity in science, and analysis and discussion of some known cases of misconduct in scientific behaviour. The audience will be fully involved in the discussion and will be asked to tackle actual cases of scientific fraud and conflict of interest.

ORGANIZER:
Remedios Melero, European Association of Science Editors (EASE), Spain

SPEAKERS:
Arjan K S Polderman, Pharmaceutisch Weekblad, The Netherlands
Ana Marušic, School of Medicine, Zagreb University, Croatia
Sylwia Ufnalska, European Association of Science Editors (EASE), Poland

MODERATOR:
Joan Marsh, Wiley-Blackwell, UK

4 July, 09:00 - 10:15, Sala Londra

New comparable data on young researchers' mobility patterns available: what are the consequences for European Research Policy?

Why do doctoral candidates go abroad? What are the most important obstacles they still face? To which extent do links to their home country persist? Do mobile researchers want to return, stay, or move to a further country? Which type of mobility is most common and is appropriate funding available? These kinds of questions have been subject to speculation so far. With the results of a recent survey conducted by Eurodoc, the European Council of doctoral candidates and junior researchers, in cooperation with INCHER, a HE research institute in Kassel (DE), we now have a clearer picture. Eurodoc started this major undertaking in 2008 to counteract the shortage on comparable data on crucial topics like motives for pursuing a doctorate, career paths, funding, supervision, generic skills and mobility.
Also, a number of other studies regarding researchers' mobility and framework conditions have recently been conducted; they are complementary in that they concentrate on a different target group, or examine different questions. The session will provide an overview on data which is currently available. The session will be closed by the presentation of an Italian best practice in the survey and analysis of data concerning University degrees and graduates and PhDs employability: AlmaLaurea.

ORGANIZER:
Ing-Marie Ahl, Vice-president, European Council of doctoral candidates and junior researchers (Eurodoc), Sweden

SPEAKERS:
Dagmar Meyer, European Commission, EU
Snezana Krstic, European Council of doctoral candidates and junior researchers (Eurodoc), Serbia
Karoline Holländer, European Council of doctoral candidates and junior researchers (Eurodoc), Germany
Giancarlo Gasperoni, AlmaLaurea and University of Bologna, Italy

MODERATOR:
Wolfgang Eppenschwandtner, European Council of doctoral candidates and junior researchers (Eurodoc), Austria

4 July, 09:00 - 10:15, Sala Roma

Free your mind and the rest will follow: how to use entrepreneurial tools to boost your career

The entrepreneur is often described as someone who gets things done. By using the toolbox of the entrepreneur, you can become more focused, efficient and successful. As a researcher you have acquired solid lab and publication skills, but you have also gathered "soft" skills in areas such as teaching, presenting and writing of funding applications. It is now time to make use of these transferable skills and develop them further. Developing these skills can add extra value to your research, or help you take the big step and leave academia for an alternative career.

The workshop will be opened with a talk on career opportunities and the choices researchers have to make if they want to change their career path. We will then mix short presentations on entrepreneurial skills with creative exercises for hands on results. To conclude the session, a former researcher who has made an inspirational career journey, focusing on transferrable skills, will share her story.

ORGANIZER:
Jessica Norrbom, Karolinska Institutet, Sweden

SPEAKERS:
Hanna Jansson, Karolinska Institutet, Sweden
Kerstin Beckenius, Karolinska Institutet, Sweden
Lena Hanson, Karolinska Institutet, Sweden
Anethe Mansén, Karolinska Institutet, Sweden
Hjalmar Gullberg, Karolinska Institutet, Sweden
Gene Russo, Nature Jobs, USA
Vanessa Campo Ruiz, European Science Foundation, France

MODERATOR:
Jessica Norrbom, Karolinska Institutet, Sweden

4 July, 09:00 - 11:45, Sala Copenaghen

Science communication training for talking and listening: 2. Writing a press release

This practical workshop will introduce trainees to writing a press release based on their research, which could be sent out to a range of media outlets. A short lecture will explain, with examples, how the mass media cover science, technology and medicine, and the techniques required to turn front-line research into newsworthy material. Participants will get advice while writing up their work, and feedback on the finished press releases.
Please note: participants will need to be registered for this workshop. It will be very useful if participants can bring with them a short (one-page maximum) article or description of their work suitable for a non-specialist audience.

ORGANIZER:
Steve Miller, University College London, UK

SPEAKERS:
Steve Miller, University College London, UK
Blanka Jergovic, Croatian Radio and University of Zagreb, Croatia
Kajsa-Stina Magnusson, University College London, UK

4 July, 10:30 - 11:45, Sala Roma

Energy and enthusiasm is contagious: how early career scientists can help the world reach excellence in science

A new concept of "young researcher" has emerged. Today, a successful early career scientist has to do brilliant research, publish in top journals, effectively communicate her/his work at conferences, and be actively involved in policy making, education and outreach activities. However, managing time and prioritizing these issues can be challenging. During the International Polar Year – an international and interdisciplinary scientific programme involving more than 60 countries and 50,000 scientists – a new wave of enthusiastic early career scientists emerged, performing high-quality research and providing innovative ways for communicating science through education and outreach activities, while giving voice to young polar researchers within major organizations on key issues.
This session will discuss how early career researchers are advancing high-level science, provide guidance on how to balance time between science and outreach activities, and give examples on how young (European) scientists can have a strong voice in world science policies.

ORGANIZER:
Xavier Jose, Institute of Marine Research, Portugal

SPEAKERS:
Jenny Baeseman, Association of Polar Early Career Scientists (APECS), Norway
Dave Carlson, International Polar Year programme office, UK
Paul Egerton, Life, Earth and Environmental Sciences, European Science Foundation, France
Gerhard Wolf, European Economic and Social Committee, Germany
José Leirião, European Economic and Social Committee, Portugal

MODERATOR:
Susanne Feitz, Universitat Autònoma de Barcelona and Institut de Ciència i Tecnologia Ambientals (ICTA), Spain

4 July, 10:30 - 11:45, Sala Dublino

What's up with peer review? The future of peer review in policy, research and public debates

What is the future of peer review? What does it do for science and what does the scientific community want it to do? Should it detect fraud and misconduct? Does it illuminate good ideas or shut them down? Does it help journalists report the status and quality of research? Why do some researchers do their bit and others make excuses? And why are all these questions important not just to journal editors, but to policy makers and the public?
In September 2009, Sense About Science, in association with Elsevier, published the latest results from a worldwide survey of 100,000 scientists' preoccupations and preconceptions as both authors and reviewers of scientific papers. The survey explores whether researchers attitudes to peer review are changing and whether there is a gap between their perception of peer review and the reality of what it can do. These insights will provide the baseline for discussions on how the system needs to evolve to cope with challenges it faces, such as the expansion of the international research community, the issues of fraud, the development of open access and the role peer review plays in science policy and public debates about the quality of science. In this session a panel will respond to these latest results and discuss what the future for peer review is and what the international community can do to address the challenges facing peer review.

ORGANIZER:
Julia Wilson, Sense About Science, UK

SPEAKERS:
Adrian Mulligan, Elsevier, UK
Philip Campbell, Editor-in-Chief, Nature, UK
Tommaso Dorigo, University of Padova, Italy

MODERATOR:
Tracey Brown, Sense About Science, UK

4 July, 14:15 - 15:30, Sala Roma

Would Einstein be on Twitter? Exploring the potential and limits of Web 2.0 in science and science communication

Journals and peer-reviewed publications are still the most widely used channels through which research results are disseminated within the scientific community. "The public" engages with science and research mostly through established media channels like newspapers, television and online services. However, social media and Web 2.0 tools are seemingly challenging the supremacy of editors, reviewers and science communicators. Blogging about science has become a new way of engaging "the public" directly with scientists, while researchers are increasingly using such tools within their own communities for exchange or review purposes.
This workshop focuses on tools like Wikis, YouTube, Facebook, Twitter and social networks, and explores their potential and limits for communication and scientific exchange. What opportunities do the new tools offer – for scientists, institutions and the public? How can Web 2.0 contribute to the process of knowledge production and how do people benefit from scientists blogging? Participants will be shown practical examples and will be invited to form their own opinion about, where and how to use such tools and how to handle the time commitment and quality control required for their maintenance.

ORGANIZER:
Barbara Diehl, Oxford Centre for Entrepreneurship and Innovation, Saïd Business School, University of Oxford, UK

SPEAKERS:
Barbara Diehl, Oxford Centre for Entrepreneurship and Innovation, Saïd Business School, University of Oxford, UK
Cornelia Pretzer, Deutsche Forschungsgemeinschaft, Germany
Diane Scherzler, Suedwestrundrunk, Germany

MODERATOR:
Barbara Diehl, Oxford Centre for Entrepreneurship and Innovation, Saïd Business School, University of Oxford, UK

4 July, 14:15 - 15:30, Business Centre

Redefining the research university: collaborating over and beyond the walls of tradition

There are two institutions that have remained relatively unchanged through the crises and upheavals of history. The modern university, dating from the 19th century, is one of them. While traditionally seen as a source of knowledge and innovation, universities have seldom been apt at renewing themselves. Using the strengths of the diverse and varied backgrounds of the ESOF participants, we would like to disentangle this paradox together. The nature of knowledge is changing; it's now collaborative, learning-centred and interactive. Perhaps the time has come for universities, which primarily act as centres for learning "about", to actively become involved in learning "from" and creating together with their environment.
Karolinska Institutet has hosted four seminars with the goal of exploring these new roles. The results have implications far beyond the walls of the university – beyond the LERU, Bologna, and Lisbon discussions. Join us as we question tradition, test our assumptions, and together redefine the research university.

ORGANIZER:
Johanna Diehl, Karolinska Institutet, Sweden

SPEAKER:
Luc E. Weber, University of Geneva, Swizerland

MODERATOR:
Johanna Diehl, Karolinska Institutet, Sweden

4 July, 14:15 - 17:00, Sala Copenaghen

Science communication training for talking and listening: 3. Being interviewed

This practical workshop will introduce trainees to the demands of broadcasters interviewing researchers about their work. A short lecture will explain, with examples, how the broadcast media cover science, technology and medicine, and how to explain clearly and simply the main points of research findings. Participants will then be interviewed (and recorded), and will be given feedback on the final recordings.
Please note: participants will need to be registered for this workshop. It will be very useful if participants can bring with them a short (one-page maximum) article or description of their work suitable for a non-specialist audience.

ORGANIZER:
Steve Miller, University College London, UK

SPEAKERS:
Steve Miller, University College London, UK
Blanka Jergovic, Croatian Radio and University of Zagreb, Croatia
Kajsa-Stina Magnusson, University College London, UK

CAREER PROGRAMME

4 July, 15:45 - 17:00, Sala Istanbul

International careers in science

The training of young scientists has developed in an unprecedented manner over the last two decades. Already many students have studied abroad prior to completing their graduate degrees, and this level of readiness for international exchange is even more marked for PhDs and postdoctoral training. It is not uncommon for postdoctoral researchers to move to a third country at the beginning of their tenure. Historic mobility barriers such as degree recognition or visa applications have been adequately addressed, so there is now a strong demand for programs which support research abroad. In this way, early career scientists are themselves a driving force for the globalization of science. While there is no doubt about the value of international research experience, many countries still struggle to encourage a greater rate of return at the young investigator stage.
The purpose of this panel discussion is to pinpoint existing limitations and to identify new avenues for international careers. Important questions will emerge: do domestic research and training initiatives need stronger international elements? is there a need to intensify international collaboration in science to support career building? The discussants from Europe, Canada, and Japan will present ongoing efforts to increase the long term attractiveness of domestic research programs without sacrificing opportunities for international scientific collaboration and career building.

ORGANIZER:
Guntram Bauer, Human Frontier Science Program, Germany

SPEAKERS:
Helga Nowotny, European Research Council, Austria
Suzanne Fortier, Natural Sciences & Engineering Research Council, Canada
Motoyuki Ono, Japan Society for the Promotion of Science (JSPS), Japan

MODERATOR:
Ernst-Ludwig Winnacker, Human Frontier Science Programme, France

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4 July, 15:45 - 17:00, Sala Dublino

What would science look like if it were invented today?

The way researchers debate and publish scientific results, the way quality assurance works, the way research performance is assessed and funding granted has not changed substantially over the last decades. Researchers use digital media now – conventional mail has been replaced by email, conventional slides by screen presentations. It is faster and more convenient now, but structurally it is still the same. The transition into the digital age did not go with a mainstream reflection on how to make best use of the tools which are available now.
In this workshop, we will discuss how Wikis and other collaborative environments (e.g. Google Wave), blogs and microblogs can enrich scientific communication, how public post-publication peer review and contribution-based metrics can work. Special focus will be put on how young researchers can benefit from Open Access and Science 2.0 tools. At the same time, the session will be a showcase on how those communication tools for scientific interaction can work in practice. Experts will be connected online from all over the world to Torino to communicate with the participants who are physically present during the whole session.

ORGANIZER:
Ludovic Garattini, European Council of Doctoral Candidates and Junior Researchers (Eurodoc), France

SPEAKERS:
Daniel Mietchen, European Council of Doctoral Candidates and Junior Researchers (Eurodoc), Germany
Steven Mansour, World Association of Young Scientists, Canada

MODERATOR:
Alma Swan, Key Perspectives, UK

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5 July, 09:00 - 10:15, Sala Atene

Added value of structured doctoral training and postdoctoral mobility

High quality academic education, research and innovation are key to Europe's prosperity. In the globalised hunt for talent, organisations around the world are expanding from the classic master-apprentice doctoral model, to more stable frameworks, in order to raise the quality of their research, enhance the scientific training they deliver, promote networks of excellence among their researchers and faculty, and ensure the return of research investments to society. Now, who is succeeding in this challenge? What can we do to improve and disseminate good practices, so that the European Research Area becomes the best researchers' first choice? These and other questions will be tackled by researchers and policy makers, with the interaction of the public.
This session is linked to *Is tenure track an attraction for young principal investigators?*

ORGANIZER:
Vanessa Campo Ruiz, European Science Foundation, France

SPEAKERS:
Zsolt Kajcsos, Research Institute for Particle and Nuclear Physics (KFKI), Hungarian Academy of Sciences, Hungary
Mary Ritter, Imperial College London, UK
Heikki Ruskoaho, Department of Pharmacology and Toxicology, University of Oulu, Finland
Christian Unkelbach, Psychologisches Institut, Heidelberg University, Germany
Rachel Yuan Nong, The Rudbeck Laboratory, Uppsala University, Sweden

MODERATOR:
Marja Makarow, European Science Foundation, France

5 July, 09:00 - 10:15, Sala Copenaghen

Taking your passion for science to a career away from research

Could you be missing out on an exciting and rewarding career outside of academic or industrial research? Most individuals who pursue a career in science do so because they have a love for science. Once your training is done, can you bring that passion to a career beyond the research bench? Increasingly, PhD-level scientists are becoming aware of fulfilling career opportunities beyond bench research. Join us at this workshop to consider what your own career path in these so-called "nontraditional" areas might look like. Looking closely at your skills, values, and preferences, as well as learning about the experiences of other scientists, can help you to identify the career path that's right for you. This workshop will also present ways to parlay your current skills and values into a new area and how to develop the skills you might need to follow your passion for science to a new career path.

ORGANIZER:
Brianna Blaser, Science and AAAS, USA

SPEAKERS:
Brianna Blaser, Science and AAAS, USA
Richard Weibl, AAAS, USA

MODERATOR:
Brianna Blaser, Science and AAAS, USA

5 July, 10:30 - 11:45, Sala Atene

Is tenure track an attraction for young principal investigators?

High quality academic education, research and innovation are key to Europe's prosperity. In the globalised hunt for talent, organisations around the world are expanding from the classic master-apprentice doctoral model, to more stable frameworks, in order to raise the quality of their research, enhance the scientific training they deliver, promote networks of excellence among their researchers and faculty, and ensure the return of research investments to society. Now, who is succeeding at this challenge? What can we do to improve and disseminate good practices, so that the European Research Area becomes the best researchers' first choice? These and other questions shall be tackled by researchers and policy makers, with the interaction of the public.
This session is linked to *Added value of structured doctoral training and postdoctoral mobility*

ORGANIZER:
Vanessa Campo Ruiz, European Science Foundation, France

SPEAKERS:
Rafael Carazo Salas, The Gurdon Institute and Department of Genetics, University of Cambridge, UK
Natalie Sebanz, Radboud University Nijmegen, The Netherlands
Eero Vuorio, Biocenter Finland, University of Helsinki, Finland
Marino Zerial, Max Planck Institute of Molecular Cell Biology and Genetics, Dresden, Germany
Johanna Backstrom, Karolinska Institutet, Sweden

MODERATOR:
Marja Makarow, European Science Foundation, France

5 July, 10:30 - 11:45, Sala Copenaghen

Dual career: could it be an advantage?

The paper *Inventing our future together. The European Research Area: new perspectives*, published last April by the EC, identifies the need for "an adequate flow of competent researchers with high levels of mobility between institutions, disciplines, sectors and countries" as a major priority. Researchers mobility is beyond doubt a key condition for the development of the European scientific research. Moreover, it represents a great opportunity for scientists in whatever stage of their career. Nonetheless, researchers mobility may conflict with their own personal lives. The issue becomes even harder if we consider that the proportion of dual career couples is increasing among scientists. The need for negotiating both careers becomes a source of discontent, and often one of the two is affected considerably by the choices made. Mobility has demonstrated to be partly gender sensitive, and this needs to be addressed in some way in order to ensure at least equal opportunities

to male and female scientists regarding possibilities and benefits offered by mobility programmes.
The session will start with a general introduction on the topic, then three speakers will introduce their personal experiences. A debate will follow and participants will be invited to report personal observations, making comments and boosting suggestions.

ORGANIZER:
Maria-Antonietta Buccheri, Marie Curie Fellows Association, Belgium

SPEAKERS:
Maria-Antonietta Buccheri, Marie Curie Fellows Association, Belgium
Giovanna Avellis, InnovaPuglia, Italy
Manuela Giovanetti, School of Biological Sciences, Queen's University Belfast, UK
Vanessa Diaz- Zuccarini, University College London, UK

MODERATOR:
Vanessa Diaz- Zuccarini, University College London, UK

5 July, 12:00 - 12:45, Sala Londra

The world needs science, and science needs women

Women in scientific research are still a minority, accounting for only 30% of researchers in the EU in 2006. Women's academic careers remain markedly characterized by strong vertical segregation: the proportion of female students (55%) and graduates (59%) exceeds that of male students, but women represent only 44% of grade C academic staff, 36% of grade B academic staff and 18% of grade A academic staff. These data point out that the "glass ceiling" still exists. What are the reasons for this "brain-drain" among women in academia? And what are possible solutions?
In this session, through the experience of the speakers, we would like to provide innovative answers to these questions in order to attract young women to science and to give a voice to exceptional women in science who are helping to change the world. This is the mission that L'Oréal and UNESCO share since 1998 with the creation of the For Women in Science Programme (FWIS), which has to date recognized and supported over 900 women scientists worldwide.

ORGANIZER:
Alessandra Sabellico, L'Oréal Italia, Italy

SPEAKERS:
Ada Yonath, 2008 FWIS Laureate for Europe and 2009 Nobel Laureate in Chemistry, Israel
Jennifer Campbell, Secretary General, The L'Oréal Corporate Foundation, France
Federica Migliardo, 2008 FWIS International Fellow and University of Messina, Italy
Lidia Brito, Director, Science Policy and Sustainable Development, UNESCO, France

MODERATOR:
Sylvie Coyaud, Journalist, Italy

5 July, 14:15 - 15:30, Sala Atene

A career that's out of this world! The insider's guide to working in space exploration

Space exploration is an inspiring, diverse and challenging field of research in which Europe is playing an increasingly important role. With roadmaps currently under development for returning astronauts to the Moon and a human mission to Mars, the next generation of scientists will have the opportunity to play a critical role in the story of mankind's exploration of the Solar System. In the meantime, robotic missions and ground-based telescopes are giving us access to a plethora of data about planets, moons, comets and asteroids, radically reshaping our ideas about our place in the universe and the origins of life. These activities are backed up by laboratory and field experiments, giving us new insights into our planet, the future of our environment and the unlikely places that life can evolve. Space exploration is a truly interdisciplinary field, spanning the physical and life sciences as well as engineering.
In this round-table discussion, we will bring together some of the leading figures in European space research to share their experiences (both in science and in public outreach), give an overview of the potential career paths for young scientists and give an insight into future plans for exploring our planetary neighbourhood.

ORGANIZER:
Anita Heward, Europlanet RI, UK

SPEAKERS:
Bernard Foing, European Space Agency, European Space Research and Technology Centre (ESTEC), The Netherlands
Helen Walker, Science and Technology Facilities Council, UK
Ester Antonucci, National Institute for Astrophysics (IFSI-INAF), Italy

MODERATOR:
Steve Miller, University College London, UK

5 July, 14:15 - 15:30, Sala Copenaghen

Project management for young researchers: a fallacy spelled out

A popular saying goes: "A well defined problem is half solved" – and this is what a project manager does. Researchers stand a much higher likelihood of success if they incorporate and embrace the structure that Project Management brings them. Projects are unique, transient endeavours undertaken to achieve a desired outcome or goal, with teams (PhD students, post-docs, permanent researchers, technicians, etc.) assigned for the duration of the project and close attention paid to scheduling and budget. Typically, most research projects suffer from planning problems, as well as delays in development, unforeseen activities, cost overruns, and even losses resulting from high turnover. A project left to its own devices is headed toward failure.
In the first part of the meeting, qualified speakers will provide the basics on project management and how to plan and manage and report a project with practical examples. In the second part, the audience will be invited to pose questions and comment.

EUROSCIENCE

Your Voice on Research in Europe

Euroscience was founded in 1997 by members of Europe's research community to:

- provide an open forum for debate on science and technology as well as research policies in Europe
- strengthen the links between science and society
- contribute to the creation of an integrated space for science and technology in Europe, linking research organisations and policies at national and EU levels; strive for a greater role of the EU in research
- influence science and technology policies
- support the mobility of scientists and especially young researchers.

Euroscience is a pan-European association of individuals interested in constructing scientific Europe "from the bottom-up".

Euroscience represents European scientists of all disciplines (natural sciences, mathematics, medical sciences, engineering, social sciences, humanities and the arts), institutions of the public sector, universities, research institutes as well as the business and industry sector.

We are a grassroots organisation open to research professionals, science administrators, policy-makers, teachers, PhD students, post-docs, engineers, industrialists, and generally to any citizen interested in science and technology and its links with society.

With the aim of an improved integration of all EU member states in the scientific community, we organise meetings of all sizes at the international level or at regional levels; publish position papers; and use the Internet to discuss science within a public agenda.

The creation of the Euroscience Open Forum

For too long, Europe was lacking an independent arena for open dialogue on the role of all the sciences, including the humanities, in society. We have it now with the **E**uroscience **O**pen **F**orum (ESOF). The initiative was taken in 1998 by the researchers themselves: the Euroscience Open Forum was brought to life by Euroscience. Euroscience recognised the need for an interdisciplinary, pan-European meeting place for open dialogue and the exchange of ideas.

Come and join us at the Euroscience and ESOF Hub stand nr 123-124, see more details in the exhibition pages.

TOPESOF ASSOCIATION – TORINO FOR ESOF2010

TopESOF Association – Torino for ESOF2010, founded in July 2007, is made up the three initiators of Torino's candidature:

Compagnia di San Paolo is one of the largest private foundations in Europe. It was founded in 1563 is actively involved in civil society and pursues aims of public interest and social use, in order to foster the civil, cultural and economic development of the community in which it operates. These institutional activities are funded with the earnings on the financial assets accumulated over the centuries, that the Compagnia is committed to preserve for the generations to come. The Compagnia di San Paolo is active in the following sectors: Research and Advanced Education; Artistic Heritage; Cultural Activities; Health and Social Policy.
www.compagniadisanpaolo.it

Agorà Scienza, a centre of the universities of the Piedmont Region, is committed to the promotion and communication of scientific culture. It aims at making researchers aware of their responsibility to the public and to develop a real scientific citizenship. The activities of Agorà Scienza include: research on Science in Society issues, higher education on science communication for postgraduates, innovative projects for science teaching. Agorà Scienza participates in European networks and is committed to encourage joint actions of international actors in the promotion of scientific culture.
www.agorascienza.it

Associazione CentroScienza onlus, today, is an actor recognised by institutions and scientific community for its proven capacity to organise and run activities for the diffusion of scientific and technological culture. Its best known events include the series of conferences, GiovedìScienza ScienceThursday) the co-ordination of all the activities during the Science Weeks in Piedmont, the organization of Brain Awarenes week promoted by the Dana Foundation and resident and outreach laboratories in the schools. Since 1997 CentroScienza Onlus has been a member of ECSITE, the European network of science centres and museums, with which it has carried out international projects like 'Decide' and currently 'Places'.
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The Compagnia di San Paolo is one of the largest private foundations in Europe. It was founded in 1563 as a private brotherhood and later evolved into a banking institute and charitable institution. The new charter was adopted in March 2000. The Foundation is actively involved in civil society and pursues aims of public interest and social use, in order to foster the civil, cultural and economic development of the community in which it operates. These institutional activities are funded with the earnings on the financial assets accumulated over the centuries, that the Compagnia is committed to preserve for the generations to come. The Compagnia di San Paolo is active in the following sectors: Research and Advanced Education; Artistic Heritage; Cultural Activities; Health and Social Policy.

Compagnia di San Paolo

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europe direct Contact Centre

OUR PRIORITIES

- to enable local citizens to obtain required information, advice, assistance and answers to questions about the European Union's institutions, legislation, policies, programs and funding opportunities;
- to promote active local and regional debate about the European Union and its policies;
- to allow the European institution to improve the dissemination of information tailored to local and regional needs;
- to give the public the opportunity to send feedback to the European Union's institutions in the form of questions, opinions and suggestions.

HOW IT WORKS

The ED gives to citizens information and assistance on European legislation:

- information to youngest about European programmes concerning study, work and voluntary (Leonardo, EVS…)
- information and assistance to private organizations, associations, public institutions, schools, research or voluntary organizations, aimed at the proposition of European projects;
- constant and direct assistance concerning the issues of EU laws, programmes and tenders, with respect to the possibility of support by the European Union;
- diffusion of information brochures and free consultation of several magazines and periodicals published by the European Commission;
- organization of meetings, seminars and exhibitions.

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Infinito - Torino Planetarium

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REGIONE PIEMONTE

CITTA' DI TORINO

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EUROPEAN COMMISSION / European Research Area / 7th Framework Programme

The European Commission is investing in research and technological development.
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Booth C, Lingotto Exhibition Area

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A good relationship between science and society is absolutely essential when striving to achieve the best results in science and research – contacts, mutual interest, understanding and confidence are all key factors. This is exactly what ESOF 2010 aims to achieve by presenting European research across the entire scientific spectrum and bringing together scientists, policy makers, journalists, as well as the general public.

Meet representatives of the Robert Bosch Stiftung at the following sessions
»An ERA of Excellence and Cohesion«
(4 July 2010, 9:00 am – 10:15 am, Room 4)
»Science Education + Scientific Interest = More Scientists:
The Magic Formula or Mission Impossible?«
(4 July 2010, 10:30 am – 11:45 am, Room 8)
»An ERA addressing the Grand Challenges«
(5 Juli 2010, 9:00 am – 10:15 am, Room 1)

Further activities in Turin from the Robert Bosch Stiftung include
:: a fellowship programme for 30 experienced science writers from Asia and North America to spark their interest in European science and open up new vistas
:: a fellowship programme for 20 young journalists working for editorial offices of German regional newspapers, radio stations or television
:: two science shuttle buses: one full of bright young minds coming directly from the 60th Nobel Laureate Meeting in Lindau/Germany. The second »NaT-Working« bus is bringing science teachers, students and scientists to Turin so that they can get a real taste of Science in Europe.

Further information on our activities is available at:
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Robert Bosch Stiftung

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ORGANIZER:
Maria-Antonietta Buccheri, Marie Curie Fellows Association, Belgium

SPEAKERS:
Natalia Balcázar, European Environmental Project Management (ENVIROpro), Germany
Frank Heemskerk, Research & Innovation Management Services (RIMS), Belgium

MODERATOR:
Frank Heemskerk, Research & Innovation Management Services (RIMS), Belgium

5 July, 15:30 - 16:15, Sala Lisbona (Media Centre)

Special Session (in Italian): Il precariato della ricerca in Italia (Precarious research in Italy)

Il progetto di riforma dell'Università proposto dal ministro Gelmini ha riaperto il dibattito sul ruolo delle forme di lavoro precario – assegni di ricerca, borse di studio, collaborazioni a progetto, docenze a contratto, ecc. – negli atenei italiani, moltiplicatesi negli ultimi anni per far fronte alle esigenze della formazione e della ricerca. Da un lato la riforma comporterà una forte riduzione dei finanziamenti all'università e gli effetti dei tagli saranno scaricati in buona parte sui lavoratori a tempo determinato. Dall'altro metterà in esaurimento l'attuale figura del ricercatore, sostituendolo con il ricercatore a tempo determinato. Qual è la realtà del lavoro precario nell'università italiana? In che misura essa rappresenta un caso a sé nel panorama europeo? In che modo la riforma che è oggi in discussione modificherebbe il funzionamento degli atenei italiani?

ORGANIZER:
Paolo Ariano, Università di Torino

SPEAKER:
Marco Allegra, Università di Torino,
e **Francesco Pescarmona**, Politecnico di Torino
La precarietà negli atenei torinesi e a livello nazionale
Claudio Franchi, Università di Napoli "L'Orientale"
I giovani ricercatori in Italia e in Europa: Prospettive a confronto
Enrico Arnone, Università di Bologna
Fatti e parole sull'università e la ricerca in Italia

MODERATOR:
Paolo Ariano, Università di Torino

5 July, 15:45 - 17:00, Sala Atene

Passionate about research? Funding opportunities in Europe for creative minds from anywhere in the world

The workshop aims to present funding opportunities for first-class, up-and-coming researchers, who are keen to develop and fast-track their careers in Europe. The Marie Curie Actions (MCA) and the European Research Council (ERC) offer such funding in a complementary way: whereas the first provides fellowships for career development at post-graduate and post-doctoral level for excellent mobile researchers, the second offers attractive grants to promising post-doctoral researchers enabling them to establish or consolidate themselves as independent leaders of a research team. Since 1996, MCA have played a central role in the European Research Area by improving researchers' careers and promoting their mobility. Created in 2007, the ERC reflects a substantial step in the way Europe manages its research base to progress towards the Lisbon targets. By challenging the brightest minds, both ERC and MCA grants will help broaden Europe's knowledge base and will help to bring about new discoveries to meet tomorrow's global challenges. Both funding schemes are open to researchers of any nationality and encourage talent from further afield to settle in Europe. The workshop will explain the aim and synergies of the two funding schemes as well as providing answers to practical questions. In addition, Marie Curie Fellows and ERC Starting Grantees will be present to share their experiences with these funding initiatives and will answer questions from the audience.

ORGANIZER:
Samantha Christey, European Research Council (ERC), Belgium

SPEAKERS:
Massimo Gaudina, European Research Council (ERC), Belgium
Eleni Zika, European Research Council (ERC), Belgium
Louise Byrne, Research Executive Agency, Belgium
Andre Mischke, Institute for Subatomic Physics, Faculty of Science, Utrecht University, The Nedherlands
Pauliina Damdimopoulou, Department of Biosciences and Nutrition, Karolinska Institutet, Sweden

MODERATOR:
Massimo Gaudina, European Research Council (ERC), Belgium

5 July, 15:45 - 17:00, Sala Copenaghen

Getting to the top of a big pile: How to succeed at grant-writing

Success as a scientist requires a combination of talent, skills, and resources. Competition for funding demands the ability to persuade funding agencies that the research activities you are proposing merit a slice of the available funds. Making this case requires more than a good CV and publication record. Writing a clear, concise, and persuasive proposal that reflects the intellectual merit of your project and demonstrates your team's capacity to see it through is essential. This Science Careers workshop will explore the do's and don'ts of grant-writing and the often subtle differences between a winning and a rejected proposal.

ORGANIZER:
Brianna Blaser, Science and AAAS, USA

SPEAKERS:
Markus Behnke, Chemistry and Process Engineering Division, German Research Foundation, Germany
Vittoria Colizza, ISI Foundation, Italy
Guntram Bauer, Human Frontier Science Program, France

MODERATOR:
Brianna Blaser, Science and AAAS, USA

Pizza with the Prof

3-5 July, 13:00 - 14:00, East Corridor

ESOF2010 Career Programme offers to students, PhDs and young researchers a place to exchange and share ideas, proposals and opinions on their careers and their future. It aims to arm the new generations with the instruments necessary to build a renewed relationship between science and society.
The *Pizza with the Prof* event is an integral part of this programme, the ideal prosecution of *Pretzel with the Prof* in Munich 2006 and T*apas with the Prof* in Barcelona 2008. It's an informal lunch with top-notch scientists, where participants meet in front of a slice of pizza, and ask the "Profs" questions about their careers, their studies and their future challenges.
The East Corridor of Centro Congressi Lingotto will host eight tables set for ten people: a speaker at ESOF2010 (Plenary and Keynote speakers, or other prominent researchers), seven young registered participants, one high school student and a moderator. For these young people this will be a unique opportunity to interact with top-notch scientists and science communicators, and to get new motivations for their rising careers. The event fits perfectly in the framework of Torino, European Youth Capital 2010.

Martin Andler
Université Versailles-Saint-Quentin, Paris, France

A graduate of Ecole Normale Supérieure and Université Paris 7 Denis-Diderot, Martin Andler has held positions at CNRS in France and visiting positions in the USA at MIT, Rutgers University and the Institute for Advanced Studies in Princeton. His main research area is in "pure" mathematics, specifically representation theory of Lie groups. He also works on the history of 20th century mathematics, mathematics education and science studies. He has been Vice-president of Société Mathématique de France, Chairperson of the mathematics department of UVSQ and member of its Conseil d'Administration, associate member of the "Comité d'initiative des Etats généraux de la recherche". He has been involved in science communication as managing editor of the Gazette des mathématicien and has participated in various outreach activities in mathematics. In the last ten years, he has been the president of Animath, an organization devoted to boost the involvement of students in extracurricular activities in mathematics.

Philip Campbell
Editor-in-Chief, Nature, UK

Philip Campbell obtained a BSc in aeronautical engineering at Bristol, a MSc in astrophysics at Queen Mary and Westfield College, and a PhD in upper atmospheric physics at the University of Leicester. He has worked with the UK Office of Science and Technology, the European Commission and the US National Institutes of Health on issues relating to science and its impacts in society. His current areas of responsibility at Nature include: editorial content and management of the publication, and long-term quality of all Nature publications. He is a trustee of Cancer Research UK, a Fellow of the Royal Astronomical Society (1979) and a Fellow of the Institute of Physics (1995). He has been awarded an honorary DSc by Leicester University and Bristol University.

Elena Cattaneo
Director, Laboratory of Stem Cell Biology and Pharmacology of Neurodegenerative Diseases, University of Milano, Italy

Elena Cattaneo is Director of the Laboratory of Stem Cell Biology and Pharmacology of Neurodegenerative Diseases at the Department of Pharmacological Sciences, as well as a co-founder and first appointed Director of UniStem, the Centre for Stem Cell Research of the University of Milan. The main research theme of her lab is neural stem cells, and the molecular pathophysiology of Huntington's Disease. Funders of Cattaneo's lab include the Huntington's Disease Society of America (H.D.S.A.), Hereditary Disease Foundation, High Q Foundation, the European Union, and Telethon Italy. Prof Cattaneo's studies on neural stem cells and Huntington's disease saw her awarded the Gold Medal from the President of the Italian Republic in 2001.

Aldo Fasolo
University of Torino, Italy

Aldo Fasolo is full professor in Developmental Biology. Author or co-author of over 200 full length papers and about 300 conference abstracts, he has been coordinator for many years of a national program on "Neurobiology and evolution of local circuits". His past and current research interests include comparative neurology and neurobiology of peptides, olfactory neuroscience, adult neural stem cell, identification of mechanisms by which neurons originating in the Sub Ventricular Zone (SVZ) reach their final destination (olfactory bulb), developmental neuroendocrinology of GnRH-1 neurons. He is presently member of the Accademia Nazionale dei Lincei, Accademia delle Scienze di Torino, Istituto Veneto, Istituto Lombardo, director of Neuroscience Institut (NIT) and director of Doctoral School in Neuroscience of the University of Torino. He is also member of Executive Board of Compagnia di San Paolo and president of the scientific committee of Museo Regionale di Scienze Naturali.

PIZZA WITH THE PROF

Ernst Fehr
Director, Institute for Empirical Research in Economics, University of Zürich, Switzerland

Ernst Fehr was born in Austria in 1956. He studied Economics at the University of Vienna, where he earned his doctorate and completed his habilitation. He has been affiliated faculty member of the Department of Economics at MIT, former president of the Economic Science Association and the European Economic Association, an honorary member of the American Academy of Arts and Sciences, and John Kenneth Galbraith Fellow of the American Academy of Political and Social Sciences. He received the Marcel Benoist Prize in 2008. His research focuses on the proximate patterns and the evolutionary origins of human altruism and the interplay between social preferences, social norms and strategic interactions. Fehr's work is characterized by the combination of game theoretic tools with experimental methods and the use of insights from economics, social psychology, sociology, biology and neuroscience for a better understanding of human social behavior.

Mohammed Hassan
Executive Director, The Academy of Sciences for the Developing World (TWAS), Trieste, Italy

Born in Elgetina, Sudan, in 1947, Hassan is executive director of the Academy of Sciences for the Developing World (TWAS), president of the African Academy of Sciences (AAS) and Co-Chair of the InterAcademy Panel (IAP). After obtaining his DPhil at the University of Oxford in 1973, he returned to Sudan as professor and dean of the School of Mathematical Sciences at the University of Khartoum. Since 1986 he has been working in Trieste, first as executive secretary and then as executive director of TWAS. His research interests include plasma physics and environmental modelling of air pollution and soil erosion in drylands. He received the Comendator, Grand Cross, and National Order of Scientific Merit, Brazil; and Officer, Order of Merit of the Italian Republic. His membership includes: Fellow, TWAS; founding fellow, AAS; fellow, Islamic World Academy of Sciences; honorary member, Academia Colombiana de Ciencias Exactas, Físicas y Naturales; corresponding member, Académie Royale des Sciences d'Outre-Mer, Belgium; foreign fellow, Pakistan Academy of Sciences; honorary member, Palestine Academy of Science and Technology; and founding member, Academy of Sciences of Lebanon.

Sheila Jasanoff
Pforzheimer Professor of Science and Technology Studies, Harvard Kennedy School, USA

Sheila Jasanoff is Pforzheimer Professor of Science and Technology Studies at the Harvard Kennedy School. A pioneer in studying the role of science and technology in the law, politics, and policy of modern democracies, she has authored more than 100 articles and chapters and is author or editor of a dozen books, including Controlling Chemicals, The Fifth Branch, Science at the Bar, and Designs on Nature. Known for her prominent role in building in the field of Science and Technology Studies, she was founding chair of the STS Department at Cornell University (1991-1998). She has held guest professorships at numerous institutions, including MIT, Cambridge (UK), Kyoto, and the. University of Vienna. Jasanoff has served on the Board of Directors of the American Association for the Advancement of Science and as President of the Society for Social Studies of Science. Among her many academic grants and honors are a 2010 Guggenheim Fellowship, an Ehrenkreuz from the Government of Austria, and a fellowship at the Berlin Center for Advanced Study. She holds AB, JD, and PhD degrees from Harvard, and an honorary doctorate from the University of Twente.

Ingrid Wünning Tschol
Head of Science, Robert Bosch Stiftung, Germany

Born in 1958, Ingrid Wünning Tschol received her PhD in biology from the University of Tübingen. From 1985 to 1990 she held a postdoctoral research post at the Massachusetts Institute of Technology and at the State University of New York in Stony Brook. She then moved to the Deutsche Forschungsgemeinschaft in Bonn and was appointed head of Medical Section at the European Science Foundation in Strasbourg. Curently she is head of the Science Department at the Robert Bosch Stiftung in Stuttgart. Ingrid Wünning Tschol belongs to numerous advisory boards, both in Germany and abroad. She was Vice-Chairman of the ESOF 2006 Steering Committee and Co-chair of ESOF 2008 Steering Committee. She is a member of the bureau of the European Research Area Board (ERAB), an independent Board which advises the EU Commissioner with regard to ERA and the Framework Programmes.

Julia Fischer
German Primate Centre, Göttingen, Germany

Julia Fischer obtained her PhD from the Free University of Berlin in 1996 with a study on the vocal communication of macaques. After research visits to the NIH and Harvard University, she was offered a postdoctoral position at the University of Pennsylvania. During this time, she conducted 18 months field research on wild baboons in the Okavango delta in Botswana. In 20001, she moved to the Department of Developmental and Comparative Psychology at the Max-Planck-Institute for evolutionary Anthropology in Leipzig. In 2004, she became a professor at the Georg-August-University of Göttingen, a joint appointment with the German Primate Center, where she is head of the Cognitive Ethology Laboratory. Her research centers on the vocal communication, cognition and social behavior of nonhuman primates, but she also studied the word learning abilities of a domestic dog and the ultrasonic communication of mice. She recently established a field station in Senegal to study Guinea baboons and West African vervet monkeys. In 2007, she was elected into the Berlin-Brandenburg Academy of Science. She is the president of the European Federation of Primatology, member of the board of the Ludwig-Maximilian-University Munich and serves as a panel member for the ERC.

Tom Kirkwood
Institute for Ageing and Health, Newcastle University, UK

Tom Kirkwood is Professor of Medicine, Co-Director of the Institute for Ageing and Health at the University of Newcastle, and Director of the Centre for Integrated Systems Biology of Ageing and Nutrition. Educated at Cambridge and Oxford, he worked at the National Institute for Medical Research until in 1993 he became Professor of Biological Gerontology at Manchester. His research focuses on ageing and on understanding how genes as well as non-genetic factors, such as nutrition, influence longevity and health in old age. He has published more than 250 scientific papers and won several international prizes for his research. His books include the award-winning Time of Our Lives: The Science of Human Ageing (1999).

Harold Kroto
Francis Eppes Professor, Department of Chemistry and Biochemistry, Florida State University, USA
Nobel Prize for Chemistry 1996

Sir Harold (known as Harry) Kroto obtained a BSc in Chemistry and a PhD in Molecular Spectroscopy at the University of Sheffield. After a post-doctoral position at the National Research Council in Ottawa, he spent a year at the Murray Hill Bell Laboratories in New Jersey and in 1967 he started his academic career at the University of Sussex in Brighton. In 1985, laboratory experiments with co-workers at Rice University uncovered the existence of C60, an elegant molecule shaped as a soccer ball and named Buckminsterfullerene. In 1990 he was elected a Fellow of The Royal Society, and in 1996 he was knighted for his contributions to chemistry and awarded the Nobel Prize for Chemistry together with Robert Curl and Richard Smalley. In 2007 he started a new educational initiative at Florida State University known as Global Education Outreach in Science, Engineering and Technology (GEOSET). He has received honorary degrees from a number of universities in the UK and abroad, as well as many scientific awards. From 2004 he has been on the Scripps Institute Board of Scientific Governors. He was elected to the National Academy of Sciences in 2007. In 2006 he has received the Torino honorary citizenship.

Marja Makarow
Chief Executive, European Science Foundation

Marja Makarow has been Chief Executive of the European Science Foundation since January 2008. She is professor of applied biochemistry and molecular biology at the University of Helsinki, where prior to the ESF position she was Vice-rector for Research. She is an advisor to the Finnish Government in the Council for Science and Innovation Policy, and to the EU Commissioner for Research in the European Research Area Board. She has been a member of a number of committees dealing with research, assessments, doctoral training, researchers' careers, infrastructure, innovation and technology transfer in Finland and at the European level, and has served on boards, scientific councils and steering committees of several universities. She was member and chair of the jury of the world's largest technology prize, the Millennium Technology Prize. Her responsibilities have included the presidency of the European Molecular Biology Conference (EMBC/EMBO) and membership of the Council of the European Molecular Biology Laboratory EMBL. Marja Makarow is the recipient of several awards, honours and decorations, and has published widely in reputed scientific journals.

PIZZA WITH THE PROF

Helga Nowotny
President, European Research Council

Helga Nowotny is Emeritus Professor of Social Studies of Science at ETH Zurich, and former Director of its Collegium Helveticum. She was Chair of EURAB, the European Research Advisory Board of the European Commission from 2001-2006. She is Chair of the Scientific Advisory Board of the University of Vienna and member of the Governing Board of the Science Centre in Berlin. She was also Vice-chair of the Governing Board of the University of Goettingen and continues to hold other advisory positions. Helga Nowotny has a doctorate in law from the University of Vienna and a PhD in sociology from Columbia University, New York. She has held teaching and research positions at King's College, Cambridge, the University of Bielefeld, the Wissenschaftszentrum Berlin and at the Ecoles des Hautes Etudes en Sciences Sociales in Paris. She is a member of the Academia Europaea and founding member of Euroscience. In 2003 she received the John Desmond Bernal Prize for life-long achievement in social studies of science and in 2002 the Arthur Burckhardt-Preis. Her main scientific interests are in social studies of science, science and society and social time.

Carl Johan Sundberg
Unit for Bioentrepreneurship, Karolinska Institutet, Sweden

Carl Johan Sundberg is a licensed physician and part-time Associate Professor at the Department of Physiology and Pharmacology at Karolinska Institutet. His research group is focused on molecular mechanisms of angiogenesis and mitochondrial biogenesis in human skeletal muscle. He leads the Unit for Bioentrepreneurship, which is focused on educational and training activities for students, clinicians and researchers. Sundberg works part-time as investment manager at Karolinska Investment Fund, a 65 M € biomedical VC-firm. His role there is to find, assess, invest and develop early stage companies. He is also coordinator for Science & Society at the President's office at Karolinska Institutet and has extensive experience of science communication, having designed several medical exhibitions at science centres and worked in the medical units of Swedish and American media. He has received the Karolinska Prize for Teaching Excellence and the European Commission's Descartes Communication Prize for Excellence in Science Communication 2005. He is a Board member of NsGene A/S and Alfta Rehab AB.

Al Teich
Director, Science & Policy Programs American Association for the Advancement of Science, USA

Al Teich is Director of Science & Policy Programs at AAAS, a position he has held since 1990. He is responsible for the Association's activities in science and technology policy and serves as a key spokesman on science policy issues. He received a B.S. degree in physics and a PhD in political science, both from MIT. Prior to joining the AAAS staff in 1980, he held positions at George Washington University, the State University of New York, and Syracuse University. He is a Fellow of AAAS, the recipient of the 2004 award for Achievement in Science Policy from the Washington Academy of Sciences and was president of the Academy in 2008-09. He is the author of numerous articles and editor of several books, including Technology and the Future, a widely used textbook on technology and society.

Kurt Wüthrich
The Scripps Research Institute, La Jolla, CA, USA,
and ETH Zürich, Switzerland
Nobel Prize for Chemistry 2002

Born in Switzerland in 1938, Kurt Wüthrich was educated in chemistry, physics, and mathematics at the University of Bern before pursuing his PhD at the University of Basel. He then left to work at the University of California, Berkeley and then at the Bell Telephone Laboratories. Wüthrich returned to Zurich in 1969, where he began his career at the ETH, rising to Professor of Biophysics by 1980. He currently shares his time between the ETH Zurich and the Scripps Research Institute, in La Jolla, California. His research interests are in molecular structural biology, and in structural genomics. His specialty is nuclear magnetic resonance (NMR) spectroscopy with biological macromolecules, where he contributed the NMR method of three-dimensional structure determination of proteins and nucleic acids in solution. He was awarded the Nobel Prize in Chemistry in 2002, the Prix Louis Jeantet de Médecine, the Kyoto Prize in Advanced Technology, and a number of other awards and honorary degrees.

Sam Auinger
Experimental Sounddesign, UDK Berlin, Germany

Sam Auinger (www.samauinger.de), sonic thinker, composer, sound-artist, is guest professor at UDK Berlin, running the department of Experimental Sounddesign at the Master's Program in Sound Studies. Together with Bruce Odland he founded O+A in 1989 (www.o-a.info). Their work is known for large scale, public space sound installations which transform city noise into harmony in real-time. Auinger is also a founding member of stadtmusik (www.stadtmusik.org), which deals with sound in cities by analysing sound structures which are triggered by urban buildings and facilities. He was recently nominated "city sound artist" of Bonn, an award given for the first time.

Angelika Brandt
Head, Zoological Museum, University of Hamburg, Germany

Angelika Brandt studied education, biology and English, and passed a research diver's examination at the University of Oldenburg. Her first thesis on the ultrastructure of an isopod's sensory organ and her dissertation thesis on the origin of Antarctic Isopoda were awarded by the Ministry for science and technology. Her post-doc started in 1992 in the Institute for Polar Ecology in Kiel, where she studied community patterns and particle flux in the European Northern Seas. Brandt joined 12 expeditions to the Arctic and Antarctic including a Brazilian-German diving expedition in 1989-90 on King George Island. In 1995 she became professor at the University of Hamburg and since 2004 she is the head of the Zoological Museum. In 2008 she was awarded the SCAR Medal for excellence in Antarctic Research. Her science focuses on systematics, evolution, ecology, biogeography and biodiversity of peracarid crustaceans in the deep sea and polar regions.

Massimiano Bucchi
University of Trento and Observa - Science in Society, Italy

Massimiano Bucchi obtained a PhD in Social and Political Science at the European University Institute in 1997, and he is currently Associate Professor of Sociology of Science and Sociology of Communication at the University of Trento, Italy. He has published six books, including Science and the Media (1998) and Science in society. An Introduction to Social Studies of Science (2004), as well as several papers in international journals. He is a member of the International Scientific Committee for Public Communication of Science and Technology, and has served as advisor and evaluator for several international research and policy bodies, including the US National Science Foundation and the European Commission. He has carried out research and given seminars at several international institutions, such as the Royal Society of London, Universität Bielefeld, ETH Zurich, London School of Economics, University of California Berkeley, Royal Swedish Academy of Sciences, University of Tokyo, Museu da Vida Rio de Janeiro, Austrian Academy of the Sciences.

Max Craglia
European Commission - Joint Research Centre (JRC), EU

Max Craglia works in the Spatial Data Infrastructures Unit of the Joint Research Centre of the European Commission. The main activity of the Unit is to support the development and implementation of the Infrastructure for Spatial Information Europe (INSPIRE). Within the Unit, he is responsible for the team researching the socio-economic impact of spatial data infrastructures and INSPIRE. He is also one of the founders of the Vespucci Initiative for the advancement of Geographic Information Science and edits the International Journal of Spatial Data Infrastructures Research. Prior to joining the JRC in 2005, Max Craglia was a Senior Lecturer at the University of Sheffield, teaching GIS for urban planners, and researching areas of spatial data infrastructure deployment and use, and data policy.

PIZZA WITH THE PROF

Tecumseh Fitch
Department of Cognitive Biology,
University of Vienna, Austria

William Tecumseh Fitch (born in 1963 in Boston) currently teaches at the University of Vienna. He studied biology, linguistics and cognitive sciences at Brown University and obtained a postdoctoral position at Harvard University. His current research interests are the evolution and neural basis of cognition and communication; biolinguistics; physiology and perception of vertebrate vocalization (including human speech); the evolution of animal communication systems, including speech, language and music; auditory display of data; aesthetics. In addition to his academic work, Fitch has lectured to popular audiences, and his articles have been featured in many newspapers and magazines including the New York Times, the Guardian, Der Spiegel, Le Monde, and The New Yorker.

Felicitas Pauss
Coordinator for External Relations, CERN,
Geneva, and professor of Experimental Particle Physics,
ETH Zürich, Switzerland

Felicitas Pauss received her PhD degree in Theoretical Physics and Mathematics at the University of Graz (Austria) in 1976. She continued her research at the Max-Planck Institute in Munich (Germany), Cornell University (USA) and CERN, before she was elected professor at ETH Zurich in 1993. From 1997 to 2007 she was the director of the Institute for Particle Physics of ETH Zurich. Since January 2009 she is in charge of coordinating CERN's external relations. Her research activities concentrate on two main research fields: particle physics at the high-energy frontier and astroparticle physics. She has published more than 450 scientific papers and gave more than 260 talks at international conferences, colloquia and seminars as well as presentations for government officials, funding agencies and general public. She has received the "Grand Decoration of Honour" of the Federal Province of Styria (Austria) and "Cross of Honour for Science and Art, First Class" of the Republic of Austria. She is member of the German Academy of Science Leopoldina.

Nancy Van Osselaer
Director, Johnson & Johnson Pharmaceutical
Research & Development, Belgium

Nancy Van Osselaer is currently senior director and Compound Development Team Leader in the Neuroscience therapeutic area at J&J. In past years she was Director for Clinical Pharmacokinetics and Regional Site Head for Europe as part of the global clinical pharmacology division at J&J, being personally involved in the development of many important products, most notably REMINYL/ RAZADYNE (Alzheimer), Risperdal CONSTA, INVEGA, paliperidone palmitate (schizophrenia) and tapentadol (pain). Van Osselaer trained as a pharmacist and has a PhD in Pharmaceutical Sciences (Pharmacology) from the University of Antwerp. Before joining J&J, from 1989 to 1997, she was Research Assistant and Postdoctoral Research Fellow at the Department of Pharmacology of the University of Antwerp. At present she is also an assistant professor at the University of Antwerp, teaching General Pharmacology (pharmacokinetics) for Veterinary Medicine students, and holds a Pharmacokinetic Workshop for Pharmacy students, aimed at bridging the industry experience with academic education.

Anton Zeilinger
Professor of Quantum Optics,
Quantum Nanophysics, Quantum Information
University of Vienna, Austria

Anton Zeilinger (born in 1945 in Ried im Inkers, Austria) is currently professor of physics at the University of Vienna. He is also the director of the Vienna branch of the Institute for Quantum Optics and Quantum Information at the Austrian Academy of Sciences. Zeilinger has performed many experiments including quantum teleportation, quantum cryptography, and quantum computation. He has also performed a number of experiments in atom interferometry and in quantum interference of large molecules, like C60 and C70. He has held positions at the University of Innsbruck, the Technical University of Munich, the Technical University of Vienna and at the MIT. Zeilinger received many awards for his scientific work, among which an honorary professorship at the University of Science and Technology of China and two honorary doctorates as well as the King Faisal Prize of Science, the German Order of Merit, a Fellowship of the American Physical Society and the Isaac Newton Medal of the British Institute of Physics. Recently, he received the Wolf Prize.

ESOF2010 Travel Grants

Giving special emphasis to young scientists from Europe and beyond is a top priority for ESOF2010, so we have sought different forms of contribution to enhance the participation of young researchers.
Different international organizations (UNESCO, Ambassade de France en Italie, CNRS - Conseil National de la recherche scientifique, FNR - Fonds National de la Recherche Luxembourg, Zonta club Moncalieri, Zonta club Torino2) have offered travel grants to help young researchers reach Torino and participate to ESOF2010. The grants have been managed by Euroscience and by the local organizer TopESOF. Some of the grants (UNESCO and Zonta) have been addressed to young scientists from specific countries (Eastern and South Eastern Europe and Mediterranean regions). The experience of participation in ESOF2010 will certainly allow them to better contribute to the promotion of science in their country of origin.

Venice Office

cnrs

Fonds National de la Recherche Luxembourg

Zonta Club of Moncalieri
Member of Zonta International
Advancing the Status of Women Worldwide

Zonta Club of Torino due
Member of Zonta International

Hop on the Science Bus to Torino!

ESOF2010 has encouraged the sponsored participation of groups of young researchers, PhD candidates, university and high school students, and science teachers.
This project, based on the successful Barcelona Science Bus event, organized by the ESOF2010 Team for ESOF2008, found enthusiastic supporters in many European countries. The groups will reach Torino by bus (ideally a low emission vehicle) or some other low cost transportation.

Robert Bosch Stiftung

Bosch Fellows go ESOF!

The Robert Bosch Stiftung is providing 50 excellent young scientists from North America, Asia and Europe the opportunity to attend Esof2010! The fellowship not only includes transportation and accommodation, but also a mentoring programme with a science expert guiding the fellows through each day of the conference. Before going to ESOF2010, all "Bosch Fellows" will participate in the Nobel Laureate Meeting in Lindau, an interdisciplinary meeting bringing together young researchers with Nobel Laureates from the fields of medicine, physics and chemistry.
The Robert Bosch Stiftung chose the most eager and interested young scientists who are really motivated to get in touch with the European world of research. As one of the major private foundations in Germany, the Robert Bosch Stiftung focuses on activities in the areas of Science in Europe and Science in Dialogue. The Stiftung develops new approaches that aim to tap into the enormous potential of new scientists, researchers abroad and women bringing great benefits to science and research.

Robert Bosch Stiftung

NaT-Working goes ESOF!

140 successful cooperation projects involving more than 300 German schools, 2,000 teachers, 50,000 school children and 70 researchers just about sums up the Robert Bosch Stiftung's funding program "NaT-Working". Through hands-on experience, school children get up close and personal with science. Together with their teachers they work with scientists on research projects, leading to real results using authentic and up to date methods. The aim of the program is to get young people excited about science by letting them actively participate in research within a realistic environment. 50 "NaT-Workers" from all over Germany will be travelling in the "NaT-Working" Bus to Torino, accompanied by a renowned scientific journalist. Over five days, each teacher, scientist and school pupil will have the chance to meet new people, catch up on the newest research findings and discover ESOF2010 for themselves. Today's young NaT-Workers are the scientists of tomorrow!

dublin city of science2012 euroscience open forum

Dublin Science Communication Bus

The Euroscience Open Forum 2012 team have partnered with the Irish Tourism Authority, Dublin City Civic Authority and Discover Science and Engineering (DSE) to organise a Science Communication Bus to travel from Dublin to Torino as part of the build-up to Euroscience Open Forum 2010. DSE is the lead partner and project manager for the project. DSE is Ireland's national science promotion programme and its mission is to increase interest in science, technology, engineering and mathematics among students, teachers and members of the public.
The bus is a two-storey bus, known as a double-decker, of the type used for public transport across Dublin. It has undergone a major mechanical overhaul and will be a fully equipped media station, with a satellite broadband connection and laptops to enable the students to report on their experiences en route via blogs, and to upload pictures and video. The university students travelling on the bus will be selected for their skills in science communication. Please come and say "ciao" to us outside the Lingotto Conference Centre during Euroscience Open Forum 2010. We look forward to meeting you!

FWO VLAANDEREN
Fonds Wetenschappelijk Onderzoek
Research Foundation – Flanders

FWO/ESOF Science Shuttle: launch your research career in Torino!

The Research Foundation Flanders (FWO) is the Flemish funding agency for basic research. Science communication is part of our mission. We are happy to provide 30 young FWO fellows with the opportunity to attend ESOF2010 and to get inspiration out of it, both scientifically and career wise. Indeed, there are innumerable sessions, dedicated either to scientific topics in all fields, or to discussions about problems and perspectives of young researchers within the European Research Area (ERA), which our fellows could attend.
We selected our participants among FWO PhD fellows ("aspiranten") and FWO postdoctoral researchers. In the spirit of ESOF, we asked all candidates to explain their passion for science. By making use of Youtube, powerpoint and other multimedia applications, the Flemish researchers have tried to persuade the FWO selection committee to choose them to participate in this event.

The INFN Science Bus

Thirty graduate students and young researchers affiliated to the National Institute for Nuclear Physics (INFN) will partecipate to ESOF2010 and will arrive in Torino riding on a Science Bus. They come from many Italian INFN local chapters: Catania, Lecce, Bari, Naples, Rome, Pisa, Florence, Bologna, Ferrara, Padua and Pavia. The participants were selected directly by INFN. During their stay in Torino, they will be offered a guided tour of the exhibition "Explorers of the universe", which includes "Accelerating science", designed by CERN in Geneva, and "The invisible wonder", organized by INFN and the Department of Experimental Physics, University of Torino.

The J&JPRD Science Bus, a mobile lab for 20 future scientists

As one of the biggest producers of health care products worldwide, Johnson & Johnson Pharmaceutical Research and Development, a division of Janssen Pharmaceutica NV, strives for creating opportunities for future scientists and establishing dialogue between youngsters and eminent scientists. J&JPRD strongly believes in interdisciplinary collaboration and open innovation and the concept of ESOF2010 connects perfectly to this view.
In this light J&JPRD sends a bus with future scientists to the conference. The best students in the field of life sciences of four prominent universities (Lund, Copenhagen, Amsterdam and Antwerp) battled over 20 seats on the Science Bus. After an extensive selection, an exclusive group of talented youngsters, all ambitious and passionate about life sciences, heads towards Torino.
During this trip, the students share their impressions with the world through video diaries on Facebook. In the autumn of 2010 J&JPRD will bundle the students' vision on the future of life sciences in a book. And maybe, some of these visions will become landmarks for future innovative projects.

Science Shuttle from Strasbourg University to ESOF2010

Located on four main campuses throughout Strasbourg region, the University of Strasbourg welcomes nearly 42,000 students (including 21% foreign students) and employs over 5,200 people. Born of a unique history across two cultures (French and German), but always in line with the great upheavals of his time wisely combining tradition and innovation, the University of Strasbourg has been throughout the history an open and pluralistic place of research. It has hosted many prominent scientists, including 17 Nobel Prize. For its human, intellectual and scientific potential, it has the ambition to meet today's challenges and, by its ability to innovate, to become a major force in European university life.
20 researchers and students from the University of Strasbourg will hop on the Science Shuttle early in the morning on 2 July. They will travel all day and arrive in Torino in time for the Opening Ceremony of the Euroscience Open Forum 2010.

School Programme

ESOF2010 has worked to stimulate scientific education in schools through a special School Programme. Given that ESOF2010 is held in July, with the schools closed by then, an approach path was traced out, starting in October 2009, to be taken forward in the course of the 2009/2010 school year for more effective involvement of students and teachers. Thanks to the collaboration of the institutions and bodies that have been working for years in the region on scientific dissemination, a series of educational activities was activated that introduced the Euroscience Open Forum 2010 to the world of schools. Some special projects were also added to these, such as the day of 9 March, during which Sir Harold Kroto met more than 1,500 students from secondary schools, tackling the theme of scientific careers, and he "trained" a big team made up of 330 primary school children, with his Buckyball Workshop.
This edition of ESOF has aimed at greater involvement of secondary school teachers and students in the Forum itself. To this end, the **Teachers' Programme** was organised, run in collaboration with the Province of Torino. Over 70 teachers were selected who, after attending the "English and Science" language course, will have access to the sessions of ESOF2010, and will be followed in later development to foster the positive spin-off effects of their attendance at the international event on their work in the classroom.
With the same intention, more than 80 secondary school students were selected, who will take part in the **Scientific Summer Academy**, organised with the Giovanni Agnelli Foundation, and in the special **Pizza with the Prof** events – two unique occasions to meet important figures from the international scientific world.
Finally, on 6 July ESOF2010 will host the award ceremony for the secondary school competition **What can science do for society?**, launched in collaboration with the Fondazione per la Scuola of Compagnia di San Paolo, the European Commission – Joint Research Centre, USR Piemonte, USR Lombardia, Comitato Italia 150, Istituto Giovanni Caboto and with the support of the publisher Bollati Boringhieri Editore. The winning groups of the Italian competition and the equivalent one in Catalonia (organised by the FCRI – Fundaciò Catalana per a la Recerca i la Innovaciò) will be hosted in Torino and will be able to attend the sessions of the Forum.

The School Programme has been made possible by:

Competition

FONDAZIONE PER LA SCUOLA
DELLA COMPAGNIA DI SAN PAOLO

Ufficio Scolastico per la Lombardia

JRC
EUROPEAN COMMISSION

150°

ISTITUTO PROFESSIONALE G. CABOTO

Bollati Boringhieri editore

Teachers' Programme

Unione europea
Fondo sociale europeo

MINISTERO DEL LAVORO E DELLE POLITICHE SOCIALI
Direzione Generale per le Politiche per l'Orientamento e la Formazione

REGIONE PIEMONTE

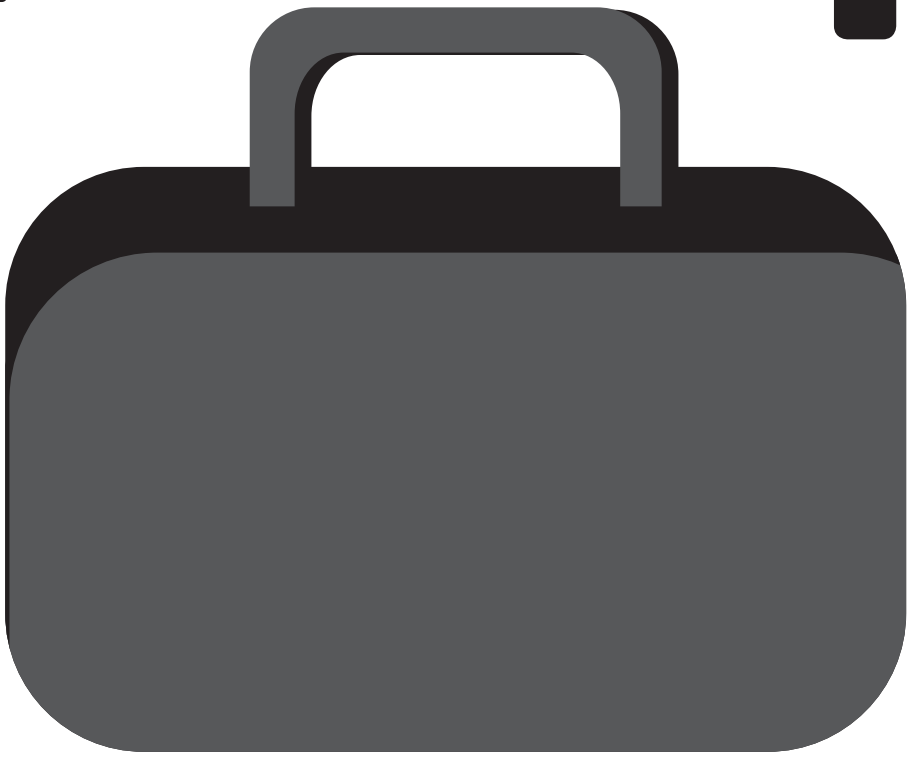
PROVINCIA DI TORINO

?ORIENTARSI

Scientific Summer Academy

Fondazione Giovanni Agnelli

SCIENCE TO BUSINESS



Science to Business Programme. Passion for science raises opportunities

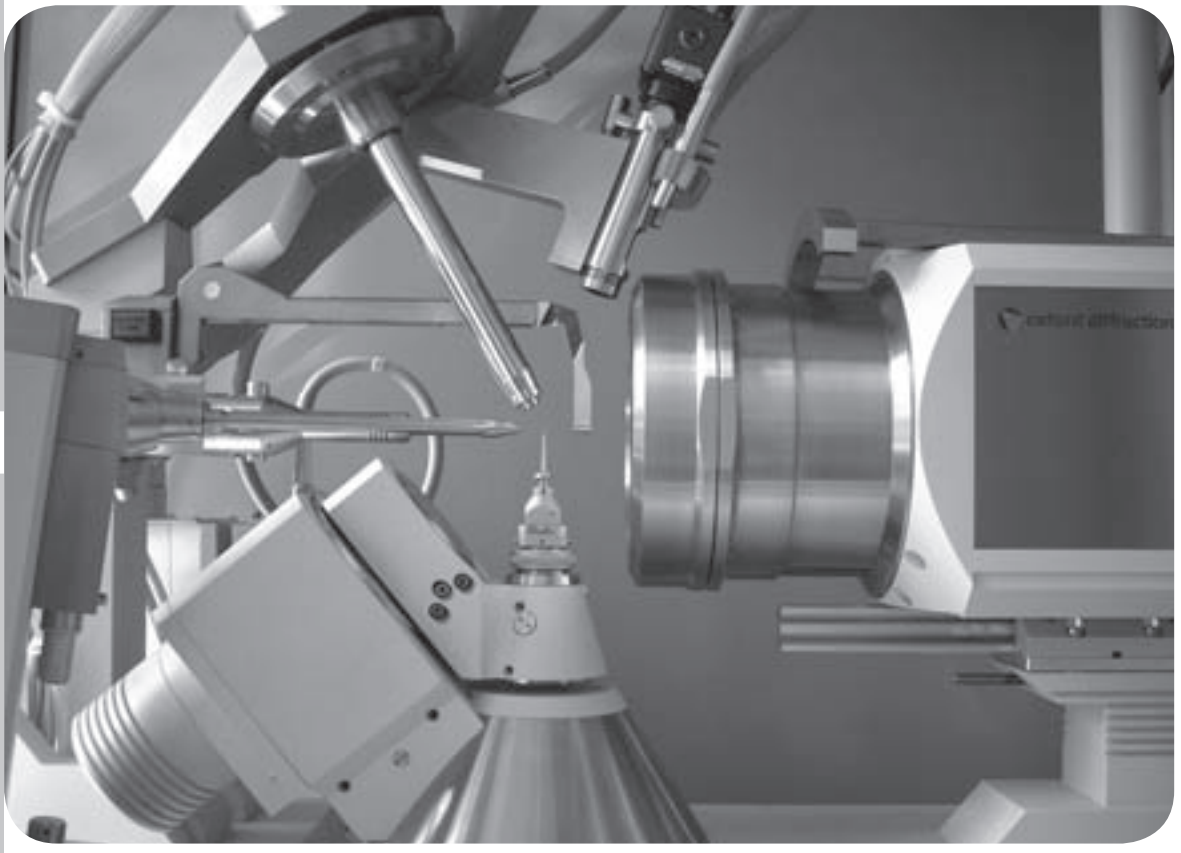
The Science to Business Programme, especially dedicated to industry and potential entrepreneurs, deals with applied research, technology transfer and opportunities for development of new highly innovative businesses.

The programme also proposes a new specific session format, the Showcase, where non-profit organizations, universities and other institutions will be given the opportunity to introduce themselves, and present their innovative activities and prototypes.

Science to Business sessions will focus on the following key words:

Intellectual property management (IPM)
University - Industry relationship
Public-private research integration
Open Innovation
The Knowledge Triangle
European, national and regional policies
Incubators, spin-offs, business angels, venture capital

The organizers would like to thank Centro Ricerche FIAT and Ewing Marion Kauffman Foundation for their active role in shaping the Science to Business Programme.



6 July, 17:15 - 18:00, Sala Londra

Science to Business Keynote Session. Building the entrepreneurial economy

In this keynote discussion, Carl Schramm, President & CEO of the Ewing Marion Kauffman Foundation, will provide a framework for how entrepreneurial economies and knowledge triangles develop. He will then engage in an interactive discussion with experienced entrepreneur Alberto Sangiovanni-Vincentelli, focusing on the entrepreneurial ecosystem and success models for accelerating innovation.

Alberto Sangiovanni Vincentelli holds the Edgar L. and Harold H. Buttner Chair of Electrical Engineering and Computer Sciences at the University of California Berkeley. A honors graduate from Milan Polytechnic, in 1987 he was visiting professor at MIT. He was a co-founder of Cadence and Synopsys, the two leading companies in the area of electronic design automation. He is a member of the Board of Directors of Cadence (where he's also Chair of the Technology Committee), UPEK, Sonics, and Accent; he also sits on the Science and Technology Advisory Board of General Motors. He is a member of the High-Level Group, of the Steering Committee, of the Governing Board and of the Public Authorities Board of the EU Artemis Joint Technology Undertaking. He is member of the Scientific Council of the Italian National Science Foundation (CNR) and a member of the Executive Committee of Italian Institute of Technology. He received the Kaufman Award of the Electronic Design Automation Council for "pioneering contributions to EDA" and the IEEE/RSE Wolfson James Clerk Maxwell Medal "for groundbreaking contributions that have had an exceptional impact on the development of electronics and electrical engineering or related fields". He is a Fellow of the IEEE and a Member of the National Academy of Engineering.

Hailed "the evangelist of entrepreneurship" by *The Economist*, **Carl Schramm** is recognized internationally as a leading authority on innovation, job creation, and economic growth. He is president and CEO of the Kauffman Foundation, the leading private U.S. funder of economic research related to growth and innovation. Schramm's research on how entrepreneurship fuels economic expansion led him to play a prominent role in the December 2009 White House jobs summit. He also chaired the national advisory commission on measuring innovation during George W. Bush's presidency. He currently serves the Singapore government on the Prime Minister's Research, Innovation and Enterprise Council. Schramm is credited with opening a new field of inquiry—expeditionary economics. His essay in Foreign Affairs (April 2010) describes this emerging area of economic thought, which focuses on rebuilding economies in post-conflict nations, including Iraq and Afghanistan. Previously, he was a professor at The Johns Hopkins University, founded several companies that manage health care finance and information technologies, served as executive vice president of Fortis, and created his own merchant banking firm. He is a member of the Council on Foreign Relations and a Batten Fellow in the Darden Graduate School of Business at the University of Virginia. He earned degrees in economics and law and has several honorary doctorates.

SCIENCE TO BUSINESS

3 July, 09:00 - 11:45, Sala Parigi

Biotech, pharma industry and the academic world: why do they need each other and why is this needed for the benefit of society/patients

The workshop will discuss the importance of the value chain in biotech and pharma industry, and debate why it is vital that it runs smoothly, underlining the role and importance of scientists, particularly young researchers.
Panelists represent the different actors that compose the value chain of biotech and pharma: research, start-ups, venture capitalists, pharma industry, and clusters. All those involved have to tackle similar issues: difference of culture, language and goals, life cycle of products, risk profile, financial burden, legislation, ethical issues.
(The session is organized in partnership with Johnson and Johnson PRD, a Division of Janssen Pharmaceuticals, Bioindustry Park Bi.P.Ca, the Innovation Cluster bioPmed, 2i3T the University of Torino incubator, the Biotecnology Foundation Torino, the Molecular Biotechnology Centre of the University of Torino and Farmindustria.

ORGANIZER:
Lorenza Accusani, science communicator, Italy

SPEAKERS:
Massimo Boriero, President, Biotechnology Group, Farmindustria, Italy
Elena Cattaneo, Director, Laboratory of Stem Cell Biology and Pharmacology of Neurodegenerative Diseases, University of Milano, Italy
Michele Mondini, CEO, NotoPharm, Italy
Chris Torrance, CEO, Horizon Technologies, UK
Ludo Lauwers, Senior Vice-president, Beerse R&D Site Manager, Johnson & Johnson Pharmaceutical Research & Development, Belgium
Silvio Aime, President, 2i3T University of Torino Incubator, Italy
Giancarlo Rocchietti, Chair, Piemontech, Italy

MODERATOR:
Maurizio Mariani, General Manager, Bioindustry Park Silvano Fumero Spa - bioPmed Innovation Cluster, Italy

5 July, 09:00 - 11:45, Sala Istanbul

Innovation beyond the lab: sciences and the service sector

Businesses need new knowledge in many areas to innovate, develop and succeed. But where should new ideas come from? Many enterprises can benefit greatly from research carried out in our universities. The service sector, which employs two thirds of the European workforce, is rarely involved in research collaborations. High-tech industries that benefit so much from scientific innovations seldom seek help from universities in other areas, such as management or customer relations. But university knowledge extends far beyond the spheres of natural sciences, medicine and technology traditionally associated with university-business collaboration. There is a huge amount of untapped research going on in e.g. management schools and social science departments across Europe.
How can we cross the cultural divide and help industry to benefit from this knowledge? Many companies are not even aware that there is research being carried out in their field. Service sector companies in particular have no culture of in-house research and little contact with universities. What can be learned from successful collaborations in the science and technology sectors? Can the Open Innovation paradigm be utilized? How can policy makers and the media help? This interactive session is inspired by a study carried out by the Swedish association Vetenskap & Allmänhet (Public & Science) into the relationship between the business and academia, and also draws on similar studies and experiences from across Europe.

ORGANIZER:
Ki Andersson, Public & Science, Sweden

SPEAKERS:
Ki Andersson, Public & Science, Sweden
Adam Afriyie, Member of Parliament, UK
Jorgo Chatzimarkakis, Member of the European Parliament, Germany/Belgium
Luke Georghiou, Manchester Business School, University of Manchester, UK
Richard Hudson, CEO and Editor, Science & Business Publishing Ltd., Belgium/UK
Nikola Macharova, Alexander Dubček University of Trenčin, Slovakia
Jan-Anders Manson, Vice President, Ecole Polytechnique Fédérale de Lausanne, Switzerland
Allan Simpson, Managing Director, PlayVision AB, Sweden
Mary Walshok, University of California, USA
Gianluca Buzzegoli, Marketing Communication Manager, Fonti di Vinadio SpA, Italy
Francesco Lovo, Research and Development Director, Pininfarina Extra Srl, Italy

MODERATORS:
Camilla Modéer, Secretary-General, Public & Science, Sweden, and Carl Johan Sundberg, Unit for Bioentrepreneurship, Karolinska Institutet, Sweden

5 July, 09:00 - 10:15, Sala Dublino

Life sciences, scientists and regional development: does the international dimension matter?

The advancement of life sciences depends, among other factors, on the presence of bioclusters where biotech companies can flourish. In bioclusters the engine of growth is the capability to transform science and scientific results into innovative products, processes and services, following a triple helix model of development. But two opposite forces are in place: the pressure on the economic aspect of activities affects the level of investment inside a cluster, while on the other hand the role of globalisation affects the development of the cluster. Several initiatives are in place at different levels in order to exploit potential advantages for the regional development of science and industry, which can arise from a global strategy, overcoming local limits to the development.
This workshop will discuss the state of the art of such initiatives at local and international level (EU-funded projects) and the real consequences of such initiatives on the ground. We will also debate on the advantages that may derive from such initiatives for the benefit of research and innovative start-ups. Finally, we will discuss whether the implementation of such initiatives is affecting issues such us the attraction/retention of scientific talents.

ORGANIZER:
Fabrizio Conicella, General Manager, Bioindustry Park Silvano Fumero Spa - bioPmed innovation cluster, Italy

SPEAKERS:
Valerie Ayache, Managing Director, ADEBAG Grenoble, France
Claire Skeltenbery, Network Manager, Council of European BioRegions, UK
Monserrat Vendrell, CEO, Bioregò de Catalunia, Spain

MODERATOR:
Elena Spoldi, Fondazione per le Biotecnologie, Italy

5 July, 10:30 - 11:45, Sala Dublino

Support programmes for commercialisation of research results in knowledge-based economies: the example of the Innovation Forum International

This session will focus on support actions for the commercialisation of research results through concrete best practices, such as the "Innovation Forum International". As a starting point, MFG will give a short overview on its support programmes, which range from special scholarships to technology marketing and group coaching. Over the past 14 years MFG has proved to be a strong partner in the area of technology transfer by initiating various innovation-fostering initiatives, such as the Heidelberg Innovation Forum (HDI), which offers ICT researchers and start-ups a platform to present their ideas to investors and partners in an extremely efficient way. We will then discuss the case of the Canadian National Research Council (NRC), which incorporated MFG's concept into the "New Brunswick Innovation Forum". This cooperation was the starting point for setting up the global umbrella brand "Innovation Forum International". MFG and the NRC would like to share their experience on international collaboration and show how it is possible to co-operate in a competing global market. As an additional example of the effectiveness of the Innovation Forum International, we will present the case of Heidelberg mobil International, a company that has benefited from the HDI, presented business ideas, gained funding and then made a successful presentation at the "Canada Open House".

ORGANIZER:
Valentina Grillea, MFG Baden-Württemberg MbH, Germany

SPEAKERS:
Carsten Guenther, CTO, Heidelberg mobil International GmbH, Germany
Andrew Reddick, National Research Council, Canada

MODERATOR:
Matthias Holzner, MFG Baden-Württemberg MbH, Germany

5 July, 12:00 - 12:45, Sala Roma

Showcase. South Africa, a strategic science and technology partner for Europe

South Africa is one of Europe's strategic partners for international S&T cooperation, and is one of the most active "third country" participants in the EU Framework Programmes for Research, with a rich and diverse range of bilateral research and innovation partnerships with Europe. These collaborations have significantly advanced global scientific enterprises, addressing shared global challenges such as climate change mitigation and adaptation, fighting communicable diseases or supporting food security.
The session will be presented by the European South African Science and Technology Advancement Programme of the Department of Science and Technology (ESASTAP), a dedicated platform to promote cooperation with Europe, supported by the European Commission. The panel discussion will highlight success stories of existing cooperation, new opportunities for and instruments to support cooperation, as well as the strategic interface of scientific partnerships with economic and development collaboration. In this context, S&T cooperation, e.g. in intelligent transport systems, related to the organisation of the FIFA World Cup will be highlighted. Discussions will also consider how cooperation supports broader African-European science partnerships.

ORGANIZER:
Daan Du Toit, South African Department of Science and Technology, South Africa

SPEAKERS:
Aggrey Ambali, Director, New Partnership for Africa Development, South Africa
Tshepo Seekoe, Chief Director Radio Astronomy Advances, South African Department of Science and Technology, South Africa
Jean-Francois Girard, President, Institut de Recherche pour le Developpment, France

Mmboneni Muofhe, Chief Director International Resources, South Africa Department for Science and Technology, South Africa

5 July, 12:00 - 12:45, Sala Atene

Showcase. Compost, from waste to resource, from research to business

Biomasses like the biodegradable fraction of Municipal Solid Waste (MSW) and green waste are generally converted into compost. Compost is widely recognised and used in agriculture as fertilizer to improve soil fertility. Moreover, some composts were found to be suppressive against several soilborne pathogens in various cropping systems. Economic losses due to soilborne pathogens are estimated at 10-20% of the attainable yield for many crops, and the monetary losses due to soilborne diseases could reach million of euros per year. An increase of some plant diseases due to compost usage has also been demonstrated, since compost is a product that varies considerably in chemical, physical and biotic composition, and, consequently, also in ability to suppress soilborne diseases. For this reason, the antagonistic activity of biological control agents, like Trichoderma spp., could be used efficiently to increase the level of reproducibility of suppressiveness properties of compost.
Agroinnova has developed a methodology to evaluate composts quality, particularly suppressiveness against plant pathogens. Moreover, Agroinnova has selected microorganisms that are able to increase compost suppressiveness and lead to a bio-fertilizer able to control a wide range of soilborne pathogens. Results have lead to the development of an innovative spin-off: AgriNewTech.

ORGANIZER:
Massimo Pugliese, Agroinnova - University of Torino and AgriNewTech Srl, Italy

SPEAKERS:
Massimo Pugliese, Agroinnova - University of Torino and AgriNewTech Srl, Italy
Maria Lodovica Gullino, Agroinnova - University of Torino and AgriNewTech Srl, Italy
Angelo Garibaldi, Agroinnova - University of Torino and AgriNewTech Srl, Italy

5 July, 12:00 - 12:45, Sala Dublino

Showcase. Global comparison of public R&D programmes in the automotive sector

This session is based on the outcomes of the project "European Assessment of Global Publicly Funded Automotive Research" (EAGAR), which is supported by the EU's Seventh Framework Programme. Its goal is to benchmark the current public automotive research activities at an international level, in particular comparing the European Union and selected Member States with the United States, Canada, Japan, South Korea, India, China and other emerging economies. EAGAR identifies the national visions and roadmaps, research priorities, supported key topics, technology pathway, as well as the levels of investment. This enables a direct comparison of national automotive R&D policies relating to the environment (energy, CO2, pollution, recycling, noise), safety, congestion and economic competitiveness.
The session will present and discuss a key perspective on global investments designed to improve automotive technologies for a greener, safer and smarter road transport system. It will assist in defining the future direction of the European automotive sector, benefit the competitiveness of Europe and enable the stakeholders to adjust visions and plans for the future.

ORGANIZER:
Alexander Holleis, AVL List GmbH, Austria

SPEAKERS:
Alexander Holleis, AVL List GmbH, Austria
Simon Wrigley, Ricardo UK Ltd., UK
Thilo Bein, Fraunhofer Institute for Structural Durability and System Reliability, Germany

5 July, 12:00 - 12:45, Sala Copenaghen

Showcase. The Nordic Top-level Research Initiative: a model for co-operation in Europe?

In 2008 the Nordic prime ministers initiated a joint programme on top research and innovation with a focus on climate and energy. As a joint venture between business and science, the programme provides an example of what should be prioritized on the European level, namely issue-oriented research and innovation. It is organized in co-operation between NordForsk, Nordic Innovation Centre and Nordic Energy Research, which are platforms for Nordic co-operation in research, innovation, and energy respectively. The Top-level Research Initiative is the largest joint Nordic research and innovation venture ever. It includes a broad range of programmes, from basic research to innovation and development. The ambition is to produce results through co-ordination and dialogue between researchers in the five countries across different climate and energy themes, involvement of national agencies, and involvement of industry and other knowledge producers and users in the field. One of the ambitions is that the combination of top research and close cooperation between all relevant actors will make the Nordic region a forerunner in Europe, and globally, with regard to environmental concerns, not least the achievement of CO2 reduction goals. The presentation and discussions will focus on what lessons can be learned from the Nordic Top-level Research Initiative, which perhaps could be used as a model for co-operation in Europe.

ORGANIZER:
Anne Riiser, NordForsk, Norway

SPEAKERS:
Gunnel Gustafsson, Director, NordForsk, Norway
Riitta Mustonen, Vice-president, Academy of Finland, Finland
Halldór Ásgrímsson, Secretary-General, Nordic Council of Ministers, Denmark
Marit Larsen, CEO, Tel-Tek, Norway
Jerzy Langer, Polish Academy of Science, Poland
Rolf Annenberg, Director-General, Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning (Formas), Sweden

5 July, 14:15 - 15:30, Sala Roma

Micro start-up: a new model for bringing bioscience from the bench to the market

As we slowly recover from the Great Recession, new models are emerging for bringing novel bioscience from the bench to the market. One model that is capturing the attention of investors and entrepreneurs in this field, as well as the big pharma firms that so urgently need innovative new biotech products to sustain growth, is the "micro start-up" model. This model could also prove to be important for universities and non-profit technology transfer offices, which stand to benefit hugely from the revenue and notoriety that they receive from royalties from successful life science products – provided these technologies can make the transition from scientific breakthrough to product breakthrough.

ORGANIZER:
Stephan Herrera, Red Kayak Consulting LLC, USA

SPEAKERS:
Sascha Bucher, Roche AG, Germany
Rony Douek, former venture capitalist, USA
Hoyoung Hun, President & CEO, BiPar Sciences, USA
Carl Johan Sundberg, Unit for Bioentrepreneurship, Karolinska Institutet, Sweden

MODERATOR:
Stephan Herrera, Red Kayak Consulting LLC, USA

5 July, 14:15 - 15:30, Sala Dublino

CReATE: creative industries from science to business

The session, organized by the CReATE consortium, will focus on ICT technologies applied to creative industries and connected research priorities. CReATE works as a "motor" to link ICT-research with SMEs in creative industries. The CReATE project and its outcomes with EU-wide impacts will be presented as good practice for the development of common R&D goals and projects between universities (science) and industry (business), based on companies' needs and universities' capacities and related to global trends (technological and market developments).
Research priorities with future impact on creative industries will be presented, and experts from science and business will talk about their experiences, lessons learnt and future conditions and challenges for technological transfer. Through the good practices presented by the speakers and the moderated discussion on implementing strategic (trans-) regional university-industry relationships, we will envision ways of further collaboration. The topic is strongly related to the European Commission communication *Improving knowledge transfer between research institutions and industry across Europe: embracing open innovation* – which is also a goal of CReATE.

ORGANIZER:
Martina Groeschel, MFG Baden-Württemberg MbH, Germany

SPEAKERS:
Ute Hillmer, MFG Baden-Württemberg MbH, Germany
Sergio Duretti, CSP - Innovazione nelle ICT, Italy
Volker Helzle, Film Akademie B-W, Institute of Animation, Germany
Silvana Molino, Microcinema SpA, Italy

MODERATOR:
Ute Hillmer, MFG Baden-Württemberg MbH, Germany

5 July, 15:45 - 17:00, Sala Roma

Do companies need mathematics?

Our goal is pointing out the potential of innovation that could originate from an organic co-operation between research in applied mathematics and companies. Three of the participants are currently chairing three working groups in the framework of a Forward Look project supported by the European Science Foundation. Many of the themes covered by the project will be presented in order to analyze the situation in Europe, the measures that should be taken, the obstacles and the opportunities.
The session is focused on two main issues: to stress that in a knowledge-based economy innovation is a key factor, thus intense interaction between the world of research and the world of production is necessary; to provide examples in which mathematics proved to be an essential tool in this sense, for its capacity of promoting a multidisciplinary approach.

ORGANIZER:
Mario Primicerio, University of Firenze, Italy

SPEAKERS:
Nevio Di Giusto, CEO and General Director, Centro Ricerche FIAT, Italy
Magnus Fontes, Lund University of Technology, Sweden
Yvon Maday, Université Pierre et Marie Curie, France
Volker Mehrmann, TU Berlin, Germany

MODERATOR:
Thibaut Lery, European Science Foundation, France

5 July, 15:45 - 17:00, Sala Dublino

The STARTENT Project: a case study on university-business collaboration for entrepreneurship education in Europe

The goal of the session is to present a successful business-university cooperation model for entrepreneurship education implemented within an EU project. The STARTENT project aims to develop the entrepreneurial culture of young people and improve entrepreneurship education in Europe through a partnership between universities and businesses based on an innovative collaboration model. The project focuses particularly on the knowledge-based economy sector, supporting high-tech entrepreneurship, facilitating spin-offs and innovative start-ups as well as helping researchers acquire entrepreneurial skills. The STARTENT consortium consists of 10 organizations representing universities and businesses from 8 EU Member States.
The panel will be composed of the representatives of the project, addressing issues such as the university-business co-operation model developed in the project and the main results achieved; difficulties encountered in university-industry relationships and how these can be overcome;

good practices on exploiting research results in the market (high-tech entrepreneurship); hands-on experience in current supporting mechanisms for potential business (incubators, spin-offs, etc.)

ORGANIZER:
Michelle Perello, Consulta Europa, Spain

SPEAKERS:
Michelle Perello, Consulta Europa, Spain
Emiliyan Enev, Executive Director, Bulgarian-Romanian Chamber of Commerce, Bulgaria
Paraskevas Evripidou, University of Cyprus, Cyprus
Emilio Paolucci, Torino Polytechnic, Italy

MODERATOR:
Omer Ceylan, Consulta Europa, Spain

5 July, 17:15 - 18:00, Sala Roma

Showcase. Human resource management and innovation

In this session we will outline research conducted at the University of Torino on the complex, non-linear dynamics relating human resource management to the innovation profile of companies. The outcome of this research showed that, and how, certain crucial facets of training and education in business are indeed correlated to innovation. Interestingly, the processes with which these activities are managed turned out to be at least as important as the activities themselves.
Representatives of HR management and of the production line of a major Piedmontese firm will discuss the main topics and outcomes of this research as relevant to their organization and to the environment in which it operates. The management of a major Piedmontese institution will do the same in the broader light of the local social and economic environment. We believe that the discussion will be relevant not only to our territory, but to any context in which analogous processes are taking place.

ORGANIZER:
Maurizio Tirassa, University of Torino, Italia

SPEAKERS:
Maurizio Tirassa, University of Torino, Italy
Marco De Marie, Compagnia di San Paolo, Italy
Alessandro Furfaro, Azimut Benetti Yacht, Italy
Luca Sburlati, Azimut Benetti Yacht, Italy

5 July, 17:15 - 18:00, Sala Atene

Showcase. Ultrafast science with Free Electron Lasers

How is energy transferred from one atom to another? What happens during a chemical reaction at the moment a bond is broken? How does one observe in real time the steps that enable a drug molecule to bind to its protein receptor? With the construction of new light sources in several European countries we are now beginning to answer these and many other questions on the dynamics of nature. These light sources are powerful and fast enough to capture transformations on time scales as short as the oscillations of a molecule. They are based on the Free Electron Laser (FEL) and will enable the scientific and industrial communities to observe the dynamic behaviour of materials. Through this technology it will be possible to take a sequence of snapshots from which a dynamic account of the process underway will be generated – from heat-wave propagation to biological membrane growth to catalytic reactions, and many others.
But what is a FEL? How does it work? And what kind of basic and applied research will it enable? This session is dedicated to researchers who work in nanotechnology, cultural heritage, physics and many other areas where FELs could prove useful. We will hear the voice of FEL experts and look into the new Italian Fermi@Elettra facility, currently under construction and commissioning in Trieste.

ORGANIZER:
Laura Bibi Palatini, Sincrotrone Trieste, Italy

SPEAKERS:
Daniele Cocco, Sincrotrone Trieste, Italy
Mauro Zambelli, Kyma Srl, Italy

MODERATOR:
Maurizio Melis, Radio 24, Italy

5 July, 17:15 - 18:00, Sala Dublino

Showcase. Collegio Carlo Alberto, committing to research in social sciences

The Collegio Carlo Alberto was created in 2004 by the joint effort of the Compagnia di San Paolo and University of Torino. Its mission is to foster research and advanced training in economics, finance and political science. The Collegio shares the values and best practices of the international academic community by offering a new model of integration between the public objective of basic research and private funding. While the majority of the senior faculty comes from the University of Torino, junior faculty is hired independently by the Collegio in the international academic job market. With the addition of visiting scholars from some of the top research centers worldwide, the Collegio offers a dynamic research environment.
The Collegio also promotes high-end education: the Allievi Program. The Allievi are outstanding students of the University and Polytechnic of Torino who, in addition to fulfilling their university requirements, participate in courses and seminars offered at the Collegio in order to acquire a thorough training in economics and statistics.

ORGANIZER:
Caterina Ginzburg, Collegio Carlo Alberto, Italy

SPEAKERS:
Igor Prünster, University of Torino and Collegio Carlo Alberto, Italy
Pietro Garibaldi, University of Torino and Collegio Carlo Alberto, Italy
Filippo Taddei, Collegio Carlo Alberto, Italy

5 July, 17:15 - 18:00, Sala Copenaghen

Showcase. Nanotechnology and light, from nanomedicine to solar cells

Nanomaterials are increasingly utilized in several high-tech applications. In recent years Cyanine Technologies, in collaboration with the most active Piedmontese nanotechnology research centres, has developed a wide range of nanomaterials for nanomedicine and photovoltaics. The term "nanomedicine" is now frequently used when talking about innovative technologies applied to diagnostics, therapy, or more generally life sciences. The use of nanoparticles that could simultaneously detect a pathological marker, release a drug against that pathology and follow the fate of the sick cell or tissue is a unique and powerful tool for tomorrow medicine.
Another hot topic is related to the improvement of available technologies for renewable energies, in which a low-cost approach is always preferable in order to reach the mass production threshold. Nanostructured titanium dioxide, quite common in white paint, is a cheap and promising material, showing photovoltaic efficiencies larger than 10% when associated with a solar radiation absorbing dye. These new types of cells can be produced by simple chemical methods and are using nanotechnology in a very pioneering way.

ORGANIZER:
Giuseppe Caputo, Centro Interdipartimentale di Eccellenza NIS - University of Torino and Cyanine Technologies SpA, Italy

SPEAKERS:
Giuseppe Caputo, Centro Interdipartimentale di Eccellenza NIS - University of Torino and Cyanine Technologies SpA, Italy
Teresio Asola, Pianeta Spa, Italy
Maurizio Cossi, University of Piemonte Orientale, Italy

6 July, 09:00 - 10:15, Sala Roma

In search of a new model of innovation: the effective network between knowledge, finance and entrepreneurship

During the last decade, the traditional business corporation has faced dramatic changes, concerning its internal organisation, crucial assets and production structure. The traditional approaches to finance based on market imperfections, and the macroeconomic development policies based only upon human capital, are not adding anything new for the analysis and the comprehension of the complex innovative processes of firms, regions and nations. We sustain that if the nature and the operation of firms are changing, the traditional way to analyse these problems also needs to change.
We want to stimulate discussion and exchange of ideas and experiences in an interactive panel, with the aim of developing a completely original model of network, between the investment dynamics of the companies, the strategic role of knowledge, and finance. In this way, finance will no longer be an exogenous factor with respect to the innovation process, with the consequent effect of credit rationing, but can become legitimately a subject of the complex endogenous innovative process. Our panel of entrepreneurs, financiers, scholars and policy makers will provide a new interpretation of financing innovation going towards a more complete analysis of production, transaction and investment.

ORGANIZER:
Dario Peirone, CEO, JSTONE Srl, Italy

SPEAKERS:
Alberto Onetti, Chairman, Mind The Bridge Foundation, USA
Ilana Gross, Program Director, Matimop - Israeli Industry Centre for R&D, Israel
Reshma Sohoni, CEO, seedcamp, UK
Gianluca Dettori, Chair, Dpixel, Italy

MODERATOR:
Dario Peirone, CEO, JSTONE Srl, Italy

6 July, 09.00 - 10.15, Sala Dublino

What is Venture Capital and how can it help innovative business ideas?

The goal of the session is to share the main principles of Venture Capital (VC) with the audience and to show how VC can back promising and innovative business ideas. There will be two different moments.
The first part will be strongly interactive: a case study dressed up as a theatrical scene, in which a real venture capitalist will meet a real would-be entrepreneur. A theatre director will manage the interaction and guide the "actors" to make it easier for the audience to understand what is going on, and which are the main issues one has to face during this type of confrontations.
In the second part an expert will provide a brief explanation of what VC is, and how it operates with reference to what just happened in the scene. The expert will talk about the objectives and strategies of VC funds, investments criteria, and the interaction between VCs and companies.

ORGANIZER:
Federico Sarti, I3P - the Innovative Enterprise Incubator of the Torino Politechnic, Italy

SPEAKERS:
Riccardo Triolo, Innogest SGR, Italy
Dino Mascia, Theatre director, Italy
Filippo Chiariglione, SmartRM srl, Italy

MODERATOR:
Federico Sarti, I3P - the Innovative Enterprise Incubator of the Torino Politechnic, Italy

6 July, 10:30 - 11:45, Sala Roma

The different perceptions of patents

Patents are probably the least harmonised area of intellectual property laws of the European Union. In this session we will compare different views on the subject, voiced by a national regulator, a representative of the European Patent Office and an American patent attorney. First, we will consider the patenting ratio and highlight that, although sometimes wrongly used, the patent system core is the detailed publication of the innovation patented, which teaches the invention and hence allows further technical progress in the related technical field. Then we will present EPO figures and statistical data, showing the correlation between scientific progress and patenting. EPO will also provide a showcase on emerging technologies (e.g. nanotechnologies), analysing the relationship between the birth and evolution of said technologies and their time-relation with the patenting process. The last speaker will provide a non-European view on the impact of patents on society and the chain effects on industry, universities, spin-offs and careers.

ORGANIZER:
Valentina Predazzi, Società Italiana Brevetti SpA, Italy

SPEAKERS:
Valentina Predazzi, Società Italiana Brevetti SpA, Italy
Wolfram Foerster, DG1 Business Services, European Patent Office, The Netherlands
Gary Tanigawa, Nixon and Vanderhye PC, USA

MODERATOR:
Claudio Germinario, Società Italiana Brevetti SpA, Italy

6 July, 10:30 - 11:45, Sala Dublino

Accelerating innovation: lessons from experienced entrepreneurs

This session will highlight the most effective ways of accelerating innovation based on the experience of successful entrepreneurs who have been through the process as well as prospective entrepreneurs (Kauffman Post Doctoral and Global Fellows, selected through a very competitive call) currently going through the process. The objective is to have those who have actually been through the process describe what worked well and what did not in terms of commercializing technology and building successful high growth companies. This will include a discussion of the role of universities, policy makers and business in accelerating innovation as well as the issue of intellectual property.

ORGANIZER:
Karen Wilson, Ewing Marion Kauffman Foundation, USA

SPEAKERS:
Alberto Sangiovanni-Vincentelli, Edgar L. and Harold H. Buttner Chair of Electrical Engineering and Computer Sciences, University of California Berkeley, USA
Riccardo Lo Cascio, University of California Davis, USA
Daniel Hulme, CEO, NPComplete Ltd, UK
Antonello Forgione, AIMS Academy, Italy

MODERATOR:
Sandy Miller, Ewing Marion Kauffman Foundation, USA

6 July, 10:30 - 11:45, Sala Copenaghen

Identifying ethical issues of emerging Information and Communication Technology (ICT) applications

This proposal centres on the Ethical Issues of Emerging ICT Applications (ETICA) project. ETICA is an EU funded project with a mandate to investigate and identify future and emerging technologies that are likely to materialize in the next 10 to 15 years including their application areas. The investigation also involves the identification of ethical issues arising in the emerging technologies. More often than not, ethical issues in technologies are usually looked at once a technology has been fully developed rather than as a technology or technologies are being developed. ETICA is proposing a more novel and proactive approach where ethical issues should be identified at an earlier stage of development. Such an approach is more valuable in the sense that any ethical pitfalls can be reduced and possibly eliminated at an earlier stage. In addition, technology developers can be forced to be more sensitive to end-user needs by putting in place technology design standards that ensure more stringent checks that look out for potential ethical issues at every stage of development. Such a stance will ensure that as technologies are developed so too are potential arising ethical issues tackled in the process to avoid unwanted pitfalls.

ORGANIZER:
Kutoma Jaqueline Wakunuma, De Montfort University, UK

SPEAKERS:
Bernd Stahl, De Montfort University, UK
Michael Rader, Institute for Technology Assessment and System Analysis (ITAS), Germany
Veikko Ikonen, VTT Digital Life, Finland
Iván Székely, Eötvös Karoly Policy Institute, Hungary
Philippe Goujon, University of Namur, Belgium

MODERATOR:
Kutoma Jaqueline Wakunuma, De Montfort University, UK

6 July, 12:00 - 12:45, Sala Roma

Showcase. European accelerator models

This interactive session includes the founders or heads of various accelerators across Europe. Each of them has been selected according to the different models/approaches they have taken to provide a solid ground for discussion

on various models across Europe. This session will help inform the audience about what is working and how various accelerators are approaching the acceleration of start-ups.

ORGANIZER:
Katie Petersen, Ewing Marion Kauffman Foundation, USA

SPEAKERS:
Maurizio Rossi, H-Farm, Italy
Lars Jorgensen, Director and Coach, Gazelle Growth, Denmark
Andy Goldstein, Executive Director, LMU Entrepreneurship Center, Germany

MODERATOR:
Stephan Gutzeit, Executive Director, Stiftung Charité Berlin, Germany

6 July, 12:00 - 12:45, Sala Atene

Showcase. Controversial spaces and disputed periods: could simulators be developed into tools for handling complex issues?

A common use of simulators is to train operative or strategic personnel in decision-making under pressing circumstances. Successful simulators are thus built on high-quality software and can bring about realistic representations of real world physical environments and social relations. For that reason simulators can be very effective and cost-efficient instruments for expanding, upholding and spreading specific competence in fields such as air traffic control, logistics in harbors and shipping, crisis management and the defence industry.
This interactive roundtable is dedicated to the development of existing simulators and software for simulators. Starting from a cross-sector and cross-methodology approach, we maintain that existing systems for simulation could be developed for use in operative training in new areas and business fields, such as environmental and energy technology, energy security, sustainable forestry and farming, nuclear waste management etc. Similarly, simulators could be developed into heuristic and analytical tools or even into instruments for the visualizing of complex issues. Whether it is private companies, public authorities, researchers or university students that try to get to grips with time-space complexities in measures around energy security, climate change, nuclear waste management or the like, smart simulators could provide mind-opening support.

ORGANIZER:
Urban Strandberg, University of Gothenburg, Sweden

SPEAKERS:
Claes Erik Frölund, Deputy CEO, BAE Systems AB Security and Resiliance, Sweden
André Joly, OKTAL Synthetic Environment, France
Annica Ljungberg, XLNT Communication AB, Sweden
Graham McIntyre, Newman&Spurr Consultancy Ltd, UK

6 July, 12:00 - 12:45, Sala Dublino

Showcase. Simulating complex socio-economic systems: business and policy applications

The investigation of complex systems dynamics with the purpose of improving business organization and public policies design calls for an improvement of traditional mathematical models by the introduction of agent-based simulation.
In this way it is possible to integrate behavioural evaluations, actual data, rule influence and general knowledge of the economic and social environment in order to forecast dynamic changes, mainly in a "what-if" perspective. Results obtained with those models in the business and policy fields are along three directions: production optimization; company interaction and co-operation in production chains and industrial systems; theoretical analysis of "would be" situations to increase knowledge about the effects of local government policies.
The presentation of applications of agent-based simulation to issues concerning public policies, production optimization and company organization aims to show the power of such a new scientific tool and to enable comprehension of how individual behaviour can lead to unexpected consequences and how relevant systemic improvements can be obtained by the adoption of agent-based techniques. After a short introduction of the tool to the audience, the agent-based simulations that will be presented will concern: systemic risk and interbank payments, social changes in a local policy perspective and a model of work group interaction to understand the effects of organizational justice.

ORGANIZER:
Matteo Morini, University of Torino, Italy

SPEAKERS:
Pietro Terna, University of Torino, Italy
Ugo Merlone, University of Torino, Italy

6 July, 12:00 - 12:45, Sala Copenaghen

Showcase. From clinic to home: how technologies can help older people in the community

1. *The Piedmont r@dhome project*
In 2008 the Piedmont Regional Agency for Health Services funded a research on a public domiciliary radiography programme for elderly and immobilized patients. Preliminary experiences indicated that the coupling of simple light-weight X-ray equipment with an advanced direct radiology system proves effective for a domiciliary radiographic service. A multidisciplinary team was involved in the development of the project. The aim was to evaluate the benefits and the cost-effectiveness of radiological examinations at home. Patients were randomly assigned to undergo diagnostic tests at home or in hospital. At home, the radiological examinations were carried out using a portable high frequency X-ray tube and a mobile radiological station with visualization and real-time processing of acquired images. The results of the research will be highlighted during the session.

2. *Technology Research for Independent Living (TRIL).* TRIL Centre will demonstrate the development of its technologies, designed with and for older people, to enable them to live independently in their homes for as long as possible. TRIL is exploring the physical, cognitive and social consequences of ageing and developing technology solutions to address them. Our team of multidisciplinary researchers consisting of clinicians, ethnographers, designers, technologists and scientists is currently transitioning its research from the lab to the home, with in-home trials of technology prototypes. We will demonstrate the development of these technologies from a clinic or a lab setting to the home.

ORGANIZERS:
Marco Grosso, San Giovanni Battista Hospital Torino, Italy
Keelin Murphy, TRIL Centre, Ireland

SPEAKERS:
Keelin Murphy, TRIL Centre, Ireland
Ottavio Davini, San Giovanni Battista Hospital Torino, Italy
Vittoria Tibaldi, San Giovanni Battista Hospital Torino, Italy

6 July, 14:15 - 15:30, Sala Dublino

Enhancing value extraction from existing patent portfolios

This session will provide an overview of the latest trends in intellectual property (IP) management, discuss the key players in the IP market and offer some exclusive insights into real life cases. We will also touch upon the range of strategies universities, corporations and intermediaries (also known as patent brokers) employ to manage and enhance the value extraction of existing IP rights.
The ability to award inventors a patent, copyright or trademark to compensate for their contribution to society is central in a modern innovation infrastructure. The utilization of intellectual property (IP) such as patents, trademarks and know-how extends beyond the fundamental notion of a legal contract between the inventor and the State. In many sectors, the role of IP is developing to support the business strategy and investment decisions. As a result, markets for buying and selling intellectual property rights are emerging. Universities and corporations are forced to be more particular about what research results are turned into IP and how that IP is "turned-over" for the benefit of their start-ups, licensing and business deals.

ORGANIZER:
Danielle Lewensohn, Unit for Bioentrepreneurship, Karolinska Institutet, Sweden

SPEAKERS:
Danielle Lewensohn, Unit for Bioentrepreneurship, Karolinska Institutet, Sweden
Jan de Visser, Senior Director, Philips Intellectual Property&Standards, The Netherlands
Ben Goodger, Rouse Legal, UK
Stephen Potter, Former Chairman of the R&D Society, Switzerland

MODERATOR:
Danielle Lewensohn, Unit for Bioentrepreneurship, Karolinska Institutet, Sweden

6 July, 15:45 - 17:00, Sala Roma

Education for the next generation of innovators: Tyndall-Intel-IRCSET collaboration

Irish government strategy for science, technology and innovation aims to develop Ireland as a knowledge-based economy renowned for excellence in research. Graduate education is a critical component of this strategy. University-industry collaborations, such as the Tyndall-Intel partnership, provide students with opportunities to undertake research in leading-edge technology development, gain relevant transferable skills and satisfy industry demand for postgraduates with key skills and knowledge aligned to current and future technology needs.
The Irish Research Council for Science, Engineering and Technology's (IRCSET) Enterprise Partnership Scheme facilitates industry academia collaboration through awarding industry co-funded postgraduate and postdoctoral scholarships to the most promising and talented researchers. This proposal seeks to highlight the model adopted jointly by Tyndall, Intel and IRCSET for best practice in PhD education. Students hosted by Tyndall have access to top class facilities, are supervised by Tyndall researchers and academics from University College Cork, and mentored by an Intel expert. The combinations of the nature of the research topics, access to both industry and academic experts and world-class research facilities help students to produce original, highest quality research.

ORGANIZER:
Orla Slattery, Tyndall National Institute, Ireland

SPEAKERS:
Jim Greer, Head of Graduate Studies, Tyndall National Institute, Ireland
Derek O'Brien, Irish Research Council, Ireland
Padraig O'Murchu, Intel Ireland, Ireland

MODERATOR:
Jim Greer, Head of Graduate Studies, Tyndall National Institute, Ireland

6 July, 15:45 - 17:00, Sala Dublino

National innovation policies: a cross-country perspective

This panel will discuss innovation policies in various countries (Europe as well as other leading examples). The goal of the panel is to describe the evolution of policy based on the fast-changing innovation environment and highlight various policy approaches taken in countries which have done well in innovation indices and scoreboards.

ORGANIZER:
Karen Wilson, Ewing Marion Kauffman Foundation, USA

SPEAKERS:
Peter Droll, European Commission, EU
Andy Wyckoff, Directorate for Science, Technology and Industry, OECD, France

MODERATOR:
Lesa Mitchell, Vice President, Ewing Marion Kauffman Foundation, USA

6 July, 17:15 - 18:00, Sala Roma

Showcase. Best practice model of academia and industry working towards a common goal

Tyndall and Intel have been collaborating together on information and communication technology research and education for many years. By pooling their resources, technological barriers have been overcome, faster and more effectively. A key advantage to these collaborations is ensuring that research and education programmes are market relevant.
Staff and students will present different collaboration forms under the Tyndall-Intel model. They will share their views and best practices for a successful industry/academia relationship. Case studies around the collaboration forms will also be presented.

ORGANIZER:
Aoife O'Donoghue, Tyndall National Institute, Ireland

SPEAKERS:
Roger Nagle, Intel, Ireland
Rathnait Long, Tyndall National Institute, Ireland
Padraig O'Murchu, Intel, Ireland
Jim Greer, Tyndall National Institute, Ireland

6 July, 17:15 - 18:00, Sala Atene

Showcase. Monitoring for art safeguard and tourism management in Piedmont: harmonisation of technologies, policies and actors

We will discuss the results of studies carried out by the Torino Polytechnic on areas of tourist interest as examples of harmonization of technologies, policies and the different actors involved. The environmental monitoring system recently installed by Torino Polytechnic researchers in the Villa della Regina, now open to public after ten years of restoration, as well as Lake Orta, Susa Valley and Venaria Reale will be presented as test cases for tourism management, in accordance with the Regional Strategic Plan for Tourism and post–Olympic Games legacy in Piedmont.
The Higher Institute of Territorial Systems for Innovation (SiTI) and Torino Polytechnic have developed a methodological visitor management plan. This focuses mostly on visitors' experience, and tackles three main tourism factors: accessibility, hospitality and information. The goal is to implement a standard procedure of visitor management, characterized by the reproducibility on different territorial scales and types of tourism.

ORGANIZERS:
Emma Angelini, Torino Polytechnic, Italy and **Emanuela Gasca,** Higher Institute of Territorial Systems for Innovation (SiTI), Italy

SPEAKERS:
Sara Levi Sacerdotti, Higher Institute of Territorial Systems for Innovation (SiTI), Italy
Cristina Mossetti, Soprintendenza per i Beni Storici Artistici ed Etnoantropologici del Piemonte, Italy
Marco Parvis, Torino Polytechnic, Italy

6 July, 17:15 - 18:00, Sala Dublino

Showcase. A trip to Torino Valley

Torino Valley is an association promoting innovation in Torino and Piemonte. Torino, the laboratory-city, is a working progress hub for innovation, technology and science. There is a growing number of start-ups and spin-offs, supported by local creativity, business and universities. In this session we will briefly showcase the Torino innovation and business framework and the ecosystem that has been created in recent years.

ORGANIZER:
Vittorio Pasteris, Torino Valley, Italy

SPEAKERS:
Marco Cantamessa, I3P – the Innovative Enterprise Incubator of the Torino Polytechnic, Italy
Giovanni Colombo, Istituto Superiore Mario Boella, Italy
Pietro Gentile, Intermedia, Italy
Rodolfo Zich, Torino Wireless, Italy
Claudio Pasqua, Gravità Zero, Italy

6 July, 17:15 - 18:00, Sala Copenaghen

Sponsored Showcase session. Research and innovation for sustainable chemistry: the Bracco Imaging and Novamont cases

IBIS is a consortium of business and research centres, which make up the Piedmont innovation hub for sustainable chemistry. Ongoing research deals with sustainable coating/paint, products based on renewable sources, transformation of biomasses, reduction/re-use of wastes, optimisation of processes. Two significant IBIS members are presented.
Bracco Imaging SpA produces over 2,000 tons per year of chemicals for diagnostics. Sustainability is a research line and a main strategy for the company. Current processes, though state-of-the-art, are subject to continuous innovation.
Novamont SpA was established in 1989 with the aim of integrating chemicals and agriculture with environmental sustainability. It is now a bio-refinery equipped with top-notch technology to ensure upstream integration. The concept of a bio-refinery is a new corporate model, a project which links the company to the local area and creates a strong base for the launch of the company in the international market.

ORGANIZER:
Franco La Ferla, Associazione Industriali di Novara, Italy

SPEAKERS:
Franco Pellacini, Chair, IBIS Consortium for sustainable Chemistry and Isagro Ricerca Srl, Italy
Fulvio Uggeri, Bracco Imaging Spa, Italy
Catia Bastioli, Novamont Spa, Italy

SCIENCE TO BUSINESS

7 July, 09:00 - 10:15, Sala Roma

How can different organisational cultures benefit from working closely together?

This session aims to highlight the key characteristics in creating, developing and maintaining effective partnerships between different international organizations (research labs, universities, industry). We will delve into the main benefits that such partnerships can bring. Traditionally the focus has been on financial gains. However, our experience shows that partners are now more interested in exploring other areas of added value. A typical example is "out of the box" thinking, where people from different backgrounds share their experience and knowledge on a common area of interest.
We will then identify specific actions which are needed in order to ensure that the partnership is effective and evolves through healthy phases: creating, developing, maintaining. Examples include identifying potential partners, contact management, long-term projections, etc. We will end with a brief overview of additional factors which can enhance and/or inhibit such a partnership.

ORGANIZER:
Linda Orr-Easo, Global Network Manager, CERN, Switzerland

SPEAKERS:
Tim Bestwick, Director of Innovation, UK Science and Technology Facilities Council, UK
Christiane Theiss, Director Resource Planning and Coordination, Alstom, France
Sergio Bertolucci, Director for Research and Computing, CERN, Switzerland

MODERATOR:
Linda Orr-Easo, Global Network Manager, CERN, Switzerland

7 July, 09:00 - 09:45, Sala Copenaghen

Showcase. You can neutralize carbon emissions with microalgae

Global warming is directly related to the increasing of greenhouse gases, such as carbon dioxide, concentration in the atmosphere. Since photosynthetic microorganisms have higher growth and photosynthetic rates than plants, they are an interesting object of study in carbon sequestration. The work aimed to test the hypothesis that photosynthetic microorganisms grown in a closed photobioreactor for domestic usage are able to neutralize carbon emissions from a specific group of people. In vitro growth of different freshwater Cyanobacteria strains was evaluated under controlled conditions. We will introduce a prototype of the photobioreactor and perform live calculations of the user's carbon emission, thanks to online software to which the equipment will be indirectly linked.

ORGANIZER:
Victor Thut, Colégio Dante Alighieri, Brazil

SPEAKERS:
Victor Thut, Colégio Dante Alighieri, Brazil
Sandra Tonidandel, Colégio Dante Alighieri, Brazil

7 July, 10:30 - 11:45, Sala Roma

Exploring Earth from space: challenges and opportunities

Earth observation from space allows a wide-frame and long-term monitoring of large-scale phenomena, which should not be surveyed only by ground-level observations. In the long term, this will enable a reliable assessment of the global impact of human activity and the likely future extent of climate change. Joint efforts in technological and scientific research by industry and university can lead to innovative solutions for high-accuracy Earth observation and climate change monitoring, and can produce powerful applications responding to the needs of regional, national and European policies about climate change.
We will discuss the future development of remote sensing technologies and applications, both in Earth observation and in space exploration, and present initiatives aimed at encouraging co-operation between industry and university. We will then showcase the co-operation of local industry and university for the creation of a Knowledge and Innovation Community (KIC) on Climate Change, responding to the call for proposals of the European Institute of Innovation and Technology (EIT).

ORGANIZER:
Mariarosa Sirna, Thales Alenia Space Italia SpA, Italy

SPEAKERS:
Miguel Aguirre, ESA, The Netherlands
Giovanni Belingardi, Torino Polytechnic, Italy
Mario Calderini, President, FinPiemonte, Italy
Cristoforo Romanelli, Altec SpA, Italy
Enrico Flamini, ASI, Italy
Vincenzo Giorgio, Thales Alenia Space Italia SpA, Italy
Paul Kamoun, Thales Alenia Space France, France

MODERATOR:
Vincenzo Giorgio, Thales Alenia Space Italia SpA, Italy

7 July, 10:30 - 11:45, Sala Copenaghen

Showcase. The little, the larger and the best, a successful venture-capital-backed start-up

One of the biggest problems in the start-up and venture capital (VC) market today is the issue of exit opportunities for companies, and in particular the problem of liquidity for founders. In this session we will show how VCs can back promising and innovative business ideas, with the help of a case study. An economic journalist will interview a successful entrepreneur, whose company has been backed by VC. The interview will delve into the main issues one has to face in founding a high tech company.

ORGANIZER:
Federico Sarti, I3P – the Innovative Enterprise Incubator of the Torino Polytechnic, Italy

SPEAKER:
Giuseppe Guillot, Yoox SpA, Italy

INTERVIEWER:
Emil Abirascid, Journalist, Italy

European Research & Business Speed Dating
International Brokerage Event - within ESOF2010

6 JULY 2010
CENTRO CONGRESSI LINGOTTO
10 am - 6 pm

The **European Research & Business Speed Dating** is a multi-sector brokerage event organised in the framework of **ESOF2010.**

Taking advantage of this major international event, the **Torino Chamber of Commerce and Unioncamere Piemonte, in co-operation with Joint Research centre (JRC EU Commission), Aster, Cestec and other 35 other EU partners** are organising a brokerage event aiming at facilitate the cooperation opportunities between Research & Business, through scheduled bilateral meetings.

This event, with nearly 200 participants, is organised in the framework of the **Enterprise Europe Network**, the largest European network business support organisations providing information and advice on EU matter to improve innovation and competitiveness of European companies, namely SMEs.

FOCUS
The one to one meetings are primarily aiming at encouraging partnerships within projects co-financed by the 7 Framework Programme (FP7), the main financial tool to support research and development activities in Europe, as well as fostering technology co-operation.
The brokerage event is dedicated to companies, research centres and universities interested in cooperation on EU research projects and technology transfer.

MAIN TOPICS
The brokerage event is addressed to multi-sector research & technology profiles covering all thematic programmes of FP7:

Health
Food, Agriculture, Biotechnologies
Information Communication Technologies
Transport
Energy & Environment
Nanotechnologies, Production technologies
Socio-economic sciences
Space & Security

CAMERA DI COMMERCIO
INDUSTRIA ARTIGIANATO E AGRICOLTURA
DI TORINO

enterprise
europe
network
L'Europa alla portata della vostra impresa.

UNIONCAMERE
PIEMONTE

Making Science Accessible

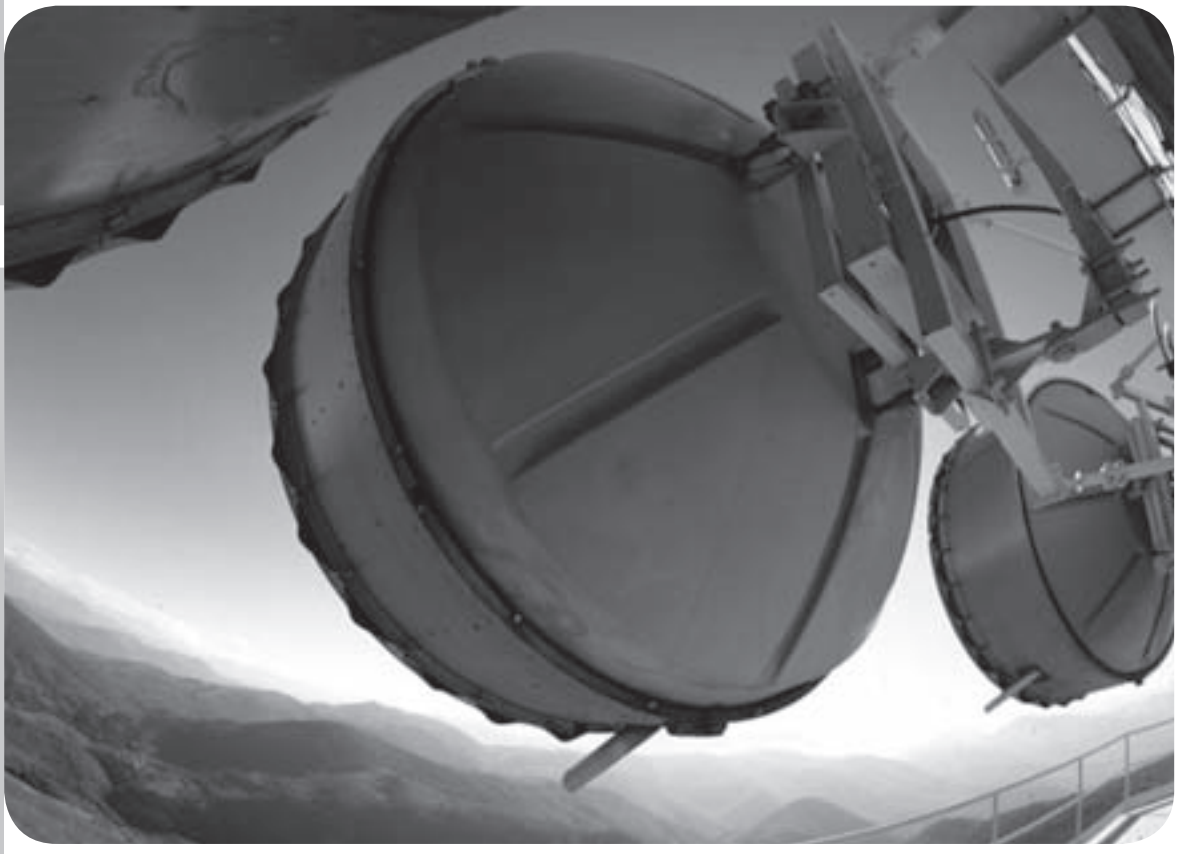
These events are broadcast live

WebESOF is a set of tools specifically designed to stimulate the dissemination of science over a vast geographical area, focusing on the young and underprivileged. Thanks to a custom-made software platform, users will be able to:

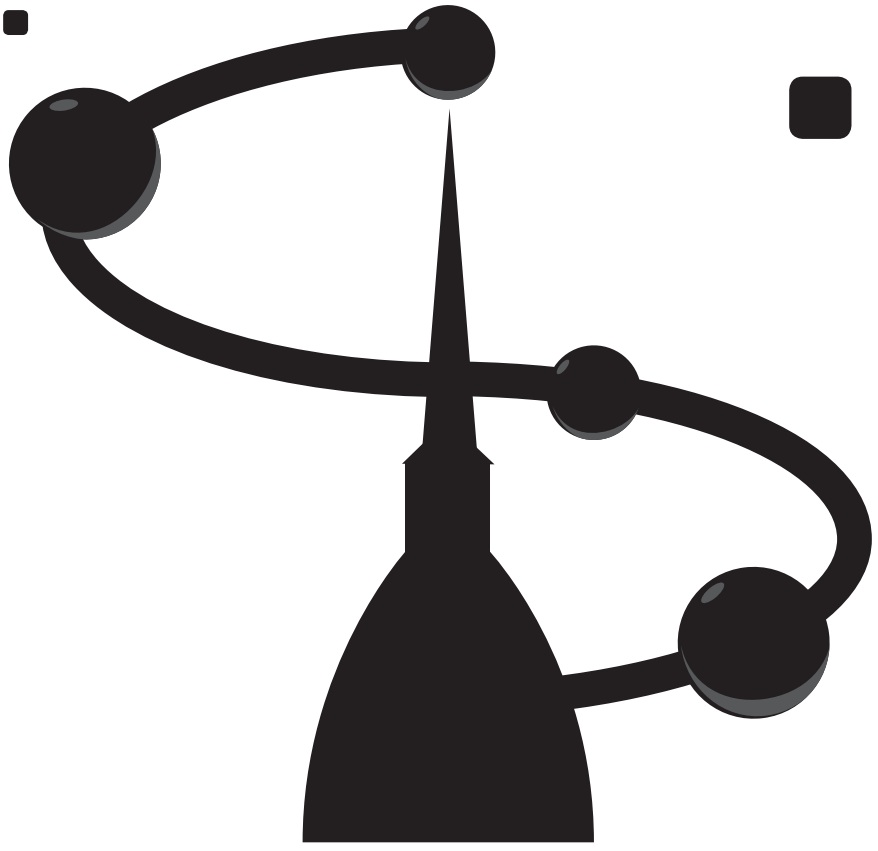
- follow selected sessions in real time
- interact with ESOF2010 participants (by using the web site)
- download videos of all sessions and related material thanks to a video-on-demand repository

The video streaming platform is based on the LSCube project at Torino Polytechnic and will be available free of cost for any system. LSCube is a suite of open source programs focused on multimedia streaming, designed at the Polytechnic Internet Media Group and currently maintained by a team of Italian developers: Luca Barbato, Alessandro Molina, Diego Elio Pettenò and Puria Nafisi Azizi.
The LSCube suite fully supports the RTP/RTSP IETF standards for the real-time media transport over IP. The aim of the project is to provide open, free and interoperable solutions with other proprietary streaming applications.
All LScube software is released under Free Software licenses.

The network infrastructure which enables ESOF2010 to broadcast live video streams of the sessions is provided by Top-IX Consortium in Torino. Top-IX will also host all the video content produced by ESOF2010 in its streaming farm for on-demand access through ESOF2010 web site.



SCIENCE IN THE CITY



Science in the City is ESOF2010 Outreach Programme, a place where citizens and experts meet. Shows, exhibits and presentations will enliven the whole city.
While some activites are hosted at Lingotto, close to the Exhibition Area, **Science in the City** will feature prominently historical squares, museums and places of culture dowtown. The whole city wil be abuzz with exhibitions and workshops, role-playing games, scientific animations and theatrical performances, interactive installations, lectures and scientific cafés. A rich and entertaining programme offers to everyone the opportunity to delve into the major themes of science and innovation, and their interaction with society: from physics to chemistry and nanotechnologies, from bio-technologies to energy and global warming, from engineering to telecommunications or environmental tests.
People of all ages can take part in debates and round tables, visit exhibitions in city museums, use tools of research and conduct analyses to appreciate the intimate elegance, the potential utility, the magic and the beauty of science and technology.

Opening hours vary. Please refer to the relevant entry.

Activities:

Workshops and interactive labs

Exhibitions and installations

Plays

Conferences and debates

Games

Language
Unless stated otherwise, all activities are conducted in Italian and English, with the help of bilingual texts and/or simultaneous translation.

Special thanks to Francesca Soncini and Vincenzo Simone, City of Torino.

SCIENCE IN THE CITY LOCATIONS

LINGOTTO

3-6 July, 10:00 - 17:00
7 July, 10:00 - 14:00

Energyminded: questions and answers on energy

Fondazione POST, Perugia, Italy

How much do we really know about buzzwords that have become part of everyday language, like aeolian, photovoltaic, hydrogen technology, greenhouse effect? Most of the time, not much. In EnergyMinded, a range of questions acts as the background to the search for answers regarding the world of sustainable energies. Some interactive exhibits help the public to discover technologies which are increasingly present in everyday life.

The future of language technology

Centre for Next Generation Localisation (CNGL), School of Computing, Dublin City University, Ireland

The Centre for Next Generation Localisation (CNGL) will showcase language technology innovation and localisation business integration through a number of demos – a Sign Language translation tool, interactive dialogues, an adaptive education game and a primary school localisation toolkit. All the demos are interactive and participants will have the opportunity to work hands-on of some very exciting research.

Making sense of the world

Clarity, Dublin, Ireland

Interactive games and demonstrations will show how sensors are infiltrating the world, and making it a better place – like helping in rehabilitation and learning. We'll present Wobbleball, a sensor driven game used in rehabilitation, and Learndancing, a learning game where a dancemat is used in conjunction with a maths or spelling game. Examples of interactive garments, containing sensors which detect subtle changes in the wearer, will be shown as well as research prototypes for other sports applications.

Inside the INRIM quantum labs

National Institute of Metrological Research (INRIM), Torino, Italy

NanoFacility Piemonte, set up with the financial contribution of Compagnia di San Paolo, is the newest INRIM Laboratory devoted to nanotechnology and nanofabrication. It houses state-of-the-art devices for imaging, nanomanipulation and electrical measurements, which allows precision building of nanostructures and devices. With this innovative technology it is possible to design quantum devices with a wide range of applications, from precision measurements to nano-biosensing, from photovoltaic to quantum standards for electrical metrology.

Meet the diamond: developing tomorrow's lab-on-a-chip clinics

Department of Experimental Physics, University of Torino, Italy

The exhibition and activities are run by the Solid State Physics Group of the Department. The main scope is to introduce to the general public the scientific background of synthetic diamond production and the current research activities conducted by the group – integrated diamond micro- and nano-devices, and relevant to state-of-art biosensing applications.

Nanoart: communicating science with art

NANOART – Politecnico di Torino, Italy

Since 2005, art and science have established an innovative relationship thanks to the collaboration between Alessandro Scali - artist and founder of Kut communications - and a team from the Materials and Processes for Micro & Nanotechnologies group at Politecnico di Torino. This resulted in a series of micro and nanometric artworks invisible to human eyes. After five years, the multidisciplinary group decided to create a new artistic exhibition, that will be presented for the first time at ESOF2010.

Time for Nano: exploring the nanoworld

Fondazione Idis - Città della scienza, Napoli, Italy

This project aims to engage the general public, with special attention to young people, in the benefits and risks of nanoscience. It involves 13 partners from 9 European countries and is funded by the European Commission. We will present its two main outcomes: the nano-kit, a kit containing hands-on activities and games that can be used in science centres or in classrooms, and the website that hosts video contests. More information on www.timefornano.eu.

Food safety: functionality, safety and after-life of packaging

European Commission - Joint Research Centre (JRC), Ispra (VA), Italy

Food safety doesn't stop at testing the food itself – everything that comes in contact with food also needs to be safe. Materials such as plastics, paper, metals, ceramics are commonly used to produce food packaging and kitchenware. At the JRC, the European Union Reference Laboratory ensures that official control laboratories in Europe have efficient methods to verify that potentially toxic substances are not released into the food. The exhibition will showcase materials and tackle safety issues with the help of thematic crosswords and games.

Maps for environmental emergencies

Information Technology
for Humanitarian Assistance, Cooperation
and Action (ITHACA), Torino, Italy

These maps are designed for the World Food Programme and other UN agencies, with the goal of supporting humanitarian operations. ITHACA is a non-profit association, founded by the Politecnico di Torino and the Higher Institute on Innovation Territorial Systems (SiTI), which acts as a centre for applied research and the distribution of products and services addressed to environmental emergencies.

What is geothermy?

The National Institute for Geophysics
and Volcanology (INGV), Roma, Italy

The Earth's core has a temperature of about 5000 °C. Heat radiates from the depths to the crust, causing most of the planet's geodynamic activity. Surface heat produces at times spectacular geothermal phenomena, such as in Larderello, in central Italy, where in 1904 the first geothermal power plant was built. Today, geothermal heat pumps are able extract enough heat from shallow ground to provide environmentally friendly energy, more or less anywhere in the world.

Who wants to be a scientist (in society)?

Observa - Science In Society, Italy

This quiz game will let visitors test their knowledge on science, technology and society. Participants are asked to answer to three questions in about five minutes (e.g. How many science museums are there in Europe? Which country has the most Facebook accounts? What is the most serious health concern among European teenagers?). Winners will be receive a "Scientists in Society" certificate.

Platonic solids and Mate-Grid

Department of Mathematics,
University of Turin, and City of Grugliasco,
in collaboration with Museo Regionale
di Scienze Naturali, Torino, Italy

In this laboratory we will construct the five Platonic solids – tetrahedron, cube, octahedron, dodecahedron and icosahedron – with simple material such as cardboard and straws. These figures feature prominently in European culture, as well as in geometry. Plato associated each of the four classical elements (earth, air, water, and fire) with a regular solid (earth with the cube, air with the octahedron, water with the icosahedron, and fire with the tetrahedron). Mate-Grid will showcase new teaching approaches devised by a local research team.

Extreme energy events: from the quantum world to the universe, from Big Bang to present times

Department of Physics,
University of Torino, Italy

An energetic radiation, the "cosmic rays", reaches the Earth from the deep space. The aim of this project is to understand where, when and how it forms, and why it is a remnant of the Big Bang. A simple device that high schools students can build allows them to get contact with actual research on one of the most important open problems in physics.

Bridging communities: science and journalism

EURAC Research, Bolzano/Bozen, Italy

The European Academy of Bolzano/Bozen presents a series of projects in the field of science communication. "EURAC junior" encourages teenagers to become scientists and elaborate satellite data with the EURAC Institute for Applied Remote Sensing. The FP7 SiS project "My Science" conducted workshops in ongoing EU-funded projects for 85 young journalists, in 4 EU Member States. EURAC television reportages and the magazine ACADEMIA give an insight in other projects, e.g. Science Cafés or the art and science exhibitions.

E.RI.CA., the sustainable home

Polo Formativo Energia e Ambiente
and I.I.S. Maxwell, Nichelino (TO), Italy

E.RI.CA is a physical model of an environmentally sustainable building system. The model consists of technical building envelope components which have been designed to meet the requirements of the current energy legislation. These components are combined with high energy efficiency and renewable technologies for heating and air conditioning systems. Each technical element and system component comes with a description which emphasizes the basic physical principles, and the energy and environmental performances related to their use.

Human livecasting at ESOF2010

Torino Valley, Italy

We will broadcast ESOF2010 in live streaming on Internet, interviewing participants with the support of smartphones, iphones or laptop connected to camcoders.

6 July, 10:00 - 19:00

Biogas minitour

Environment Park, in association with Torino Metano, Fornovo Gas e TPEnergy

An experimental filling station will feed a minivan with biogas produced from organic waste. The minivan will leave from Lingotto and tour the city, calling at the Environment Park open labs, where participants will learn about the technology that made this event possible.

Lingotto	Piazza Castello	Envipark	Lingotto
Departures	Arrivals/Departures	Arrivals/Departures	Arrivals
10:00	**10:20/10:30**	**10:45/12:45**	**12:45**
13:00	**13:20/13:30**	**13:45/15:15**	**15:45**
16:00	**16:20/16:30**	**16:45/18:15**	**18:45**

PIAZZA SAN CARLO

3 July, 19:30

Nobel Night

Peter Agre, Gerard 't Hooft and Harold Kroto, presented by Piergiorgio Odifreddi

Three extraordinary men who have conducted extraordinary research. Their history and their discoveries are unraveled during an informal evening chat

3 July, 22:30

Antonella Ruggiero and the Banda di piazza Caricamento

Concert. From Italian folk music to the rhythms of the world

4 July, 21:30

Passion for Science. Science and politics and the great promises of research

Piero Angela and Elena Cattaneo, presented by Piero Bianucci

Italian only

Passion unites Elena Cattaneo on the front of research in one of the most promising medical fields, that of stem cells, and Piero Angela in the diffusion of scientific culture. A full-spectrum conversation on scientific research, the testimony of a protagonist on the great gratifications and the great difficulties faced. A reflection on how the hard work of researchers can help humanity and society.

5 July, 21:30

End of the road? The end of the oil era and the start of a new one

Lecture show by Mario Tozzi

Italian only

We are the most energy-hungry animals on the planet, Tozzi maintains. We have super-accessoried cars and are surrounded by household appliances, we take our clothes off in winter and put them on in the summer. Until when? The depletion of fossil fuels, a phantom destined to plunge Western industrial societies into the most serious crisis ever experienced, puts us face to face with the crucial tension between the economy and ecology: humanity is running down energy resources and sources while increasing consumption linked to induced needs.

6 July, 23:00

Green porno. The night of seduction

With Isabella Rossellini in a telephone link from New York, John Bohannon a journalist for Science, Allan Reiss, a psychiatrist from Stanford University, Tom Flamson, an evolutionary biologist, Elisabetta Visalberghi, a primatologist, and the linguist Salvatore Attardo of A & M University, interviewed by Piergiorgio Odifreddi. An evening of science for adults to unveil the subtle art of seduction and coupling between worms, snakes, insects, ducks and monkeys and where humour and science meet, seriously.

PIAZZA CASTELLO

Special opening:
5-6 July, 10:00 - 12:00

2-4 July, 17:30 - 23:30

Bræinstein. Get puzzled with Albert!

Treehouse - La scienza racconta, Barge (CN), Italy

Bræinstein is a concept-game conceived as a tribute to a 20th Century icon – Albert Einstein. The game aims at deconstructing the complexity of the theory of relativity, through a series of stories, curiosities and bits of gossip that made Einstein a celebrity. He was a man of his times, displaying social relations with scientists, politicians, men of letters and artists. The history of science, indeed, is the history of the people who make it.

5-6 July, 17:30 - 23:30
7 July, 10:00 - 13:00

The game of the green goose

Associazione Inteatro, Polverigi (AN), Italy

The city square is a big game table on which the participants become living pawns, venturing into eco-conscious endeavours. The aim is to have fun by gaining an ecological conscience, while discussing about topics such as renewable energies, environmental safeguard, collection of items for recycling, feeding, resources, life-styles.

2-6 July, 17:30 - 23:30
7 July, 10:00 - 13:00

Infocontainer: energy under your nose

Museo A come Ambiente, Torino, Italy

The Museo A come Ambiente popularizes environmental themes raising public awareness on key issues. To do so, we have developed the "infocontainers". The energy under your nose mobile interactive exhibit is targeted at a large audience of different ages.

4-5 July, 17:30 - 23:30

Head in the clouds

Department of Physics,
University of Torino, Italy

A journey through the folklore, science and art of clouds, one of the most complex and fascinating natural laboratories. The public will learn about myths, sayings and popular misconceptions, and will get to know different types of clouds and understand their properties and evolution. The exhibition also includes cloud-related artworks by young contemporary artists.

3-5 July, 17:30 - 23:30

Robotics for everyone

The School of Robotics, Genova, Italy

Designing, building, and programming a robot is something many of us have dreamed about. The School of Robotics, in cooperation with the "Doors Open to Robotics" school network, will conduct workshops with the help of special kits. No need to be an expert!

3-5 July, 17:30 - 23:30

Mathemagics

Archimedes' Laboratory TM, Genova, Italy

Explore, create and solve original geometrical puzzles and brainteasers! Under the guidance of qualified experts, visitors will: build 3D structures, which seem impossible at first sight; transform flat shapes into solids (and vice-versa); perform some amazing magical math tricks; play with and solve various intriguing mechanical puzzles.

3-5 July, 17:30 - 23:30

Scienjoy!

Neverland - Mad Science, Mantova, Italy

We will run a series of hands-on activities to involve the younger ones in the world of scientific phenomena, to show them how science can be fascinating and fantastic. Science is not just a school subject: science is cool and it is part of our everyday's life – more than we can imagine!

2-4 July, 17:30 - 23:30

DiscardCoal. A card game with an energetic twist

Treehouse - La scienza racconta
Barge (CN), Italy

Nowadays, it is necessary to be aware of energy and environmental issue. For instance, why should we choose a particular source of energy rather than another? That's why people need to be informed starting from a very early age. A card game based on energy themes will help kids to learn and have fun. Play with us!

2-6 July, 17:30 - 23:30
7 July, 10:00 - 13:00

R@dhome

Azienda Sanitaria Ospedaliera Molinette
San Giovanni Battista di Torino, Italy

The aim of home radiology service, active in Torino since June 2008, is to give to elderly and disabled persons the possibility of having radiological examinations at home. A mobile radiological station will be displayed in Piazza Castello; two specialists will be ready to explain how the radiological technology works and to simulate actual X-ray examinations. The public will be able to see and touch machineries that they had probably never come close to.

2-6 July, 17:30 - 23:30
7 July, 10:00 - 13:00

The 100 mysteries and keywords of the universe

Department of Physics,
Nagoya University, Japan

We exhibit the on-going process of making an online Encyclopedia of the Universe in accordance with the general public's request of "what I want to know about the universe". We present the top-ten questions and keywords

which we have collected so far in Japan, together with answers and explanations written by academics. At the same time, we would like to ask the audience questions about the universe, and to hear what they think about its most important features.

2-6 July, 17:30 - 23:30
7 July, 10:00 - 13:00

The quark puzzle: an amazing world of particles

INFN and Department of Experimental Physics, University of Torino, Italy

The project shows how the most advanced knowledge in particle and astroparticle physics can answer fundamental questions about our universe and improve everybody's life in a practical way. See related theatrical and exhibition activities on page 124 and 125.

2-6 July, 17:30 - 23:30
7 July, 10:00 - 13:00

Solving mysteries by learning about science (and viceversa)

Comitato Italiano per il Controllo delle Affermazioni sul Paranormale (CICAP), Torino, Italy

Critical appraisal of allegedly paranormal phenomena, modern myths and pseudo sciences is not only a commendable activity in itself, but also a valuable exercise to promote and teach critical thinking skills. Furthermore, it is often found that such topics can be effectively used as a pretext to explain basic science ideas and, even more interestingly, to show how science works. The exhibition features a "mystery trip" across twenty years of CICAP investigations and is integrated by hands-on simulations.

2-6 July, 17:30 - 23:30
7 July, 10:00 - 13:00

YourHealth 3.0

Johnson & Johnson Pharmaceutical Research & Development

Imagine a world where cancer, Alzheimer's disease and other devastating conditions are just a memory. Imagine a world where medicine is successful in ways we can currently only dream of. Johnson & Johnson Pharmaceutical Research & Development, a division of Janssen Pharmaceutica NV, is at the cutting edge of a medical revolution. Discover how we work together to solve the world's biggest health challenges. Be there at the pre-release of YourHealth 3.0 and experience what science and medicine will hold for you and your loved ones.

2-6 July, 17:30 - 23:30
7 July, 10:00 - 13:00

Discover science

Associazione Festival della Scienza, Matefitness, CNR (IPP, IVV, ISAC), Università del Caffè di Trieste
Genova - Trieste, Italy

A charming tour through ordinary daylife events. You can play, think, and test with Science in the Kitchen, Math-Magic, the exhibits of Cartoon Science, Sport and Science, and Fire! You can also book a chocolate or coffee tasting (just call +39 040 3890178) or discover the last scientific findings about truffles, viruses and climate. More info at: www.festivalscienza.it

2-6 July, 17:30 - 23:30
7 July, 10:00 - 13:00

Participation in policy design experiments

Institute for Interdisciplinary Research on Sustainability (IRIS), Torino, Italy

Visitors are invited to participate in focus groups and individual interviews, to investigate the socioeconomic determinants affecting choices between conservation (savings) and investments in energy efficiency technologies. Members of IRIS will co-opt the audience in the design of simulations and the choice of experiments for the elicitation of public preferences about possible energy policy options.

2-6 July, 17:30 - 23:30
7 July, 10:00 - 13:00

Can peers prevent sexually transmitted disease?

Associazione Analisi Dinamiche di Relazione (ADR), Torino, Italy

How does peer education work? How can we involve friends and schoolmates in modifying risky behaviour? The project promoted in High Schools by Provincia di Torino focuses on the keyrole of youngsters – peer educators – from intervention planning to evaluation of results.

2-6 July, 17:30 - 23:30
7 July, 10:00 - 13:00

Is this a lab or a kitchen?

IFOM Fondazione Istituto FIRC di Oncologia Molecolare, Milano, Italy

Research has shown how good nutrition is vital in the prevention of diseases and in helping effective therapies. Between a live demonstration of healthy food prepared

according to molecular science and a microscopic analysis on a set of crucial molecules present in daily life food, we will show you that a research lab and a kitchen, unexpectedly, have many things in common – from ingredients to tools and recipes.

2-6 July, 17:30 - 23:30

Showing rather than telling

European Commission - Joint Research Centre (JRC), Ispra (VA), Italy

A rich array of exhibitions, presentations and workshops will introduce the various research activities of the European Commission - Joint Research Centre to the general public.

1. Would your house survive to an earthquake?
Visitors will build masonry structures and to test them on a small shaking table so as to assess and compare their behaviour when submitted to earthquakes.

2. Discovery energy
An interactive, hands-on educational journey for all, young and old, with demonstrations, games and exciting activities conducted by JRC researchers.

3. Africa Biodiversa
A game in which players must associate pictures of African animals with the ecosystems they live in, showing also the distribution of the different ecosystems in Africa.

4. Desertification
Two interactive learning games, a quiz and a simulated experiment, accompanied by informative posters on the topic of water use, land degradation and desertification.

5. Sustainable nuclear energy in the 21st century: Challenges for the fuel cycle
A glove box normally used in nuclear facilities and laboratories for handling and storage of radioactive material will be at the disposal of the public, to discover what is carried out in nuclear research.

6. Car emissions and fuel consumption: What can I do to reduce them?
A vehicle, equipped with a portable emission measurement system, will be moved around in short trips, demonstrating how emissions and fuel consumption depend on driving behaviour.

2-6 July, 17:30 - 23:30
7 July, 10:00 - 13:00

Turning projects into investment for the community

Compagnia di San Paolo, Torino, Italy

Compagnia di San Paolo was founded in 1563 as a brotherhood committed to alleviating the suffering of the local population. It soon became the recipient of donations and bequests, starting charitable activities and welfare projects. Nowadays the Compagnia's mission is supporting development and improving the quality of life, through targeted grant-making and direct project funding. The booth presents the Compagnia and its operating bodies: Collegio Carlo Alberto, Istituto Superiore Mario Boella, Istituto Superiore sui sistemi Territoriali per l'innovazione (SiTI), Human Genetics Foundation (HuGeF) and Fondazione per la Scuola.

PALAZZO DELLA REGIONE PIAZZA CASTELLO 165, TORINO

2-6 July, 17:30 - 23:30
7 July, 10:00 - 13:00

Switch on your brain!

Experimenta - Regione Piemonte, Italy

The exhibition tackles a number of issues about human behaviour and the transmission of messages to and from the brain. First, various areas of the brain – dedicated to conscience, hearing, sight, movement, feeling, emotions, smell hearing and sleep - are investigated. Then, two psychoacoustic experiences focus on encoding-decoding sound and what on the workings of our brain during sleep. Finally, we focus on cognitive illusions and the functional architecture of the brain, ending with a learning test.

PALAZZO MADAMA PIAZZA CASTELLO, TORINO

6 July, 18:00 - 19:00

Science in art: clouds and geology in painting

GFZ German Research Centre for Geosciences,Berlin, Germany

Italian only

This conference looks at 17th- and 18th-century European paintings to assess the state of the territory and of the climate in the past. Art can indeed act as an excellent witness and a powerful instrument for investigating the anthropisation of the land, as well as the geological and climatic situation in the past. It is significant that landscape painting became prominent when great European scientists (Kepler, Copernicus, and Newton) were investigating nature and the cosmos.

PIAZZA CARLO ALBERTO

Special opening:
5-6 July, 10:00 - 12:00

2-6 July, 17:30 - 23:30
7 July, 10:00 - 13:00

Circolo dei Lettori en plein air

Circolo dei Lettori Torino,
in collaboration with Biblioteca Archimede,
Settimo Torinese (TO), Italy

This is an opportunity to involve readers on the subject of science, in the style of the Reading Groups, trademark of the Circolo dei Lettori.
18.00 - 19.00: Extreme experiments. On the occasion of Extreme experiments exhibition (Cortile del Rettorato), organized by INFN Torino, meetings with young researchers who work in difficult environmental conditions.
19.00 - 20.30: Science meets Poetry, a series of talks and artistic performances organized by Jean-Patrick Connerade – an ESOF tradition started in 2006. Meetings are enlivened by Benjamin Delmàs. *See page 70.*

2-6 July, 17:30 - 23:30
7 July, 10:00 - 13:00

Bringing earth sciences to everyone

Department of Natural Sciences,
University of Torino, Italy

Earth Sciences have a deep impact on everyday life and on our future. We will entertain visitors with: mountain building experiments modeling forces driving plate tectonics; discovery of the fossil record, in order to reconstruct past climate change; discovery of the decorative stones of Torino's historical buildings; discovery the impact of fibrous mineral (asbestos) and mineral particles on health.

2-6 July, 17:30 - 23:30
7 July, 10:00 - 13:00

A different idea of a scientist

Association Prospettiva Ranocchio,
Genova, Italy

Usually people identify scientists somewhere between Dr. Frankenstein and Albert Einstein. Movies, comic strips and cartoons have always contributed to this public image, which of course is far from real. This laboratory enables visitors to express their idea of scientists and to compare it with the collective image of researchers, with the help of games and experiments. The laboratory embraces four different pieces which, if correctly assembled, blend the many different aspects which make up the figure of the scientist.

2-6 July, 17:30 - 23:30
7 July, 10:00 - 13:00

19th century stereoscopes and new technology

Museo Nazionale del Cinema
and Telecom Italia Lab
Torino, Italy

The National Cinema Museum, unique in Italy and one of the most important centres in the world, together with Telecom Italia Lab, Telecom Italia's research and development centre, presents an example of how innovative 3D technology could provide both entertainment and cultural promotion. Through a 3D monitor, visitors will access rare specimens of 19th century stereoscopes from the Museum's collection. In addition, part of the Museum's collection of trailers will also be shown using innovative 3D viewing.

2-6 July, 17:30 - 23:30
7 July, 10:00 - 13:00

Images and stories about astronomy

Infini.To, Torino, Italy

This event consists of two parts: 7 times 10,000 and Cosmic Snapshots. 7 times 10,000 is an interactive activity based on the use of simple mathematics, which will allow visitors to have a direct experience of size of the Universe. Cosmic Snapshots is a theatrical piece, in which "physicists-actors" debate on scientific issues that have characterized the history of astronomy.

2-6 July, 17:30 - 23:30
7 July, 10:00 - 13:00

The telescope and the birth of modern science

Department of Physics,
University of Torino, Italy

A series of interactive experiments, discussions and videos concerning astronomical topics: results of the activities of schools concerning the "Year of the Telescope" project; a scientific café; a daily program of interactive experiments concerning physics and astrophysics; a 3D virtual journey through the galaxy; a video presentation of the history of the telescope; videos from the international conferences held in Torino in 2009; a totem to allow visitors to "e-read" Sidereus Nuncius and other rare astronomical books.

2-6 July, 17:30 - 23:30
7 July, 10:00 - 13:00

The fusion and plasma road show

European Fusion Development Agreement,
Garching bei München, Germany

The show pivots on nuclear fusion as a possible future energy source and introduces the present state of fusion and plasma research in a spectacular and attracting way. The show combines a multimedia presentation with live experiments that demonstrate basic facts related to the topic. When the experiment isn't running, visitors will have a chance to get closer to the demonstration tools.

2-6 July, 17:30 - 23:30
7 July, 10:00 - 13:00

The researcher: a Peter Pan in wonderland

University of Camerino, Italy

This event aims to communicate, in an entertaining way, what researchers do, and to show that scientists have fun while looking for amusing and original solutions. We will recreate a "live" exhibition of the research activity at a university. Younger visitors will be able to play funny games and receive a "Diploma of early stage researcher".

2-6 July, 17:30 - 23:30
7 July, 10:00 - 13:00

A table as big as the world – or even more

Googol Association, Parma, Italy

Food is one of the languages with which each culture expresses itself and it is strongly connected with geographical, historical and economic conditions of a given area. Hence the great variety of foods in the world. But from a strictly scientific point of view, the language of food is formed by an alphabet made up of few elements, nutrients, which are the foundation of any present or future diet on our planet – and beyond. We'll play a game full of funny factoids, tales and kitchen-science experiments.

PALAZZO CARIGNANO COURTYARD PIAZZA CARIGNANO 5, TORINO

3 July, 18:30 - 19:05/23:00 - 23:35
4 July, 18:30 - 19:05
5 July, 17:30 - 18:05

Nanometamorphosis

Le Nuvole, Napoli, Italy

Italian only

Thanks to a humorous but scientifically sound script, the spectator takes a journey through the nanoworld, becoming more and more interested, and doing his best to understand nanotechnology. With this play we'd like to promote first-hand knowledge of issues and construct a participatory democracy to create a knowledge-based society.

5 July, 10:00 - 10:40/19:00 - 20:00
6 July, 10:00 - 10:40/17:30 - 18:30
7 July, 10:00 - 10:40/11:00 - 11:40

Circuscience

Associazione Culturale CircoScienza, Cagliari, Italy

Italian only

CircuScience is a street science project aiming at the development of logical skills, psychomotor coordination, spatial balance, and scientific knowledge. A fun and interactive project, a gradual approach to the laws of physics: balance, movement, center of mass, energy conservation and angular momentum are explained thanks to theatrical performances. Atrito the clown will be your guide – telling jokes and acting clumsy, but also performing easy experiments and tricks.

6 July, 18:45 - 19:15

Science in a national art museum

Ciência Viva in collaboration with Institute of Molecular and Cell Biology (IMCB.INEB), Lisbon, Portugal

English only

A short movie on an exhibition held in Porto centred on Darwin's book The Expression of the Emotions in Man and Animals will explain how the exhibition was integrated in the host museum, and what sort of relation it established with the local community and visitors.

3 July, 17:30 - 18:00/19:30 - 20:00
4 July, 17:30 - 18:00/19:30 - 20:00
5 July, 11:15 - 11:35/11:50 - 12:10
6 July, 11:15 - 11:35/11:50 - 12:10

The trip of Chicco and Kerny at the gates of the European Union

European Commission - Joint Research Centre Ispra (VA), Italy

Italian only

A theatre play for children that tells the story of two genetically modified maize kernels through the European Authorisation process. It explains in very simple terms what Genetically Modified Organisms are, why they are created and why they need to be regulated. The play is interactive, asking children to participate.

2-6 July

Excellent encounters

Circolo dei Lettori, in collaboration with Biblioteca Archimede, Settimo Torinese (TO), Italy.
Organizer: Alba Zanini

Italian Only

A series of encounters with a selected panel of ESOF speakers, enlivening the nights of the Arena. The programme includes conversations with writers and other guests, aimed at the general public. Meetings are anchored by Silvia Rosa Brusin.

2 July, 21.00: Umberto Guidoni, Tommaso Pincio
3 July, 21.00: Paolo De Bernardis
4 July, 20.00: Edoardo Lombardo Vallauri
4 July, 21.00: Patrizio Roversi, Stefano Oss, Laura Romanò
5 July, 21.00: Gian Luigi Beccaria, Ruggero Pierantoni
6 July, 21.00: Luisa Cifarelli, Simona Di Pippo, Maria Antonietta Perino

BIBLIOTECA NAZIONALE UNIVERSITARIA PIAZZA CARLO ALBERTO, TORINO

2-6 July, 17:30 - 23:30

Exploring space

Thales Alenia Space, in collaboration with University of Torino and Associazione per la divulgazione dell'astrofisica (ADA), Italy

From the conquest of the Moon to the futuristic Mars landing, the exhibition presents the discoveries of Piedmont-born astronomer Giovanni Virginio Schiaparelli, whose observations of the Red Planet – what he referred to as "canals" – may have been the first signs of intelligent life on Mars. The exhibition also illustrates Thales Alenia Space thirty years of experience in the aerospace industry, with the models of the International Space Station and the Herschel & Planck, Goce, Mars Express and Exomars scientific probes.

3-4 July, 22:30 - 23:30

On the train with Albert: ticket for time travel

Klesidra, in collaboration with Teatro Litta, Progetto Connections, under the aegis of Laboratorio per la Comunicazione Scientifica, University of Calabria Milano – Roma - Reggio Calabria, Italy

A concert/theatre piece set approximately in 1895, when young Albert Einstein was living in Pavia, Italy, and beginning to cultivate his interests in physics. While travelling on a train, he meets a girl named Ernestina, and soon strange things begin to happen. The play is followed by a lecture by M. Francaviglia.

4 July, 16:30 - 18:30
5 July, 18:30 - 20:30
6 July, 21:00 - 23:00

Mars challenges you!

Department of Physics, University of Trento, Italy

Money, technology, equipment, politics: will you be able to manage it all and reach for the stars? This is a true challenge, where you can show your abilities, insight and guts! With your team you must plan and carry out a mission to Mars, and be part of the crew: do you dare to compete against other teams and, mostly, against the Red Planet?

2 July, 18:30 - 20:30
3 July, 16:30 - 18:30/21:00 - 23:00
4 July, 18:30 - 20:30
5 July, 21:00 - 23:00
6 July, 18:30 - 20:30

Minds-on

Sissa Medialab Trieste, Italy

The project will focus on the conscious and unconscious processes of our minds and on possible subliminal influences. Through iPods or iPads, the participants will have to choose among different images. To trigger the players' choice, subliminal messages will also be sent. At the end, everybody will be able to realize if his/her choice has been free or manipulated. After the game, a neuroscientist will meet the participants and provide insights and explanations of the science behind the game.

2 July, 16:30 - 18:30/21:00 - 23:00
3 July, 18:30 - 20:30
4 July, 21:00 - 23:00
5-6 July, 16:30 - 18:30

Decide: play a role, state your point of view & M.I.C, My Ideal City

Museo Tridentino di Scienze Naturali (Trento, Italy) in collaboration with Exploratorium Copenhagen (Denmark), Ciência Viva (Portugal), Bloomsfield Science Museum Jerusalem (Israel).

How hard is to make up your mind on a controversial issue? Decide is a new way to talk about contemporary themes in a relaxed and informal way. You don't need to be an expert, you just need to join us and play! What issues? Neurosciences, nanotechnology, and much more. Or you can design your own your ideal city thanks to M.I.C., and help build a co-ordinated exhibition in different museums connecting urban planning choices and citizens' awareness with the help of virtual reality.

CIRCOLO DEI LETTORI VIA BOGINO 9, TORINO

2-6 July, 17:00 - 23:00

To bet or not to bet

Associazione Officine Scienza, Torino, Italy

Coincidences, accidents and fatalities are not completely random acts, but are ruled by mathematical laws. Thanks to this exhibition visitors become familiar with the calculus of probabilities without the burden of weird mathematical formulas, but just playing (not for real money) at the roulette or the blackjack table, tossing a dice, flipping the lever of a slot machine or tempting Fate with the lottery.

3 July, 17:30 - 19:30

Women and astronomy: from Ipazia to today

UNESCO Centre, Torino, Italy

Italian only

The programme aims to give a voice to past and present women astronomers and to encourage young people to begin a career in science, thanks to experts' presentations and students' involvement.

4 July, 17:30 - 19:00

Primo Levi writer and chemist

DISTA – University of Piemonte Orientale, Alessandria, Italy

"Levi's uniqueness is that he is even more the artist-chemist than the chemist-writer" (Philip Roth). The session includes two presentations by Luigi Dei and Davide Viterbo and a short movie by G. Bissaca.

5 July, 17:30 - 19:30

Sea exploration: looking for hidden gems in the Mediterranean

CNR - Institute of Marine Science, Ancona, Italy

Italian only

A seminar introducing marine sciences themes (oceanography, geology and biology), followed by a movie on the discovery of the submarine beauty of Mare Nostrum, and a debate.

5 July, 21:00 - 22:30

Mathematics and pathology in gambling

Associazione Officine Scienza in collaboration with Circolo dei Lettori and Dipartimento Dipendenze ASL TO 2, Torino, Italy

Italian only

Gaming is fun but can become a pathology: a conference built on the collaboration between the curators of To bet or not to bet and the City of Torino Department of Addiction Services.

6 July, 18:00 - 19:00

Science goes live in Periodic Table city

School of Chemistry, University of Nottingham, UK

English only

Our performance will comprise of short video clips interspersed with live chemical demonstrations, involving liquid nitrogen and dry ice, indicator solutions and exploding hydrogen balloons – in a safe and tested environment. Our aim is to interest, excite and stimulate the audience, to encourage it to find out more about the elements, and to encourage future generations to take up a career in the sciences.

MUSEO REGIONALE DI SCIENZE NATURALI VIA GIOLITTI 36, TORINO

2-7 July, 10:00 - 19:00

A journey through the world of biotechnology

Foundation for Biotechnologies - LLC Network, in collaboration with Lorenza Accusani and the partnership of EMBL, CusMiBio, Museo Regionale di Scienze Naturali, PAV, Ecole de l'ADN Nimes, Institute of genetics and biophysics "Adriano Buzzati-Traverso". With the support of Fondazione Pfizer, Farmindustria, Johnson & Johnson Pharmaceuticals

An interactive exhibition, open to all, where the relationship between art and science plays a key role in the process of communicating biotechnological research. Visitors are guided through some of the most interesting aspects of biotechnology. The journey is completed by hands-on laboratories and teaching workshops where participants can extract DNA, take part in "creative biology" experiments and explore genomes using bioinformatics.

2-7 July, 10:00 - 19:00

Explorers of the universe

CERN, The National Institute for Nuclear Physics (INFN), Department of Experimental Physics, University of Torino, Museo Regionale di Scienze Naturali Torino

A two-parts journey into particle physics.

1. Accelerating science
The CERN's travelling exhibition – displayed for the first time in Italy – features movies, interactive games and animation that explain the evolution of the universe from immediately after the Big Bang to the present day and illustrate the workings and discovery potential of CERN's Large Hadron Collider (LHC).

2. The invisible wonder
Produced by INFN and the Departments of Physics of the University of Torino, this exhibition overcomes the limits imposed by the senses. Visitors access the world of the infinitely small and discover the basic elements of matter, recreate the first moments of the life of the universe and meet the large community of scientists engaged in finding a response to many unresolved mysteries.

3-6 July, 18:30 - 19:30

Beautiful and useful particles: Understanding the quantum world for a better life

Department of Experimental Physics, University of Torino, Italy

Italian only

Three conferences to learn about the latest research in particle and astroparticle physics and the important applications that these fundamental researches have. The programme is part of *The quark puzzle* (see page 118)

CAVALLERIZZA REALE VIA VERDI 8, TORINO

MANEGGIO REALE

2 July, 21:30 - 22:30
3 July, 19:00 - 20:00/23:00 - 24:00
4 July, 20:00 - 21:00

The sign of the chemist: a dialogue with Primo Levi

Centro internazionale di studi Primo Levi, Teatro Stabile Torino, Intesa San Paolo, Città di Torino, Italy

Italian with English subtitles

Directed by and featuring Valter Malosti reading texts selected by Domenico Scarpa. This choice of scientific texts by Primo Levi (1919-1987), presented here for the first time in theatrical form, allows us to take an original look at a man who combined the roles of chemist, writer, and witness of Auschwitz.

5 July, 21:00 - 22:00
6 July, 11:00 - 12:00

Light from the stars

Department of Physics, University of Milano, Italy

Italian with English subtitles

Four scientists attending a strange conference try to explain complex cosmological theories with the help of surprising experiments. Light coming from remote galaxies is analyzed during an imaginary journey in the universe. UV, infrared thermography, microwaves, and other spectacular phenomena are used to present the universe in a very unusual way. The show has a surprising end, leading the audience to reflect about limits and dangers of the popularization of science.

MANICA CORTA

The quark puzzle: an amazing world of particles

INFN and Department of Experimental Physics, University of Torino, Italy

A multi-faceted project (see also page 118) consisting of three performances:

3 July, 17:30 - 21:00/23:00 - 00:30

Beyond the world

This performance is an attempt at translating the dynamics of quarks inside the proton in a highly symbolic and lyrical language, typical to contemporary movement/research dance theatre. Complex mathematical and scientific formulas are transformed into stage performance.

4 July, 17:00 -18:00/18:00 - 19:00

Richard Feynman: The beauty of discovery

Associazione Officine Scienza, Torino, Italy

Italian only

In this play, the physicist Richard Feynman (1918-1988) explains to children the importance of accurate investigations in the mysteries of Nature and the never-ending pleasure of discovery. In a fairy-tale atmosphere, Feynman meets some odd characters – thinking radios, talking apes, and dancing subatomic particles – with which he interacts in a humorous way.

3 July, 21:30 - 22:30/1:00 - 2:00
4 July, 21:30 - 22:30
5 July, 10:00 - 11:00

Harlequin and the colour of quarks

Italian only

The Queen ordered Harlequin to find her some quarks, tiny "colourful" particles. So he goes to the market, where he meets the Greengrocer, a nice and smart girl who will try to help him to fulfill his task. The play, written by Marco Monteno and staged by Marco Alotto, is an amusing tale that plays on the different meanings of "colour" to introduce the audience to the mysteries of particle physics.

RETTORATO COURTYARD VIA PO 17 / VIA VERDI 8, TORINO

1-15 July, 7:30 - 19:30

Extreme experiments: A world-wide lab for physicists

The National Institute for Nuclear Physics (INFN) and University of Torino, with the support of Unicredit

Why do physicists dig huge caves deep in the heart of mountains, drop particle detectors in the Mediterranean sea or even in deep holes drilled in Antarctic ice, climb some of the highest mountains in the world or travel to the Pampa in Argentina to deploy a detector as large as Luxemburg? The spectacular pictures of this exhibition illustrate an unusual side of research, by showing the contrast between high-tech equipment and the inaccessible or wild environments where it is located.

CAFFÈ FIORIO VIA PO 8, TORINO

4 July, 18:30 - 20:30

Scientific café. Climate change citizenship – it's happening in our backyard!

European Commission - Joint Research Centre (JRC), Ispra (VA), Italy

Climate change may seem a remote issue, something we can do nothing about. On the contrary, our individual actions can have a large impact. Are people aware of this? Do they take time to reflect on their own daily gestures? This science café will explore ways of raising climate change awareness in the general public.

MUSEO NAZIONALE DEL CINEMA VIA MONTEBELLO 20, TORINO

2-6 July, 9:00 - 20:00

Particles or strings? The universe is abuzz with energy

University of Calabria, Cosenza, Italy

Virtual strings fill the space, a creative process where the public entangles in never ending patterns, using elastic ropes and creating a vibrating universe. Generative music is produced, while multicolour lights let strings glow into the dark. Performers dance within the installation, and give a final poetic interpretation.

ACCADEMIA ALBERTINA DI BELLE ARTI VIA DELL'ACCADEMIA ALBERTINA 6, TORINO

2-7 July, 9:30 - 18:30

Artematica

Department of Mathematics, University of Turin, in collaboration with Accademia Albertina delle Belle Arti – Gruppo Radice, Lorenza Accusani, Eva Filoramo and the partnership of Associazione Subalpina Mathesis - Centre for Nonlinear Studies, Tallinn, Estonia

Based on the famous remark by Galileo that "the book of Nature is written in the language of mathematics", this interactive exhibition focuses on mathematical ideas both from a technical point of view and an artistic perspective. Visitors will have the opportunity to approach and understand topics such as prime numbers, Fermat's theorem and topology by comparing two different "proofs" of many statements – an artwork created by a young artist and the conceptual and historical background of the theorem.

MUSEO DI ANTROPOLOGIA ED ETNOGRAFIA VIA DELL'ACCADEMIA ALBERTINA 17, TORINO

PINACOTECA GIOVANNI E MARELLA AGNELLI VIA NIZZA 230, TORINO

2-7 July, 17:30 - 23:30

Art Brut: the art of folly in the Anthropology Museum collection

Museo di Antropologia ed Etnografia, University of Torino, Italy

2-4 and 6-7 July, 10:00 - 19:00

The Museum of Everything

Pinacoteca Giovanni e Marella Agnelli, Torino, Italy

Two city museums will showcase a selection of 20th century non-conventional artists, dedicated to art and alienation. The Museo's collection will feature works created by people confined in the psychiatric hospital of Collegno (TO); the artistic realizations are shown with no restraint, creating spontaneous and immediate expressions. Similarly, the Pinacoteca features works by outsiders, documenting their eccentric passions and stylistic obsessions.

PAV – PARCO DI ARTE VIVENTE VIA GIORDANO BRUNO 31, TORINO

2 July, 15:00 - 18:00
3-4 July, 10:00 - 18:00

Workshop_16 PAV_Ecoaction

PAV – Parco d'Arte Vivente, in collaboration with Parco Fluviale del Po, Torino, Italy

By reservation only

Brandon Ballengée will lead the group in a field trip to an area close to the city, in search of amphibians. This ecological project, between art and biology, aims to observe and document the malformations in some species. These activities are called "Ecoactions", and involve audience in debates on climate issues. Ecoactions are documented by photos, videos and collected specimens. By reservation only (tel. +39 011 3182235).

6 July, 19:00 (opening)
7 July-26 September, 15:00 - 19:00

Praeter Naturam

PAV - Parco d'Arte Vivente and Brandon BallengéeTorino, Italy

This is the first solo exhibition in a public institution of the American artist Brandon Ballengée, a protagonist of Bio-art and a biology researcher himself. The title means "Beyond nature" in Latin, and it refers to amphibian species with deformations in tissues and joints analyzed in recent studies. These deformities are due to pollution and other environmental hazards.
Public conference with Brandon Ballangée: 5 July, 18.30, Conference room, Museo Regionale di Scienze Naturali, Via Giolitti, 36, Torino, Italy.

7 July, 10:00/15:00 (guided tours)
7 July, 11:00/16:00 (laboratories)

Creative Biology and Bio Jelly Pop

PAV - Parco d'Arte Vivente, in collaboration with Fondazione per le Biotecnologie, Torino, Italy

In this activity, biological structures are disassembled, analyzed and then experienced in new sensory ways. Scientific and artistic-expressive practice are joined, while participants extract DNA from some vegetables and then recreate it as a sculpture made of agar – another biological molecule. Free entry, by reservation only (tel. +39 011 3182235).

Information on opening hours and tickets:
www.parcoartevivente.it

EXHIBITION

Exhibition Area Events – Innovation Arena

4 July, 10:30 - 11:45

IncoNets: aims and potential of the Western Balkan and Eastern Europe/Central Asia

This session will give an overview on the International Cooperation scheme in FP7 and the INCO projects on bi-regional coordination research co-operation funded within this scheme. The WBC-INCO.NET (www.wbc-inco.net) is a project which enhances the integration of the Western Balkan countries in the European Research Area. IncrEAST (www.increast.de) is designed as unique access point to the S&T landscape of Eastern Europe and Central Asia.

ORGANIZER
Centre for Social Innovation

SPEAKERS
Silvo Korez and **Zeljka Dukic,** WBC-INCO.NET
Maria Josten, DLR, Germany

4 July, 14:15 - 15:30

Global ESOF: a digital bridge connecting Barcelona, Torino and Dublin

Global ESOF (www.globalesof.com) is a new project aimed at harnessing, filtering, organizing and showcasing on the web the burst of knowledge and science of ESOF2010. We are a multimedia, 2.0 digital news magazine, with an international perspective. Global ESOF is promoted by Global Talent (www.globaltalentnews.com), media partner of ESOF2010.

ORGANIZER
Global Talent

SPEAKERS
Luca Tancredi Barone, Michele Catanzaro and Josep Pérez Rosselló, Global Talent, Spain

5 July, 10:30 - 11:45

CommNet: a passion for food science

World-wide television programmes and media bombard the public with the latest advice on what to eat or not eat. An alliance of ten EU projects will discuss hot topics in food quality and safety for lifelong health and well-being using Italy's most famous export – pasta - to entertain, inform and influence. Interactive audience voting and Q and A will guarantee a lively session.

ORGANIZER
CommNet – Food science communicators' network (www.commnet.eu)

SPEAKERS
Rhonda Smith, Minerva PR & Communications Ltd, UK
Irene Cetin, University of Milan, Italy
Adriana Maggi, University of Milan, Italy

5 July, 14:15 - 15:30

Betting on the unexpected

The AXA Research Fund was created in 2008 to boost scientific progress and discoveries that contribute to understand and prevent environmental, life and socio-economic risks. Pursuing an innovative and unusual line of research, thinking across boundaries using breakthrough ideas requires a combination of risk-taking with a high degree of flexibility, for both the funders and the researchers.

ORGANIZER
AXA Research Fund (www.axa-research.org)

SPEAKERS
Anne-Juliette Hermant, Head of the AXA Research Fund, France
Miroslav Radman, INSERM, France
Yann Le Cunff, UMR n°7592 CNRS – Paris-Diderot, France

6 July, 9:00 - 10:15

The newly founded Karlsruhe Institute of Technology (KIT): excellence in natural sciences and engineering

The KIT was founded on 1 October 2009 by Forschungszentrum Karlsruhe, a research center of the Helmholtz Association, and Universität Karlsruhe. Its research facilities include centres on energy, nano-micro, elementary and astroparticle physics, climate and environment, computation, mobility systems, optics and photonics. Find out about the German Excellence Initiative and our intramural funding schemes for the promotion of young scientists.

ORGANIZER
Karlsruhe Institute of Technology (KIT), www.research.kit.edu

SPEAKER
Michael Kleinschmidt, Head of KIT Research Office

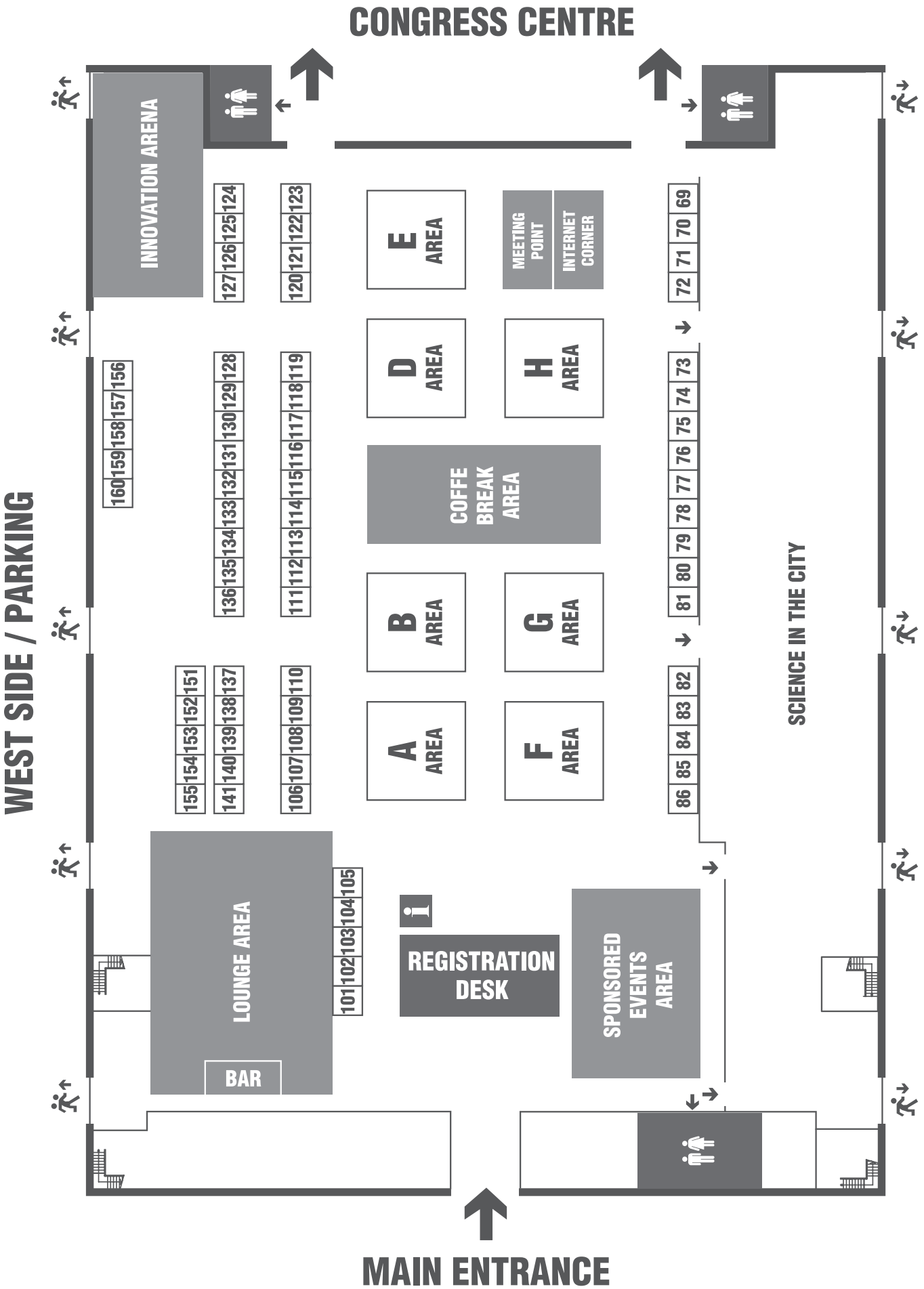
6 July, 14:15 - 15:30

LifeWatch: what's in it for me?

The future European Research Infrastructure LifeWatch will construct and bring into operation the facilities, hardware, software and governance structures covering alle the facets of biodiversity research. LifeWatch will be there for scientists as well policy makers, for marine and terrestrial research, for local and global interests.

ORGANIZER
LifeWatch (www.lifewatch.eu)

SPEAKERS
Olaf Banki, University of Amsterdam, The Netherlands
Katalin Török, Hungarian Academy of Sciences, Hungary
Christos Arvanitidis, Institute of Marine Biology and Genetics and Hellenic Centre for Marine Research, Greece
Oliviero Spinelli, Comunità Ambiente, Italy


CONGRESS CENTRE
INNOVATION ARENA
WEST SIDE / PARKING
EAST SIDE / VIA NIZZA
SCIENCE IN THE CITY
E AREA
D AREA
H AREA
B AREA
G AREA
A AREA
F AREA
COFFE BREAK AREA
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List of Exhibitors

AAAS - Science
Contact: **membership@aaas.org**
www.sciencemag.org & www.aaas.org

Since its founding in 1848, the American Association for the Advancement of Science (AAAS) and its members have worked together to advance science and serve society. As part of these efforts, AAAS publishes Science, a multidisciplinary peer-reviewed journal, featuring scientific research articles and reports and providing commentaries on recent news and events from around the world. To find out more about AAAS and pick up a copy of Science visit our booth today!
Booth 106

Aarhus University
Contact person: **Ulla Gjørling**
www.au.dk

Aarhus University is a leading European research university managing sixteen Centres of Excellence supported by the Danish National Research Foundation, two European Research Council Advanced Grants and several ERC Starting Grants. Our institution committed to excellence and to providing opportunities to an ever-increasing number of highly qualified early career researchers. As evidence of the successful research carried out at the university, Professor Jens Christian Skou was awarded the 1997 Nobel Prize in chemistry for his mapping of the sodium-potassium pump.
Booth 127

Agorà Scienza - Interuniversity Centre for the dissemination of scientific culture and the public engagement in science
Contact person: **Andrea De Bortoli**
www.agorascienza.it

Agorà Scienza is one of the organizers of ESOF2010. Established in 2006 by the University of Torino, in 2009 Agorà Scienza became an Interuniversity Centre of all the universities of the Piedmont Region (with Torino Polytechinc, University of Piemonte Orientale, University of Gastronomic Sciences). Its mission is to promote scientists' commitment to society and scientific communication and to promote the "third mission" of the Universities in Italy. The Centre covers four main areas: research (sociological studies and surveys of the different targets of scientific information, and of the public perception of science), training (summer schools in science communication), education (training workshops for science teachers and a deliberative democracy project for high schools), dissemination (public conferences, and participation to the European Researchers' Night in Torino every year).
Booth 78

AlphaGalileo Foundation
Contact person: **Peter Green**
www.alphagalileo.org

AlphaGalileo Foundation is Europe's leading online source of research news. The service provides a one–stop shop for the world's media providing them with news and background on all aspects of European research from science, the arts, applied science, medicine, social sciences and the humanities. We distribute news releases, event details, announcements of new books and multimedia items from Europe's research institutions and make them available to the world's press and broadcasting media. We provide 24/7 access to research news and accept material under embargo, from peer-reviewed journals and in all languages. The service is free to the media. Over 7,500 journalists are registered to our service. Research organisations subscribe, either individually or via national research funding bodies.
Area C

BioVision, the World Life Sciences Forum
Contact person: **Elise Tabet**
www.biovision.org

BioVision is a three-day international forum, held in Lyon every two years. It aims: to explain Life Sciences discoveries and discuss their societal and ethical implications with all stakeholders: scientists, industry leaders, national and international policy-makers and civil society; to engage key international leaders from different backgrounds in debates on global issues involving science and society; to build tomorrow's Life Sciences community with young scientists thanks to the BioVision.Nxt fellowship programme; to foster discussion between the four communities involved by offering networking opportunities during the forum and beyond, through the Internet. BioVision offers a multifaceted perspective on current and tomorrow's health and environmental challenges where Life Sciences can make a difference. It is a unique opportunity to enrich one's network with contacts from different backgrounds and geographical horizons. BioVision 2011 will take place on March 27-29 in Lyon, France.
Booth 76

Bizkaia:xede
Contact person: **Amaia Etxebeste**
www.bizkaiaxede.org

Bizkaia:xede is a non-profit associative initiative promoted by the Regional Government of Biscay, in collaboration with a group of major Biscayan companies and universities. Our mission is to introduce and reinforce the conditions and processes to attract, retain and engage talent, fostering the fields of innovation and advanced knowledge in organizations in Biscay. Our strategy for the management of talent in Bilbao-Biscay seeks: to implement a local ecosystem favorable to talent; to make Biscay a choice destination-brand amongst professionals, creators and researchers in strategic areas for the development of this community; to provide services and programs that facilitate the identification, access and incorporation of the talent required in organizations and projects in Biscay; to create and develop social networks and communities of practices; to facilitate coordination and interaction with public and private bodies in all those schemes related to our mission; to draw up recommendations on public policy and take part in the formulation of talent management policies.
Booth 73-74

Centre for Social Innovation
Contact person: **Silvo Korez**
www.wbc-inco.net

The Centre for Social Innovation (ZSI) dedicates its exhibition stand to the presentation of the WBC-INCO.NET, an FP7 project coordinated by ZSI. The WBC-INCO.NET - Co-ordination of Research Policies with the Western Balkan Countries enhances the integration of the Western Balkan countries in the European Research Area. Its core objectives are to support the bi-regional dialogue on S&T, to identify the region's RTD potentials and priorities and to enhance participation of researchers from the region in European projects of mutual interest and benefit. The project activities are achieved in close interaction with the Steering Platform on Research for the Western Balkan countries. At the WBC-INCO.NET stand, visitors will be able to collect information material and to see a film about the project. Of course, the WBC-INCO.NET representatives are also at your disposal for any questions that might occur.
Booth 115

CentroScienza Onlus
Contact person: **Laura Celeghin**
www.centroscienza.it

CentroScienza Onlus, one of the organizers of ESOF2010, is a non-profit organisation of social utility founded in 1996 by university professors, journalists and science museum professionals. The association's initiatives have considerably expanded and diversified. Today, CentroScienza Onlus is an actor recognised by scientific institutions and community for its proven capacity to organise and run activities for the diffusion of scientific and technological culture. Since 1997 CentroScienza Onlus has been a member of ECSITE, the European network of science centres and museums, with which it has carried out international projects like Decide and Places. Its traditional GiovedìScienza lecture cycle – probably the largest in audience and one of the oldest in Europe, with 366 meetings in 25 editions – will soon be available in English in the repository section of its website (www.giovediscienza.org).
Booth 77

Città di Torino - Provincia di Torino - Regione Piemonte
Contact person: **Francesca Soncini**
www.torinoplus.it
www.regione.piemonte.it
www.piemonteitalia.eu
www.provincia.torino.it

A multi-media system will project you into the "quadrisphere!" Thanks to a complex play of mirrors, with exciting sounds and fascinating images, you will be able to attend a multi-projection and a technological kaleidoscope. You will be able to discover the places of interest of Torino and Piedmont: the 15 Royal residences listed by Unesco as World Heritage Sites, art and culture in museums and exhibitions, from archaeology to modern art, as well as the countless gastronomic itineraries that testify to the excellencies of taste, thanks to a tradition of wine and good food that must be tried. The parks, the hills, the lakes and the mountains that hosted the Olympic Games provide a backdrop to an ever-changing area, mantaining traditions while also becoming a magnet for innovation and a centre for the creation and dissemination of knowledge. Interviews with scientists will accompany you in your discovery of the scientific DNA of Torino and Piedmont – from physics to life sciences and nanotechnology, from ICT to aerospace, automotive engineering and design.
Area A

CNR - Consiglio Nazionale delle Ricerche (National Research Council)
Contact person: **Francesca Messina**
www.cnr.it

Italy's largest public research institution is carries out multidisciplinary activities through its 11 Departments and 108 Institutes located all over the country. CNR promotes innovation, internationalization and solutions for both the public and private needs.
Booth 116-117-118-119

Compagnia di San Paolo

Contact Persons: **Francesca Contini, Giulia Coss, Francesca Guala**
www.compagniadisanpaolo.it

The Compagnia di San Paolo was founded in war-torn and poverty-stricken Torino in 1563 as a brotherhood committed to alleviating the suffering of the local population. It soon gained recognition and became the recipient of continuous donations and bequests. Nowadays the Compagnia's mission consists in supporting development through the enhancement of the quality of life and improving the quality of life through development in the local community. The notion of development is far-reaching and includes many contributing factors, from education to scientific research, from social policy to culture and the arts. The Compagnia's main partners are civil society organisations, but public institutions play a significant role as well. The Compagnia operates mainly through targeted grant-making and direct projects and supports larger programmes also at European and international level. The stand presents the current activities of the Compagnia and of its operating bodies: Fondazione per la Scuola, Collegio Carlo Alberto, Istituto Superiore Mario Boella, Istituto Superiore sui sistemi Territoriali per l'innovazione (SiTI), Human Genetics Foundation (HuGeF).
Area F- G

EIROforum

Contact Person: **Chris Warrick**
www.eiroforum.org

EIROforum is a partnership among the seven European intergovernmental research organisations: CERN, EFDA-JET, EMBL, ESA, ESO, ESRF and ILL. The organisations are world leaders in basic research and in managing and operating large research infrastructures and facilities. By working together, each organisation exceeds its individual impact and stimulates Europe's ambition for scientific and technological excellence across national borders. The EIROforum partnership focuses on three clear-cut objectives: contribute to the pursuit of the Lisbon Agenda together with members of the European Union and national governments; exchange expertise among partnership members and industry, stimulate innovation and transfer of technology and foster researcher mobility; promote inspirational science teaching and public engagement of science by communicating the subject's importance and fascination to a wide audience and encouraging young people to explore science.
Booth 139-140-141-153-154-155

Engineering and Physical Sciences Research Council

Contact person: **Talit Ghaffar**
www.epsrc.ac.uk

The Engineering and Physical Sciences Research Council (EPSRC) is the main UK government agency for funding research and training in engineering and the physical sciences. Working with UK universities, it invests around £800m a year in world class research and training that has real impact on future economic development and improved quality of life. EPSRC's portfolio of research projects includes more than 2,000 partnerships with organisations from the industrial, business and charitable sectors. More than 35 per cent of our research funding includes collaborative partners. EPSRC knowledge transfer goals include: enhancing opportunities for business/university research collaborations to accelerate knowledge transfer; ensuring postgraduate skills meet the needs of business through increased demand-led and collaborative training; strengthening partnerships with business to improve knowledge transfer.
Booth 126

EurekAlert!

Contact person: **Tiffany Montero**
www.EurekAlert.org

EurekAlert! is an online, global news service operated by the American Association for the Advancement of Science. EurekAlert! provides a central place through which universities, medical centres, journals, government agencies, corporations and other organizations engaged in research can bring their news to the media. EurekAlert! also offers its news and resources to the public. EurekAlert! features news and resources focused on all areas of science, medicine and technology. As the global source for the advanced word of discoveries in science, medicine and technology, thousands of reporters rely on EurekAlert! for information from the world's leading peer-reviewed journals, universities, medical centres and other research organizations. EurekAlert! offers an effective means to disseminate news to reporters and the public worldwide.
Booth 107

European Commission
Contact person: **Tonia Jimenez**
http://ec.europa.eu/research/index.cfm?lg=en

The Europe Commission is investing in research and technological development. This is our way to contribute to the international competitiveness of Europe. The mission of the Directorate General of Research and Development is to make the European Research Area a reality. We are promoting the understanding of the role of science in modern societies. We want to stimulate the public debate about research-related issues at European level. That's why we are one of the biggest supporters of ESOF. Our strongest tool for European progress in science is the Framework Program for research and technological development. Its base are consultations with the scientific community, research and policy making institutions. The Seventh Program is the largest ever. Running from 2007 to 2013, it has a budget of 53.2 billion Euros. Learn more about your possibilities in the European Research Area: we would be glad to help you to reach your goals.
Area B

European Research Infrastructures Network of National Contact Points
Contact person: **Dora Farmaki**
www.euroris-net.eu

The EURORIS NET project is a network of more than 30 National Contact Points (NCPs) dealing with the Seventh Framework Programme - Research Infrastructure (RI) action. Our objective is to provide support for efficient implementation of the RI action and to promote the best utilization of Research Infrastructures in Europe. The role of the Network is: to foster cooperation among NCPs; to upgrade the professional skills of the NCPs at European level, to improve their coherent activitie; to improve the NCP services for the benefit of the RIs users and to support the newcomers to the RI Programme; to support the project proposers across Europe; to increase the visibility of the RI Programme at pan-European level; to enhance networking and synergies with other FP7 NCPs networks for the promotion of capabilities offered by RIs.
Booth 75

European Science Foundation
Contact person: **Chloe Kembery**
www.esf.org

The European Science Foundation (ESF) is an independent, non-governmental organisation that promotes collaboration in scientific research, funding of research and science policy across Europe. Established in 1974, its member organisations are 79 national funding bodies, research-performing agencies, academies and learned societies from 30 countries. Through its activities and influential membership, the ESF creates a common platform for cross-border cooperation and it has made major contributions to science globally. The ESF covers: social sciences and humanities, life, earth and environmental sciences, medical sciences, and physical and engineering sciences. Join our sessions discussing research careers, and maths and industry.
Booth 81

Euroscience and ESOF Hub
Contact persons: **Janna Wallander and Raphaela Kitson-Pantano**
www.euroscience.org; www.esof.eu

Euroscience is the founding association of ESOF and the ESOF Hub is the permanent ESOF structure that ensures continuity from one ESOF event to the next. If you would like to find out more about Euroscience or about the next ESOF editions, ESOF2012 and ESOF2014, come meet the Euroscience and ESOF Hub staff at our stand every day. Q&A sessions will be held on the history of Euroscience, the future of ESOF, the involvement of Euroscience in Research Policy etc. Also, free ice cream will be provided. So check out our programme online or at the stand and contact us if you require any additional information on esof@euroscience.org. See you soon at the Euroscience/ESOF Hub stand!
Booth 122- 123

Euroscience Open Forum 2012
Contact person: **Justin Sinnott**
www.dublinscience2012.ie

Dublin is delighted to be hosting ESOF2012, from 12-16 July, 2012. The event will bring together scientists, business, government officials and media and to discuss advances in science and technology and the major global issues of our time: energy, climate, environment, food and health; a veritable melting-pot of disciplines and ideas. The event will be held in the centre of Dublin in the new national convention centre, which incorporates state-of-the-art facilities. Dublin blends over one thousand years of history and heritage with a modern, cosmopolitan city. A ten-year programme of investment in science has created world-class research centres, with particular strengths in ICT and biotechnology. Renowned for its friendliness and the richness of its social and cultural life, Dublin will deliver a programme in 2012 that will be intellectually, culturally and socially invigorating for delegates. So, come to Dublin for ESOF2012 and stay on in Ireland for the craic!
Booth 121

Ewing Marion Kauffman Foundation
Contact person: **Katie Petersen**
www.kauffman.org

The Ewing Marion Kauffman Foundation is a private nonpartisan foundation that works to harness the power of entrepreneurship and innovation to grow economies and improve human welfare. Through its research and other initiatives, the Kauffman Foundation aims to open young people's eyes to the possibility of entrepreneurship, promote entrepreneurship education, raise awareness of entrepreneurship-friendly policies, and find alternative pathways for the commercialization of new knowledge and technologies. It also works to prepare students to be innovators, entrepreneurs and skilled workers in the 21st century economy through initiatives designed to improve learning in math, engineering, science and technology. Founded by late entrepreneur and philanthropist Ewing Marion Kauffman, the Foundation is based in Kansas City, Mo. (USA) and has approximately $2 billion in assets. For more information, visit the website and follow @kauffmanfdn on Twitter.
Booth 82

FAS – FORMAS - VETENSKAPSRÅDET-VINNOVA

Contact person: **Gustav Löfgren**
www.fas.se
www.formas.se
www.vr.se
www.vinnova.se

FAS, The Swedish Council for Working Life and Social Research, is a government agency initiating and funding basic and applied research about working life, public health, welfare, caring services and social relations.
FORMAS, The Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning, is a government agency promoting excellence in basic and need-driven research related to sustainable development.
VETENSKAPSRÅDET, The Swedish Research Council, is a government agency funding basic research of the highest scientific quality in all disciplines.
VINNOVA, The Swedish Governmental Agency for Innovation Systems, has the task of funding the needs-driven research that a competitive industry require, as well as strengthening the networks that are a necessary element of this work.
Booth 85-86

Generalitat de Catalunya (Government of Catalonia)

Contact person: **Esther Alsina**
www.gencat.cat/recerca

The Department of Innovation, Universities and Enterprise (DIUE) is responsible for many of the strategic areas of government that will make Catalonia even more competitive, transforming a traditional production-based economy into a knowledge-based one. We have channelled policies for innovation and international growth giving support to enterprises. We also monitor the quality of our university system (over 225,000 students and 16,000 staff), an undeniable source of talent and entrepreneurship, while also supporting research as a driving force for economic and social progress.
Booth 79-80

Global Talent

Contact person: **Michele Catanzaro**
www.globaltalentnews.com

Global Talent is a digital platform launched in 2009 by Talència, the Catalan Foundation for Research and Innovation, to respond to the challenges in spreading science, raising awareness of the importance of research and innovation for the country, as well as projecting internationally the Catalan research and innovation system. Global Talent was designed to become the backbone of the social knowledge of science in Catalonia, incorporating the latest Web 2.0 technologies and a team of experienced professionals of scientific communication. Our goals include reaching a strong position in the international scientific mediasphere, especially thanks to its multilingual versions, including English and Spanish.
Booth 160

INFN - Istituto Nazionale di Fisica Nucleare (National Institute for Nuclear Phisics)

Contact person: **Simona Bortot**
www.infn.it

The community of physicists working on high energy physics in Italy is organised under the National Institute of Nuclear Physics (INFN), with approximately 5,000 researchers, most of whom work in collaboration with universities. The INFN is the institute responsible for promoting, coordinating, and developing scientific research in the field of nuclear physics, subnuclear physics, and astroparticle physics. INFN has 20 local divisions, a national computing centre (Cnaf), and four large national laboratories in Legnaro (Veneto), Gran Sasso (Abruzzo), Frascati (Lazio), and Catania (Sicily). Furthermore, the INFN, together with the French National Centre for Scientific Research (CNRS), has created the European Gravitational Observatory (EGO) outside Pisa. INFN takes part in the world's major scientific endeavours and has direct collaborations with USA, Germany, France, China, Russia, Brazil, Argentina, Japan, India, Switzerland, Spain, Poland, the Czech Republic, Slovakia, Romania, Bulgaria, Israel, Vietnam and Australia.
Booth 108

International Bureau of the German Federal Ministry of Education and Research

Contact person: **Olaf Heilmayer**
www.inco-eeca.net

The aim of the FP7 funded EU project IncoNet EECA is primary the extension of the European Research Area by strengthening the scientific and technological cooperation between the EU Member States (and Associated Countries) and Eastern European and Central Asian countries. To achieve its goals, the IncoNet EECA project will implement activities at both the policy and operational level. At the policy level the project will support the bi-regional dialogue through the organization of a series of Policy Stakeholders Conferences involving both policy makers and the scientific community. These conferences will address priority setting, mutual learning and future challenges. The existing policy framework for cooperation will hereby be highlighted and improved. To develop new opportunities and links between the scientific and research communities of the countries involved, special will be given to S&T.
Booth 113-114

International Institute for Applied Systems Analysis (IIASA)

Contact person: **Leane Regan**
www.iiasa.ac.at

The International Institute for Applied Systems Analysis (IIASA), based near Vienna, Austria, provides objective, science-based information for the benefit of industry, governments, the public and research communities. Scientists and academics from around the world develop and apply global databases, integrated assessment and analytical tools to investigate critical issues of global change that cannot be tackled by individual countries or disciplines, such as climate change, land use, forestry, food, energy, population and evolution. Issues are studied at multiple levels with an emphasis on providing regional policy and management options. Funded largely by science organizations in seventeen countries, IIASA claims non-governmental status and is well placed to provide non-political and unbiased perspectives on a wide range of transnational issues. IIASA's Young Scientists Summer Program offers graduates and post-doctoral students an opportunity to gain experience and develop contacts in their chosen fields.
Booth 109

ITER

Contact persons: **Veronique Marfaing & Sabina Griffith**
www.iter.org

The ITER experiment (ITER means "the way" in Latin) is designed to demonstrate the scientific and technological feasibility of fusion energy for peaceful purposes. Following on from today's largest fusion experiments worldwide, ITER aims to provide the know-how to build the first electricity-generating power station based on magnetic confinement of high temperature plasma – in other words, to capture and use the power of the Sun on Earth. ITER will be constructed in Cadarache, in the South of France.
Booth 128-129-130

Johnson & Johnson Pharmaceutical Research & Development

Contact person: **Kris Verhoven**
www.jnjpharmarnd.com

Imagine a world where cancer, Alzheimer's disease or other devastating conditions are just a memory. Such a world is our hope and we're working on medical advances to make this a reality. At Johnson & Johnson Pharmaceutical Research & Development, a division of Janssen Pharmaceutica NV, we are committed to contributing to and harnessing the best science, wherever it can be found to overcome major health threats. We strongly believe that collaborative innovation across sectors, companies, universities and research institutes can generate tremendous progress and speed the development of new health solutions for those in most urgent need.
Area C

Karlsruhe Institute of Technology (KIT)

Contact Person: **Michael Kleinschmidt**
www.kit.edu

The Karlsruhe Institute of Technology (KIT) represents the merger of the Universität Karlsruhe, in the State of Baden-Württemberg, with the Forschungszentrum Karlsruhe, a National Research Center of the Helmholtz Association. Both partners are joining their forces in KIT in order to achieve an unprecedented quality of cooperation. With about 8,000 employees and an annual budget of more than half a billion Euros, KIT has the potential of becoming a leading institution in top research and excellent academic training. KIT is creating structures that enable science to develop and implement new ideas in interdisciplinary forums. Research capacities are bundled in the KIT Centers of Energy, NanoMicro, Elementary particle and Astroparticle Physics, and Climate and Environment as well as in the KIT Focuses of COMMputation, New and Applied Materials, Mobility Systems, Man and Technology, and Optics and Photonics.
Booth 111-112

Karolinska Institutet

Contact persons: **Sabina Bossi, Camilla Magnusson, Gunhild Kullenberg**
www.ki.se

Karolinska Institutet is one of the world's leading medical universities. Its mission is to contribute to the improvement of human health through research and education. Karolinska Institutet accounts for over 40 per cent of the medical academic research conducted in Sweden and offers the country's broadest range of education in medicine and health sciences. Since 1901 the Nobel Assembly at Karolinska Institutet selects the Nobel laureates in Physiology or Medicine.
Booth 83-84

LifeWatch

Contact person: **Koen Van Muylem**
www.lifewatch.eu

LifeWatch is a consortium of institutions and organisations acting on behalf of a number of European States and scientific networks dedicated to preparing the construction of a research infrastructure for biodiversity and ecosystem research. Its objective is to accelerate scientific progress and societal use of such science by operating facilities for the integration, analysis and modelling of (molecular, species and ecosystem) data, allowing users to build virtual collaborative environments for their specific modelling and analysis purposes. Key elements of the infrastructure will consist of distributed observatories, sensors, interoperable databases, processing and analytical tools, computational capability and capacity. Virtualisation of external data, software and computational resources is based on cooperation agreements with European and international partner facilities. The mission of LifeWatch is to construct and operate a distributed infrastructure for biodiversity and ecosystem science based upon Europe-wide strategies implemented at the local level: individuals, research groups, institutions, countries.
Booth 156-157

Nanyang Technological University
Contact person: **Mark Sinn**
www.ntu.edu.sg

Nanyang Technological University (NTU) is a research-intensive university with globally acknowledged strengths in science and engineering. The university has roots that go back to 1955, when Nanyang University was set up. Today, NTU has four colleges with 12 schools, and three autonomous entities, the National Institute of Education, the S. Rajaratnam School of International Studies, and the Earth Observatory of Singapore. NTU provides a high-quality global education to more than 21,700 undergraduates and 9,400 graduate students. The student body includes top scholars and international olympiad medallists from the region and beyond. Hailing from 55 countries, the university's 2,700-strong teaching and research staff brings dynamic international perspectives and years of solid industry experience.
Booth 137-138

National Research Fund Luxembourg (FNR)
Contact person: **Michèle Jentges-Glesener**
www.fnr.lu, www.afr.lu

Since 1999, the National Research Fund Luxembourg (FNR) has succeeded in developing various thematic and structural funding instruments that helped to construct Luxembourg's reputation as a research site. The FNR has thus implemented various Research Programmes, through which projects in priority areas for Luxembourg are financed, as well as accompanying measures, through which scientific conferences, publications, trainings or other smaller activities may be financed. More and more importance is also given to the promotion of scientific culture, for example through Luxembourg's Science Festival. The FNR is also in charge of allocating the AFR Grants, with the objective to financially support PhDs and postdocs in their training and by giving them access to working contracts. AFR has no thematic limitations and is open to all researchers who wish to engage into research training in Luxembourg or abroad. The interest of the project in the context of Luxembourg R&D will nevertheless be evaluated.
Booth 120

Nature Publishing Group
Contact person: **Hannah Phipps**
www.nature.com

Nature Publishing Group (NPG) brings leading scientific and medical research to your desk top. The NPG portfolio combines the continued excellence of Nature, its associated research and review journals, and 50 leading academic and society journals in the life, physical and clinical sciences. NPG also provides news content through Nature News and scientific career information through Naturejobs. Visit the NPG stand to pick up your free sample copies, subscribe at the conference rate, or enquire about advertising opportunities in any NPG title.
Booth 101

Politecnico di Torino
Contact person: **Elisa Tinozzi**
www.polito.it

The Politecnico di Torino goes back 150 years. It is one of the most important universities in Europe for engineering and architecture, strongly committed to collaboration with industry. 28,000 students attend the Politecnico per year, about 12% of them are international students coming from 100 countries. The Politecnico offers excellence in technology and promotes the ability to carry out theoretical or applied research and also the capacity to achieve reliable productive processes or organise services and facilities. Politecnico di Torino offers a multicultural study environment and has a close relationship with the business world, which works with us on many projects giving students the opportunity to gain work experience. The "Cittadella politecnica" is a new campus area where research, teaching and training go hand in hand with student services as well as financial and cultural activities. The Business Research Center inside the Cittadella produces cutting-edge research for international corporations, while the Venture Capital Section gives research the backing it needs to develop.
Area D

RAI Radio3 Scienza
Contact person: **Rossella Panarese**
www.radio3scienza.rai.it

Radio3 Scienza is a daily programme dealing with science produced by the Italian radio channel Rai Radio3. On 3, 4 and 5 July, from 11.00 to 11.30, we will broadcast live from ESOF2010 with interviews, debates and analysis about science and its impact on society. The public is always welcome. Radio3 Scienza is produced by Rossella Panarese, Silvia Bencivelli, Costanza Confessore and Andrea Gentile are the editorial staff.
Booth 159

Research Europe
Contact person: **Therese Claffey**
www.researchresearch.com/europe

Research Europe is the only independent source of news, analysis and funding opportunities for researchers and policymakers in Europe. Available in print and online, it has been published continuously since 1996. Hundreds of senior researchers, research administrators and policymakers from Europe and elsewhere need to keep a close track of European research programmes. They turn to Research Europe for: news, analysis and comment on the research programmes of the European Union, including the Framework Programme and European Research Council; insight into the personalities and ideas behind EU policy-making; opinion pieces by the leaders who shape EU research policy – and their critics; a genuinely European perspective on major national research policy developments, from university reforms in France to rapid research expansion in Ireland; the most comprehensive database of research funding opportunities from the European Commission and from hundreds of other sponsors worldwide.
Booth 124

Research in Baden-Württemberg

Contact: **Annegret Trettin**
www.study-guide-bw.de

Baden-Württemberg is one of Europe´s top regions in terms of innovation. The German Southwest is particularly involved in promoting science and education. 4.4 % of the State's GDP is invested in research and development – more than in most countries around the world. Research institutes and companies are at the forefront of technological progress. Their areas of expertise cover a broad spectrum from basic to applied research, with their mutual influence being enhanced by an advanced system of technology transfer. Furthermore, cluster strategies and the emphasis on an interdisciplinary approach result in fruitful synergies. Finally, Baden-Württemberg offers the highest density of research institutions and universities in Germany. Their worldwide reputation as centers of excellence is well-deserved. Visit our booth to meet representatives from the German Cancer Research Center, Max Planck Institute for Biological Cybernetics, University of Konstanz and the Universities of Applied Sciences Karlsruhe, Mannheim, Schwäbisch Gmünd and Ulm!
Booth 134-135-136

Research in Germany

Contact person: **Ruth André**
www.research-in-germany.de

Germany has a tradition of outstanding research and development. The following organisations will be present at the "Research in Germany" booth:
German Academic Exchange Service (DAAD). One of the world's largest intermediary organisations, DAAD promotes the international relations of Germany's higher education institutions by funding the exchange of students and scholars and by running international programmes and projects (www.daad.de).
German Research Foundation (DFG). It is the self-governing organisation for science and research in Germany, serving all branches of science and the humanities (www.dfg.de).
Helmholtz Association. The Helmholtz Association is Germany's largest scientific research organisation with an annual budget of more than 3 billion. The Association performs cutting-edge research which contributes substantially to solving the grand challenges of science, society and industry (www.helmholtz.de)
Booth 131-132-133

RIKEN (The Institute of Physical and Chemical Research)

Contact person: **Saeko Okada**
www.riken.jp/engn

RIKEN is one of Japan's largest research organizations with institutes and centres in various locations throughout the country. RIKEN conducts basic and applied research in a wide range of scientific and technological fields including physics, chemistry, medical science, biology, and engineering. More than 3,000 scientists at RIKEN represent a broad spectrum of disciplines and publish several hundred research papers in leading scientific and technical journals every year. RIKEN was originally founded as a private research institution in 1917; in time its administrative organization has evolved and changed, and in 2003 it was designated an Independent Administrative Institution (IAI), a new type of organization under the auspices of the Japanese government but with considerable autonomy. RIKEN is also a global institution and welcomes researchers from all over the world.
Booth 102-103

Swiss National Science Foundation (SNSF)

Contact persons: **Kathrin Sterchi and Andreas Sutter**
www.snf.ch

The Swiss National Science Foundation (SNSF) is Switzerland's leading provider of scientific research funding. The SNSF annually supports some 7,200 researchers, 5,700 of whom are aged 35 years or under. With its federal mandate, it supports basic research in all disciplines, from philosophy and biology to nanoscience and medicine. It also invests in applied research in various scientific fields. The focus of its activities is the scientific endorsement of projects submitted by researchers. Established in 1952 as a foundation under private law, the SNSF has the autonomy it needs to promote independent scientific research. The SNSF is committed to promoting young scientists and works to ensure that scientific research in Switzerland has the most favorable conditions for developing internationally. It also encourages dialogue between scientists and representatives in society, politics and the economy.
Booth 69-70-71-72

Top Level Research Initiative

Contact persons: **Melita Hasle and Anne Riiser**
www.toppforskningsinitiativet.org

The Top Level Research Initiative is a joint Nordic program on top research and innovation with a focus on climate and energy. As a joint venture between business and science, it provides an example of what should be prioritized on the European level – challenge-responding issue-oriented research and innovation. It is organized in cooperation between NordForsk, Nordic Innovation Centre and Nordic Energy Research. Together they form a Nordic Centre in Oslo owned by the Nordic Council of Ministers, through which the Ministries in the five Nordic countries cooperate. The Top Level Research Initiative is the largest joint Nordic research and innovation venture ever. It includes a broad range of programs, from basic research to innovation and development. The ambition is to produce results through co-ordination and dialogue between researchers in the five countries, involvement of national agencies and industry.
Booth 104-105

Trans-national co-operation among National Contact Points for Marie Curie Actions (PEOPLE NCPS)

Contact person: **Smadar Hirsh**
www.fp7peoplenetwork.eu

Inaugurated on 1 August 2008. PeopleNetwork Project reflects the transnational co-operation among the National Contact Points for Marie Curie Actions under PEOPLE programme of the EU's Seven's Framework Programme (FP7). PeopleNetwork partners include 20 organisations from 18 countries as beneficiaries and 23 organisations from 19 countries as associated partners. ISERD - The Israeli Directorate for the EU Framework Program is the project coordinator. PeopleNetwork aims at creating a unified and knowledgeable network of National Contact Points by a set of activities: identifying, promoting and exchanging of best practices; networking and training activities; strengthening industrial participation in the PEOPLE Programme; enhancing and improving relationships with stakeholders, EURAXESS Services Networks and NCP networks from other thematic priorities and the EC.
Booth 75

TÜBiTAK - The Scientific and Technological Research Council of Turkey

Contact person: **Tarık Şahin**
www.tubitak.gov.tr

The Scientific and Technological Research Council of Turkey (TÜBİTAK) is the leading agency for promoting, funding and performing research and development in line with national priorities and in cooperation with all segments of the society and with the related institutions, in order to increase the country's competitive edge and raise the standard of living in sustainable ways in Turkey. TÜBİTAK acts as an advisory agency to the Turkish Government and is the secretariat of the highest science and technology policy-making body in Turkey. Moreover, TÜBİTAK represents Turkey concerning S&T and has been assigned officially by the Turkish Government as the contact organization for the EU Framework Programmes. TÜBİTAK performs R&D in cooperation with and for universities, industry and public sector through its eleven R&D institutes. Alongside these missions, TÜBİTAK is the leading agency for development and dissemination of scientific culture and contributing towards the adoption of a scientific approach by society.
Booth 151-152

UNESCO Office in Venice – Regional Bureau for Science and Culture in Europe (BRESCE)

Contact person: **Engelbert Ruoss**
www.unesco.org/venice

The UNESCO Venice Office's mandate is focused on enhancing international scientific and cultural cooperation in the South Eastern European Region. In view of the changing needs of the Member States, activities are oriented towards mobilising scientific knowledge and expertise and supporting national policies concerning environment, research and innovation, cultural heritage and promoting youth and women in science. In line with UNESCO's approved programme and with the financial support of the Italian Government and other donors, the Office continues to contribute towards the establishment of peace, poverty eradication, sustainable development and intercultural dialogue. Through its "Antenna Offices" (established in Albania, Bosnia and Herzegovina, the Former Yugoslav Republic of Macedonia and Turkey) numerous activities of joint UN programmes at national levels contribute to "delivering as one". The Venice Office's special concern towards the safeguarding of Venice and its lagoon highlights a shared vision for establishing a cross disciplinary management plan fundamental for cultural and natural heritage conservation.
Booth 125

Università del Piemonte Orientale "Amedeo Avogadro"

Contact person: **Paolo Pomati**
www.unipmn.it

The Università del Piemonte Orientale (University of Eastern Piedmont) "Amedeo Avogadro", established in 1998, has three campuses (Alessandria, Novara, Vercelli), 7 faculties and 12 departments, 10,000 students, 400 faculty members and 330 employees. Academic disciplines span the full range of knowledge (Economics, Pharmacy, Political Sciences, Medicine, Natural Sciences, Law, Humanities) and are organized into a wide series of activities. At present the University offers 24 undergraduate degree courses, 15 master degree courses, 4 single cycle degree courses (MA or MSC), 11 PhD courses. It has developed a range of international relationships with European and non-European universities – 40 agreements for research activities and exchange and 90 Erasmus agreements for students exchange are currently in place. The University has also encouraged interuniversity co-operation to develop jointly-run and tutored doctorate courses.
Area D

Università di Scienze Gastronomiche
Contact person: **Silvia Forno**
www.unisg.it

The Università di Scienze Gastronomiche (University of Gastronomic Sciences), founded in 2004 by the Italian regions of Piedmont and Emilia-Romagna with the cooperation of the international non-profit association Slow Food, is a unique centre of knowledge and learning, where the experience both in class and in the field allows students to harvest a wide swath of multidisciplinary skills. Its goal is to create an international research and education centre for those working on renewing farming methods, protecting biodiversity, and building an organic relationship between gastronomy and agricultural science."
Area D

Università di Torino
Contact person: **Claudio Borio**
www.unito.it

The University of Torino was founded in 1404 and is one of the most ancient and prestigious Italian universities. With its 13 faculties, 55 departments, 75,000 students, 4,000 academics and administrative staff, 4,000 post-doctoral students, it is a city-within-a-city, generating research, innovation, training and employment. As far as research and education are concerned, the university boasts excellences in several fields. The research activity carried out by 12 departments of medicine places the university in the forefront of oncology and liver transplant techniques. In the area of chemistry and materials science we should mention the NIS – Centre of Excellence on Nanostructures Interfaces and Surfaces. Since 2002 Torino hosts the Molecular Biotechnology School, a innovative research centre with avant-garde laboratories. The Agro-food and the Veterinary sectors are among the best in Italy according to a recent survey. Other research fields of excellence are represented by energy, socio-economic sciences and humanities, and ICT.
Area D

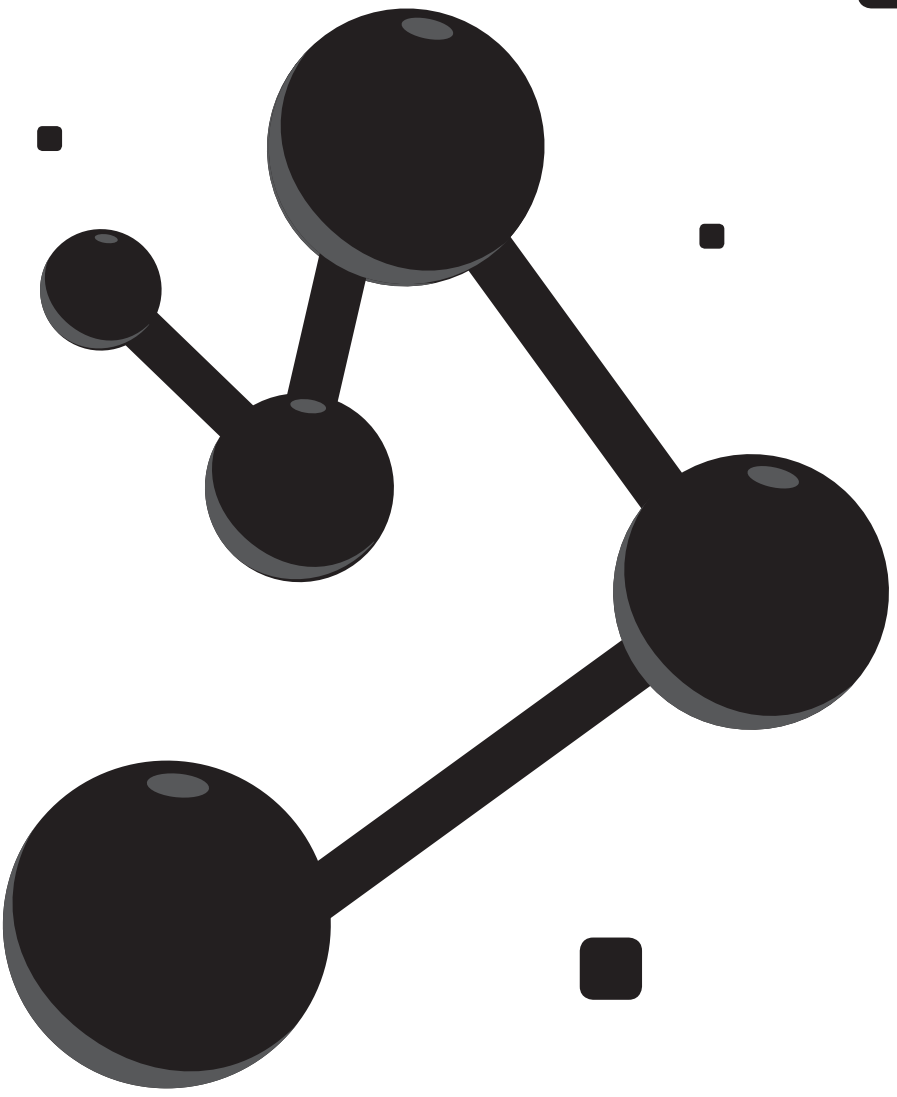
VIEW Conference Cultural Association
Contact person: **Maria Elena Gutierrez**
www.viewconference.it

VIEW Conference is the premiere international event in Italy dedicated to Computer Graphics, Interactive Techniques, Digital Cinema, 3D Animation, Gaming, Medical Imaging and Cultural Heritage.
Booth 158

youris.com
Contact person: **Mario Martinoli**
www.youris.com

youris.com is an independent media agency producing and distributing Video News Releases (VNRs) on European leading-edge S&T innovation. youris.com builds on the achievements of the European research by transforming scientific excellence into audiovisual and web materials suitable for large-scale media distribution. youris.com implements media communication strategies for large research organisations and EU-funded projects and has the capacity to establish permanent links between research and the media. youris.com distributes its VNRs through the pan-European TV station Euronews, the World Feeds of the Eurovision Department of the European Broadcasting Union (EBU) and a customised network of more than 200 TV editors Europe-wide. youris.com VNRs have been broadcast more than 400 times by more than 80 national European TV stations between 2003 and 2010, with a total audience of several tens of millions viewers. youris.com covers several scientific and technological domains: environment, energy, health, transport, nanotechnologies, society, ICT.
Booth 110

SOCIAL EVENTS AND CULTURAL AGENDA



SOCIAL EVENTS

Open Events

2 July, 18:00 - 20:00
Auditorium Centro Congressi Lingotto

Opening Ceremony

Open to all ESOF2010 participants (badge required)

The Official Opening Ceremony features welcome addresses by the President of the Italian Republic, Giorgio Napolitano, and by the European Commissioner for Research, Innovation and Science, Máire Geoghegan-Quinn, the Opening Lecture by Julia Fischer (see page 18) and an entertainment programme on the theme "Mathematics and Music".

4 July, 12:30 - 14:00
Centro Congressi Lingotto

ESOF2012 lunchtime reception
Hosted by the Chief Scientific Adviser
to the Government of Ireland

Open to all ESOF2010 participants (badge required)

Dublin is delighted to be hosting ESOF2012, from 12 to 16 July, 2012, and to celebrate this, Patrick Cunningham, Chief Scientific Adviser to the Government of Ireland, invites all delegates at ESOF2010 to a reception. Dublin promises a programme that will be intellectually, culturally and socially invigorating for delegates. So, please join ESOF2012 celebration for good food, wine and some Irish *craic*.

4 July, 20:30 - 24:00
Castello del Valentino

ESOF2010 Party

Open to all ESOF2010 participants (badge required, entrance ticket € 20, info at Registration Desk)
Public transport: lines 9, 16, 67

The ESOF2010 Party is the main social event within the ESOF2010 Programme. It is the perfect opportunity to meet other participants in an informal atmosphere and in the stunning setting of a perfectly preserved 17th Century Castle on the green banks of the river Po. The castle will be open for night visits. The programme includes buffet dinner with local specialities and entertainment.

7 July, 14:15 - 15:30
Lingotto Roof-top Track

Transfer event to ESOF2012 Dublin

Open to all ESOF2010 participants (badge required)

On a panoramic terrace overlooking the city, we will say *arrivederci* to all participants and pass the torch to Dublin. The programme includes addresses by the Mayors of Torino and Dublin, a cocktail reception and entertainment.

Events Restricted to Selected Partecipants

5 July, 12:30 - 14:00
Ristorante Esperia, via Moncalieri 2

BioLunch

Organized by A Taste of Science, hosted by Bioindustry Park - BioPmed cluster and Sardegna Ricerche

Open to all ESOF2010 Press Room Registrants, limited places, info at www.tasteofscience.eu

This is a unique chance to meet Italian biologists and their current research. Immerse yourself in superior food and fine company. Come along to hear the most recent advancement in biological studies in a charming restaurant. A bus will leave from Centro Congressi Lingotto – Site Visits Meeting Point, at 12.15 and will be back around 14.30.

5 July, 19:00 - 21:00
Museo Regionale di Scienze Naturali

Research&Business reception – Communication, a springboard to innovation

Hosted by Torino Chamber of Commerce
and Unioncamere Piemonte

Open to ESOF2010 Science to Business speakers and to European Research&Business Speed Dating participants (badge and confirmation required)
Public transport: lines 18, 61, 68

A cocktail reception where you will have a chance to meet experienced entrepreneurs, R&D experts and representatives of European institutions. This ice-breaking social event will be the starting point for setting up new relationships and kick-start the European Research&Business Speed Dating event.

5 July, 20:00 - 24:00
Parco Le Serre, Grugliasco

Youth Party

Hosted by Comune di Grugliasco (TO)

Open to Science Shuttles groups and travel grants holders (badge required)
Free shuttle buses from Lingotto at 19:00

After a brief address by local authorities, each group will have a chance to present itself. A buffet dinner will follow. Dj set and performance by Scuola di Cirko Vertigo.

5 July, 20:30 - 02:00
Mole Antonelliana

Media Party

Open to all ESOF2010 Press Room Registrants (press badge required)
Public transport: lines 13, 15, 16, 55, 56, 68

The Media Party is held in the tallest building and landmark of Torino, now hosting the National Cinema Museum. During the party, featuring buffet dinner and live music, it will be possible to visit the Museum and take the elevator to the rooftop terrace.

Events by Invitation Only

2 July, 15:00 - 16:30
Ristorante La Pista del Lingotto

"Friends of ESOF" Reception

Hosted by the ESOF Hub and Euroscience

By invitation only

The ESOF Hub and Euroscience host a reception to thank the friends and supporters of past ESOF editions for their ongoing support. In particular, this is the opportunity to thank the five European Foundations that founded, together with Euroscience, the newly created ESOF Hub. These are the Compagnia di San Paolo, Italy; Fondazione Cariplo, Italy; Riksbankens Jubileumsfond, Sweden; Robert Bosch Stiftung GmbH, Germany; Stifterverband für die Deutsche Wissenschaft, Germany.

2 July, 20:30 - 22:30
Palazzo Madama, Museo Civico di Arte Antica

JRC - AAAS International Dinner

By invitation only

Marking the launch of the new JRC Strategy 2010-2020, this event is kindly hosted by Roland Schenkel, Director-General of the European Commission's Joint Research Centre and by Alan Leshner, Chief Executive Officer of AAAS and Executive Publisher of Science Magazine. Its aim is to bring together some of the most prominent scientists, policy-makers and communicators from across the world attending ESOF2010. Guest of honour, European Commissioner for Research, Innovation and Science, Máire Geoghegan-Quinn, will also provide first-hand insights into one of the central topics of the Europe 2020 Strategy.

3 July, 20:30 - 23:00
Circolo dei lettori

ESOF2012 Evening Reception - Connect with Excellence

Hosted by The Minister for Science, Technology and Innovation of Ireland

By invitation only

The Minister for Science, Technology and Innovation of Ireland, Conor Lenihan, welcomes invited guests for an evening reception to celebrate the hosting of the next in the ESOF series in Dublin, in 2012.

Award Ceremonies

3 July, 17:00 - 18:00
Sponsored Events Area

European Medical Journalism Award

Hosted by Bayer HealthCare AG

Open to all ESOF2010 participants (badge required)

The European Journalists' Prize is intended to reflect the significance of medical news reporting. The Association of German Medical Journalists (VDMJ) hopes that this prize may act as a signal. In the race to carry out fundamental medical research, Europe would long since have lost touch with the field if national interests had taken priority over knowledge and professionalism.
The European Journalists' Prize was awarded by the Association of German Medical Journalists (VDMJ) for the first time in 2003. The Prize is awarded for what the jury deems to be the year's most outstanding medical journalistic publication or programme. Reception follows.

5 July, 15:45 - 18:00
Innovation Arena

Rammal Award

Hosted by Euroscience

Open to all ESOF2010 participants (badge required)

The Rammal award, conferred by Euroscience, was created in memory of the great Lebanese physicist, Rammal Rammal (1951-1991). The Rammal Award for the year 2008 was awarded to Moulay Brahim Sedra. For the year 2009, the Rammal award honours both Ayse Erzan and the Foundation René Touraine.
Addresses by Abderrahmane Tadjeddine, laureate 2000, (Sesame, a laboratory of excellence for basic and applied science in the Middle East) and by Gerassimos Papadopoulos, member of the European Commission, laureate 2002 (New trends in the research for earthquake predictability: foreshocks as a promising tool). Reception follows.

6 July, 10:30 - 14:00
Innovation Arena

Euroscience Media Awards

TV entries screening: 10:30 - 12:00, open entry (badge required)
Reception and awards presentation 12.00 –14.00, open to the audience of the video screenings and special invitations only

The Euroscience Media Awards are Europe's leading prizes for journalists, television and public relations staff. They are awarded by a group of organisations that care fervently about the communication of European research excellence. The awards build on the pioneering work of Euroscience Stiftung's awards to science journalists and now consist of the Johnson & Johnson Pharmaceutical Research & Development Europe Award for a popular television programme and the AlphaGalileo Foundation Award for research public relations.

6 July, 14:00 - 15:30
Sala Madrid

High School Competition Award Ceremony – "What can science do for society?"

Open to all ESOF2010 participants (badge required)

Award Ceremony of the High School Competition held in Italy and in Catalonia (Spain). Screening of winning videos will follow.

CULTURAL AGENDA

1. Free Access

From 2 to 11 July 2010, ESOF2010 participants will have free access to the following museums and cultural institutions – show your ESOF2010 badge!

Museo Regionale di Scienze Naturali
Via Giolitti, 36

Opening hours: daily 10:00 - 19:00
Public transport: lines 18, 61, 68

The museum is based in the 17th century hospital of San Giovanni Vecchio. It is possible to visit the permanent exhibition Jewels in the Rock and the rooms of the Historical Museum of Zoology, plus various temporary exhibitions.

Museo di Anatomia Umana "Luigi Rolando"
Corso Massimo D'Azeglio, 52

Opening hours: Mon-Sat 10:00 - 18:00
Public transport: lines 1, 18, 34, 35, 67

The museum, which was set up in its current premises in 1898, is an exceptional example of a 19th century human anatomy museum that remained almost unchanged and has now been restored to its original capacity.

Museo di Antropologia Criminale "Cesare Lombroso"
Via Pietro Giuria, 15
(same building of the Museo di Anatomia Umana "Luigi Rolando")

Opening hours: Mon-Sat 10:00 - 18:00
Public transport: lines 1, 18, 34, 35, 67

The museum houses the collection of Cesare Lomboroso, founder of modern criminology. Skulls, skeletons, death masks, photos and other original specimens are exhibited in their original 19th century display cases, accompanied by videos and virtual animations.

Museo della Frutta "Francesco Garnier Valletti"
Via Pietro Giuria, 15 (same building of the Museo di Anatomia Umana "Luigi Rolando")

Opening hours: Mon-Sat 10:00 - 18:00
Public transport: lines 1, 18, 34, 35, 67

An extraordinary pomological collection with thousands of varieties of apples, pears, peaches, apricots, plums, and grapes, recounting a century-old history of interplay between science and agriculture.

Museo Nazionale della Montagna
Piazzale Monte dei Cappuccini

Opening hours: Tue-Sun 9:00 - 19:00
Public transport: lines 13, 56

Three floors of exhibition space with video installations, collections and temporary exhibitions, screening rooms, a terrace with a panoramic view of the Alps, meeting areas, and a study and documentation centre, where visitors can discover the world of the mountains.

Palazzo Madama - Museo Civico d'Arte Antica
Piazza Castello, 10

Opening hours: Tue-Sat 10:00 - 18:00 - Sun 10.00-20.00
Public transport: lines 13, 15, 16, 55, 56

Paintings, sculptures, illuminated manuscripts, majolica and porcelain pieces, gold and silverware, furnishings and fabrics: more than 3,000 works bear witness to the richness and complexity of ten centuries of Italian and European artistic production.

GAM - Galleria di Arte Moderna
Via Magenta, 31

Opening hours: Tue-Sun 10:00 - 18:00
Public transport: lines M1, 9, 64, 68

The museum was the first in Italy to promote a public collection of modern art within its walls. The artistic patrimony consists of 45,000 works, including paintings, sculptures, installations and photographs, plus a large collection of drawings and engravings.

Rocca e Borgo Medievale
Viale Virgilio 107 - Parco del Valentino

Opening hours: Mon-Sun 9:00 - 20:00
Public transport: lines 9, 16, 67

Built on the occasion of the Italian General Exhibition of 1884, the site features reproductions of 15th century buildings and furnishings, typical of Piedmont and the Aosta Valley.

Fondazione Merz
Via Limone, 24

Opening hours: Thu-Sun 11:00 - 19:00
Public transport: lines 42, 55, 64

The Foundation is housed in the old heating plant of the Lancia Workshops (built in 1930); its main objectives are to preserve, safeguard and exhibit the collection of works by artist Mario Merz.

Fondazione Sandretto Re Rebaudengo
Via Modane, 16

Opening hours: Tue-Sun 12:00 - 20:00; Thu 12:00 - 23:00
Public transport: lines 42, 58, 58B, 64

The Foundation is a flexible structure, which brings together the contributions from artists, critics, curators and collectors. It is a place for enthusiasts and connoisseurs to keep abreast of the latest trends and for approaching those who have yet to meet contemporary art.

MAO - Museo d'Arte Orientale
Via San Domenico, 9-11

Opening hours: Tue-Sun 10:00 - 18:00
Public transport: lines 4, 12

This museum is dedicated to the art and culture of Asian countries. There are 5 galleries corresponding to 5 different cultural areas from the great Asian continent: Southern Asia, China, Japan, Himalayan Region and Islamic countries.

PAV- parco d'Arte Vivente
Via Giordano Bruno, 31

Opening hours: Wed - Fri 15:00 - 18:00 - Sat-Sun 12:00 - 19:00
Public transport: lines 1, 63, 34

The Park is a green area open to the public, a new interactive museum and a meeting place for biotechnologies, contemporary art, ecology, the public and artists, biologists and ecologists.

2. Discounted Fee

From 2 to 11 July 2010, ESOF2010 participants will be entitled to a discount in the following museums and cultural institutions – show your ESOF2010 badge!

Pinacoteca Giovanni e Marella Agnelli
Within the Lingotto complex, follow directions

Opening hours: Tue-Sun 10:00 - 19:00
Ticket counter closes at 18:15

The "casket" designed by Renzo Piano, on the rooftop of the Lingotto complex, houses works by Tiepolo, Canaletto, Bellotto, Canova, Manet, Renoir, Matisse, Balla, Modigliani and Severini. The lower floors is dedicated to temporary exhibitions.

Museo Egizio
Via Accademia delle Scienze, 6

Opening hours: Tue-Sun 8:30-19:30
Public transport: lines 13, 15, 16, 55, 56, 61

The only museum outside Egypt entirely dedicated to the Egyptian art and culture, preserving the exceptional royal statuary for the Tomb of Kha and Merit, and an important collection of papyrus and of accounts of daily life.

Museo Nazionale del Cinema
Via Montebello, 20 (Mole Antonelliana)

Opening hours: daily 09:00 - 20:00
Public transport: lines 13, 15, 16, 55, 56, 68

The museum is unique in Italy and among the most important in the world for the richness of its collections located inside the Mole Antonelliana, Torino's landmark. The exhibition is dedicated to the history of pre-cinema and cinema, with interactive and spectacular displays.

Castello di Rivoli - Museo di Arte contemporanea
Piazza Mafalda di Savoia, Rivoli (TO)

Opening hours: Tue- Thu 10:00 - 17:00; Fri-Sun 10:00 - 21:00
Public transport: 17, 36

This magnificent Baroque building and Savoy residence has been converted into one of the most important contemporary art museums in Italy; it houses works from 1950s to the present day as well as important temporary exhibitions.

INFINI.TO - Planetario di Pino Torinese
Via Osservatorio 8 – Pino Torinese (Torino)

Opening hours: Tue-Sun 08:30 - 19:30
Public transport: lines 35, 66, 30

A guided tour tracing Man's adventure in discovering the Universe, a journey among planets, stars and black holes in search of the origins of the cosmos and the forces governing it. The end point of the tour is the state-of-the-art digital Planetarium.

SITE VISITS

SITE VISITS

The Site Visit programme will offer direct contact with local industrial and research centres of excellence. In Torino, science and technology can count on a longstanding tradition of industrial and public research, and ESOF2010 participants will be offered the opportunity to visit a number of such centres. The venues are within the city limits or very close to Torino, with the exception of the European Organization for Nuclear Research (CERN) in Geneva, Switzerland, and European Commission Joint Research Centre (JRC) in Ispra, on Lake Maggiore. Most tours take place between 14:00 and 18:00 so that participants may attend the Plenary Lectures.
Private buses leave and return from the Lingotto Complex. The Site Visit Meeting Point is outside the main entrance, on Via Nizza side.

Please note: pre-registration is required.
Seats might still be available, ask at Registration Desk.

Royal Library and Leonardo da Vinci's self-portrait free guided visits

Piazza Castello, 191

5 July, 15:00 - 17:00
7 July, 16:00 - 18:00

ESOF2010 registered participants will be offered the extraordinary opportunity to visit the Torino Royal Library and its caveau where priceless works by Leonardo da Vinci are kept, among which the world-famous self-portrait and the *Codex on the Flight of Birds*.

3 July

A trip to the 19th century: "Dream of light" - the Light Bulb Museum and Tallone's Printing House

Place: Alpignano (TO)
Departure: 14:00
Arrival: 18:00
Cost: € 10
Number of participants: 30 (minimum 20)

Participants can embark on a suggestive journey into the technology of the past: in the town of Alpignano, just outside Torino, a tour of a museum dedicated to Alessandro Cruto, the Italian inventor who improved on Thomas Edison's incandescent light bulb. Then onto the printing house set up by Alberto Tallone, a distinguished personality who acted as publisher, printer and bookseller.

4 July

Alfred Nobel and the dynamite: a walk in the Piedmontese industrial architecture

Place: Avigliana (TO)
Departure: 14:00
Arrival: 18:00
Cost: € 15
Number of participants: 50 (minimum 30)

Dynamite was invented by Swedish chemist and engineer Alfred Nobel, who in 1872 founded the Dinamitificio in Avigliana (he had to move to Italy following the Swedish government's prohibition to make dynamite after a number of accidents had occurred). The museum was founded in 1999 and is a unique testimony of a bygone industrial era, when working conditions were dangerous and unhealthy. This visit includes a picnic snack.

5 July

Cittadella Politecnica: university campus and research institutes integrated in a business research centre

Place: Torino
Departure: 14:00
Arrival: 18:00
Cost: € 10
Number of participants: 50 (minimum 30)

The Cittadella Politecnica is a huge building extension of the main campus of Torino Polytechnic devoted to research and education – a cooperation between academia and business. After a general tour of the area (170,000 square metres), participants will visit some of the centres, such as the Istituto Superiore Mario Boella and SITI Higher Institute on Innovation Territorial Systems. A tour of the Innovative Enterprise Incubator of the Politecnico di Torino I3P will follow.

5 July

Grugliasco Campus

Place: Grugliasco (TO)
Departure: 14:00
Arrival: 18:00
Cost: € 10
Number of participants: 50 (minimum 30)

The Grugliasco Campus in the outskirts of Torino is home to the Faculty of Agriculture and Forest Sciences and of the Faculty of Veterinary Medicine of the University of Torino. The campus covers an area of 300,000 square metres and includes lecture halls, research departments, libraries, greenhouses, fields, a dairy farm and a teaching animal hospital. The campus hosts Agroinnova, the Centre for innovation in the agro-environmental field.

6 July

Centro Ricerche Fiat (CRF)

Place: Orbassano (TO)
Departure: 14:00
Arrival: 18:00
Cost: € 10
Number of participants: 20 (minimum 10)

CRF was established in 1976 as the FIAT's centre of expertise for innovation, research and development. CRF is particularly active in the area of sustainable mobility and applies a systematic approach to innovative solutions with a comprehensive notion of mobility: minimizing consumption and emissions through innovative propulsion technologies, as well as lowering fuel consumption. In addition, CRF also conducts research in other areas of particular significance such as energy saving and efficiency.

6 July

National Institute of Metrological Research (INRIM) and Plant Virology Institute (IVV)

Place: Torino
Departure: 14:00
Arrival: 18:00
Cost: € 10
Number of participants: 50 (minimum 30)

INRIM is a public body devoted to the study of the science of measurements and to research into materials. Furthermore it works on developing innovative technologies and devices and sets primary standards for the basic and derived units of the International System of Units (SI). The Carlo Novero Quantum Optics laboratory, the "NanoFacility Piemonte" Micro and Nanomanufacturing lab will be included in the tour. IVV is a division of the CNR Agri-Food Department, and it is the largest and most important plant virology research group in Italy. The visit will include molecular biology laboratories, transmission electron microscope, and insect-proof greenhouses specifically designed for plant virology.

6 July

Villa della Regina: science for art safeguard

Place: Torino
Departure: 14:00
Arrival: 17:00
Cost: € 10
Number of participants: 40 (minimum 25)

The Villa della Regina in Torino is one of the Piedmontese Residences of the Royal House of Savoy listed by UNESCO as a World Heritage Site. The tour will offer an opportunity to see how technology can be applied to the preservation of cultural heritage, thanks to a wireless system for the monitoring of thermo-hygrometry and air pollutant concentrations. The system is based on a wireless network of extremely compact sensors, for temperature and relative humidity measurements. This visit is linked to the Showcase session *Monitoring for art safeguard and tourism management in Piedmont* (see page 107)

7 July

Thales Alenia Space, a global reference in space programmes

Place: Torino
Departure: 14:00
Arrival: 18:00
Cost: € 10
Number of participants: 25 (minimum 10)

With over 7,200 employees worldwide, Thales Alenia Space is a worldwide standard for space development. The Torino plant has always focused on the design and production of scientific satellites and orbiting infrastructures. Currently more than 50% of the habitable volume for the International Space Station is manufactured in Torino. Laboratories, clean rooms, production areas and the "Mission Support Room" will be included in the tour.

7 July

University of Gastronomic Sciences: get into the future of food

Place: Pollenzo (CN)
Departure: 15:30
Arrival: 20:00
Cost: € 25
Number of participants: 50 (minimum 30)

The University of Gastronomic Sciences is the first university dedicated to food and wine culture dissemination and it is a unique centre of knowledge and learning, where the experience both in the classroom and in the field allows students to harvest a wide range of multidisciplinary skills, in a rich and stimulating international context. The University was founded in 2004 by Slow Food and the Italian Regions of Piedmont and Emilia Romagna. The visit will end with an aperitif in the University campus.

8 July

CERN: an international research centre to find out what the Universe is made of and how it works

Place: Geneva (Switzerland)
Departure: 6:45
Arrival: 20:30
Cost: € 30
Number of participants: 100 (minimum 60)

CERN, the European Organization for Nuclear Research, is the world's largest particle physics laboratory. Founded in 1954, it was one of Europe's first joint ventures and now has 20 Member States. CERN's flagship project is the Large Hadron Collider (LHC), a gigantic particle accelerator installed in a 27km circular tunnel a 100m below ground. The underground areas are off-limits during the accelerator operation, but CERN offers a wide variety of itineraries: the testing hall of the huge LHC magnets, the control rooms of the collider and of the LHC experiments, the computing centre, the future accelerator developments like CLIC and astroparticle experiments.

8 July

JRC, the Joint Research Centre of the European Commission

Place: Ispra (Lake Maggiore)
Departure: 6:45
Arrival: 19:30
Cost: € 25
Number of participants: 50 (minimum 30)

The Joint Research Centre provides customer-driven scientific and technical support for the conception, development, implementation and monitoring of European Union policies. As a service of the European Commission, the JRC functions as a reference centre of science and technology for the Union. Close to the policy-making process, it serves the common interest of the Member States, while being independent of special interests, whether private or national.

SATELLITE EVENTS

ESOF2010 SATELLITE EVENTS

30 June - 2 July
Lingotto Conference Center, Sala 500

Marie Curie Conference 2010. Boost your career!

Tomorrow's researchers should not only excel in science but need to acquire key additional skills in areas such as communication and entrepreneurship, and need to learn how to develop collaboration with private companies and across other research fields. The Marie Curie conference will offer Marie Curie Fellows special opportunities to broaden their career perspectives and further exploit their potential as researchers.
The conference will include a training session on how to access EC funding and how to write successful grant proposals. There will also be a series of workshops on how creative academics can exploit their research potential in the private sector, how to best use their basic research and how to communicate to a non-specialised audience. Skills needed by researchers will be discussed with specialists. Participants will also play an active role through poster sessions and will get coaching by experts on poster presentations. Fellows will have the opportunity to share their success stories of dissemination and explore how to reach out and create synergies with other scientific fields. More experienced fellows will also give guidance on making a success of a career in Academia.

ORGANIZER:
European Commission, DG Education and Culture, Directorate C, and DG Research, Directorate T

28 - 30 June
Aula Magna Politecnico di Torino

COMMUNIA Conference 2010. University and cyberspace: reshaping knowledge institutions for the networked age

Universities are entrusted with the increasingly important responsibility of creating, sharing and fostering knowledge on behalf of our society. To this end, they are the recipients of large investments in terms of time, money, space, authority and freedom. As we progress ever more deeply into a networked age, our knowledge institutions are faced with new opportunities: specifically they are to become a driving force to create and disseminate knowledge - using innovative, effective, and dynamic approaches - derived from and for the networked world. The conference program includes keynote lectures by Stefano Rodotà and Bruce Sterling. Topics such as digital natives, informational and spatial infrastructures, the civic role of universities, education and research will be addressed.

ORGANIZERS:
NEXA Center for Internet & Society, Torino Polytechnic, Italy, and **Berkman Center for Internet & Society,** Harvard University, USA

28 June - 2 July
Politecnico Lingotto

SjCOOP Mentors Training Workshop

The World Federation of Science Journalists is organizing a 5-day training session on mentoring in science journalism. The mentors will be trained to participate in the World Federation's flagship 3-year SjCOOP (Science journalism CO-OP) project which aims to train 60 science journalists in Africa and in the Arab World and establish associations of science journalists. The project is supported by the United Kingdom's Department for International Development (DfID) and Canada's International Development Research Center (IDRC).

ORGANIZER:
World Federation of Science Journalists

30 June
Politecnico Lingotto

Final keybioeffects meeting. Marie Curie Research Training Network

Keybioeffects is a Research Training Network funded under the 6th Framework. The Network consists of twelve European partners including research institutions, water agencies and enterprises. The project is aimed primarily at training young researchers. Their skills should help address issues of biodiversity conservation and water pollution in European rivers and transfer this knowledge to stakeholder groups. The project also includes identification of key toxicants, quantification of the influence of environmental conditions on toxicant bioavailability, assessment of these effects on organisms, populations, communities and ecosystems, testing the modelling of toxicant effects on biota and finally deriving from this knowledge practical tools for water quality assessment.

ORGANIZER:
Institute of Aquatic Ecology, University of Girona, Spain

30 June - 4 July
Various locations in Torino

European University Students Meeting. Toward a European Union of knowledge

The "European University Students Meeting, toward a European Union of Knowledge" is an official event in the framework of Torino 2010 European Youth Capital. Students from different corners of Europe will gather and have the opportunity to express their views on the upcoming borderless education model. The meeting also intends at to promote student cultural and social exchanges, showcasing the wealth of opportunities of the host region.

ORGANIZER:
Comitato Organizzatore "European University Students Meeting", Italy

1 - 2 July
Museo Regionale di Scienze Naturali

6th Annual meeting Associazione Italiana Donne e Scienza. Women creativity as innovation both in research and enterprise

The meeting is organized be the Women and Science Italian Association in co-operation with Piedmontese research institutions. The purpose of the meeting is to reflect on women's contribution both in scientific and technologic research, with the aim of developing an alternative to the present development model. Three opening lectures will be followed by six thematic sections. The opening lectures will be delivered by:
Anna Maria Testa (Progetti Nuovi, Milano), *Women and science: prejudices, real data and perspectives*
Mariella Enoc (Confindustria-Piemonte, Torino), *Evolution of women participation in research, enterprise and training*
Victoria Franzinetti (University of Torino), *Irreconciliable conciliation?*
Details at *www.donnescenza.it*

ORGANIZER:
Associazione italiana donne e scienza, Italy

1 - 6 July
Aula Magna, Dental School, Università di Torino - Lingotto

Summer school for PhD students. SCS - Scienza, Comunicazione, Società

Since it was first established in 2006, the SCS (Science, Communication, Society) Summer School for PhD students, has focussed on the complex relationship between science and society. SCS post-graduate courses were designed to make future researchers aware of their role in the modern world and understand the importance of constant communication within it.
The 2010 edition of the school is part of ESOF. After an introduction dedicated to the topic of research-society relationship in Europe, participants will be invited to follow selected sessions at ESOF2010 (in the Scientific, Career and Science in the City Programmes) and will then be guided in the evaluation of conferences and of the impact of the event.

ORGANIZER:
Centro Interuniversitario Agorà Scienza, Torino, Italy

2 July
Lingotto Conference Center, Sala Londra (morning)
Politecnico Lingotto, Room 301 (afternoon)

ANPRI Workshop. Towards fair indicators of research and research evaluation: the state of the art

ANPRI is an association devoted to establishing a fair evaluation system of researchers, research groups and institutions in governmental research entities. In the global competition environment, the need for scouting and supporting excellence in research is paramount. Research is a prominent part of innovation and wealth production in advanced countries, hence the need to assess the quality of researcher outputs. The international scientific community has developed scientific indicators, derived from the "web of sciences", which are difficult to transfer and apply to the Italian context. ANPRI has debated the issue by organizing international meetings, inviting experts in the field, and proposing a fair pathway for the establishment of a road map to reach an equal and internationally shared evaluation system.

ORGANIZER:
Associazione Nazionale Professionale per la Ricerca (ANPRI), Italy

7 July
Aula Magna Politecnico di Torino – Lingotto

PRIN project. Innovative techniques for the definition of the degradation state of metals

A significant degree of understanding of degradation causes of metallic artefacts has developed in Europe. In addition to the traditional methodologies, this understanding has led to new methods for restoration and conservation of this important part of our cultural heritage. Innovative techniques to systematically identify the degradation causes of metallic artefacts selected as a function of chemical composition (copper-, iron-and silver-based alloys), archaeological and burial contexts, indoor/outdoor environments, are described. The ultimate goal is to develop and validate tailored approaches to stop degradation and prevent further damage in museum displays and storage facilities.

ORGANIZER:
Torino Polytechnic, Italy

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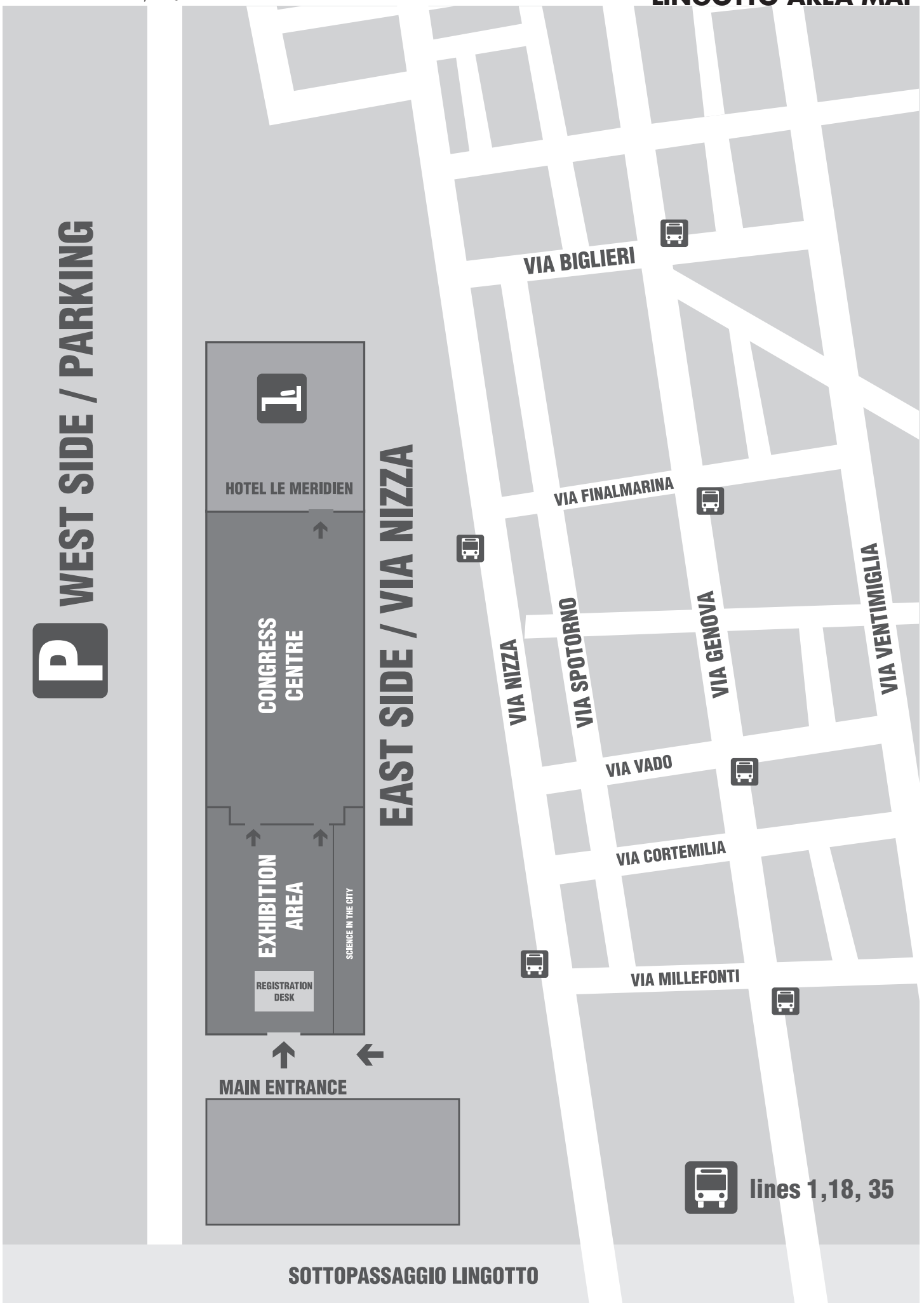
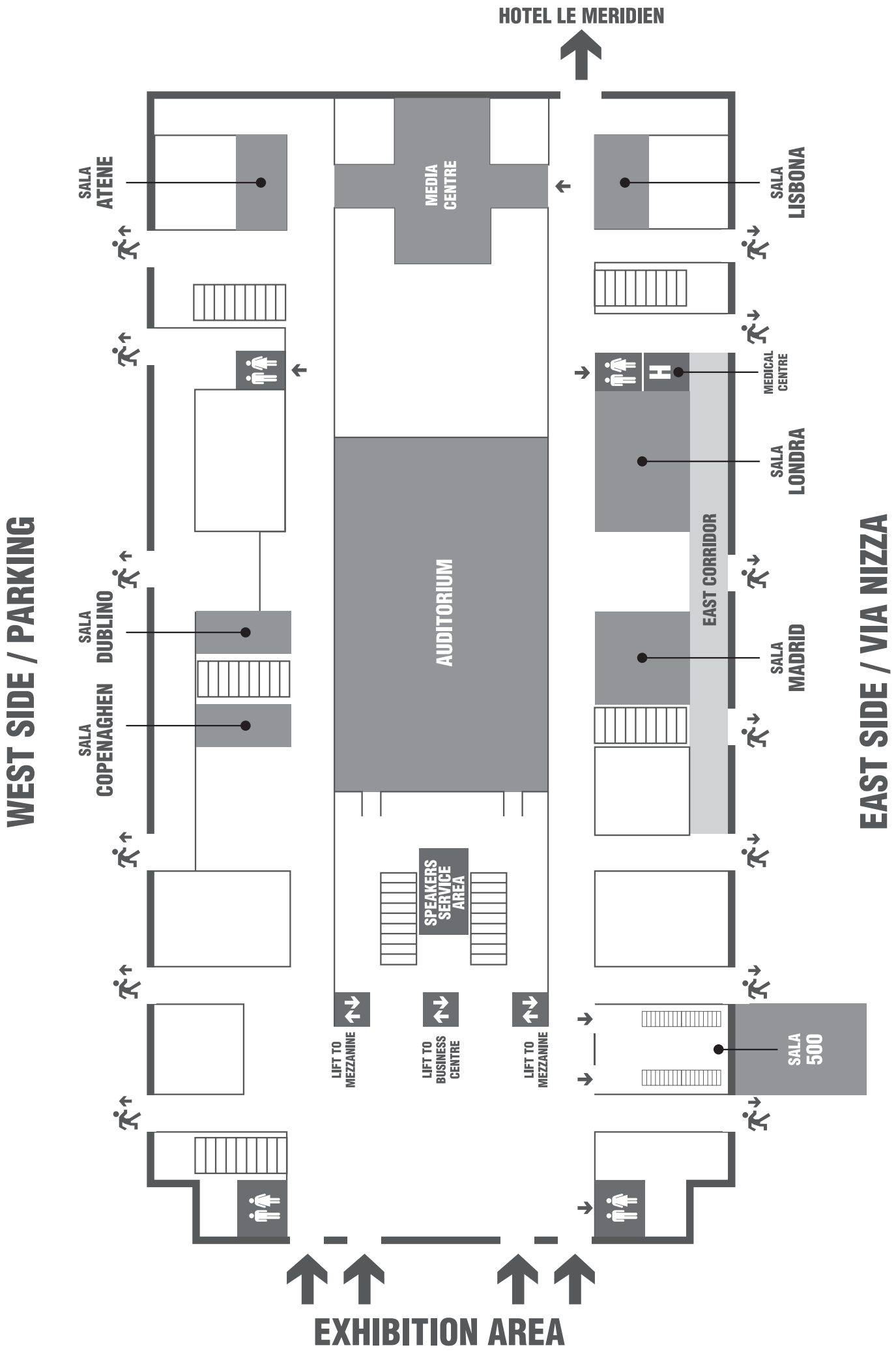
LINGOTTO AREA MAP



CONGRESS CENTRE, GROUND FLOOR



Welcome to Torino

Torino and the surrounding Piedmont region boast a fascinating mix of rich historical heritage and innovation. Torino and Piedmont will surprise you.

What to See
Palazzo Reale, residence of the dukes and kings of Savoy for more than two centuries, located in the imposing piazza Castello; *Palazzo Carignano*, first seat of the Italian Parliament; the church of *San Lorenzo* and the *Shroud Chapel*, stunning baroque architecture by Guarino Guarini; the *Cathedral*, an elegant Renaissance building; *Basilica di Superga* on the eponymous hill, a baroque masterpiece by Juvarra with breathtaking vistas. Not far from the city: the *Venaria Reale*, a massive, Versailles-style royal palace of the Savoy's house.

Museums
ESOF2010 participants will have free or discounted access to many museums and cultural institution – see the complete list on pages 145-146.

And do not forget to visit Torino's *historical cafés*, where you can sample the city's celebrated sweet concoctions.

Climate

Torino has a continental climate, with cold winters and hot summers. The average temperatures in July are 27.6 °C (81.7 °F) high and 18.0 °C (64.4 °F) low. It is usually sunny (on average, 5 days of rain in July).
The Congress and Exhibition Areas are *air-conditioned*. The temperature is maintained at 23 °C (73.4 °F) inside the rooms and at 24 °C (75.2 °F) in corridors and common areas.

Tourist Information

Basic tourist information is available at the Registration Desk. An additional Tourist Information Point is located within the Città di Torino - Provincia di Torino - Regione Piemonte booth, Exhibition Area A.
For more information visit:

www.turismotorino.org
www.torinoplus.it
www.piemonteitalia.eu

Emergency Numbers

118 in case of health emergencies (use this if you need an ambulance)
112 or **113** to call the police (*Polizia* or *Carabinieri* in Italian) and/or in case of general emergency
115 to call the fire brigade (*Vigili del Fuoco* in Italian)

Medical Assistance

Medical and pharmaceutical assistance for foreigners in Italy is regulated by international agreements and treaties. It is provided free of charge to European Economic Area (EEA) nationals (EEA comprises all EU countries plus Iceland and Norway). Citizens of Argentina, Australia, Bosnia and Herzegovina, Brazil, Cabo Verde, Croatia, FYROM, Principality of Monaco, Republic of San Marino, Serbia and Montenegro, Tunisia, Vatican City are also entitled to free or partially free assistance, according to respective agreements. Visitors from other countries must have a health insurance policy.

Smoking

Smoking is forbidden in the entire Lingotto Complex. Designated smokers area are located outside the main building.

Public Transport

The city boasts a dense network of buses, trams and a cable car run by Gruppo Torinese Trasporti (GTT). Visit **www.comune.torino.it/gtt/en** or call toll-free **800 019152** (Italian only).
Special ESOF2010 tickets valid from 1 to 7 July are available at the Registration Desk.

Lines 1, 18 and 35 link the Lingotto area to the city centre. Stops are shown on the map on page 161 and on opposite page.

To/from Caselle Airport

Torino International Airport at Caselle (**www.turin-airport.com**) is located 16 km from downtown and it is reached by taxi in about 40 minutes. You can also catch a bus to Porta Susa and Porta Nuova railway stations, running every 30 minutes from 5:15 to 23:00, or a train to Dora railway station, running every 30 minutes from approximately 05:00 to 23:00.

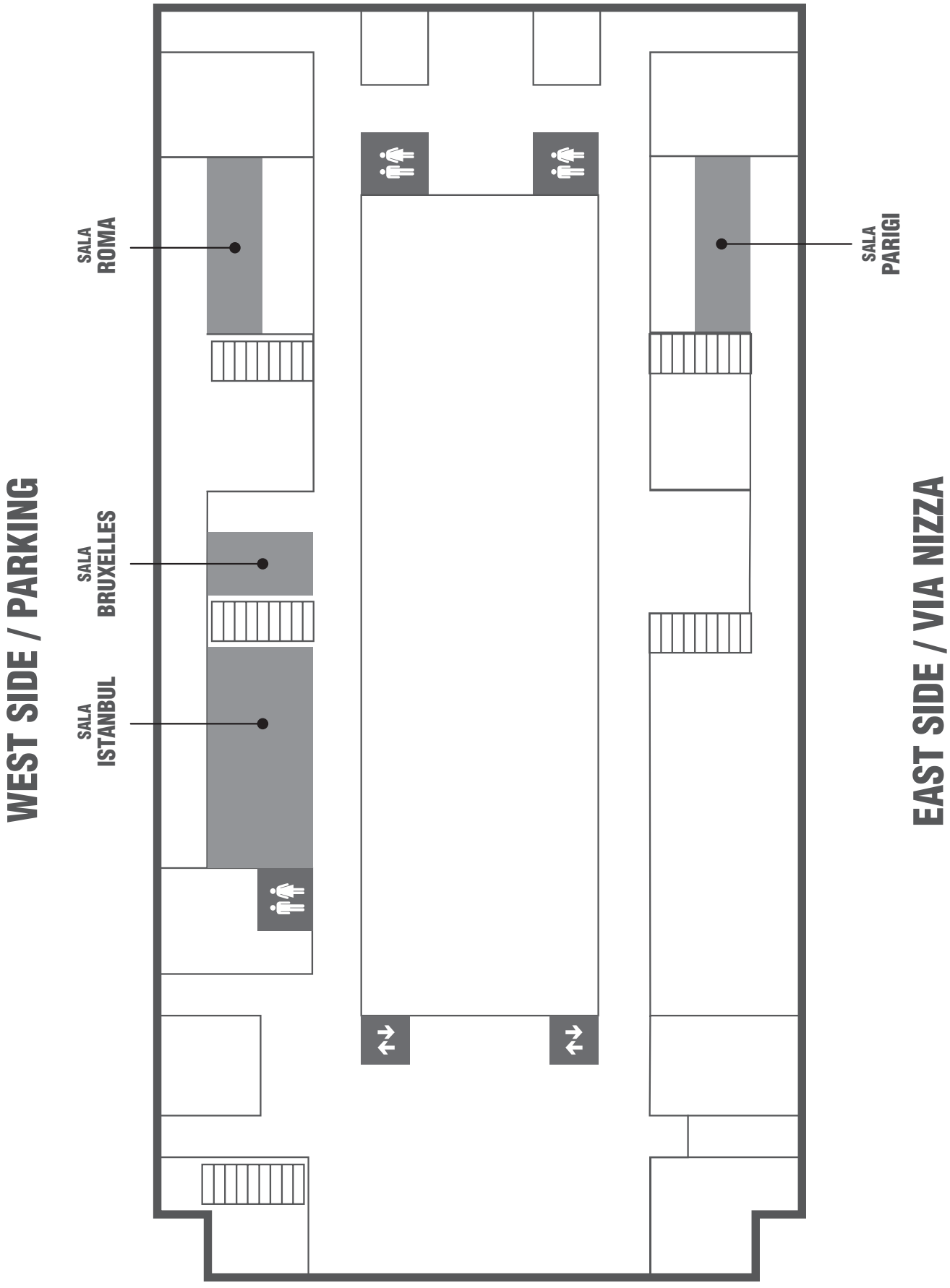
Taxi

Taxi stands are located at major transit hubs and points of interest throughout the city. One is right in front of the Meridien Hotel.
Radio taxis are available 24/7, just call **+39 011 5730** or **+39 011 5737**.

The information is correct at time of print. Time and location of events are subject to last minute changes.
Please check for updates and visit www.esof2010.org.

TopESOF is available to settle copyright issues with copyright owners that could not be identified.

CONGRESS CENTRE, MEZZANINE



ESOF2010 thanks all partners, supporters and sponsors for their valuable contribution to this meeting

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MOLE ANTONELLIANA
MUSEO EGIZIO
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MUSEO CIVICO D'ARTE MODERNA E CONTEMPORANEA
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MUSEO NAZIONALE DELLA MONTAGNA
PIAZZA CASTELLO
PIAZZA SAN CARLO
PIAZZA VITTORIO VENETO
PIAZZA CARLO FELICE
PIAZZA CAVOUR
STAZIONE DI PORTA NUOVA
STAZIONE DI PORTA SUSA
PARCO DEL VALENTINO
CASTELLO DEL VALENTINO
ORTO BOTANICO
CORSO MATTEOTTI
CORSO VITTORIO EMANUELE II
CORSO MASSIMO D'AZEGLIO
CORSO MARCONI
VIA PO
FIUME PO
FIUME DORA


Porta Susa Station
Piazza Castello
Mole Antonelliana
Via Po
18
Piazza San Carlo
Piazza Vittorio Veneto
Porta Nuova Station
1-35
Corso Vittorio Emanuele II
Corso Massimo D'Azeglio
Corso Marconi
18
Castello del Valentino
LINGOTTO
Via Nizza
Via Genova
1-18-35

dublin city of science2012
euroscience open forum

Dublin is delighted to be hosting ESOF2012, from 12-16 July, 2012.

Dublin blends over one thousand years of history and heritage with a modern, cosmopolitan city. A ten-year programme of investment in science has created world-class research centres, with particular strengths in ICT and biotechnology.

Renowned for its friendliness and the richness of its social and cultural life, Dublin will deliver a programme in 2012 that will be intellectually, culturally and socially invigorating for delegates. So, come to Dublin for the best of European science at ESOF2012 and stay on in Ireland for the craic!

ES Euroscience

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www.**esof**2012.org

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