

SYMPOSIUM ON TRANSATLANTIC EU-U.S. COOPERATION IN THE FIELD OF LARGE SCALE RESEARCH INFRASTRUCTURES

1st October 2010

CNR - Piazzale Aldo Moro, 7, 00185 Rome, Italy

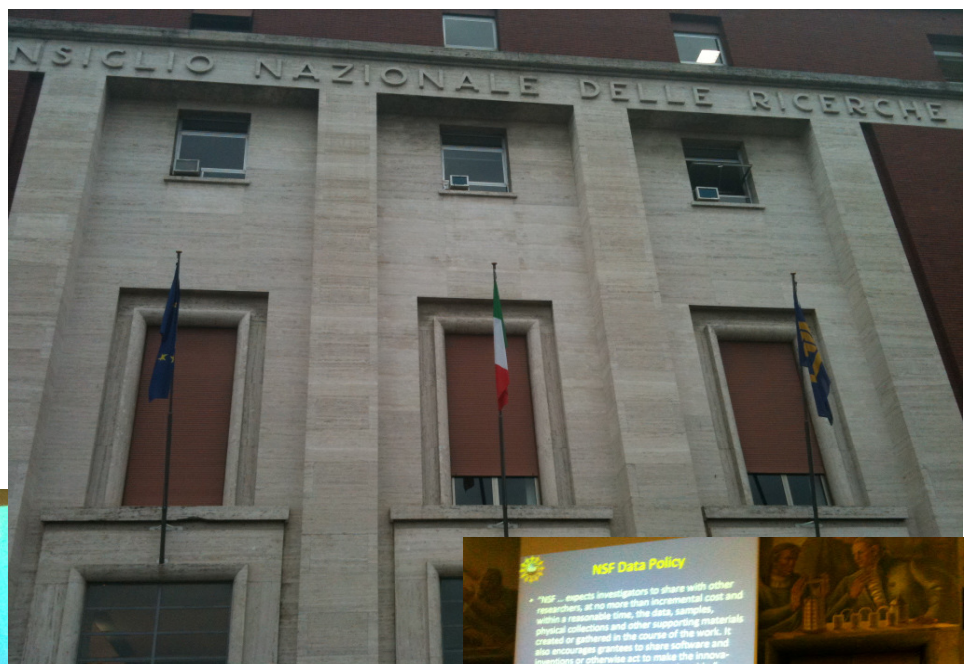


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BILAT-USA

BILAT-USA Project aims to improve the awareness towards EU-U.S. Science & Technology cooperation through setting up a sustainable, knowledge based, and bi-regional dialogue platform between S&T key players as well as stakeholders from the EU-Member States and Associated countries and from the U.S. Project is funded by European Union's Capacities Programme on International Cooperation under the 7th Framework Programme for Research and Technological Cooperation.

More detail information can be found on the project web-site:

<http://www.euussciencetechnology.eu/bilat-usa>

Executive Summary

On October 1, 2010, some 60 experts from major large scale research infrastructures (LSRI) funding organizations, officials, major research infrastructure executives and other related experts and scientists from Europe and the U.S. gathered in Rome, Italy, for the first-ever Symposium on Transatlantic EU-U.S. Cooperation in the Field of Large Scale Research Infrastructures with the purpose of increasing mutual understanding and raising awareness on planning and management processes of LSRI in Europe and in the USA.

The Symposium was organized by the BILAT-USA Project with the support from European Commission Directorate General for Research, Unit of Research Infrastructures and the National Science Foundation (NSF).

The BILAT-USA Project aims to improve the awareness towards EU-U.S. Science & Technology cooperation through setting up a sustainable, knowledge based, and bi-regional dialogue platform between S&T key players as well as stakeholders from the EU-Member States, Associated countries and the U.S. The BILAT-USA Project is funded by the European Union's 7th Framework Programme. More information is available at the project web-site: <http://www.euussciencetechnology.eu/bilat-usa>

The full-day LSRI Symposium was organized in plenary sessions in the morning, followed by 4 theme-specific parallel sessions in the afternoon. Participants have discussed how LSRI are developed and managed, the priorities and strategic perspectives for development of LSRI, ongoing initiatives at the EU Level, national level in Europe and in the USA, as well as good practice examples on selected topics of mutual interest including recommendations for tackling challenges to trans-Atlantic cooperation.

At the end of the Symposium, there was mutual agreement that the experiences and ideas discussed during the plenary and parallel sessions had seriously boosted awareness, knowledge and commitment on both sides to improve transatlantic cooperation on large scale research infrastructures.

As the main outcome of the Symposium it can be stated that there is a strong interest and willingness on both sides to strengthen EU-U.S. cooperation in the following directions:

- Enhance joint approaches towards common challenges, such as open access, data sharing and management via increasing the policy dialogue, setting up an international groups of experts, supporting further development of demonstration projects
- Increasing information exchange and sharing best practices via networking activities, organizing training programmes and summer schools in Europe and in the U.S,

- personnel exchange between U.S. and EU research infrastructure facilities,
- developing schemes for “light” and effective coordinated funding approaches.

The key issues related to each specific topic were discussed in the parallel sessions. The summary of each parallel session is included as follows.

The list of speakers, chairs and participants plus their affiliations as well as other useful information is included in the Appendixes to this report.

Discussions & Outcomes

Plenary Session 1: Opening Session

Chaired by: *Sabine Herlitschka*

Speakers: *Sabine Herlitschka, Hervé Pero, Mark Coles, Beatrix Vierkorn-Rudolph*

Issues Discussed:

The opening session provided the introduction and overview to European as well as U.S. Research Infrastructure processes and developments. The general information presented and discussed demonstrated similar developments both in Europe and the U.S. and set the stage for the more specific topics covered in the course of the Symposium.

Plenary Session 2: Computing and Data Services for Global Science

Chaired by: *Beatrix Vierkorn-Rudolph*

Speakers: *Kostas Glinos, Edward Seidel, Myron Gutmann*

Issues discussed:

- Data as infrastructure itself!
- Sociology of working together in e-infrastructures, U.S. System very decentralized; real time collaboration

Potential Areas for Cooperation identified:

- Help to set up networking activities in U.S.; information exchange in this area.
- Common calls for e-Infrastructures and Research Infrastructures.
- Increase cooperation across disciplines

Next Steps Agreed upon:

- Common calls for e-Infrastructures issues
- Increase networking opportunities
- Open access on data

Plenary Session 3:

Access to and Management of Research Infrastructures

Chaired by: Julie Morris

Speakers: Elena Righi-Steele; Edward Seidel, Carlo Rizzuto, Mark Coles

Issues Discussed:

- The importance of world-class Research Infrastructures (RI) as socio-economic drivers through research, development and innovation (e.g. new understanding, instruments and methodologies and training).
- The multiplicity of stakeholders (e.g. researchers, managers, politicians, media, industry) in publicly funded RIs, and managing the tension created by their very different goals, needs and timescales
- Developing the next generation work-force for sophisticated RI, including engineering, construction, users for research and societal operations, technical support, and exchanging technical expertise to reduce costs and accelerate development of next-generation RIs
- Challenges in building and managing multi-national RIs, including planning that incorporates interests of multiple partners from the beginning; dispute resolution; reconciling multiple national policies regarding intellectual and physical property rights; developing governance, funding, facility and data access policies that are mutually acceptable
- Sharing best practices for data management, QA/QC and access from the wide range of models currently in use, recognizing that approaches will naturally vary according to data types, science needs and data relevance to monitoring uses
- Challenges in operating RIs: sustained funding for operations and maintenance; covering the costs of providing data access and long-term data stewardship/curation;
- Ensuring that scientific merit remains the highest criteria for investigator access to RI's while harmonizing multiple investor interests in multi-national facilities.
- Using the EC's Trans-National Access Program as a U.S. model for providing RI access to investigators from non-shareholding countries, and explore broadening the concept to scientists from a wider spectrum of developing countries.

Potential Areas for Cooperation identified:

- Personnel exchange between U.S. and EC facilities at technical, post-doctoral and senior scientist level
- Explore U.S. development of program similar to EC's Trans National Access Program
- Sustained discussions on data access and service

Next Steps Agreed upon:

- EC and ESFRI participation in NSF's workshop on governance and funding models for NSF supported large facilities with international partnership, October 20-21, 2010.
- Personnel exchange through environmental demonstration projects

PARALLEL SESSIONS

Parallel Session 1:

Cyber-infrastructure / e-Infrastructure / Cyber-security (incl. Data Infrastructure)

Chaired by: *Kyriakos Baxevanidis*

Topics Covered: *Data Infrastructures, Computing Infrastructures*

Sub Topic 1: Data Infrastructures

Speakers: *Myron Gutmann, John Wood*

Issues discussed:

The joint vision: *Seamless and real-time access, use, re-use (by all legitimate researchers), and trust of data*

The following 4 topics were focused during the session:

- Common policies/agreements on open access to scientific data
- Common approaches to Authentication and Authorization
- Cloud and Grid coordination, development & interoperability efforts
- Coordinated call for Innovations in International Distributed computing for science and engineering

The following then state-of-play was identified in the field:

- Significant investments were made so far by both sides in improving shared access to data.
- Some progress was made in this context on the deployment of common Authentication procedures.
- As concerns Open Access to data, this is clearly linked to the deployment of common standards with emphasis on Metadata (the DDI standard in the sphere of Social Sciences was discussed here as an example).
- An emerging area in the data-field is that of the analysis of the social impact of data.

Potential Areas of Cooperation Agreed upon:

- Differences between Administrative and Research data (e.g. the different legal regimes etc).
- Need to merge disparate data sources (esp. to serve environment & society questions).
- Protection of Confidentiality and Privacy.
- Data Multilingualism.
- Processing of Metadata.

- Increasing sizes of data sets.
- Policy Challenges notably in the context of data sharing.

Next Steps Agreed on:

The following Framework of cooperation was identified:

- Reinforce Global Governance of data to promote in particular international Trust & Interoperability.
- Focus on data Sharing Policies (Reciprocity in open access is key).
- Establish Best Practices on Metadata.
- Enhance joint approaches to Authentication.
- Protect Confidential data (e.g. through the creation of virtual data enclaves).
- Develop shared open source technologies for preservation, delivery, and analysis of data.

A good starting point in any future cooperation activity could be the setting-up of appropriate cross-disciplinary and cross-geographical training initiatives:

- e.g. Summer Schools (building on resources/experience of existing flagship projects)
- Including Training to Scientists on the value of data

Important also in any joint action is to bring the right people/initiatives around the same table – e.g. to set-up international groups of experts (including reinforcing the existing ones with experts from the other side of the Atlantic).

In addition to the above relatively "down to the earth" plans both sides found interesting and agreed to further discuss on possible joint-plans/actions as regards the following "Big Ideas" (and perhaps build a "Decadal Perspective" of their cooperation on data):

- Big ideas
 - Social-Media data are large borne-digital and borne-international
 - Example: Twitter Archive at Library of Congress
 - Integrated Social Behavioral Observation Network
 - What Social-Behavioral-Economic (SBE) data will be the successors to traditional surveys?
 - Relevance of commercial data aggregators (e.g. Google, Amazon etc)
 - Trust is the key
- A Decadal Perspective
 - Build a common SBE-focused research data infrastructure

Sub topic 2: Computing Infrastructures

Speakers: Geoffrey C. Fox (Indiana University), Steven Newhouse (EGI.eu)

The joint vision: To efficiently address the dramatic changes of our days (in technologies, data, ways of working, everything..)

Issues Discussed:

The following state-of-play was then identified in this field:

- There is existing cross-Atlantic cooperation mainly focusing today on:
- Cooperation among flagship projects (even at operational even e.g. the EU-project EGEE/EGI and U.S.-project OSG).
- Various cooperation activities among other projects (e.g. between Venus-C (EC), FutureGrid (NSF) and Magellan (DoE) on clouds/grids).
- Cooperation on Application-level (playing a driving role).
- Joint development of Standards (e.g. in the context of the Open Grid Forum).
- Joint support to Summer Schools.

Potential Areas of Cooperation Agreed upon

- Virtualisation (e.g. clouds)
- Sustainability of Cyber/e-Infrastructures
- Computation beyond desktop (still hard to do)
- Service offerings that do not (always) match the needs of new users
- Value (and cost) of facilities that need to be (further) exposed to stakeholders

Next Steps Agreed on:

- Investigate the linking of U.S. computing Cyber-infrastructures to EGI (e.g. set up an EGI node on FutureGrid?)
- Jointly exploit a "Virtualised Future" (notably quantifying the value of Clouds in Science; existing project initiatives on both sides could drive this activity)
- Jointly quantify the value of GPGPUs in Science (a possible action on this could be the closer cooperation, as regards the above point, between the NSF-funded Keeneland and the EC-funded PRACE facilities)
- Jointly support User-driven Integration & Interoperation
- Joint support to Software and Standards (notably in the areas of Grids and Clouds and focusing on reducing duplication through greater exchange of information)
- Enhance joint Training activities
- Deploy joint Green IT efforts (e.g. joint Studies)
- Jointly supporting a Mechanism of exchanging information (e.g. could be a project providing information to the research community of each side on developments, solicitations, other activities of the other side)

**Parallel Session 2:
Environment**

Chaired by: *Eeva Ikonen, Tim Killeen*

Topics Covered: *In-Situ Ocean Observing, Atmospheric Sciences/Space Weather*

Sub-topic 1: In Situ ocean observations via Ocean Observatories Initiative and European Multidisciplinary Seafloor Observatories

Speakers: *Tim Cowles, Paolo Favali*

Sub-Topic 2: Upper atmosphere observations using Incoherent Scatter Radars: EISCAT and AMISR/US-ISR

Speakers: *Esa Turunen, Terry Onsager*

Issues Discussed:

- The rapid pace of environmental change and the pressures it imposes on society
- The many areas of environmental observing in which the U.S. and EC have parallel research infrastructures and science communities, and obstacles and opportunities in their better coordination
- The nature of distributed networks for environmental observing, European mechanisms for their establishment, funding and operations, and the lessons they provide
- The importance of exchanging personnel, and where appropriate technology, between similar EC and U.S. facilities
- The increased scientific productivity that results from universal free data access
- The ability of environmental RIs to simultaneously provide data for Grand Challenge research questions and societal operations and how those potentially conflicting needs should be balanced
- The desire to develop a global, cyber-linked network of environmental and societal observation systems to provide the critical understanding society needs to adapt to global change, which would incorporate many areas of similar U.S. and EC research infrastructure and start with a couple of environmental demonstration projects.
- The role of a linking cyber/e-infrastructure, free data access and performance metrics in a successful demonstration project

Potential Areas of Cooperation Agreed upon:

- Sustained work towards developing a joint U.S.-EC vision of a global environmental and societal observation system
- Development of joint environmental Demonstration Projects, with candidates including in-situ ocean observations (OOI and EMSO) and upper atmospheric observations via incoherent scatter radars (EISCAT and AMISR)

Next Steps Agreed on:

- NSF-ESFRI discussions in Washington DC in October to further develop demonstration projects.
- Joint participation in AAAS special symposium on Environmental Observing in Washington DC in Feb. 2011, and NSF-hosted discussion meeting focused on environmental observing.

**Parallel Session 3:
Large Infrastructures for Astro-particle physics and Astronomy**

Chaired by: *Mark Coles and Jorgen Kjems*

Sub Topic 1: Deep Underground Facilities and Large Baseline Neutrino Experiments

Speakers: *André Rubbia, Edward Seidel*

Sub Topic 2: Large Optical Telescopes/IR Telescopes: Common Challenges and Perspectives

Speakers: *Johannes Andersen, Edward Seidel*

Issues discussed:

- Global development of underground laboratories for neutrino research including planning and priority setting
- Strategic planning of large ground based telescopes in U.S. and Europe, barriers for collaboration and relations to smaller scale national instruments

Potential Areas for Cooperation identified:

- Improve information exchange at "meta" level" science administration for best practices in planning, decision flows and execution of large projects
- Continued, systematic exchange of information on policy and management issues for science administrators and managers of large infrastructure projects

Next Steps Agreed upon:

- Collaboration on policies, procedures and processes for the handling of the new data streams from eg LSST and similar Tbyte/day "generators"
- Exchange of best practices for networking and linking of EU networks with U.S. counter parts
- Continue dialogue on policies for experimental use and data access
- Sharing best practices for stewardship and management of large infrastructure projects

**Parallel Session 4:
Biological & Medical Sciences**

Chairs: Murat Ozgoren, Hervé Pero, Graham Harrison

Topics Covered: *Primate Centres, Mouse Archives and Phenotyping Centres*

Sub topic 1: Primate Centres

Speakers: *Robert Teepe, Andrew Lackner*

Sub topic 2: Mouse Archives and Phenotyping Centres

Speakers: *Martin Hrabé de Angelis, Kent Lloyd*

Issues Discussed:

- Dr. Ozgoren made a very brief introductory presentation on Biomedical Landscape of ESFRI (BMSTWG).
- There were two subsections each having an example from EU and U.S. side. The first one was focused on primates and the latter on mouse mutants.
- The primates sub-session on behalf of U.S. was represented by the U.S. National Primate Research Center (Prof. Dr. Andrew Lackner). On the EU side, EUPRIM-NET – I3 (R. Teepe) made the presentation in regard to the networks.
- The discussants pointed to the fact that “network to network collaboration does not exist between EU&U.S. but individuals”. Furthermore, primates research landscape in general faces a “poor ethical regulation” challenge across far-east countries. The research and best-practices regulations need a long-way to accomplish a world-wide consensus. For this matter EU-U.S. collaboration may have a further impact (also globally). The two continents did not have identical animal subspecies, which also add on to the complexity of sharing, designing and comparing the data and samples. Moreover, the transportation of biological samples needs further regulations to ensure the applicability of shared research across two continents. An improved platform of coordination, bioinformatics, education and visits of scientists were to be seen as opportunities. On the other hand, regulatory hurdles, transporting of samples and funding has been reported as obstacles.
- In case of mouse research examples, INFRAFRONTIER (M. Hrabé de Angelis) and U.S. large Mutant Mouse facilities (Kent Lloyd) made their presentations.
- The mouse research area has been highlighted with already good trans-atlantic collaboration. The research field itself created a vast amount of technologies and spin-offs with-I and for general disease models. In order to deliver research services the pace needs to be kept and even increased to fulfill the requirements of clinical and targeted research.
- Institutional trainee programmes on both continents can be increased and supported by means of these types of exercises. Both EU and U.S. support programmes are needed for extended stays of scientists across the Atlantic. The existence of such examples on two sides made the basis of progress on two sides, especially towards understanding the similarities and differences in scientific, cultural as well as regulatory aspects.
- Overall, the conclusion from the two sub-topics provided the following issues:

Joint issues / needs / possible bottlenecks:

- Resource-related RIs , but doing more than just provision of animals
- Regulatory principles (customs, security) do not allow easy transport of samples
- Harmonization of husbandry, handling, health
- Need for EU, U.S. or international biobanks
- Need for int'l exchange programme(s) and/or int'l plan for production, use of animals, technology development and training
- Common data sharing infrastructure – biomedical informatics research network

Conclusions / recommendations for agencies:

- Strong parallelism between EU & U.S., things are moving on...
- Regulatory issues to be looked at (not just EU-U.S.)
- Stimulating coordinating networks for harmonization of practices (incl. data sharing, training, data management, etc.)
- A large amount of work yet to be done to increase efficiency of BMS RIs; timing is critical!
- Input to EU FP7 Work Programme for 2012; a future complementary BILAT-USA WS in the fields of biological & medical sciences is needed

Potential Areas for Cooperation identified:

- The joint planning of assessments, furthering the scientific and regulatory requirements and managing obstacles
- Support mechanisms for mobility and funding for joint research for EU&U.S. scientists
- Remote experiments could become a solution set for minimizing the transportation needs of samples as well as the scientists' travel.
- Joint planning of work on Bioinformatics as well as cyber/e-infrastructures are needed to meet the requirements of the subsequent fields
- Joint training of technical staff, researchers, administrators needed

Next Steps Agreed upon:

Follow-up meeting incorporating NIH is foreseen. The joint planning of this meeting from ESFRI BMS, EC and U.S. agencies may help to facilitate the cooperation, training, setting up the agency regulations, evaluation procedures, cyber/e-infrastructures and bioinformatics dimensions. BILAT-USA may facilitate further incorporation by means of current and future initiatives, web portal, contacts in U.S. and EU as well as workshops

Conference Documentation

Appendix A: Agenda

International Cooperation in Research Infrastructures

Symposium on Transatlantic EU-U.S. Cooperation in the Field of Large Scale Research Infrastructures

1st October 2010

CNR - Piazzale Aldo Moro, 7, 00185 Rome, Italy
Meeting Room (for the Plenary Sessions): Aula Marconi

09:30 – 10:30: Plenary Session - Opening

Moderator: Sabine Herlitschka

Welcome and Presentation of BILAT-USA Project

Sabine Herlitschka, BILAT-USA Coordinator, Austrian Research Promotion Agency (FFG)

European Research Infrastructure Development

Hervé Pero, Head of Unit, Research Infrastructures, European Commission Research Directorate General (DG Research)

U.S. Research Infrastructure Development

Mark Coles, Deputy Director, Large Facilities Office, National Science Foundation (NSF)

Research Infrastructures and their International Dimension

Beatrix Vierkorn-Rudolph, ESFRI Chair

Break (15 min)

10:45 – 12:45: Plenary Session (continued)

Computing and Data Services for Global Science

Moderator: Beatrix Vierkorn-Rudolph

- *Overview of e-Infrastructures* – Kostas Glinos , Head of Unit, GEANT and e-infrastructures, EC Information Society and Media Directorate General (EC DG INFSO)

Overview of Cyberinfrastructure: Edward Seidel, Directorate for Mathematical & Physical Sciences (MPS/OAD), NSF

- *Social Science and Data Infrastructure* – Myron Gutmann, Asst. Director, Directorate for Social, Behavioural & Economic Sciences, NSF

Management of and Access to Research Infrastructures

Moderator: Julie Morris

- The EC's Scheme of Transnational Access to Research Infrastructures: Elena Righi-Steele, Programme Officer, Research Infrastructures Unit, DG Research
- The NSF Experience of Access to Research Infrastructures: Edward Seidel, Director of the Office of Cyberinfrastructure, NSF
- Training and Mobility Of Managers and Technical Staff: Carlo Rizzuto, Former ESFRI Chair
- The NSF Experience of Management of Research Infrastructures: Mark Coles, Deputy Director, Large Facilities Office, NSF

12:45: Break

14:00-16:00: Parallel Sessions

Session 1: Cyber-infrastructure / e-Infrastructure / Cyber-security (incl. Data Infrastructure)

Chairs: EU: Kyriakos Baxenavidis (EC, DG INFSO)

- *Computing Infrastructures:*

	Project/Initiative	Speakers
EU	European Grid Infrastructure (EGI)	Steven Newhouse, EGI.eu
USA	FutureGrid Project	Geoffrey C. Fox, Indiana University

- *Data Infrastructures:*

	Project/Initiative	Speakers
EU	High Level Group on Data Infrastructures	John Wood, Association of Commonwealth Universities
USA	Social, Behavioral and Economic Sciences, NSF	Myron Gutmann, NSF

Session 2: Environment

Chairs: EU: Eeva Ikonen (ESFRI ENV TWG); NSF: Tim Killeen (Directorate for Geosciences (GEO/OAD))

- *In-Situ Ocean Observing:*

	Project/Initiative	Speakers
EU	European Multidisciplinary Seafloor Observatory (EMSO)	Paolo Favali, Istituto Nazionale di Geofisica e Vulcanologia (INGV)
USA	OOI (Ocean Observatories Initiative)	Tim Cowles, Consortium for Ocean Leadership

- *Atmospheric Sciences/Space Weather*

	Project/Initiative	Speakers
EU	EISCAT_3D	Esa Turunen, European Incoherent Scatter (EISCAT) Association
USA	Mobile/Fixed Incoherent Scatter Radar	Terrance Onsager, National Oceanic and Atmospheric Administration (NOAA) Space Environment Center

Session 3: Particle Physics and Astronomy

Chairs: EU: Joergen Kjems (ESFRI EPS TWG); NSF: Mark Coles (Large Facilities Office)

- *Deep Underground Facilities and Large Baseline Neutrino Experiments*

	Project/Initiative	Speakers
EU	EU Perspectives	André Rubbia, Swiss Federal Institute of Technology (ETH Zürich)
USA	NSF Perspectives	Edward Seidel, NSF

- *Large Optical Telescopes/IR Telescopes: Common Challenges and Perspectives*

	Project/Initiative	Speakers
EU	EU Perspectives	Johannes Andersen, Nordic Optical Telescope Scientific Association
USA	NSF Perspectives	Edward Seidel, NSF

Session 4: Biological and Medical Sciences

Chairs: EU: Murat Ozgoren (ESFRI) Hervé Pero (EC DG Research RI Unit) NSF: Graham Harrison (Office of International Science and Engineering (OISE))

- *Primate Centres*

	Project/Initiative	Speakers
EU	European Primate Network (EUPRIM-NET)	Robert Teepe, German Primate Center
USA	US National Primate Research Centre	Andrew Lackner, Tulane University

- *Mouse Archives and Phenotyping Centres*

	Project/Initiative	Speakers
EU	INFRAFRONTIER	Martin Hrabé de Angelis, Institute of Experimental Genetics (IEG), Helmholtz Zentrum München
USA	Knock Out Mouse Project (KOMP) and Mutant Mouse Regional Research Centers (MMRRC)	Kent Lloyd, University of California, Davis

Break (30 min)

16:30: Findings from Parallel Sessions & Discussions

Reports from the Chairs

- Results from Session 1: Cyber-infrastructure / e-Infrastructure / Cyber-security
- Results from Session 2: Environment
- Results from Session 3: Particle and Astroparticle Physics
- Results from Session 4: Biological and Medical Sciences

Concluding Remarks and Actions for Concrete Follow-up

- EU Representative: Hervé Pero and Beatrix Vierkorn-Rudolph
- U.S. Representative: Myron Gutmann
- BILAT-USA Project Coordinator: Sabine Herlitschka

17:15: Bilateral Meetings and Networking

18:00: End of Meeting

Appendix B: Presentations

All symposium presentations are accessible from the Symposium's web-site:

<http://www.euussciencetechnology.eu/home/risymposium>

Appendix C: List of Speakers and Chairs

Plenary Session Speakers (including Moderators)					
First Name	Last Name	Position	Organisation	Department/Unit	Session Name
Sabine	Herlitschka	Coordinator of Project and Director of EIP	BILAT-USA Project, Austrian Research Promotion Agency	FFG/European and International Programmes (EIP)	Opening Session
Hervé	Pero	Head of Unit	EC DG RTD	Research Infrastructure	
Mark	Coles	Deputy Director	NSF	Large Facilities Office	
Beatrix	Vierkorn-Rudolph	Chair	ESFRI		
Kostas	Glinos	Head of Unit	EC DG INFSO	GEANT and e-Infrastructures	Computing and Data Services for Global Science
Edward	Seidel	Assistant Director	NSF	Directorate for Mathematical & Physical Sciences (MPS/OAD)	
Myron	Gutmann	Assistant Director	NSF	Directorate for Social, Behavioral & Economic Sciences (SBE/OAD)	
Julie	Morris	Staff Associate	NSF	Directorate for Geosciences	Management of and Access to Research Infrastructures
Elena	Righi-Steele	Programme Officer	EC DG Research	Research Infrastructure	
Edward	Seidel	Assistant Director	NSF	Directorate for Mathematical & Physical Sciences (MPS/OAD)	
Carlo	Rizzuto	Former ESFRI Chair President	ESFRI Sinetrotrone Elettra		
Mark	Coles	Deputy Director	NSF	Large Facilities Office	

Parallel Session Chairs and Speakers					
Kyriakos	Baxenavidis	Deputy Head of Unit	EC DG INFSO	GEANT and e-infrastructures	e-Infrastructure / Cyber-security (incl. Data Infrastructure)
Steven	Newhouse	Director	EGI (European Grid Infrastructure)		
Geoffrey C	Fox	Director	FutureGrid Project		
John V.	Wood	Secretary-General	Association of Commonwealth Universities		
Myron	Gutmann	Assistant Director	NSF	Directorate for Social, Behavioral & Economic Sciences (SBE/OAD)	
Eeva	Ikonen	Senior Science Adviser Chair of the ESFRI Environment Thematic Working Group	Academy of Finland		Environment
Tim	Killeen	Assistant Director	NSF	Directorate for Geosciences (GEO/OAD)	
Paolo	Favali	Research Director, EMSO-PP Coordinator Head of the GEMARINE InterDisciplinary Research (RIDGE) Unit	Istituto Nazionale di Geofisica e Vulcanologia (INGV)		
Tim	Cowles	Coordinator	US Project Ocean Observatories Initiative, Consortium for Ocean Leadership		
Esa	Turunen	Director	EISCAT Association		
Terrance	Onsager	Researcher	NOAA Space Environment Center		Particle and Astroparticle Physics
Joergen	Kjems	Chair	ESFRI Engineering and Physical Sciences Thematic Working Group		
Mark	Coles	Deputy Director	NSF	Large Facilities Office	

André	Rubbia	Head of Institute of Particle Physics, Coordinator of the DS FP7 LAGUNA	Swiss Federal Institute of Technology		
Edward	Seidel	Assistant Director	NSF	Directorate for Mathematical & Physical Sciences (MPS/OAD)	
Johannes	Andersen	Associate Professor Director of the Nordic Optical Telescope Scientific Association	University of Copenhagen	Niels Bohr Institute	
Murat	Ozgoren	ESFRI	Biological and Medical Sciences TWG		Biological and Medical Sciences
Graham	Harrison	Program Manager	NSF	Office of International Science and Engineering (OISE)	
Robert	Teepe	Head of the unit Research Coordination	German Primate Center	Research Coordination	
Andrew	Lackner	Director	Tulane University, Louisiana	US National Primate Research Center	
Martin	Hrabe de Angelis	Head	German Research Center for Environmental Health, Institute of Experimental Genetics		
Kent	Lloyd	Director	Mutant Mouse Facilities at University of California at Davis		

Appendix D: Biographies of Speakers and Chairs¹

(in alphabetical order)

Johannes Andersen

Johannes Andersen is Professor of Astronomy at the University of Copenhagen, Denmark, but has also spent 5 years in France, Canada, and the US. He currently serves as Director of the Nordic Optical Telescope, La Palma, Spain. His scientific interests are in stellar and Galactic evolution, astronomical instrumentation, and international scientific cooperation, with ~350 publications in these fields. JA is a former Chairman of the ESO Scientific and Technical Committee, former General Secretary of the International Astronomical Union, current chairman of the OPTICON Telescope Directors' Forum, and has chaired the Board of ASTRONET since its creation in 2005.

Kyriakos Baxevanidis

Kyriakos Baxevanidis is the Deputy Head of the GÉANT and e-Infrastructures Unit, Directorate General Information Society and Media (INFOS) of the European Commission. The Unit supports the provision of computer, communication, and data infrastructures of the highest quality and performance to Europe's researchers, namely by establishing a high-capacity and high-speed communications network for all researchers in Europe (GÉANT) and specific high performance computing and data-intensive advanced infrastructures (e.g. EGI, EGEE, PRACE, DEISA, DRIVER), exploiting the benefits of a strong co-ordination between the Research Infrastructures and the Information and Communication Technologies (ICT) Programmes of the European Commission, and an enlarged co-operation with relevant national and international initiatives. Mr. Baxevanidis holds also the position of the Vice-Chair of the Advisory Committee of the Open Grid Forum (OGF), the international standardisation body on distributed computing - grids. He previously served in the areas of Services Engineering, Communications Management and Security of ICT and of previous EU-Research programmes. Before joining the Commission, he worked for several years in Siemens in the field of telecommunication systems as an engineer and leader, later, of a development group. He holds degrees on engineering from the Aristotle University of Greece and from Carnegie-Mellon University, US.

Mark Coles

Mark Coles is Deputy Director for Large Facility Projects within the National Science Foundation's Office of Budget, Finance, and Award Management. He contributes to NSF's oversight of planning, construction, and operation of large research infrastructure, with special emphasis on project management issues. He was previously Observatory Head at the Caltech/MIT Laser Interferometer Gravitational Wave Observatory in Livingston, Louisiana. He held prior appointments at the Superconducting Super Collider, Carnegie-Mellon University, and Schlumberger. He graduated from Caltech in Physics and holds a Ph.D. in physics and an MBA from the University of California at Berkeley.

Tim Cowles

Tim Cowles is the Principal Investigator of the Ocean Observing Initiative (OOI) and serves as Vice President and Director, Ocean Observing Activities, at the Consortium for Ocean Leadership. He has spent over 30 years conducting oceanographic research, focused on the ecological dynamics of marine plankton, with particular emphasis on the responses of planktonic organisms and plankton communities to the physical processes of mixing and advection. Dr. Cowles has undergraduate and graduate degrees from Stanford University (BS, Chemistry, 1973, and MS, Biology, 1973) and Duke University (PhD, Zoology, 1977). He was a Postdoctoral Scholar and Assistant Scientist at Woods Hole Oceanographic Institution (1977-1984), then joined the oceanographic faculty at Oregon State

¹ This document does not contain all biographies.

University as an Associate Professor in 1984. In addition to his research, teaching, and advising of graduate students at Oregon State University, Dr. Cowles served for five years as Associate Dean of the College of Oceanic and Atmospheric Sciences and was Interim Dean of the College in 2001. He has had a long-term interest in facilities and infrastructure in ocean science, particularly regarding research vessels, instrumentation platforms, and the development of in situ instrumentation. He served on the leadership Council of the University National Oceanographic Laboratory System (UNOLS) as a Member (1998-2000), Vice-Chair (2000-2002), and Chair (2002-2004), and contributed to the initiation and development of the Science Mission Requirements for the Oceans Class vessels (now in the early stages of construction). Dr. Cowles began his leadership of the OOI in January 2009. He guides the management and coordination of the OOI construction and initial operations, with the multiple tasks of construction and operations distributed across several US universities and research institutions.

Paolo Favali

Professor Favali presently is the Co-ordinator of the Preparatory Phase of the ESFRI infrastructure EMSO (European Multidisciplinary Seafloor Observatory) project funded by European Commission in the frame of FP7-INFRASTRUCTURES-2007-1. Since 2001 he is Head of the Marine Unit of INGV, RIDGE Unit (GEomarine InterDisciplinary Researches) which was and is involved in many national and international projects; he is the representative of INGV since 1995 inside the International Ocean Network (ION). He published more than 100 papers on International and Italian Journals, and Proceedings.

He was graduated in 1976 cum laude in Geological Sciences at the University "La Sapienza" of Roma, with specialisation on Geophysics. Researcher since 1979, presently he is Research Director since 2000. He has about 30 years of experience with main fields of interest in Natural Hazards (mainly Seismic), Seismotectonics, Geodynamics, Applied Geophysics and Environmental Sciences. He cooperates in research and technological projects with many Italian/International Universities, Scientific Institutions and Industries.

He is convenor since 1996 of International Scientific Conferences. In 1999 he was editor of a volume edited by Elsevier titled "Science-Technology Synergy for research in marine environment: Challenges for the XXI Century" (Developments in Marine Technology, vol. 12). In 2004 he was editor of a number of Environmental Geology edited by Springer (vol. 46/8). In 2006 he was editor of Annals of Geophysics "Special issue dedicated to Giuseppe Smriglio. From land networks to seafloor observatories" (vol. 49/2-3).

He is a member (1999-2003) for the European Science Foundation of the Detailed Programme Group SEIZE (Seismogenic Zone Experiment) of Ocean Drilling Programme as well as Steering Committee of the European initiative "The Deep-Sea Frontier" (since 2005).

He published more than 100 papers on International and Italian Journals, and Proceedings (see selected list of publications on International Journals from 1998).

Geoffrey C. Fox

Fox received a Ph.D. in Theoretical Physics from Cambridge University and is now professor of Informatics and Computing, and Physics at Indiana University where he is director of the Digital Science Center and Associate Dean for Research and Graduate Studies at the School of Informatics and Computing. He previously held positions at Caltech, Syracuse University and Florida State University. He has supervised the PhD of 61 students and published over 600 papers in physics and computer science. He currently works in applying computer science to Bioinformatics, Defense, Earthquake and Ice-sheet Science, Particle Physics and Chemical Informatics. He is principal investigator of FutureGrid – a new facility to enable development of new approaches to computing. He is involved in several projects to enhance the capabilities of Minority Serving Institutions.

Kostas Glinos

Kostas Glinos has been with the European Commission since 1992. He leads the GÉANT & e-Infrastructures unit of the Directorate General for Information Society and Media since 1 January 2009.

From 2003 to 2008 he was Head of the Embedded Systems and Control unit and interim Executive Director of the ARTEMIS Joint Undertaking. Previously he was deputy head of Future and Emerging Technologies. Before joining the Commission Kostas worked with multinational companies and research institutes in the U.S., Greece and Belgium. He holds a diploma in Chemical Engineering from the University of Thessaloniki, a PhD from the University of Massachusetts and a MBA in investment management from Drexel University.

Myron Gutmann

Myron P. Gutmann is Assistant Director of the National Science Foundation, with responsibility for NSF's Social, Behavioral, and Economic Sciences Directorate. He is also Professor of History and Information and Research Professor in the Institute for Social Research at the University of Michigan. Prior to joining NSF, he was Director of the Inter-university Consortium for Political and Social Research (ICPSR). Gutmann has broad interests in interdisciplinary historical research, especially health, population, economy, and the environment. As Director of ICPSR, he was a leader in the archiving and dissemination of electronic research materials related to society, population, and health, with a special interest in the protection of respondent confidentiality. He has written or edited five books and more than eighty articles and chapters. Gutmann has served on a number of national and international advisory committees and editorial boards

Graham Harrison

Graham Harrison is a Program Officer in the Office of International Science and Engineering (OISE) at the National Science Foundation. His portfolio of responsibility includes Belgium, Italy, the Netherlands, Portugal, Spain and Switzerland, as well as European-wide programs such as those supported by the European Commission. Prior to coming to NSF, he was a faculty member in the Department of Chemical and Biomolecular Engineering at Clemson University. He earned a PhD at the University of California, Santa Barbara, and has also taught and undertaken research in Australia, Portugal, Thailand and the UK.

Sabine Herlitschka

Sabine Herlitschka is Director of the Division of European & International Programmes in the Austrian Research Promotion Agency (FFG) and Austrian Coordinating National Contact Point for the 7th EU Framework Programme for Research, Technological Development and Demonstration. With a team of 45 experts her responsibilities and tasks comprise a broad spectrum of services in order to strengthen the Austrian participation in competitive European and International research & technology programmes. Sabine Herlitschka is the coordinator of the BILAT-USA Project.

Educated as food- and biotechnologist with an MBA in general management, her professional background includes research in international biotech industry and international RTD cooperation at BIT-Bureau for International Research and Technology Cooperation. After an internship at the US National Science Foundation, the American Association for the Advancement of Science (AAAS) and cooperation with the first Science Advisor in the US Department of State, she was founding Vice-Rector for Research Management and International Cooperation at the newly set up Medical University of Graz. For her achievements at the Medical University of Graz she gained the Austrian Higher Education Management Award 2007.

Since 1996 Sabine Herlitschka has been involved in a broad range of activities at European and International level, including acquisition and coordination of EU projects, National Contact Point activities, participation in proposal evaluation on behalf of the European Commission, Initiator of the "Trust Researchers" Petition towards Simplification of European research funding, and membership in Advisory Groups as well as various European and international Expert Groups. These include Rapporteur of the "High-level Expert Group on Frontier Research" that contributed to the development of the European Research Council, Rapporteur to the INCO Advisory Group, as well as Chair of the Expert Group on "Diversified Funding Streams for University-based Research" and Moderator of the Stakeholder Platform on "Common Funding Principles for responsible external Research Funding".

Andrew A. Lackner, DVM, PhD:

Dr. Lackner is Director of the Tulane National Primate Research Center, Tulane University, New Orleans, Louisiana. He is Professor of Microbiology, Immunology and Pathology at the Tulane

University School of Medicine and Adjunct Professor of Pathobiology at LSU SVM. Prior to joining Tulane, Dr. Lackner served on the faculty of the University of California (1988-1991), New Mexico State University (1991-1993) and Harvard Medical School (1993-2001). At Harvard, Dr. Lackner was Associate Professor of Pathology and Chair of the Division of Comparative Pathology at the New England Primate Research Center. Dr. Lackner obtained his degree in veterinary medicine from Colorado State University and a doctorate in comparative pathology from the University of California, Davis. He is a Diplomate of the American College of Veterinary Pathologists, and has a significant record of accomplishments as a researcher, clinician, educator and administrator. His research interests are focused on the pathogenesis of infectious diseases such as acquired immune deficiency syndrome (AIDS). Dr. Lackner maintains an active research program and is the author or co-author of more than 200 publications. He has been continuously funded by the National Institutes of Health (NIH) since 1988 and is currently principal investigator of several NIH grants. Dr. Lackner has also received numerous awards including the Elizabeth Glaser Scientist Award from the Elizabeth Glaser Pediatric AIDS Foundation. Dr. Lackner also has a significant record of mentorship with 23 previous postdoctoral fellows and graduate students plus two current graduate students and one postdoctoral fellow. Dr. Lackner is also Principal Investigator of an NIH institutional training grant in Experimental Medicine and Pathology (RR RR021309).

Kent Lloyd

K. C. Kent Lloyd, DVM, PhD, is professor and Associate Dean of Research at the School of Veterinary Medicine, University of California Davis (UCD). Dr. Lloyd earned his BA from UCSD in 1979, DVM from UCD in 1983, and PhD in Physiology under mentors Dr.'s Jared Diamond and John H. Walsh from UCLA in 1992. After becoming Assistant Professor at UCLA, Dr. Lloyd served a 2 year appointment as visiting scientist at the European Molecular Biology Laboratory (EMBL) in Heidelberg, Germany where he conducted work with Dr. Ruediger Klein on conditional mutagenesis in the mouse. From there he was recruited to the UCD School of Veterinary Medicine and became a founding faculty member of the Center for Comparative Medicine. In addition to his administrative responsibilities, Dr. Lloyd teaches in several courses in the professional veterinary and graduate curriculum in physiology and mouse biology. Since the early 1990's he has maintained continuous NIH funding as a PI/PD on several projects, including the KOMP and MMRRC mouse repositories and research training programs for veterinary students. He has published over 100 peer-reviewed articles and book chapters, the majority of which reflect his expertise in using laboratory animals as models to study human and animal diseases.

Steven Newhouse

Steven Newhouse is the Director of EGI.eu and the Project Director of the EGI-InSPIRE project.

Previously, he was the Technical Director of the EGEE-III project and before that he worked as a Program Manager in the High Performance Computing group in the Windows Server division at Microsoft, USA. At Microsoft he managed access to the Windows Computer Cluster Server product from non-Windows environments; primarily through the Open Grid Forum's (OGF) High Performance Computing Basic Profile (HPCBP) specification where he is currently chair of the OGF Board of Directors.

Before starting at Microsoft in 2007, he was Director of the Open Middleware Infrastructure Institute UK (OMII-UK), and on the management or supervisory boards of several major centres and projects within the UK e-Science programme.

Previously, he was the Sun Lecturer in e-Science in the Department of Computing at Imperial College London and Technical Director of the London e-Science Centre (LeSC), also based at Imperial, where he did his early research into the modelling of underwater acoustics using high performance computing resources.

Terrance Onsager

Dr. Terrance Onsager is the International Affairs Coordinator and conducts research on solar-terrestrial physics at the National Oceanic and Atmospheric Administration's (NOAA) Space Weather Prediction Center in Boulder, Colorado. The focus of his effort is on coordinating the capabilities and priorities of international space weather organizations to improve global space weather services. He

serves as Co-chair of the World Meteorological Organization Inter-Programme Coordination Team on Space Weather. He recently served as a Program Analyst at the NOAA National Weather Service International Activities Office with responsibility for National Weather Service interests in Saudi Arabia and the Middle East as well as global space weather activities.

Hervé Pero

Trained as Engineer (Ecole des Mines, France) and after 37 years of professional career, he has various fields of competence, ranging from industrial production to quality management, from follow-up and management of research & innovation or capacity building actions at European level to teaching activities. He has a broad experience in an international environment, since, after 4 years career in South America as a university teacher and 8 years in a steel making international group, he joined the European Commission, during the mid-80's to help develop the first community industrial research programmes. After several management positions in the Directorate General for Research, he is since 2004 working as Head of Unit dealing with Research Infrastructures. He is also the executive secretary of ESFRI, the European Strategy Group for Research Infrastructures. He is currently acting director for the Research Capacities in the European Research Area within the Research Directorate General.

Elena Righi-Steele

Born in Milano in 1965; she trained as a plasma physicist at the Università di Milano and Imperial College London, specialising in propagation and absorption of radio waves in plasmas and working 10+ years in the field of thermonuclear fusion. A theoretician at first, she subsequently became increasingly involved in experiments and operations of the JET tokamak in Culham (UK), then as RF physicist responsible for the plasma engineering of the heating systems for ITER at the EFDA Close Support Unit in Garching (D). Professionally she therefore became a communicating link between the theoretical and experimental communities in fusion plasma physics, understanding the requirements, language and limitations of both. Subsequently she moved to the Research Infrastructures Unit of DG RTD in the European Commission, where currently she is Programme Officer managing a portfolio of contracts in the fields of radio astronomy, astrophysics, astroparticle physics, space and inertial fusion, and following the policy developments in the fields at European level. Additionally, she follows the development of the research infrastructures policy for International Cooperation and Global Research Infrastructures and is part of the Secretariat of the European Strategy Forum for Research Infrastructures. She is a Fellow of the Royal Astronomical Society and of the European Astronomical Society.

Carlo Rizzuto

Carlo Rizzuto is the previous Chair of ESFRI and Chairman of Elettra, Sincrotrone Trieste ScpA. Graduating in physics in 1961, he became Associate Professor of Solid State Physics at the University of Geneva during 1963-5 and 1967-76, before becoming a full Professor in 1976, a position which he continues to hold. He has been a visiting Fellow at McGill University, Montréal; at Imperial College London; at the Universidad de Chile; Lausanne and at the Accademia dei Lincei. In addition to over 80 publications, he has been extensively involved in national and international bodies to promote and coordinate scientific development and frameworks for open and collaborative research, for example in China, India and the Ukraine.

André Rubbia

Born in Geneva (CH) the 12th of August 1966; married and father of 3 children (Aléna, Elisa and Victor) he graduated in physics from the University of Geneva (CH) in 1990 and completed his Ph.D. in physics in 1993 at the Massachusetts Institute of Technology (M.I.T.) of Cambridge, USA.

He started his career as Research Physicist in 1993 as a CERN fellow in the PPE division by becoming full staff member in 1995.

In 1998 he left CERN and became Associate Professor at the Institute for Particle Physics at ETH Zurich in Switzerland and in 2003 was appointed as full Professor and Head of the Institute for Particle Physics.

His research activities were focused on a well defined set of fields and in particular on neutrino flavour oscillations; search for proton decay; physics with positron/positronium; direct search for dark matter in the universe, phenomenology, physics Computing and detector R&D.

He is presently in charge of different management tasks by being Coordinator (PI) of the EC FP7 LAGUNA design study, a T2K executive member and Spokesman of the Argon Dark Matter (ArDM) experiment. He also acted as the Chairman the Swiss Institute for Particle Physics (2004-2007), representing the entire particle physics community of Switzerland. During his teaching and research career he published more than 200 scientific papers and has mentored about 20 PhD students.

Edward Seidel

Edward Seidel is a physicist recognized for his work on numerical relativity and black holes, as well as in high-performance and grid computing. He is currently Assistant Director for Mathematical and Physical Sciences (MPS) at the National Science Foundation (NSF), having also served at NSF's Director of the Office of Cyberinfrastructure. He is also the Floating Point Systems Professor at Louisiana State University (LSU), and was the founding director of LSU's Center for Computation & Technology. Previously Seidel was a professor at the Max Planck Institute for Gravitational Physics (Albert-Einstein-Institute, or AEI) in Germany from 1996-2005 and led EU projects in astrophysics and participated in the EU GridLab project. Seidel earned his Ph.D. from Yale University in relativistic astrophysics. He is a recipient of the IEEE Sidney Fernbach Award, the Gordon Bell Prize, and Heinz-Billing Prize, and is a fellow of the American Physical Society.

Robert Teepe

Dr. Robert Teepe has been head of the unit Research Coordination at the German Primate Center (DPZ) for the last seven years. He was responsible for the administrative issues of the first EUPRIM-Net proposal and tightly involved in the second EUPRIM-Net proposal. In addition he has science management responsibilities. Previously he worked at the University of Goettingen as a researcher. Further information about the DPZ unit Research Coordination can be found at:

<http://www.dpz.gwdg.de/index.php?id=972&L=1>

Esa Turunen

Dr. Esa Turunen is the Director of EISCAT Scientific Association since January 2009, working at the EISCAT Headquarters in Kiruna, Sweden. He was previously working as the Head of the Aeronomy Division at Sodankyla Geophysical Observatory (SGO), Finland. He took his PhD in University of Oulu, Finland in 1993 at the Department of Theoretical Physics. Later he was appointed as Docent of Aeronomy by the Department of Physical Sciences in the same university. His main research interest is high-latitude ionospheric D region and atmospheric and geospace interactions. He is the original developer of an internationally established theoretical model of the lower ionosphere, the Sodankyla Ion Chemistry model, which today is expanded to altitudes from 20 to 150 km. Since 1989 he was responsible for ionospheric research and measurements at SGO, coordinating EISCAT radar and rocket measurement campaigns and participating in several EU projects, including mobility schemes and COST actions. Currently he is the coordinator of the Preparatory Phase of the ESFRI Roadmap project EISCAT_3D -The European three-dimensional imaging radar for atmospheric and geospace research.

John V. Wood

Professor John Wood CBE, FEng is currently senior international relations adviser at Imperial College London. He has doctorates from Cambridge and Sheffield Universities. He has held academic posts at several universities prior to Imperial College. He was Dean of Engineering at Nottingham and Principal of Engineering at Imperial before taking up his present post. From 2001-2007 he was seconded to the Council for the Central Laboratory of the Research Councils as Chief Executive where he was responsible for the Rutherford-Appleton and Daresbury Laboratories in addition to shareholdings in ESRF, ILL and the Diamond Light Source. He is a non-executive director of a number of companies including Bio-Nano Consulting and sits on the advisory board of the British Library. Currently he is on the board of the Joint Information Services Committee responsible for the UK academic computing network and chairs their Support for Research Committee. He was a founder member of the European Strategy Forum for Research Infrastructure and became chair in 2004 where he was responsible for the first European Roadmap. In 2008 he became the first chair of the European

Research Area Board. He is currently chair of the European X-ray Free Electron Laser International Steering Committee. He was elected as a fellow of the Royal Academy of Engineering in 1999 and was made a Commander of the British Empire in 2007 for "services to science." His academic research focused on the processing of new materials where he has published over 240 papers and named on 17 patents.

Appendix E: List of Non Speaker Participants

First Name	Last Name	Organisation	Department
Lucio	Badiali	INGV	-
Rostand	Bruno	The Cyprus Institute	-
Gabriele	Fioni	Ministry for Higher Education and Research	General Direction
Erik	Hall	US Embassy - Rome	Economic Section
Leif	Laaksonen	e-Infrastructure Reflection Group (e-IRG)	Chair
Bruno	Marano	Bologna University	Dept. of Astronomy
Fabio	Mazzolini	Sincrotrone Trieste S.C.p.A.	-
Salvatore	Mele	CERN	Scientific Information Service
Carole	Moquin-Pathey	European Science Foundation	Corporate Science Strategy Development
Murat	Ozgoren	DEU & TUBITAK	Biophysics
Natalia	Paganelli	CRUI (Conference of Italian University Rectors) Foundation for Italian Universities	Executive's Staff - Research and TT
Federico	Petrolo	Swiss Federal Institute of Technology	Head of Finances of Project LAGUNA
Silke	Schumacher	European Molecular Biology Laboratory	-
Ion	Siotis	General Secretariat of Research and Technology	International Relations
Tom	Wang	American Association for the Advancement of Science (AAAS)	International Office

David L.	Wark	Imperial College London / STFC Rutherford Appleton Laboratory	-
Beate	Warneck	German Aerospace Center	EU-Bureau of the BMBF
John	Womersley	STFC	Science Programmes

Appendix F: Evaluation Results

GENERAL

Evaluation results show that vast majority of participants found the Symposium very useful and good organized in terms of content and other perspectives. Most common critics related to plenary sessions is that they have not allowed to much room for discussions. On the other hand parallel sessions were found very useful in terms of interaction and discussion opportunities but the allotted time was too short. Networking between European and with U.S. participants was a common most useful point.

Based on this evaluation results it can be recommended that such symposiums should allow more time for discussions on mutual areas of interests, therefore the presentations should be very brief and guiding. Increasing the total length of the event from one day to 2 days can also be considered.

DETAILS

Participation Rate: %30

Content

	Excellent	Good	Average	Poor
Whole event	40%	60%		
Plenary 1	35%	54%	11%	
Plenary 2	30%	65%	5%	
Plenary 3	30%	65%	5%	
Parallel 1	100%			
Parallel 2	90%	10%		
Parallel 3	80%	20%		
Parallel 4	62%	38%		
Parallel Session Reports & Concluding Remarks	50%	50%		

Overall Organization

	Excellent	Good	Average	Poor
Venue	37%	63%	10%	
Length of the plenary sessions	45%	45%	5%	5%
Length of the parallel sessions	38%	15%	42%	5%
Food and refreshments	45%	50%	5%	

Accessibility	45%	50%		5%
Administration prior to event	50%	40%	10%	
Promotion prior to event	30%	60%	5%	
Organization on the day	55%	40%	5%	

General Remarks on Plenary Sessions

Too long, too many presenters, too much time for presentations and not interactive enough; no time for questions and discussions; lack of real exchanges, good interdisciplinary perspective.

General Remarks on Parallel Sessions

Very good; very useful, very interesting, open discussions; more time is needed; good discussions; more comparison was needed between EU-U.S. actions, larger attendance preferable.

Most & Least Useful

Most Useful: shared visions, networking opportunity, possibility to discuss common interesting issues with U.S. participants; new contacts and insight; parallel sessions; transatlantic discussions; Parallel session 2 was very instructive.

Least Useful: no participation from other relevant US organizations (namely DoE, NiH), introductory presentations; more parallel sessions across all fields of RI would have been more useful; accessibility to the meeting venue (lack of enough signposts).

The Organizing Committee

National Science Foundation

Alan Blactecky, Office of Cyberinfrastructure

Mark Coles, Large Facilities Office

Graham M Harrison, Office of International Science and Engineering (OISE)

Tim Killeen, Directorate for Geosciences (GEO/OAD)

Julie D. Morris, Directorate for Geosciences (GEO/OAD)

National Institute of Health

Franziska Grieder, Division of Comparative Medicine, National Center for Research Resources

European Commission

Kyriakos Baxenavidis, EC DG INFSO, GEANT and e-infrastructures

Kostas Glinos, EC DG INFSO, GEANT and e-infrastructures

Hervé Pero, EC DG RTD, Research Infrastructures Unit

Elena Righi Steele, EC DG RTD, Research Infrastructures Unit

BILAT-USA

Sabine Herlitschka, Austrian Research Promotion Agency, European and International Programmes, Coordinator of the BILAT-USA Project

Berna Windischbaur, Austrian Research Promotion Agency, European and International Programmes

Tom Wang, American Association for the Advancement of Science (AAAS), International Office

Symposium Secretariat

The Austrian Research Promotion Agency/Division of European and International Programmes has provided the Secretariat for the Symposium and organized the event on behalf of the [BILAT-USA](#) project.

Appendix G: List of Abbreviations

Abbreviation	Full-Term
AAAS	American Association Advancement of Science and Technology
BILAT-USA	Bilateral Coordination for the Enhancement and Development of S&T Partnerships between the European Union and the United States of America
BMS	Biological and Medical Sciences
BMSTWG	Biological and Medical Sciences Thematic Working Group (ESFRI)
DG	Directorate General
DoE	Department of Energy
EC	European Commission
EU	European Union
ERA	European Research Area
ESFRI	European Strategy Forum on Research Infrastructure
FFG	Austrian Research Promotion Agency (Oesterreichische Forschungsförderungsgesellschaft mbH)
FP	Framework Programme for Research and Technological Development
LSRI	Large Scale Research Infrastructures
NIH	National Institute of Health
NSF	National Science Foundation
RI	Research Infrastructures
R&D	Research & Development
RTD	Research and Technological Development
S&T	Science & Technology
TWG	Thematic Working Group
U.S.	United States of America
USA	United States of America