

European Strategy Forum on Research Infrastructures

REPORT 2004

CHAIRMAN'S FOREWORD

The European Strategy Forum on Research Infrastructures (ESFRI) is the body where representatives of the Research Ministers of the EU Member States and of the European Commission consult each other on matters related to infrastructures of European significance.

It is my pleasure to present ESFRI's second annual report. In my view, it shows that, in the relatively short period since it has been set up, ESFRI has already demonstrated its capacity to act as a catalyst for a more coherent and efficient approach to research infrastructures in Europe.

The report illustrates its main activities from September 2003 (the issue of the first report) up to the autumn of 2004, presented according to the specific fields that ESFRI has examined. In some of these fields, research ministers will soon have to take decisions. The report gives also a picture of some of ESFRI's future activities.

I believe the preparatory work that has been put in hand until now will enable ESFRI, in the coming year, to provide good policy advice and to act as an incubator for practical, variable-geometry initiatives. In the longer term, it is in the development of an overall approach to infrastructures at the European level that I hope the full success of ESFRI will be measured.

Hans Chang (Director FOM, NL), 27 September 2004

1. INTRODUCTION

The European Strategy Forum on Research Infrastructures (ESFRI) was set up by Member States in 2002, following an initiative by Philippe Busquin, the European Commissioner for Research.

ESFRI brings together senior decision-makers, namely representatives appointed by research ministers of all (enlarged) EU Member States and representatives of the European Commission. The Associated States have been invited to join¹.

The objectives of ESFRI are to support a coherent and strategy-led approach to policy making on research infrastructures in Europe and to facilitate multilateral initiatives leading to a better development, construction and use of research infrastructures in Europe.

These objectives, and the membership of ESFRI, take into account that government decisions on major infrastructures of European significance are usually prepared by a complex phase of informal policy discussions and negotiations. So, the main challenge for ESFRI is to speed-up such negotiations and act as an incubator in the process of convergence that from such negotiations leads to concrete initiatives.

The functions of ESFRI in meeting this challenge consist in acquiring and exchanging information on the need for strategic facilities in Europe in diverse fields of research, in discussing the main elements in the relevant roadmaps and time-schedules in each of these fields and, where relevant, comparing priorities among different fields, reviewing and clarifying the key factors to be taken into account in future government decisions.

A general report on the activities of ESFRI is made available once a year. This is the 2004 report. The current list of ESFRI delegates is attached in annex.

¹ Of these countries Bulgaria, Norway, Romania, Swiss and Turkey have joined ESFRI (September 2004).

2. INFRA/ERA 2003: TRIESTE CONFERENCE (21 NOVEMBER 2003)

The conference was organized by the Italian Government, as one of the main events during its semester of Presidency, to contribute to the growth of the European Research Area (ERA) also in view of the entry of the new Member Countries. A special meaning was given to the conference by its location near the border between present and new Members, and one of the issues explicitly addressed was the role of research infrastructures to foster and develop a wider interaction and exchange. INFRA/ERA 2003 was held in collaboration with ESFRI.

The conference consisted of a part based on keynote talks describing the role of research infrastructures in Environmental, Human, Biomedical and Material Sciences. A second part presented and discussed new access and financing opportunities, in the light of ESFRI's first yearly report and of proposals by the European Science Foundation and of the European Research Advisory Board. The Conference has been concluded by the Italian Minister Moratti, who confirmed the strong will to proceed in the actions supporting the growth of the ERA and to start as soon as possible those 'Quick Start Projects' which demonstrate highest maturity and socioeconomic impact. She also announced that Italy will contribute to the growth of the infrastructures network by an early start of its UV-soft X FEL project, in Trieste, opening it to international collaboration as part of an Trans European Network of research facilities, and towards building a technological platform in the related technologies.

More than 300 participants, scientists, science administrators and government representatives attended the Conference. (<http://www.congresses.net/multimedia/elettra/infraera2003/>)

3. RESEARCH INFRASTRUCTURE PROJECTS

3.1 - FAIR : Hadron facility at GSI

After discussions in ESFRI the German-delegation took the initiative to set up an international steering committee, chaired by H. Schunck, for the FAIR-project. The following countries are represented in this committee: Finland, France, Germany, Hungary, Italy, Russia, Spain, Sweden and UK with EU and USA as observers. In addition Greece, Poland, China and India have expressed their intention to participate in FAIR.

The international steering committee initiated two subgroups: one on scientific and technical issues (STI-FAIR), chaired by S. Gales (IN2P3, France), and the other one on administrative and funding issues (AFI-FAIR), chaired by H.-F. Wagner (BMBF). ESFRI is following with interest the activities of the steering committees in the preparation of a Memorandum of Understanding (MoU). 25 Letters of Intent for research at FAIR have been signed by more than 1800 scientists until April 2004.

3.2 - Hard X-ray FEL at DESY

After discussions in ESFRI, the German delegation took the initiative to set-up an international steering committee, chaired by H. Schunck, for the European XFEL-project. The following countries are represented in this committee: Denmark, France, Germany, Hungary, Italy, Russia, Spain, Sweden, Switzerland and UK with EU and USA as observers.

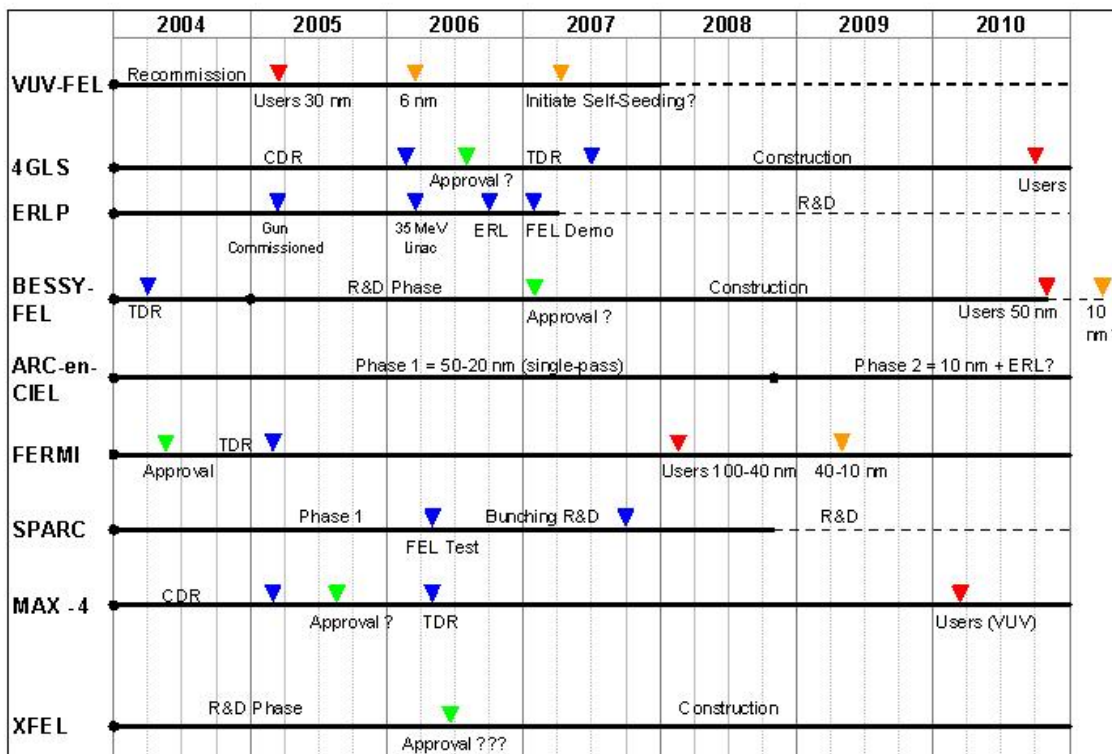
Using a similar procedure as for FAIR, the international steering committee initiated two subgroups.

In both the FAIR and the European XFEL projects ESFRI is following with interest the activities of the steering committees in the preparation of a Memorandum of Understanding (MoU). The objective is that both MoUs are signed (by the end of 2004), by the parties (ministries or national agencies) wishing to express their interest in participating in the construction and operation of the facilities. The MoUs will govern the preparatory phase of the projects, which will respectively extend up to the middle of 2006 (FAIR) and to the end of 2006 (European XFEL).

3.3 - UV-soft X-ray Free Electron Lasers

There are seven projects, in various stages of progress in 4 countries, which will integrate the present network of Synchrotron Radiation and of Laser Laboratories. In The most advanced project is the VUV-FEL user facility in Hamburg, a prototype facility for the European XFEL, which will start operation in the end of 2004. It is followed by one project at MAX-lab in Lund (S) with a test facility under construction and two projects in Italy: a user dedicated facility, the FERMI@ELETTRA project (Trieste), fully funded with joint financial support by the State and Regional Governments and a loan by the EIB, which will start operating in 2006/7, the SPARC test facility project (Frascati) funded by the Italian government, expected to operate from 2006. A test facility (ERL) is also being built in Daresbury (UK), in the frame of the 4GLS user facility proposal, which is being processed through the "gateway process" of the UK Government. Another project, the BESSY Soft X-ray Free Electron Laser in Berlin (BESSY, G) have obtained funding for design studies, while another proposal has more recently been developed in France (ARC EN CIEL, in Orsay). The Technical Design Report for the BESSY FEL has been presented in March 2004. Two ESFRI working groups one on 'sources' and the other on 'science drivers' is supporting a strong exchange of ideas and designs, to ensure the strongest complementarities between all projects in order to establish a roadmap for building a European Network on UV and soft X-ray FELs, as recommended in the European Growth Initiative. This roadmap will include Infrared and THz FELs as well as 'table top laser' laboratories.

An ESFRI statement on 'Next Generation Light Sources for Europe', explaining the importance of Free Electron Lasers, the possibilities opened by these new light sources and the various types of projects in Europe has been prepared. It is published on the ESFRI website. The joint meeting of the two FELs Working Groups, held in Berlin on 24-25 May, has led to the elaboration of a time schedule for the various projects (see the next graph).



3.4 - Neutrons in Europe

In the Trieste meeting ESFRI reconfirmed a consensus that the competitiveness of Europe can be maintained with focused investments in the two present "top-tier" facilities (ILL in Grenoble and ISIS in Abingdon), but some decision on a new high flux source will be needed in the medium term. The estimate is that there will be no specific funds available for a new source until 2008, and re-opening new discussions on ESS can wait until well into 2006. ESFRI suggested that the neutron community adopt the UK ("gateway process") timescale, for its future planning. This was discussed in a Neutron Strategy meeting in Abingdon on 26 March 2004, where delegates from 17 countries participated.

4. RESEARCH INFRASTRUCTURE POLICY

4.1 - Preparation of roadmaps

ESFRI has started to explore the possibility to stimulate the production of an overall European roadmap for (large scale) facilities. In such a roadmap each plan/proposal should be described in terms of 1) the science case, 2) the technical case and 3) the business case (including cost efficiency and alternatives) and the maturity of the plan.

Time-horizons and priorities are of course an important element of the overall roadmaps. Recently only the UK and Germany have gone through such processes at the national level.

An ad-hoc ESFRI-subgroup presented a discussion paper on this topic at the ESFRI-meeting of September. As a follow-up of the discussion, ESFRI decided to make an immediate start with the development of such roadmaps and agreed upon related working methods and timetables. Three dedicated steering groups will advise ESFRI on roadmaps in the following areas:

- Physical Sciences and Engineering: chair John Wood (UK)
- Biological and Medical Sciences: chair Ruth Barrington (IE)
- Social Sciences and Humanities: chair : Bjorn Henrichsen (NO)

The strategic roadmaps for Europe will allow the identification of those infrastructures that European researchers will need to conduct leading-edge research, providing a focus for long-term budgetary planning for funders, preventing over-provision of facilities and laying the basis for strategic prioritisation. It is proposed that ESFRI will report on a regular basis also to the Commission who will keep the Research Minister (via Competitiveness Council) informed. This line of actions of ESFRI has been communicated by the Dutch Presidency to the Competitiveness Council (24 September, Brussels).

By publishing roadmaps ESFRI will act as an incubator for concrete negotiations (after ESFRI process) and decisions by (groups of) Member States and the Commission on specific projects or for concrete decisions by (groups of) National Research Councils or may be a coming ERC.

4.2 - ESFRI Working groups

4.2.1 - Interim report of the WG on Large scale computing and networking facilities

The interim report of the Working Group was presented. One of the main points which appeared from the discussion was that Grid architectures will not solve the problems requiring large-scale centralized computing facilities. Other questions raised included: What is the size of the necessary investments? How many platforms do we need in Europe to be competitive? How do we compare with other regions (examples of powerful computers in US and Japan)? Comparing with large single-site infrastructures in Physics and Material Sciences, the infrastructures in computing have a higher replacement rate, due to the rapid evolution of the technology, and thus their cost, over time spans of the order of twenty years, are comparable to much larger infrastructures. The final report focused more on some strategic issues is expected by next year.

4.2.2 - Report of the Working Group on Humanities and Social Sciences

The Working Group proposes the creation of a European Resource Observatory for the Humanities and Social Sciences (EROHS). The main objectives of EROHS would be to facilitate the access to and the sharing of existing national and European data and to stimulate the generation of new European data. As a virtual infrastructure based on the use of modern information technologies, it would involve a hub for coordination aspects and nodes for discipline specific activities. EROHS would be implemented in several stages over a 5 year period, with an estimated budget of M€ 25 per year. ESFRI concluded that this type of proposal should first be discussed by a group of Social Science Research Councils. Each delegation would inform its national Social Science Research Council about this report. Mid 2005 ESFRI will discuss the progress that has been made at the level of the research councils.

4.2.3 - Working Group on Cultural Heritage

On the initiative of the Italian delegation the important topic of Cultural Heritage was discussed. ESFRI's Steering Groups for the Social Sciences and Humanities will be asked to study whether: i) this Steering Group could act as a leading group for this topic; ii) the setting of an expert group is an effective mechanism.

4.3 - Analysis of disciplines

ESFRI invites, according to need and specific suggestions, experts to provide information or present personal views:

- R. Wade (UK) presented the recently established (2001) Astroparticle Physics European Coordination (ApPEC), its mode of operation and main objectives. A roadmap for future facilities in the field shall be available in 2005.
- I. Mattaj, Scientific Director of EMBL presented the 'New Biology' as a frontier of science, in particular with the development of genomics and associated disciplines. In contrast to other areas like space sciences, astronomy or high energy physics, the new biology does not need a large facility, but rather 'shared resources', in the range of tens of millions € or millions €. However, these shared resources have high recurrent costs. Also, the modes of operation are different: in 'big' physical sciences, the data production is centralised and the data analysis is dispersed within the scientific community; in life sciences, the data and material production may be central or dispersed, but the data and material provision is central (e.g. bioinformatics resources, mutant collections) and their utilisation is dispersed.
- Ian Corbett (ESO) presented the outcome of the recent OECD-GSF workshops: Towards a roadmap for future large facilities in astronomy:
Two workshops have been recently organized by OECD-GSF on future large-scale projects and programmes in astronomy and astrophysics; the first one (Munich, December 2003) concentrated on science issues, the second one (Washington, April 2004) concentrated on generic policy issues. I. Corbett presented a summary of the GSF report based on the results of these two workshops. He stressed the importance of astronomy and astrophysics, a domain where "big" scientific questions remain unanswered. He pointed out the complementarity of ground-based and space-based observations in astronomy. He explained that it would be valuable to develop a consensus global long-term strategic view of all possible large-scale projects in the field. He noted that there is a common vision for a common research infrastructure, the "Virtual Observatory". In conclusion, he considered that the workshops had met their mandate, but that participation by space agencies would have given added value.
The importance of the problem of data rights, data management and storage was highlighted. H. Karow presented the ESF document "European Survey of National Priorities in Astronomy", made in collaboration with the European Astronomical Society.

Annex : list of ESFRI members (September 2004)

EUROPEAN STRATEGY FORUM ON RESEARCH INFRASTRUCTURES

(Membership as of September 2004)

CHAIR

Dr. Hans CHANG
Directeur FOM (Stichting Fundamenteel Onderzoek der Materie)
Postbus 3021
NL-3502 GA Utrecht
The Netherlands
Tel: +31 30 600 12 11
Fax: +31 30 601 44 06
E-mail: hans.chang@fom.nl

AUSTRIA

Ms. Anneliese STOKLASKA
Ministry of Education, Science and Culture
Abt. VI/B/7
Rosengasse 2-6
A-1014 Vienna
Austria
Tel: +43 1 53120 817150
Fax: +43 1 53120 817150
E-mail: anneliese.stoklaska@bmbwk.gv.at

Mag. Barbara WEITGRUBER
Director General
Federal Ministry for Education, Science and Research
Teinfaltstraße 8
A-1014 Vienna
Austria
Tel: +43 1 53120 6701
Fax: +43 1 53120 7891
E-mail: barbara.weitgruber@bmbwk.gv.at

BELGIUM

Dr. Jean MOULIN
Conseiller aux affaires scientifiques
Politique scientifique fédérale
Boulevard de l'Empereur, 4
1000 Bruxelles
Belgium
Tel: +32 2 519 56 56
Fax: +32 2 519 56 45
E-mail: jean.moulin@stis.fgov.be

Dr. Johan VAN HELLEPUTTE
Vice-President IMEC
Strategic Development Unit
Kapeldreef 75
3001 Leuven
Belgium
Tel: +32 16 28 12 43
Fax: +32 16 28 15 76
E-mail: johan.vanhelleputte@imec.be

CYPRUS

Dr. Ioannis PAPADOPOULOS
Director of the Agricultural Research Institute
Cyprus
Tel: +357-22403232
Fax: +357-22316770
E-mail: papado@arinet.ari.gov.cy / dari@arinet.ari.gov.cy

CZECH REPUBLIC

Dr. Karel JUNGWIRTH, DrSc.
The Institute of Physics Academy of Sciences of the CR
Director
Na Slovance 2
CZ-182 21 Prague 1
Czech Republic
Tel: +420 266 052 121, +420 286 890 467
Fax: +420 286 890 509
E-mail: jungwirth@fzu.cz / secretary@fzu.cz

Mr. Jan MAREK, PhD.
Deputy Director of the Secretariat of the Research Council
Nabrezi Edvarda Beneše 4
CZ-118 01 Prague 1
Czech Republic
Tel: +420 224 002 355
Fax: +420 257 530 256
E-mail: marek.jan@vlada.cz

DENMARK

Mr. John Renner HANSEN
Professor
Niels Bohr Institute for Astronomy, Physics and Geophysics
University of Copenhagen
Blegdamsvej 17
DK-2100 Copenhagen
Denmark
Tel : +45 3532 5327
Fax: +45 3532 5412
E-mail : renner@nbi.dk

Mr. Jørgen Kristian KJEMS
Managing Director
Risø National Laboratory
Frederiksborgvej 399, P.O. 49
DK-4000 Roskilde
Denmark
Tel: +45 4677 4600
Fax: +45 4677 4607
E-mail: joergen.kjems@risoe.dk

ESTONIA

?

FINLAND

Ms. Eeva IKONEN
Senior Science Adviser
Academy of Finland
P.O. Box 99
FIN-00501 Helsinki
Finland
Tel: +358 9 77488233
Fax: +358 9 77488241
E-mail: eeva.ikonen@aka.fi

Dr. Anneli PAULI
Executive Vice President (Research)
Academy of Finland
P.O. Box 99
FIN-00501 Helsinki
Finland
Tel: +358 9 7748 8220
Fax: +358 9 7748 8379
E-mail: anneli.pauli@aka.fi

FRANCE

Dr. Yves PETROFF
Ministère de la Recherche
Direction de la Recherche
Rue Descartes
F-75231 Paris Cedex 05
France
Tel: +33 1 5555 8833
Fax: +33 1 55558018
E-mail : petroff@esrf.fr

Dr. Dany VANDROMME
Directeur du GIP RENATER
Réseau National de Télécommunications pour la Technologie, l'Enseignement et la Recherche
ENSAM
151 Boulevard de L'Hôpital
F-75013 Paris
France
Tel: +33 1 53942030
Fax: +33 1 53942031
E-mail: dany.vandromme@renater.fr

GERMANY

Dr. Hermann SCHUNCK
Deputy Director General
Basic Research
Federal Ministry of Education and Research
Heinemannstrasse 2
D-53175 Bonn Bad Godesberg
Germany
Tel: +49 1888 57 3287
Fax: +49 1888 57 3946
E-mail: hermann.schunck@bmbf.bund.de

Dr. Hermann-Friedrich WAGNER
Heinemannstrasse 2
D-53175 Bonn
Germany
Tel: +49 228 57 3748
Fax: +49 228 57 3946
E-mail: hermann-friedrich.wagner@bmbf.bund.de

GREECE

Prof. Costas FOTAKIS
Director
Institute of Electronic Structure and Laser
Foundation for Research and Technology-Hellas (FORTH)
P.O.Box 1527, Vassilika Vouton
GR-711 10 Heraklion, Crete
Greece
Tel: +30 810 391 316
Fax: +30 810 391 318
E-mail: fotakis@iesl.forth.gr

Mrs A. PAPPA
Greek Permanent Representation to the EU
Brussels
Belgium
Tel: +32 2 5515685
Fax: +32 2 5127912
E-mail: apappa@rp-grece.be

HUNGARY

Mr. Pal KONCZ
Deputy Head of Department
International R&D Affairs
Szervita tér 8
1052 Budapest
Hungary
Tel: + 36 1 484 2584
Fax: +36 1 2662055
E-mail: pal.koncz@nkth.gov.hu

Mr. Karoly SZEGO
Department of Natural Sciences
Hungarian Academy of Sciences
Nador utca 7
1051 Budapest
Hungary
Tel: + 36 1 411-63-67
Fax: +36 1 411-62-44
E-mail: szego@office.mta.hu

IRELAND

Dr. Ruth BARRINGTON
CEO
The Health Research Board
73 Lower Baggot Street
Dublin 2
Ireland
Tel: +353 1 676 1176
Fax: +353 1 661 1856
E-mail: rbarrington@hrb.ie

Dr. Gerardine COSTELLO
Senior Policy Adviser
Science, Technology and Innovation Division
Forfás
Wilton Park House
Wilton Place
Dublin 2
Ireland
Tel: +353 1 607 3150
Fax: +353 1 607 3260
E-mail: gerardine.costello@forfas.ie

ITALY

Dr. Gioacchino FONTI
MIUR
P.zza Kennedy, 20
I-00144 Rome
Italy
Tel: +39 06 59912639
Fax: +39 06 59912368
E-mail: gioacchino.fonti@murst.it

Prof. Carlo RIZZUTO
President
Sincrotrone Trieste S.c.p.A.-ELETTRA
s.s. 14, km. 163,5 Basovizza
34012 Trieste
Italy
Tel: +39 040 3758311
Fax: +39 040 9380903
E-mail: carlo.rizzuto@elettra.trieste.it

LATVIA

Ms. Baiba BEINAROVICA
Ministry of Education and Science of the Republic of Latvia
Tel: +371 7047885
Fax: +371 7243126
E-mail: baiba.beinarovica@izm.gov.lv

Prof. Juris ŽAGARS
Ventspils University College
Tel/fax: + 371 3628303
E-mail: yzh@venta.lv

LITHUANIA

Mr. Romualdas KALYTIS
Head of the Division of Science,
Department of Science and Higher Education,
Ministry of Education and Science of the Republic of Lithuania
Z.Sierakausko str. 15,
LT-2600 Vilnius
Lithuania
Tel.: +370 5 2663463
Fax: +370 5 2663466
E-mail: romas@mokslas.lt

LUXEMBURG

Mr. Pierre DECKER
Conseiller de Gouvernement 1ère classe
Ministère de la Culture, de l'Enseignement Supérieur
et de la Recherche
18-20 Montée de la Pétrusse
L-2912 Luxembourg
Luxembourg
Tel: +352 478 52 16
Fax: +352 46 09 27
E-mail: pierre.decker@mcesr.etat.lu

Mr. Robert KERGER
Chargé de mission
Ministère de la Culture, de l'Enseignement supérieur
et de la Recherche
18-20 Montée de la Pétrusse
L-2912 Luxembourg
Luxembourg
Tel: +352 478 66 45
Fax: +352 46 09 27
E-mail: robert.kerger@mcesr.etat.lu

MALTA

Mr. Brian ST. JOHN
Business Development Manager,
Malta Information Technology & Training Services Ltd.,
Malta
Tel.: +356 259 92529
Fax: +356 559 92250
E-mail: brian.st-john@gov.mt

Mr. Robert SULTANA
Executive Director,
Computing Services Centre of the University of Malta,
Malta
Tel.:
Fax:
E-mail: robert.sultana@um.edu.mt

POLAND

Dr. Jacek GIERLINSKI
Acting Director
Department of European Integration
Ministry of Scientific Research and Information Technology
1/3 Wspolna Str.
00-529 Warsaw 53
Poland
Tel: +48 22 52 92 250
Fax: +48 22 52 92 283
E-mail: jgierlin@mii.gov.pl

Ms. Urszula WAJCEN
Ministry of Scientific Research
Counsellor of the Minister
1/3 Wspolna Str.
00-529 Warsaw 53,
Poland
Tel: +48 22 628 67 76
Fax: +48 22 628 35 34
E-mail: uwajcen@mii.gov.pl

PORTUGAL

Prof. Ricardo SERRÃO SANTOS
Universidade dos Açores
Departamento Oceanografia e Pescas
Cais de Santa Cruz
9900 Horta, Portugal
Tel: +351 292200407
Fax: +351 2922926411
E-mail: ricardo@notes.horta.uac.pt

Dr.a Carla SANTOS
Universidade dos Açores
Ministério da Ciência e Ensino Superior
Estrada das Laranjeiras, 197-205
1649-018 Lisboa, Portugal
Tel: +351 217231015
Fax: +351 217271457
E-mail: carlaas@mces.gov.pt

SLOVAKIA

Dr. Stanislav HLAVÁČ
Agentúra na podporu vedy a techniky
Science and Technology Assistance Agency
Hanulova 5/B
84101 Bratislava
Slovakia
Tel: +421 2 6920 1901
Fax: +421 2 69201999
E-mail: hlavac@apvt.gov.sk

Dr. Dusan VALACHOVIC
Director, Department of International S&T cooperation
Ministry of Education of the SR
Stromova 1
813 30 Bratislava
Slovak Republic
Tel: +421 2 69 202 210/202
Fax: +421 2 69 202 213/203
E-mail: valachov@education.gov.sk

SLOVENIA

Dr. Milos KOMAC
State Undersecretary
Ministry of Education, Science and Sport
Trg OF 13
SI - 1000 LJUBLJANA
Tel: +386 1 4784 649
Fax: +386 1 4784719
E-mail: milos.komac@gov.si

Dr. Miran CEH
Institut Jozef Stefan
Jamova 39
SI - 1000 LJUBLJANA
Tel: +386 1 477 3341
Fax: +386 1 426 3126
E-mail: miran.ceh@ijs.si

SPAIN

Mr. Ernest QUINGLES
Deputy Director General
Ministerio de Educacion y Ciencia
Jose Abascal 4
Madrid
Spain
Tel: +34 1 91 594 8603
Fax: +34 1 91 544 8641
E-mail: egs1@mcyt.es

Mr. Carlos ALEJALDRE
Director General Technolocy Policy
Ministry of Educación and Science
Paseo de la Castellana 160
E-28071 - MADRID
Tel: +34 1 91 349 42 50
Fax: +34 1 91 349 43 63
E-mail: dgpt@min.es

SWEDEN

Prof. Lars BÖRJESSON
Professor
Secretary General
Natural and Engineering Sciences
SE-103 78 Stockholm
Sweden
Tel: +46 31 772 33 07
Fax: +46 31 7722090
E-mail: lars.borjesson@vr.se

Dr. Mats JOHNSON
Ministry of Education and Science
SE-103 33 Stockholm
Sweden
Tel: +46 8 405 18 40
Fax: +46 8 405 19 07
E-mail: mats.johnsson@education.ministry.se

THE NETHERLANDS

Drs. Pim FENGER
Coördinator Internationaal Onderzoek en Wetenschapsbeleid
Directie Onderzoek en Wetenschapsbeleid
Ministerie van Onderwijs, Cultuur en Wetenschap
Postbus 16375
NL-2500 BY Den Haag
The Netherlands
Tel: +31 70 412 36 50
Fax: +31 70 412 26 56
E-mail : p.fenger@minocw.nl

Drs. Leo L. LE DUC
Hoofd Wetenschapsgebieden
Directie Onderzoek en Wetenschapsbeleid
Ministerie van Onderwijs, Cultuur en Wetenschap
Postbus 16375
NL-2500 BJ Den Haag
The Netherlands
Tel: +31 70 412 2294
Fax: +31 70 412 2080
E-mail: l.leduc@minocw.nl

UNITED KINGDOM

Mr. David SCHILDT
Director, Corporate Development
Council for the Central Laboratory of the Research Councils (CCLRC)
Rutherford Appleton Laboratory
Chilton
UK-Didcot, Oxfordshire OX11 0QX
United Kingdom
Tel: +44 1235 445644
Fax: +44 1235 445147
E-mail: david.schildt@rl.ac.uk

Prof. John WOOD
Chief Executive
Council for the Central Laboratory of the Research Councils (CCLRC)
Rutherford Appleton Laboratory
Chilton
UK-Didcot, Oxfordshire OX11 0QX
United Kingdom
Tel: +44 1235 445211
Fax: +44 1235 445147
E-mail: j.v.wood@rl.ac.uk

EUROPEAN COMMISSION

Mr. Robert-Jan SMITS
(Acting) Director RTD-B ("E.R.A. - Structural Aspects")
Square de Meeûs 8 (SDME 1/118)
1049 Brussels
Belgium
Tel: +32 2 2963296
Fax: +32 2 2992102
E-mail: robert-jan.smits@cec.eu.int

Associated States Members

BULGARIA

Prof. Dr. Nikolay MILOSHEV
Director
Geophysical Institute
Bulgarian Academy of Sciences
Acad. Guergui Bonchev bl.3
1113 Sofia
Bulgaria
Tel: +3592 9712677; +3592 700128
Fax: +3592 9713005
E-mail: Miloshev@geophys.bes.bg

NORWAY

Prof. Roy GABRIELSEN
Director
The Research Council of Norway
P.O Box 2700
St. Hanshaugen
N-0131 Oslo
Norway
Tel: +47 22 03 74 88
Fax:
E-mail: rhg@forskningsradet.no

Mr. Bjørn HENRICHSEN
Adm.dir. / Director
Norsk samfunnsvitenskapelig datatjeneste AS (NSD)
Norwegian Social Science Data Services Ltd.
Hans Holmboes gate 22
N-5007 Bergen
Norway
Tel: +47-55 58 21 18
Fax :+47-55 58 96 50
E-mail : Bjorn.Henrichsen@nsd.uib.no

ROMANIA

Prof. Dr. Ioan STEFANESCU
Director General
National R&D Institute for Cryogenic and isotopic Technologies
Str. Uzinei, 4
1000 Râmnicu Valcea
Romania
Tel: +40 250 733 890; 736 955; 732 744
Fax: +40 250 732 746
E-mail: istef@ns-icsi.icsi.ro

SWITZERLAND

Mr. Paul ZINSLI
Deputy Director
Federal Office for Education and Science
Hallwylstrasse 4
CH-3003 Bern
Switzerland
Tel: +41 31 322 96 53
Fax: +41 31 322 78 54
E-mail: paul.zinsli@bbw.admin.ch

TURKEY

Prof. Omer ANLAGAN
Vice President
The Scientific and Technical Research Council of Turkey (TUBITAK)
Atatürk Bulvari No. 221
06100 Kavaklıdere
Ankara
TURKEY
Tel: +90 312 467 82 80; +90 312 468 46 93
Fax: +90 312 427 26 72
E-mail: omer.anlagan@tubitak.gov.tr

SCIENTIFIC SECRETARIAT

Dr. Stefano FONTANA
Unit RTD-B3 ("Research Infrastructures")
Square de Meeûs 8 (SDME 4/38)
1049 Brussels
Belgium
Tel +32 2 2952218
Fax +32 2 2992102
E-mail: stefano.fontana@cec.eu.int

Dr. Jean-Louis PICQUÉ
Unit RTD-B3 ("Research Infrastructures")
Square de Meeûs 8 (SDME 1/60)
1049 Brussels
Belgium
Tel +32 2 2950228
Fax +32 2 2992102
E-mail: jean-louis.picque@cec.eu.int