

# Serving and Strengthening Science

Peer review

Evaluation

Project management

Hosting experts

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Based in Strasbourg, France, ESF was set up in 1974 as an independent, non-governmental, non-profit organisation to help its Member Organisations collaborate internationally on research programmes. ESF helps meet this objective by providing administrative, management and coordination services to independent scientific boards/committees and collaborative scientific projects, whilst harnessing in-depth knowledge of the European Commission and associated research communities.

### **A Change of Focus**

Now after 40 years of success in stimulating European research through its networking and coordination activities, ESF is undergoing a major change of focus. It is concentrating on activities designed to support and sustain the funding and conduct of scientific research across Europe. This is a natural evolution of its traditional role, since the aim remains to promote scientific developments through collaborative actions, but with the emphasis shifting to helping research funding organisations carry out their decision making processes.

This builds on core strengths developed in peer review and evaluation services. ESF has long been a legitimate and highly valued reference for peer review and evaluation in the European Research Area, and has a well-established legacy in applying best practices to support and select scientific proposals and grants. It also has unrivalled expertise in evaluating institutions and programmes across all scientific disciplines.

### **Serving and Strengthening Science**

ESF's aim is to serve and strengthen science by exploiting its assets to build and develop an organisation that is self-financing and independent, but at the same time non-profit and customer-service oriented. To this end it will be working alongside leading science funding institutions as well as national funding bodies.

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# Expertise and Services

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## 1. Peer Review and Evaluation

Scientific research is increasingly competitive, and the process of assessing proposals for projects more complex than ever before. There is a growing need for high-quality and independent peer review and evaluation to help decision makers select projects according to their scientific quality, potential, economic value, societal relevance or other specified criteria. We are well placed to provide professional peer review and evaluation services since we have an excellent track record in conducting numerous in-depth reviews for our Member Organisations, the European Commission, scientific groups or international agencies.

The term 'peer review' can be defined as a process by which something proposed (for research or publication) is evaluated by a group of experts in the appropriate field. A scientist's or institution's research proposal or application is assessed in terms of its quality, societal value, potential for significant advance and relevance to given requirements. Peer review is used at all stages of research starting at the proposal stage and continuing throughout the funding cycle right up to implementation and publication of results.

While usually advisory in nature, peer reviews nonetheless carry serious weight because of the expertise invested in a well-executed process and the independence of the contributing peers. The decision maker or funding body can award grants or prizes based, in large part, on the review given by the referees.

**Providing or facilitating an excellent peer review process is the core focus of our Peer Review and Evaluation Service.**

### **Specialised approach and practice**

In 2011, ESF issued, on behalf of its Member Organisations, the *European Peer Review Guide – Integrating Policies and Practices into Coherent Procedures*, created from an in-depth analysis of peer review processes implemented by the leading European public research funding organisations. This allowed us to refine our approach and incorporate the best practices identified during that analysis.

Following that, in 2012, ESF conducted a detailed review of scientific evaluation practices across European research organisations. This enabled us to deepen our understanding of the complex issues involved in the process of evaluation. Following this review, ESF issued a Member Organisation Forum report entitled *Evaluation in Research and Research Funding Organisations: European Practices*.

We can provide expert reviews for specific competitive calls or full-scale call management, covering all aspects including planning and coordination of specialised peer review and research evaluation assignments. With our pool of over 25 000 highly regarded and experienced reviewers, **we are able to provide outstanding scientific peer review support to institutes or organisations implementing competitive calls across all scientific domains.** The process ensures that research proposals and applications are assessed for scientific quality, validity, significance and originality. The collective achievements of a funding programme can subsequently be evaluated to assess the overall effectiveness, outcomes and impact of the programme, while identifying improvements or policy implications for the future.

### **Evidence-led decision making**

A key focus is to assist smaller organisations or whole countries in the improvement or scaling-up of their current peer review and evaluation processes. Competent and thorough evaluation should provide funders and stakeholders with evidence of policy achievements and science outcomes. It engenders a culture of transparency, continuous improvement, and evidence-led decision making.

It is essential that any potential peer reviewer is a genuine authority in the research field under consideration. With research being increasingly multidisciplinary, identifying the right set of expertise and appointing the right review team is crucial.

The value and relevance of peer review are enhanced by allowing a certain level of structured interaction between the applicants and the evaluators (rebuttal or interviews). For this reason interaction is encouraged and systematically proposed by our peer review process.

### **Clear and well-defined protocols**

The overall planning, setting of objectives and communication among all stakeholders in research funding require careful management. Clear and well-defined protocols for the planning phase of peer review and evaluation work are pre-requisites for successful implementation of peer review processes. Transparent guidelines combined with strong expertise ensure that outcomes are objective and accepted within the scientific community.

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**We are positioned as a benchmark peer review and evaluation provider at the European and international level.**

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## 2. Programme and Project Management

If you are seeking world-leading independent programme and scientific project management we are the organisation to contact. We can call on unrivalled experience managing both individual research projects and larger programmes at the international level. We have managed a considerable number of scientific projects funded by the European Commission and Member Organisations, supporting and collaborating with national institutions.

### **MERIL and MERIL-2**

The MERIL (Mapping of the European Research Infrastructure Landscape) project is an online database of research infrastructures across all fields of research in Europe. The MERIL project was initiated by ESF and supported by the European Commission for two years, after which Member Organisations continued its financing in order to maintain the project. MERIL represents an authoritative online source of scientific and policy-related data on European research infrastructures. MERIL-2, with a target budget of 2M€, is building on the success of MERIL to promote the development and coordination of policy and international cooperation in the domain of research infrastructures.

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**We have particular expertise in the management of large, complex scientific programmes spanning different European countries and systems.**

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### **Career tracking**

Research organisations are increasingly accountable to society at large to show that their programmes achieve the desired impact and represent good value for money at a time when budgets have come under greater strain. An important part of the accounting process lies in tracking and monitoring researchers' careers in order to assess the impact of investment in the scientists' development.

In the long run a European Research Career Observatory will be required to enable the challenges, bottlenecks and opportunities of research careers to be assessed transparently and fairly. Such a body would also help research organisations better tailor their policies and activities to researchers' needs. We have developed a one-year stand-alone pilot project with a number of participating organisations with the major goal of testing the validity and reliability of a questionnaire targeting early career researchers. An important part of the project will be to identify the methodological and statistical steps involved in conducting career tracking over time. We are ready to develop this concept further.

### **Management of collaborative research programmes**

We have considerable experience and success in running collaborative research programmes at the European level. Responsible for the implementation of COST (European Cooperation in Science and Technology) from 2003 to 2014, ESF managed a 40M€+ per annum allocation of collaborative grants on behalf of the European Commission. Having designed and implemented numerous collaborative programmes, including the Research Networking Programmes (RNPs) and

EUROCORES (EUROpean COllaborative RESearch) scheme, ESF has enabled research teams in different European countries to collaborate in areas where European-wide scale and scope with cross-border cooperation were essential.

ESF designed and managed the European Young Investigator Awards (EURYI) scheme, which was set up to attract outstanding young scientists from any country in the world, across all research domains, to create their own research teams at European research centres. Awards typically worth on average 1M€ over five years gave the best and brightest researchers a high-profile incentive to build careers in Europe. After four Calls, the EURYI scheme was transferred to the European Research Council to form the basis of its Starting Grant scheme.

ESF's 800 Research Conferences have stimulated cross-border collaboration across a broad range of fields including biomedicine, chemistry, environmental sciences, humanities, natural sciences, mathematics, molecular biology, physics/biophysics, and social sciences, but not limited to these fields and often including interdisciplinary questions.

The highly-renowned ESF Exploratory Workshop scheme resulted in around 800 transdisciplinary and multilateral meetings over 12 years, giving rise to innumerable interactions, lasting contacts and valuable follow-up activities.

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**We have a proven track record managing collaborative European-level programmes and projects.**

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### **3. Hosting Scientific Expert Boards and Committees**

ESF hosts Expert Boards and Committees with strong knowledge and experience of influencing ministerial and other high-level fora at the European and international level. These boards and committees have the expertise and authority to wield influence with decision makers and funding agencies. The Expert Boards and Committees develop the strategic approach to their domains in close collaboration with national authorities in member nations or European-wide agencies and research entities. They are composed of high-level independent researchers or research managers, nominated by their stakeholders to provide targeted expert advice in areas of science, policy, infrastructure, environment and society in Europe.

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**We can establish and host new Expert Committees that require a cost-effective organisation structure, financial probity, and strong competence in legal and human resource matters, allowing Board and Committee members to concentrate on their scientific goals and activities.**

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# Technical Capability

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We combine internal information systems and external technical tools to help conduct our advisory, peer review and project management functions. Licensed products from key suppliers provide a significant knowledge-base that is live, up-to-date and has the depth of information needed for us to assess the scientific standing of experts, as well as their level of recent activity and independence.

We have significant technical capability in research metrics, evaluation data design and management, survey methodology and data analytics. This has enabled us to develop a powerful mechanism for following up post doctorates or research project investigators. At the same time, data access agreements, such as preferential rates and archiving protocols, are necessary to optimise work practices and processes. We intend to join open access systems, such as the Research Data Alliance.

# Partnership Benefits

By collaborating with select partners, we can become even more effective at assisting funded scientific research in Europe. We are therefore looking to establish commercial partnerships that can add value to the services we offer to our clients.

Such collaboration will benefit not just European science but also the partners themselves. Our capability and high-level strategic consultancy are well proven and can provide value to:

- Smaller/cohesion EU countries that wish to take advantage of ESF services to improve their science base
- The research funding community that values expertise in evaluation, project coordination and management
- Commercial/state/public or other organisations that want to outsource specialist technical processes.

For such partners as listed below, the main benefits are:

## Research Foundations

- Improvement of allocation of research grant funding for maximum effect
- Assistance in achieving open access and data analysis objectives
- Provision of access to an extensive range of contract services including Expert Board/Committee hosting, conferences, etc.
- Buffer for peaks in activities to allow greater focus on core research objectives
- Provision of a strong platform to support the development of new innovative concepts.

## National Research Funding Organisations

- Assistance with developing a 'smart specialisation'<sup>1</sup> strategy
- Help with developing a systematic definition of national research objectives
- Assistance in the development of a balanced set of funding programmes
- Improvement of the success rate of competitive grant submissions.

## European Commission and other European/International Institutions

- Provision of credible services with proven probity and excellent project management capabilities
- Assistance with outsourcing objectives
- Assistance in the development of research capability in small/cohesion EU members
- Provision of independent evaluation expertise to assist policy makers
- Capability to facilitate high-level policy advice from Expert Boards and Committees
- Underpinning of communication of impact.

## Technology Partners

- Access to a market with rapid technical change and investment (open access, etc.)
- Access to experienced experts with detailed market knowledge
- Association with mature strong brand and access to key clients
- Access to development finance via co-funding and grants
- Reference site for access to European Commission projects.



### Scientific Community

- Support in preparing, bidding for, and implementing European/international projects.

The advantages of outsourcing peer review, evaluation, expert hosting, and project management are significant for research funding organisations when structured as a comprehensive service-level agreement:

- Freeing up of resources to focus on core activity allowing better workload management
- Benefits from a continuously improving set of routines and processes
- Association with independent, international, impartial and professional organisation
- Access to high-level expertise and track record of delivering excellence
- Access to and utilisation of highly skilled, transdisciplinary experts in several domains as needed.

We can also assist all countries that want to develop world-class research in limited areas with a 'smart specialisation'<sup>1</sup> strategy. We can help them define national research objectives systematically and develop a balanced set of funding programmes.

We can enhance coherence and avoid unproductive proliferation of programmes.

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### Developing relations with partners and associate members will facilitate:

- Provision of scale and capacity to achieve publicly-set objectives and develop resources in cutting-edge areas including technical productivity tools, open access data systems, and so on
- Continued development of good practice peer review and evaluation protocols, accountability and development models
- Leverage of existing resources – other organisations have developed the technology to help us meet our customer requirements (research grant management systems, etc.)
- Access to skills and expertise not currently available in ESF (data mining, data visualisation, etc.)
- Ability to trial innovative solutions that enhance the customer service delivered.

1. Smart specialisation is a policy framework combining industrial, educational and innovation policies (including their design, implementation and evaluation) that promote new growth opportunities. The smart specialisation approach suggests that countries or regions should identify and select a limited number of priority areas for knowledge-based investments, focusing on a region's strengths and comparative advantages (<http://www.oecd.org/sti/inno/smart-specialisation.pdf>).

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# Aims and Membership

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Our mission is guided by shared values that characterise our specific organisational culture: **excellence, openness, responsiveness, pan-European vision, ethical awareness and human values.**

Our aims and objectives continue to be aligned with those outlined in our statutes to:

- a) advance cooperation in research
- b) examine research issues of strategic importance
- c) promote mobility of research workers
- d) assist the free flow of information and ideas
- e) facilitate cooperation in the use of existing research infrastructures and in the planning and provision of new research infrastructures
- f) plan, launch and, where appropriate, manage collaborative research activities
- g) conduct activities for the benefit of the European scientific community and European society at large
- h) manage and/or coordinate the implementation of national, European and international research contracts
- i) organise, coordinate and/or conduct expert appraisals and scientific evaluations commissioned by third parties.

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**Our operations will continue to conform to the original objectives set out in our statutes as a non-profit organisation.**

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Changes in our statutes will facilitate a new governance structure and new types of membership. Members decide between taking part in the management and administration of the organisation, with voting rights and related responsibilities, or taking on a purely advisory role.

**Associate members** are able to donate expertise and referees to help smaller countries develop their research programmes and smart specialist areas. In doing so they will enhance their reputation for assisting the development of science in the European Union.

**Full members** are required to pay an annual contribution and, as a result, have access to our services at a preferential rate, allowing them to reduce their administrative burden and associated costs.

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**We are seeking new members to help advance the vision of generating a solid evidence-base to support the policy formulation work of clients and other associations in Europe.**

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# Why choose us?

We are shifting focus to become Europe's leading specialist provider of peer review, evaluation and project management services to research and funding organisations. While this means less emphasis on direct involvement in research coordination, we are using and building on skills accumulated during 40 years of highly successful involvement in major cross-border and often multidisciplinary scientific programmes. We are actively seeking suitable partnerships to acquire additional skills and ensure that we sustain world leadership position in the provision of these services.

We have peer review, evaluation and project management skills that meet the highest international standards to assist development and management of evidence-based science. This, combined with in-depth knowledge of the research networks across Europe and European Commission programmes, including implementation of Horizon 2020, means that we are uniquely placed to help public and private research funding organisations achieve their objectives.

We have a strong brand, are independent, and are internationally recognised for our significant scientific knowledge and skills. Research funding organisations have, for several years, purchased our external expert, independent and international peer review, evaluation, expert hosting and project management services. We will continue to develop our systems and ensure that they meet all client requirements.

We act as a neutral, independent expert to assist public and private funding organisations achieve their accountability goals and responsibilities. Our capability and probity are well-established – a major advantage when tendering for new projects.

Our overall strengths and collective in-depth knowledge of research project development mean we can play a major collaborative role helping potential partners and stakeholders realise and scale up new initiatives, concepts or ideas they may have. Our uniqueness, our expertise and tools, represent a key asset for innovative science support and implementation.

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***If you are interested in becoming a member, or would like to know more, contact:***

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# Peer Review

**ESF defines and designs efficient and appropriate call and research proposal assessment processes. It supports client organisations and partners as early as the initial preparatory phase.**

**Some references:**

## **AXA Research Fund 2015**

Following the 2013 and 2014 post-doctoral fellowships campaigns, ESF worked with the AXA Research Fund on call operation improvements. For the 2015 campaign, ESF will manage the call and perform the scientific assessment of around 450 applications in total.

## **2014**

AXA Research Fund post-doctoral fellowships: ESF participated in 2014 in the call operations and performed the scientific assessment of more than 400 applications.

“ The AXA Research Fund initiated a partnership with the European Science Foundation two years ago. The ESF has demonstrated great skills in conducting the Post-Doctoral Campaign peer review process. ESF is now handling more than 400 applications yearly for us. Their extensive experience, the quality of their network of researchers and reviewers, as well as the professionalism of the ESF coordination team has proven to be key assets to support the philanthropic initiative of the AXA Group. It ensures fairness, robustness and transparency of the process and allows the AXA Research Fund to meet the highest standards of an academic selection process. ”

**Godefroy Beauvallet**, Head of the AXA Research Fund

## **2013**

Peer review of the 'socio-economic' fellowship programme.

## **Compagnia di San Paolo (CSP Italian banking foundation) support to university research 2014-2015**

After dedicated peer review contracts with individual universities under the frame of funds provided by the CSP (2012-2013) (see below), in 2014-2015 ESF will implement the evaluation research project proposals synchronously submitted by investigators from three Italian universities. 408 proposals have been submitted.

## **Train2Move (T2M) Marie Skłodowska – Curie Action 2014-2015**

In 2014, ESF performed the independent scientific assessment of the 158 applications received in the framework of the University of Torino Train2Move programme supported by the European Commission and the Compagnia di San Paolo. ESF will also implement the peer review for the 2015 call.

“ ESF staff worked with professionalism for the evaluation of projects in the frame of University of Torino's '2020 Researchers: Train2Move' programme, providing an efficient service. Our staff was pleased to have had the opportunity to collaborate with a highly performing team, that satisfied our expectations. ”

**Claudia Barale**, CSTF – Common Strategic Task Force KBBE, Environment, Energy/People, Università degli Studi di Torino

## Portuguese Fundação para a Ciência e a Tecnologia (FCT) 2014

In 2014, ESF contributed to the evaluation of 322 Research Units supported by FCT. In this context, ESF appointed more than 650 experts either as review panel members or as remote reviewers. ESF also acts as observer of the second stage of the evaluation.

“ The European Science Foundation (ESF) provided services of Peer Review support to the Fundação para a Ciência e a Tecnologia (FCT), the Portuguese national funding agency for research, for the latest review of R&D units in Portugal. FCT benefitted from ESF's deep and thorough knowledge of peer review processes in setting up the structure of the review as a whole, as well as in implementing several of the steps involved in this two-stage, complex, review. ESF's thoroughness and professionalism ensured fairness and transparency in all stages of the review, totally in line with the best international practices regarding peer review. ”

Paulo Pereira, FCT Vice-President

## FP7 Graphene Flagship 2013-2014

ESF was the EC-funded GRAPHENE Flagship partner in charge of implementing the programme's (8.7 M€) competitive call for consortium extension. It set up the assessment structures, collected and performed the scientific assessment of 220 research proposals.

“ ESF administered the competitive call of the Graphene Flagship, which is one of the largest collaborative research programmes launched by the European Commission. As a response to the call, over 700 organisations submitted 220 proposals on 13 separate topics. ESF ran the whole process from setting up the application system, identifying and recruiting global experts, organising and supervising the review meetings, to compiling and communicating the review

results and responding to questions the applicant had during and after the process. The Graphene Flagship is very satisfied with how the ESF handled our competitive call, and we are impressed by the organisation's professionalism in managing large international research calls. ”

Jari Kinaret, Director of the Graphene Flagship

## University of Naples 2013

Peer review of the Compagnia di San Paolo 2013 grant campaign.

## University of Bologna 2012

Provision of expert review in the frame of the national call for funding Research Projects of National Interest and Fund for Basic Research Investments.

## University of Torino and University of Piemonte Orientale 2012

Peer review of the Compagnia di San Paolo 2012 grant campaign.

## HERA (Humanities in the European Research Area) 2008-2012

The ESF acted as the Handling Agency for the two HERA Joint Research Programmes (JRP) 'Cultural Dynamics: Inheritance and Identity' and 'Humanities as a Source of Creativity and Innovation', managing the call and the selection process, on behalf of the HERA JRP partners.

## European Space Agency (ESA) 2009-2010

Peer review of the International Life Science Research announcement (with NASA, JAXA and CSA): ESA's Directorate for Human Spaceflight asked ESF to conduct the end-to-end scientific peer review process of proposals received in reply to their Announcements of Opportunity in the area of research on life and physical sciences in space.

► [www.esf.org/peer-review](http://www.esf.org/peer-review)

# Evaluation

**ESF provides a range of evidence-based evaluation services from framework design, through the management, support, and implementation of *ex-ante*, *formative* and *ex-post* evaluation. We coordinate and supply the necessary subject matter and evaluation expertise across all science domains and conduct independent evaluations drawing on international expertise at the level of national research and innovation systems, organisations and programmes.**

## Some references:

### **Hungarian Scientific Research Fund (OTKA) 2014**

The aims of the evaluation were to assess OTKA's governance and management structures, the fit between the funding portfolio and OTKA's strategic goals and its effectiveness and efficiency. The evaluation featured a mixed-methods approach including an international peer review of the portfolio and scientific strategy together with an analysis of impact. The impact analysis was based on a counterfactual comparison of scientific outcomes for funding applicants and beneficiaries.

“ The Hungarian Scientific Research Fund (OTKA) is pleased to acknowledge the excellent service provided by the European Science Foundation (ESF) in conducting its international evaluation within the general context of Hungarian and European public research funding. ESF established an evaluation protocol including appropriate evaluation criteria and methodology, as well as a detailed work plan in consultation with OTKA. The implementation of an independent evaluation study by a committee of

experienced R&D executives and researchers, along with the expert assistance from dedicated ESF staff, led to the publication of the *Organisational Evaluation of the Hungarian Scientific Research Fund* – a report that will serve as a point of reference for a long time to come. ”

László P. Kollár, President,  
Hungarian Scientific Research Fund (OTKA)

### **Research Council of Lithuania (RCL) 2013**

ESF was requested by the RCL to plan and deliver an independent evaluation of the Council as a national research funding organisation and national policy adviser. An independent Evaluation Committee invited representatives of relevant clients and stakeholders to provide their views and impressions on given aspects of the strategy and operations of RCL.

“ The Research Council of Lithuania (RCL) was established in 1991 and underwent substantial re-organisation during the past 5-6 years. Therefore, external evaluation of the RCL carried out by the European Science Foundation's Evaluation Committee was a well-timed and essential step that brought benefits not only to the RCL itself by providing the opportunity to measure its activities according to the international standards, but also initiated broad discussions on research and innovation policy in the State among chief actors in this field. ”

Dainius H. Pauža, Chair,  
Research Council of Lithuania (RCL)

## **Independent Evaluation of the European Space Agency (ESA) Programme for Life and Physical Sciences in Space (ELIPS)**

**2012**

ESF carried out its fourth independent scientific evaluation of ESA's European Programme for Life and Physical Sciences in Space (ELIPS) and its future priorities. ELIPS is ESA's main programme for research on the International Space Station (ISS) and other microgravity platforms in various disciplines. The evaluation aim was to assess the ELIPS programme in terms of its overall structure, programmatic aspects and scientific value, and then provide recommendations for its next phase.

## **Slovenian Research Agency (SRA)**

**2010**

The SRA commissioned ESF to conduct an international evaluation of its organisation in 2010. The aims were to identify strengths and improvements related to the mission, structure, portfolio and performance of the SRA. An international panel of academic and leading industry experts was chaired by Martin Hynes (ESF Chief Executive and, at the time, CEO of the Irish Research Council for Science, Engineering and Technology). The panel conducted stakeholder consultations, bibliometric reviews and analysis of an extensive range of policy material and data related to scientific performance and outcomes.

## **Bulgarian Academy of Sciences (BAS)**

**2009**

The aim of this evaluation was to conduct an independent scientific review of the achievements of the BAS research units, primarily from the point of view of their international visibility and competitiveness. In collaboration with the European Federation of National Academies of Sciences and Humanities (ALLEA: All European Academies) ESF evaluated the 69 institutes, centres, laboratories and other relevant facilities of BAS. The review was carried out at the request of BAS and focused on a five-year period from January 2004 to December 2008. The report provided recommendations to facilitate a process for continuously improving and revitalising the scientific performance of the research units of BAS.

## **Evaluation of the European Social Survey (ESS)**

**2008-2009**

The European Social Survey (ESS) is an academically driven, cross-national, survey that has been conducted every two years across Europe since 2001. The aim of the evaluation was to take stock of achievements and outreach of the first three rounds of the ESS and provide a number of targeted recommendations for improvement and securing a more stable financial basis. ESF appointed an international Review Panel that used a variety of methodological approaches (self-evaluation, interviews with key stakeholders, users' survey) to produce a report with 22 recommendations for future improvement, especially to implement a stable funding model in order to achieve its vision and maintain its quality.

► [www.esf.org/evaluation](http://www.esf.org/evaluation)



# Career Tracking



**Research organisations are accountable vis-à-vis their researchers and society at large to show that their programmes achieve the desired impact and that scarce resources are well spent. Tracking and monitoring researchers' careers are important elements in this respect in order to assess the impact of investment in research career development. In the long run, a European Research Career Observatory will be essential to create transparency regarding the challenges, bottlenecks and opportunities of research careers and to help research organisations to better tailor their policies and activities to researchers' needs.**

**The ESF Career Tracking and Monitoring Platform exists to provide orientation on how to set up surveys, studies and/or career tracking systems based on international good practice.**

## **Career tracking pilot 2014-2015**

The aim of this stand-alone pilot is to establish the feasibility of this kind of study. ESF is coordinating the project for the participating organisations. An important part of the study will be to identify and communicate the methodological and statistical steps involved in conducting career tracking over time.

Around 500 early-career-researchers whose PhD (or equivalent) was funded by participating organisations, have participated in the survey. The user-friendly questionnaire includes items on demographics, virtual, physical, sectoral and occupational mobility as well as research outcomes, roles and responsibilities, competence development, and skill utilisation. The data collected is anonymised with no personal details to link the respondent to the replies given.

A full report will be published in 2015, alongside a process manual. ESF is planning on running these surveys on a regular basis and can carry out individual surveys for interested organisations.

### **Participating Organisations:**

- AXA Research Fund, France
- National Research Fund (FNR), Luxembourg
- GRADE – The Goethe Graduate Academy, Goethe University of Frankfurt, Germany
- Paul Scherrer Institute (PSI), Switzerland
- UNICEF/UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases (TDR)

## ESOF 2014 Session:

### ‘New concepts of mobility to foster career development and gender balance in Europe’

As part of the EuroScience Open Forum – ESOF 2014 – a session on ‘New concepts of mobility to foster career development and gender balance in Europe’ was jointly organised by ESF and the mobile Women in Science Engineering and Technology (m-WiSET) working group of Marie Curie Fellows Association (MCFA). The aim of the session was to explore women leadership models and different mobility patterns, i.e. geographical, inter-sectorial, inter-disciplinary or virtual.

In a Correspondence published in *Nature* **511**, 292 (2014); <http://dx.doi.org/10.1038/511292b> ‘Virtual mobility can drive equality’

**Conor O’Carroll**, Chair of the ESOF session and European Research Area Steering Group on Human Resources and Mobility, Newry, Northern Ireland, summarised the conclusion of meeting participants on behalf of nine correspondents:

*“We maintain that virtual mobility should be considered on the same footing as mobility between disciplines, sectors and geographical regions, and that it should be seen as a driver of equal opportunities. Peer review and evaluation structures need to acknowledge these new mobility concepts.”*



## ESF Member Organisation Forum

### ‘European Alliance on Research Career Development’ (EARCD) 2011-2013

The aim of EARCD was to adopt a common strategy to ensure the attractiveness of research careers and thereby to create and improve European-level and coordinated national policies and programmes for different career stages and career paths. Key areas of activity included:

- Survey of EARCD members
- European Framework for Research Careers
- Career Tracking
- Researchers’ Professional Development
- Mobility

A final report ‘Developing Research Careers in and Beyond Europe: Enabling – Observing – Guiding and Going Global’ encompassing these areas was published in late 2012; a number of other publications of the Forum provide a more focused look at specific areas.

The concluding conference in May 2013 clearly signalled the need for new concepts on mobility and the need for a pilot project on researchers’ career tracking as well as the longer-term aim to advance a researchers’ professional development framework.

► [www.esf.org/career-tracking](http://www.esf.org/career-tracking)

# MERIL

**Mapping of the European Research Infrastructure Landscape (MERIL) is an online inventory of openly accessible research infrastructures (RIs) of more than national relevance in Europe. The MERIL portal (<http://portal.meril.eu/>) is constantly updated and represents a unique and dynamic resource of information on research infrastructures in Europe across all scientific domains. The MERIL project started in 2010 and addresses the need for an accurate and up-to-date overview of existing research infrastructures in Europe, both as a baseline for strategic policy-making and as a source of information for scientists and other stakeholders in research and innovation.**



Top: CryoSat-2 Satellite © ESA

Bottom: Old Library, Trinity College Dublin © iStock

## Research Infrastructure – the foundation of research

Modern research in virtually all domains of science and scholarship relies on a vast range of facilities, equipment and physical and digital resources, collectively known as research infrastructures. Excellent research infrastructures are now a pre-requisite for excellent research and for attracting top-level scientists and promising early career researchers. The construction, operation and maintenance of individual research infrastructures represent a high proportion of national and European-level investment in science and technology. Collaboration and common purpose among all actors in the area of research infrastructures – in terms of strategic planning, funding, management, access and exploitation – are indispensable if we are to maximize their utility for European science and society.

## What MERIL offers

- High quality, dynamic information on existing, openly accessible research infrastructures of more than national relevance all across Europe;
- An authenticated database wherein research infrastructure units have been validated by national and international authorities as meeting common eligibility criteria pertaining to scientific performance, access and management;
- An online open access resource;
- A valuable resource for researchers from academia and enterprise to search for the most convenient equipment and services to support their research and find out who to contact to gain access or support;
- A source of information for research infrastructure operators to identify communities of practice, synergies and complementarities, and initiate cooperation;



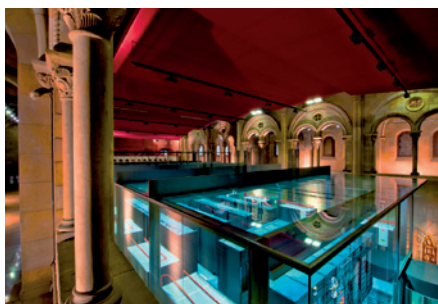
**MERIL**  
MAPPING OF THE EUROPEAN  
RESEARCH INFRASTRUCTURE  
LANDSCAPE

- An opportunity for facilities, particularly those that are less well known, to raise their profile by inclusion in MERIL and find new customers;
- A high potential resource for policy makers and strategic planners at national and international level containing baseline information which can be further elaborated for informed decision-making, including on cross-border and cross-sector investment and policy.

### Where MERIL is going in 2014-2015

- Expanding the data collection to include more information on more research infrastructures in Europe and beyond;
- Linking and mining relevant other sources of data to enrich the data collection;
- Producing a monitoring and evaluation tool through the collection of data on inputs, processes and output of research infrastructures;
- Working towards making pricing policies of research infrastructures transparent;
- Producing high-quality, systematic reviews of the research infrastructure landscape over time to assist decision-making for policy makers.

► <http://portal.meril.eu>



Top: Barcelona Supercomputing Center

© BSC, Spain ([www.bsc.es](http://www.bsc.es))

Bottom: The RRS James Clark Ross during the JR240 ICEBell Cruise in the Bellingshaussen Sea

© Pete Bucktrout / British Antarctic Survey

### Background

MERIL emerged from a European Science Foundation (ESF) Member Organisation Forum on Research Infrastructures which ran from 2010-2012 and complemented the work of the European Strategy Forum on Research Infrastructures (ESFRI) on future needs for pan-European Research Infrastructures. The stakeholders behind the project were the ESF, EUROHORCs (now Science Europe), the European Commission, ESFRI, the European Association of National Research Facilities (ERF), EIROforum, the wider scientific community and ministries. Most of these organisations and groups are represented in MERIL's governance through its Steering Committee.

The MERIL project was funded by the European Commission under Framework Programme 7 (Contract # 262159) from 2010 to 2012, under the coordination of ESF. Since 2013 the MERIL portal has been supported by the ESF Member Organisations.

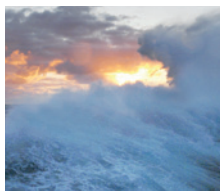


# Expert Committees and Boards

## European Marine Board (EMB)

The European Marine Board develops common positions on research priorities and strategies for European marine science, facilitating enhanced cooperation between stakeholders involved in supporting, delivering and using marine research and technology.

European Marine Board stakeholders include the Board's members, partner European and international networks, policy makers, strategy developers and programme managers at national, European and international level, as well as the marine and maritime science community at large.



© Ifremer

As an independent non-governmental advisory body, the European Marine Board provides the essential components for

transferring knowledge from the scientific community to decision makers, promoting Europe's leadership in marine research and technology. Adopting a strategic role, the Board provides a unique forum to develop marine research foresight, initiating state-of-the-art analyses and studies and translating these into clear policy recommendations to national agencies and governments as well as to the European institutions.

► [www.marineboard.eu](http://www.marineboard.eu)



## Committee on Radio Astronomy Frequencies (CRAF)

Radio astronomers are building new, advanced and extremely sensitive radio telescopes aimed at answering fundamental questions in astrophysics like: When did the first stars form?



The Westerbork Radio Telescope  
© Astron, Netherlands

Was Einstein wrong? Are we alone?

A mandatory condition for addressing such questions is to have a radio spectrum clean from Radio Frequency Interference (RFI). CRAF coordinates activities to keep the frequency bands used by radio astronomy, passive remote sensing and related science free from interference.

It works towards this aim by:

- coordinating the case for radio astronomy and space sciences in Europe in discussions with the major public and private telecommunications agencies;
- acting as the European voice in concert with other groups of radio astronomers in discussions within the international bodies that decide on the use of radio spectrum;
- and by initiating and encouraging scientific studies aimed at reducing interference at source and the effects of interference.

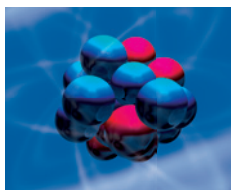
► [www.craf.eu](http://www.craf.eu)

## Committee on Radio Astronomy Frequencies (CRAF)

## Nuclear Physics European Collaboration Committee (NuPECC)

The aim of the Nuclear Physics European Collaboration Committee (NuPECC) is to strengthen collaboration in nuclear science by promoting nuclear physics, and its transdisciplinary use and application, in collaborative ventures between European research groups.





NuPECC encourages the optimal use of a network of complementary facilities across Europe, provides

a forum for discussing the provision of future facilities and instrumentation, and advises and makes recommendations to the ESF and other bodies on the development, organisation, and support of European nuclear research, particularly on new projects. The Committee is supported by its subscribing institutions which are, in general, Member Organisations of the ESF involved in nuclear science and research or research facilities.

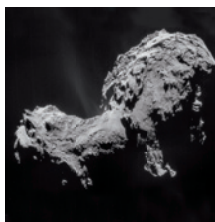
► [www.nupecc.org](http://www.nupecc.org)



## European Space Sciences Committee (ESSC)

The European Space Sciences Committee (ESSC), established in 1975, grew from the need to give European space scientists a voice in the space arena at a time when successive US space science missions and NASA's Apollo missions dominated space research. Today ESSC actively collaborates with the European Space Agency (ESA), the European Commission, national space agencies and the ESF Member Organisations. This makes ESSC a reference name in space sciences within Europe and worldwide.

The mission of the ESSC is to provide an independent forum for scientists to debate space sciences issues. The ESSC is represented ex officio in all ESA's



Mosaic of four images taken by Rosetta's navigation camera (NAVCAM) on 19 September 2014 at 28.6 km from the centre of comet 67P/Churyumov-Gerasimenko.  
© ESA/Rosetta/NAVCAM

scientific advisory bodies, in ESA's High-level Science Policy Advisory Committee advising its Director General. It had members in the EC's FP7 space advisory group, and it has observer status in ESA's Ministerial Council. At the international level, ESSC maintains strong relationships with the National Research Council's (NRC) Space Studies Board in the US.

► [www.esf.org/essc](http://www.esf.org/essc)



## Materials Science and Engineering Expert Committee (MatSEEC)

Materials make our world. The history of human development is a story of materials innovation: the Stone Age, Bronze Age, Iron Age, an evolution of



Bismuth crystal © ESA

new and better tools, new and functional materials, new and more effective ways to make materials, innovating production and processing. Product innovation leads to new industries and markets. Process

innovation leads to more efficiency in existing industries and markets. Materials make it all happen and as such are crucial to our society.

The Materials Science and Engineering Expert Committee (MatSEEC) aims to enhance the visibility and value of materials science and engineering in Europe, to help define new strategic goals, and evaluate options and perspectives covering all aspects of the field.

► [www.esf.org/matseec](http://www.esf.org/matseec)

