



## European Funding Programmes for Neuroscience Research

by

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ERA-NET NEURON



## Contents

Introduction .....	3
Methods .....	5
Results .....	6
Chapter I. General information .....	6
Chapter II. Funding philosophy .....	7
Chapter III. Funding instruments/measures .....	13
Chapter IV. Evaluation and monitoring procedures .....	16
Chapter V. Financial issues .....	22
Acknowledgement .....	27
Annex .....	28

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*Exchange of knowledge about national programmes* of the NEURON project,  
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# INTRODUCTION

Public knowledge about the activities of public or private funding organisations, their funding policies and philosophies, funding regulations, or best practices with regard to review processes is very sparse. Likewise, information about budgets directed into funding programmes is scattered on the various web pages of ministries, research councils, foundations, and other funding bodies, if available to the public at all.

Even in the area of brain research, which is generally recognized as highly relevant (Olesen J., Leonardi M., The burden of brain diseases in Europe, *Eur J Neurol* 2003, 10:471-477) only limited data are published, e.g. on specific diseases (Pendlebury S.T. et al., Underfunding of stroke research. A Europe-wide problem, *Stroke* 2004, 35:2368-2371). To our knowledge, the only broad survey pertaining to funding activities so far has been conducted by the European Brain Council EBC (Sobocki et al., Resource allocation to brain research in Europe – a full report. *Eur. J. Neurosci.* 2006, 24:1-24). An overview about research funding is presented for governmental, charity and industrial sponsoring in the area of brain research. The data collection is large although the authors report on difficulties in terms of data supply, since complete data sets were obtained from only 15 countries. They dealt with this drawback by filling the gaps for countries with insufficient information using estimates based on data from other countries.

The present report summarizes the results of a survey that was conducted in the framework of the ERA-Net NEURON during Summer 2007. It presents information about funding activities in the area of neurosciences, neurology, and psychiatry provided by 33 private and public funding organisations from 20 countries. Information was gathered either from presentations in two workshops or, in most cases, by means of a questionnaire developed for this purpose. The report is based on and extends a preliminary survey conducted in 2003 as part of the Specific Support Action NEURON and published in 2005 (Dorlöchter et al., European Funding Programmes for Neuroscience Research – A Preliminary Survey. *Report from the Specific Support Action NEURON, ERA-Net scheme*, 2005, 1-49, [www.neuron-eranet.eu/\\_media/Survey\\_National\\_Programmes.pdf](http://www.neuron-eranet.eu/_media/Survey_National_Programmes.pdf))

The ERA-Net scheme (ERA – European Research Area) is a funding instrument of the European Commission in its 6<sup>th</sup> Framework Programme. It supports networking of funding organisations in order to initiate coordination of national or regional funding programmes. One of the key objectives of ERA-Nets is the exchange of information. This is a first step of a mutual learning process and already regarded as an achievement, since it will eventually lead to improvement of standards throughout partner countries.

NEURON (Network of EUROpean funding for Neuroscience research) is one of the ERA-Net projects. It was funded as a pilot Specific Support Action (SSA) in 2003-2004 and is continued as a Coordination Action (CA) 2007-2010. The ERA-Net NEURON aims to link European national research funding programmes and funding activities from 12 countries in the field of disease-related neurosciences, neurology and psychiatry. It is currently constituted by the following 16 partners:

- Austria, FWF, Austrian Science Fund
- Finland, AKA, Academy of Finland
- France, CNRS, Centre National de la Recherche Scientifique
- France, INSERM, National Institute for Health and Medical Research
- France, ANR, Agence Nationale de la Recherche
- Germany, PT-DLR, Project Management Agency in the German Aerospace Centre, on behalf of the German Federal Ministry of Education and Research (BMBF)

- Israel, CSO-MOH, Chief Scientist Office, Ministry of Health
- Italy, MOH, Ministry of Health
- Luxemburg, FNR, Fonds National de la Recherche
- Poland, CBiR, Centre of Research and Development, on behalf of the Ministry of Science and higher Education, MNiSW
- Romania, ANCS-MECT, Ministry of Education and Youth
- Romania, NCPM, National Center for Programme Management, on behalf of the ANCS-MECT
- Spain, ISCIII/FCSAI, Instituto de Salud Carlos III., Fund for Health Research
- Spain, MEC, Ministry of Education and Science (predecessor of the MICINN, Ministry of Science and Innovation)
- Sweden, SRC, Swedish Research Council
- United Kingdom, MRC, Medical Research Council

These organisations are key players in their countries concerning the funding of neuroscience research. They invest considerable funding volumes in this research area and recognize the importance of coordinating their programmes and implementing joint activities in order to promote research into understanding the brain and its diseases.

One of the specific objectives in NEURON was to collect information about public and private funding programmes not only in its partner organisations, but in as many funding bodies in Europe as possible. In addition to the above mentioned NEURON partners, the following organisations took part in the survey:

- Belgium, FWO, Research Foundation Flanders
- Belgium, IWT, Institute for the Promotion of Innovation by Science and Technology in Flanders
- Belgium, FNRS, National Fund for Scientific Research
- Czech Republic, GACR, Czech Science Foundation
- Denmark, FI, Danish Medical Research Council
- Estonia, ETF, Estonian Science Foundation
- Germany, DFG, Deutsche Forschungsgemeinschaft
- Germany, Hertie, Hertie Foundation
- Germany, Volkswagen Stiftung
- Germany/Israel, GIF, German Israeli Foundation for Scientific Research Development
- Ireland, HEA, Higher Education Authority
- Ireland, HRB, Health Research Board
- Israel, ISF, Israel Science Foundation
- Latvia, LZP, Latvian Council of Science,
- Netherlands, KNAW, Van Leersum Fund – Royal Netherlands Academy of Arts and Sciences
- Netherlands, ZonMw, The Netherlands Organisation for Health Research and Development
- Norway, Forskningsrådet, The Research Council of Norway,
- United Kingdom, BBSRC, Biotechnology and Biological Sciences Research Council

The collected information was analysed in an attempt to reveal common features or differences among the funding organisations partaking in the survey. The data indicate considerable similarities among national funding activities which may serve as a reasonable starting point for future networking and progressive mutual opening of the national programmes.

## METHODS

In two workshops, NEURON partner organisations presented their respective funding programmes with specific focus on disease-related neuroscience. Qualitative and quantitative indicators (e.g. thematic priorities, funding volume) for a general assessment of research funding programmes and organisations were defined.

Additionally, a questionnaire was developed to acquire information and present a profile of each partaking funding organisation. The challenge to the questionnaire was on the one hand to collect all relevant information necessary for a broad survey. Analysing the questionnaire should enable for some general statements about funding in Europe. On the other hand, it had to be kept feasible and to avoid the acquisition of too many details. The first step of this process was to construct a simple database which contains basic information about each funding organisation:

- General information
- Funding philosophy (thematic/strategic considerations)
- Funding instruments/measures
- Evaluation/monitoring procedures
- Financial issues

In the result section of this survey, the answers to the questionnaire are summarised and aggregated question by question. The structure of this report is very similar to that of the questionnaire, and at the beginning of each paragraph the respective part of the questionnaire is depicted.

# RESULTS

## **Chapter I. General information**

By queering the European Science Foundation<sup>1</sup> data base, an EU-funded project<sup>2</sup> as well as the internet, names and contact details of potential candidates for the survey were acquired. Eventually, 87 funding organisations in Europe and Israel were contacted and asked to fill in the questionnaire. The return rate was 52 % (45/87). Twelve organisations of 45 had no specific neuroscience funding or were not able to fill in the questionnaire. Data from the remaining 33 funding organisations from 20 European countries and Israel were further analysed.

The 33 funding organisations contributing to this survey are ministries or agencies acting on behalf of ministries (5), public funding agencies or research councils (24), or private foundations (4).

One group of contact persons in the respective organisations are internal programme managers or scientific officers. Many of them have a scientific background and training, but are no longer active in research. Within their funding bodies they are affiliated to departments which are responsible either specifically for neuroscience research funding or for international relations and European partnership.

Another group of contact persons are researchers at universities or other research institutions who have been entrusted by a funding body to manage specific neuroscience-related parts of national funding programmes. Often, these individuals are researchers of high seniority who offer their experience and know how in order to contribute to shaping funding policy in their countries by participation in boards and councils.

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<sup>1</sup>Membership of the ESF Standing Committee of the European Medical Research Councils (EMRC): <http://www.esf.org/research-areas/medical-sciences/about/standing-committee/standing-committee-list-of-members.html>

<sup>2</sup> The Netherlands Organisation for Health research And Development (2007): Cancer Research Funding Organisations in the EU and Associated Research States. Output of the "Feasibility Study for Coordination of National Cancer Research Activities" (Eurocan+Plus); Sixth Framework Programme of the European Community for research, technological development and demonstration activities, Specific Support Action, EU Contract no.: LSSC-CT-2005-015197

## Chapter II. Funding philosophy (thematic/strategic considerations)

In this chapter, some of the programmatic approaches in funding organisations are depicted. Knowledge about these approaches is required if joint activities in terms of programme opening, such as e.g. joint calls for proposals are planned in the course of an ERA-Net.

### Basic principles of funding

Basic principles of funding		If both, please add percentage	
	<b>A)</b>	<input type="checkbox"/> bottom up (any thematic area at any time)	
		<input type="checkbox"/> top down (proposals under a given thematic focus)	
	<b>B)</b>	<input type="checkbox"/> bottom-up and top-down	<input type="checkbox"/>
		<input type="checkbox"/> intramural	<input type="checkbox"/>
		<input type="checkbox"/> extramural	<input type="checkbox"/>
		<input type="checkbox"/> intra- and extramural	<input type="checkbox"/>

Funding organisations provide research grants according to different philosophies (Fig. 1).

In a "bottom up" approach, researchers submit grant applications to any thematic area of research at any time. Sometimes there is a time slot for applications because calls for proposals exist, but these calls are regularly launched without a thematic restriction. There are regular review procedures and funding decisions. This approach is more or less completely driven by the scientific community and its needs.

Contrarily, in a "top down" approach, the funding organisation defines that a specific research area is of high priority and launches calls for proposals dedicated to this research area. In these calls for proposals thematic and other requirements are specified which have to be fulfilled by the applicants. The review process is adapted to the specific call for proposals.

The majority (64%) of funding organisations use both philosophies. Only 8 organisations act purely according to the 'bottom up' approach, even less (4) apply exclusively 'top down' funding.

The majority of organisations in this survey (76%) are genuine funding bodies who do not conduct research themselves but provide grants for research groups from academia and/or industry. However, some organisations have a dual role in that they are at the same time funding bodies and research institutions. In these organisations, institutional grants can be provided to internal ("intramural") and/or to external research groups ("extramural"). Figure 2 depicts the distribution of intra- and extramural funding in the partaking organisations.

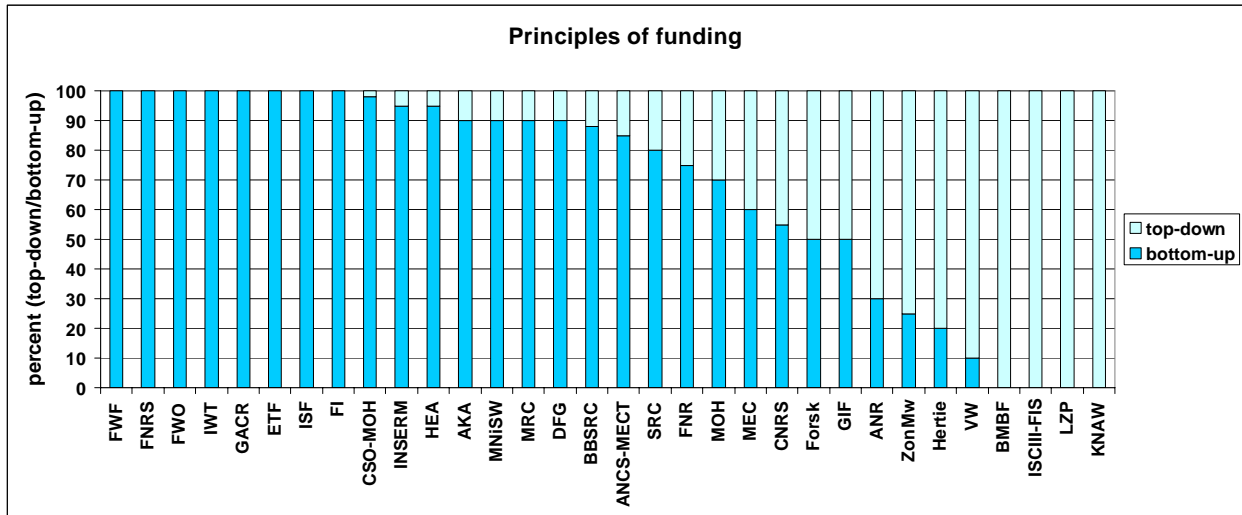


Fig. 1: Proportion of bottom-up or top-down funding approach in each organisation.<sup>3</sup>

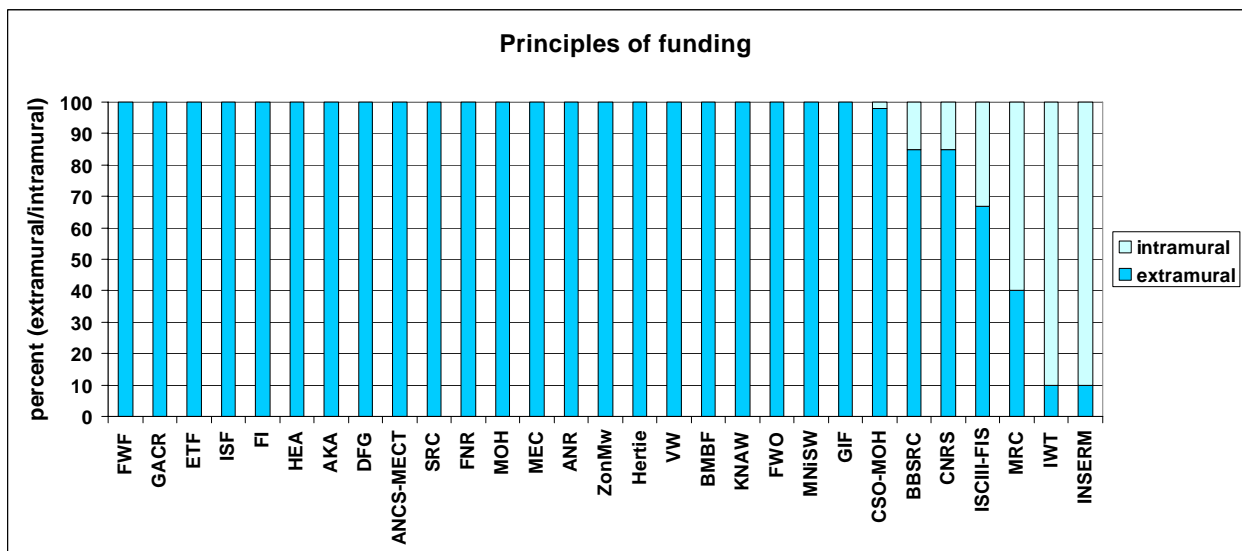


Fig. 2: Proportion of intra- vs. extramural research grants. Some organisations provide internal ("intramural") grants and grants to external research groups ("extramural"). Data from three organisations are missing.

<sup>3</sup> Abbreviations: AKA, Academy of Finland; ANCS-MECT, Ministry of Education Research and Youth, Romania; ANR, Agence Nationale de la Recherche, France; BBSRC, Biotechnology and Biological Sciences Research Council; BMBF, ; Federal Ministry of Education and Research, Germany; CNRS, Centre National de la Recherche Scientifique, France; CSO-MOH, Chief Scientist Office, Ministry of Health, Israel; DFG, Deutsche Forschungsgemeinschaft, Germany; ETF, Estonian Science Foundation; FI, Danish Medical Research Council; FNR, National Science Fund, Luxemburg; FNRS, National Fund for Scientific Research, Belgium; Forsk, The Research Council of Norway; FWF, Austrian Science Fund; FWO, Research Foundation Flanders, Belgium; GACR, Czech Science Foundation, Czech Republic; GIF, German-Israeli Foundation for Scientific Research and Development; HEA, Higher Education Authority, Ireland; Hertie, Hertie Foundation, Germany; INSERM, France; ISCIII-FIS, Instituto de Salud Carlos III., Spain; ISF, Israel Science Foundation; IWT, Institute for the Promotion of Innovation by Science and Technology in Flanders, Belgium; KNAW, Van Leersum Fund – Royal Netherlandse Academy of Arts and Sciences; LZP, Latvian Council of Science; MEC, Ministry of Education and Science, Spain; MNiSW, Ministry of Science and Higher Education, Poland; MOH, Ministry of Health, Italy; MRC, Medical Research Council, UK; SRC, Swedish Research Council; VW, Volkswagen Foundation, Germany; ZonMw, The Netherlands Organisation for Health Research and Development. For one organisation, Health Research Board (HRB), Ireland, both bottom-up and top-down funding was stated without data about percentage.

## Funding programmes and calls for proposals

Do you launch calls for proposals? (yes/no)

Do you have a funding programme or funding priority areas in neuroscience? (yes/no)

If yes, please specify and name programme or priority areas

One of the most ambitious goals of ERA-Nets is coordinating and opening national funding programmes and implementing joint calls for proposals. It is therefore important to know which organisation has a funding programme in the research area covered by NEURON and launches calls for proposals. While answering the question about calls for proposals was apparently not problematic, the definition of a funding programme is not easy. In some organisations (e.g. the German BMBF) a comprehensive governmental framework programme is updated every few years as a strategic umbrella for funding activities. In other organisations small and focussed priority funding areas are defined as 'programmes'. Still other organisations have strategic approaches in that a considerable funding volume is earmarked for specified research areas, e.g. neuroscience research, without using the term 'programme'.

From the organisations partaking in this survey, all except FNRS (BE) and the DFG (DE) have reported to launch calls for proposals in the area of biomedical research. The great importance of brain research is reflected in the fact that in 67% (22/33) of the surveyed organisations a funding programme or funding priority area(s) exist for the field of neuroscience, neurology or psychiatry (Fig. 3). Programmes and priority areas include topics like “Centres of excellence in molecular neurobiology” (AKA, FI), “Cognitive systems” (BBSRC, UK), “Medical aspects of ageing” (FNR, LU), “Neurological and mental disorder research” (Forsk, NO, and ISCIII-FIS, ES), “Sense organs” (INSERM, FR), “Biotechnology” (MNiSW, PL) or “Mental health” (ZonMw, NL). The "Health research programme" (BMBF, DE) comprises brain research and serves as a framework programme for numerous calls for proposals in this area.

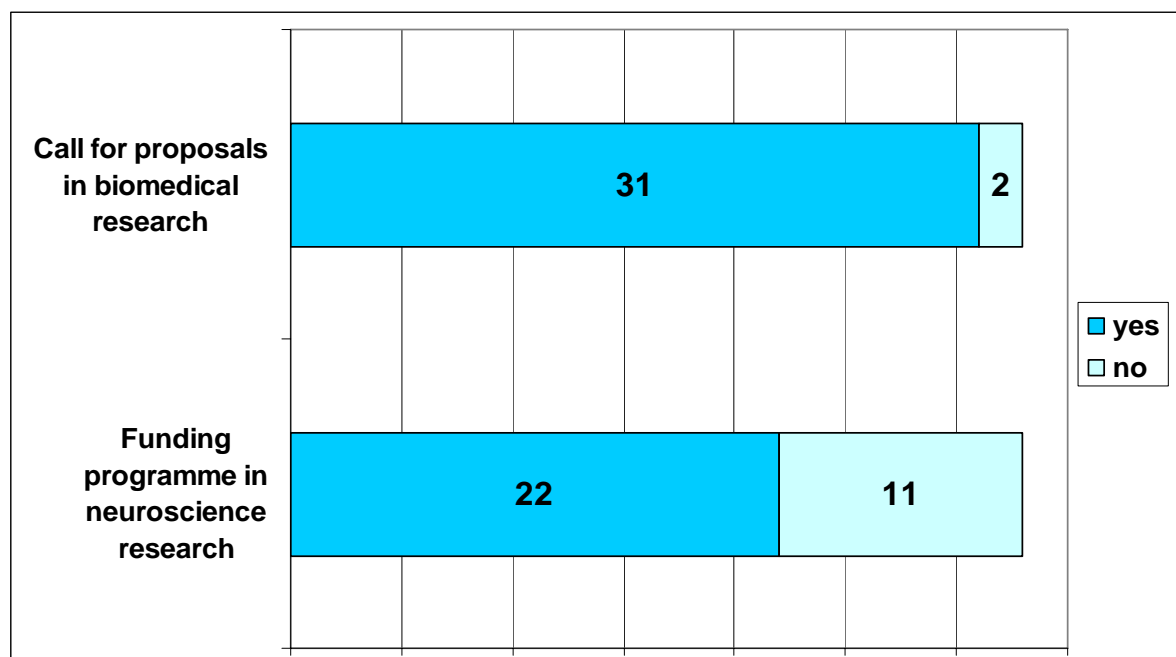


Fig. 3. Funding organisations executing calls for proposals in biomedical research and neuroscience programmes.

## Criteria for selecting funding priorities

Which strategic or political considerations are important for the selection of funding priority areas?

- Scientific excellence and innovation
- Strengthening national technological innovation and economy
- Overcoming national research deficiencies
- Improving national research structures
- Principle of subsidiarity

In a 'top down' funding philosophy, scientific but also political or societal needs may influence the selection of priority areas in an attempt to steer national research developments. Besides scientific excellence and innovation, political considerations concerning the national research community or national economic interests can have an impact on funding activities. In some countries still other necessities may play a role, e.g. the principle of subsidiarity in countries with a federal governmental structure, such as Germany.

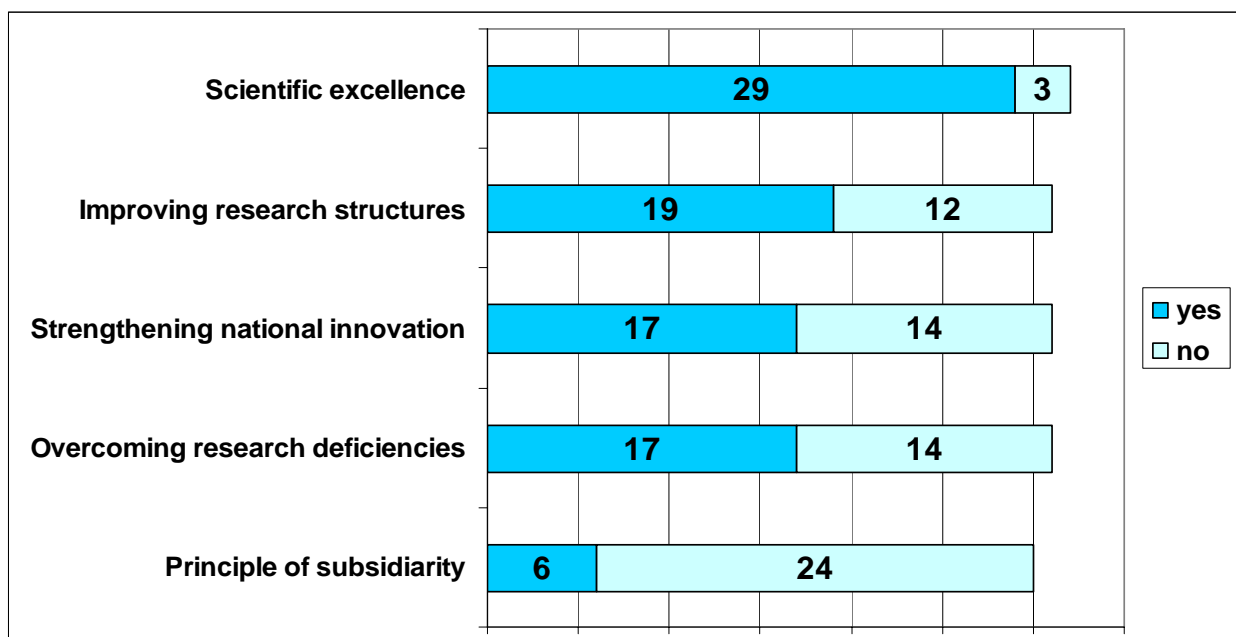


Fig. 4. Considerations for the selection of funding priority areas.

The data in Fig. 4 shows that indeed the vast majority (88%) of funding organisations use the scientific excellence of a research area as a selection criterion for the selection of funding priority areas. However, national needs and requirements are also important driving forces.

When a call for proposals is being phrased, these considerations can be more or less strongly stressed. Accordingly, in the subsequent review process the submitted proposals are not only assessed with regard to their scientific excellence but also along these additional criteria.

## Funded areas in disease-related neuroscience

What are the main topics funded by your organisation in the area of neuroscience?  
 Neurodegenerative diseases (Parkinson's disease, Alzheimer's disease, etc.)  
 Other neurological diseases (Stroke, Epilepsy, etc.)  
 Psychiatric diseases (Schizophrenia, Depression, etc.)  
 Cognitive and behavioural neuroscience  
 Basic neuroscience  
 Others, please specify

Of particular interest for the cooperation with other funding organisations and jointly planning calls for proposals are the already existing major funding foci in each organisation, i.e. the main topics funded in neurosciences, neurology, and psychiatry.

In order to identify these foci, several relatively broad topics were offered for selection in the questionnaire. The data in Figure 5 show that in each organisation almost all topics are funded. There is a tendency to favour neurodegenerative diseases and fundamental neurosciences over the other areas, but no clear focus could be identified. Additional topics mentioned as funding priorities were “Neuroinformatics” and “Neuroethics” (AKA, FI), “Brain machine interfaces” (CNRS, FR), and “Researches of infants” (MNiSW, PL).

It was not intended to break the funding topics down to more details, e.g. specific diseases or specific research questions. This kind of information can presumably be obtained by building data banks of the funding portfolios down to the project level and was far beyond the scope of the present survey. However, since the information about foci and gaps in the funding strategies is important for future actions of coordinated and joint activities, data analysis at the project level is indeed part of the NEURON project work plan.

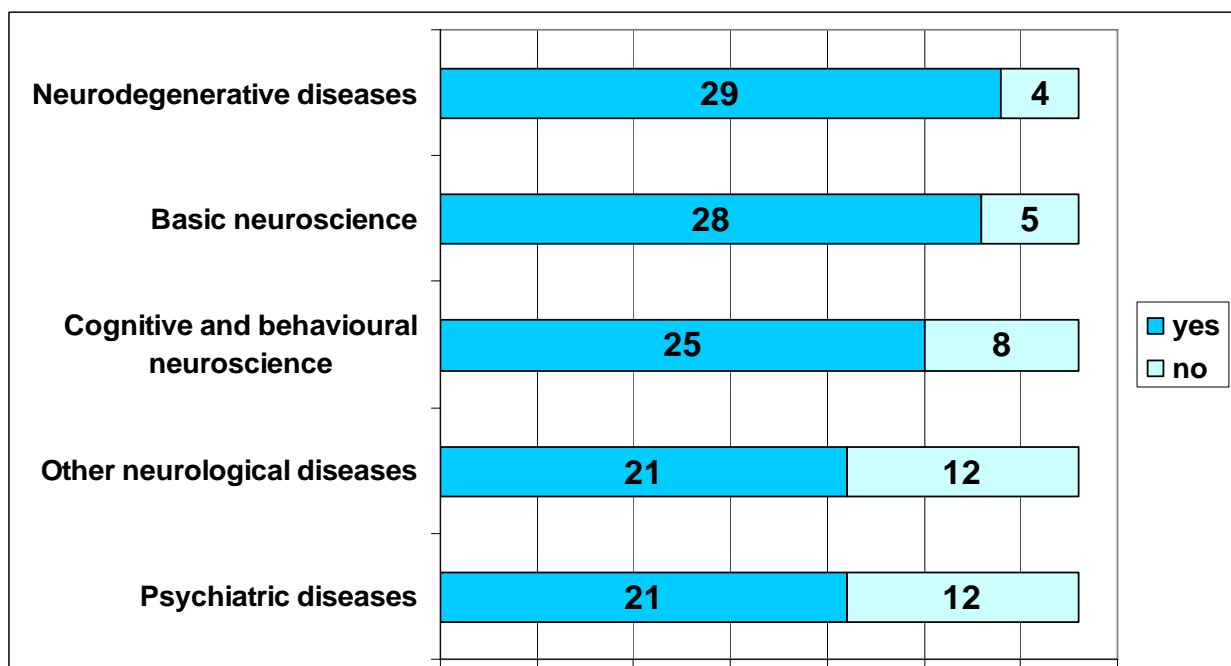


Fig. 5: Funding priorities in the area of neuroscience, neurology, psychiatry.

Main focus lies on funding of:  
 basic research  
 clinical research  
 basic and clinical research      If both, please add percentage

Most (67%) of the surveyed funding organisations support both clinical as well as basic research oriented projects. Ten organisations have a main focus on funding fundamental research, only the German BMBF within the 'Health research programme' has a strong focus on funding projects with clinical application (Fig. 6).

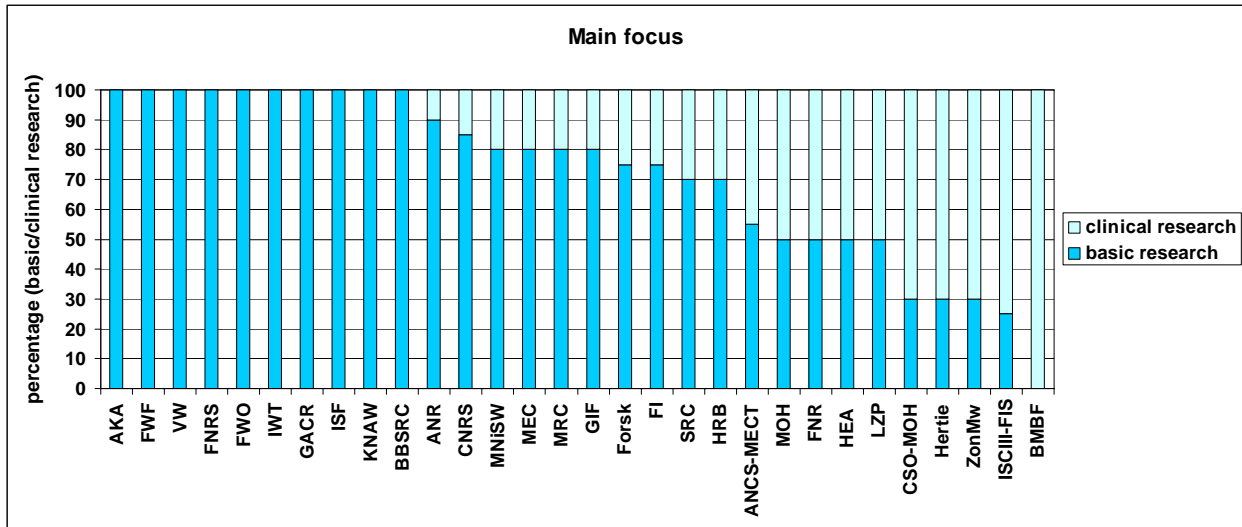


Fig. 6: Proportion of providing grants on clinical research and basic research, respectively. Both clinical and basic research is funded also by ETF, INSERM, DFG, but the proportions are unknown.

## Chapter III. Funding instruments/measures

### Funding instruments

Main type of funded projects:  
 single projects  
 networks/consortia  
 single projects and networks/consortia

The funded research projects vary considerably in size and in budget. Depending on the goals and intention of a funding activity, grants may be provided for projects conducted by a single research group, or for more or less large networks/consortia. Very often, in the latter case multi-disciplinary collaboration among research groups is required. In some cases local or regional centres of excellence are established, in others the networks are nationwide and can comprise all major national research groups working in a specific field. Even transnational collaboration may be a requirement for funding.

In about half of the surveyed organisations (52%) both single projects as well as larger consortia receive grants, while in the remaining organisations only single projects are supported (Fig. 7). Due to its strong focus on 'top down' funding, the German BMBF is the only organisation that funds almost exclusively large networks/consortia. One organisation was not able to answer the question.

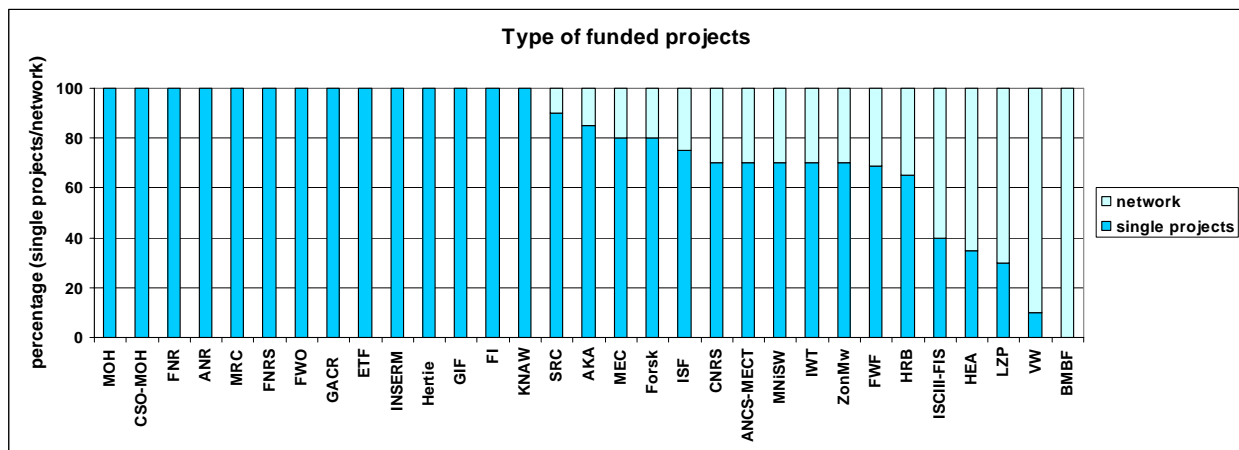


Fig.7. Proportion in the type of funded projects. The German DFG funds both single projects and networks but the proportion is not known.

## Project runtime

Duration of funding:  
... years

The runtime of a project can range between 1 and 12 years (Table 1). This period varies not only among the different funding organisations but also within an organisation, depending on the goals and intentions of the respective funding measure. For instance, some organisations use different timelines for single projects (3-6 years) and for networks (4-12 years). However, there is an accumulation of data around a project runtime of 3 years. In some cases a prolongation of a project for a second or even third and fourth funding period is possible after successful re-evaluation.

Table 1. Duration of project funding.

<b>Funding organisation</b>	<b>Duration of funding</b>	
KNAW (NL)	1 year	
CSO-MOH (IL)	1-2 years	
GIF (IL/DE)	1-3 years	
ANCS-MECT (RO)	1-3 years	
FI (DK)	1-3 years	
ETF (EE)	1-4 years	
HEA (IE)	1-4 years	
GACR (CZ)	1-5 years	
Hertie (DE)	1-5 years	
AKA (FI)	1-6 years	
MOH (IT)	2-3 years	
ANR (FR)	2-4 years	
IWT (BE)	2-4 years	
MNiSW (PL)	3 years	
FNR (LU)	3 years	prolongation optional
SRC (SE)	3 years	prolongation optional
Forsk (NO)	3 years	prolongation optional
VW (DE)	3 years	prolongation optional
ISCIII-FIS (ES)	3-4 years	
ISF (IL)	3-4 years	
MEC (ES)	3-5 years	
MRC (UK)	3-5 years	
BBSRC (UK)	3-5 years	
BMBF (DE)	3-5 years	prolongation optional (up to 12 years)
FWF (AT)	3-12 years	Single projects 3 years, networks 6-12 years
DFG (DE)	3-12 years	Single projects 3 years, networks 6-12 years; prolongation optional
FNRS (BE)	4 years	
FWO (BE)	4 years	
ZonMw (NL)	4-10 years	Single projects 4-6 years, networks: 4-10 years

No data are available for INSERM (FR), HRB (IE), and LZP (LV).

## Eligibility

Grant recipients:

A) individual researcher

If individual,

the grant is transferable according to researcher's affiliation within the country  
the grant is transferable across national borders

B) legal body

If legal body, please specify:

University

University hospital

Non-university research institute

Industry

Others, please specify

In 42 % of the surveyed funding organisations only legal bodies such as universities and university hospitals, general hospitals, non-university research institutions, and industry are eligible to receive grants. In 24 % of the organisations, individual researchers can act as grant recipients, while in 33 % both legal bodies and individuals are eligible for funding (Fig. 8).

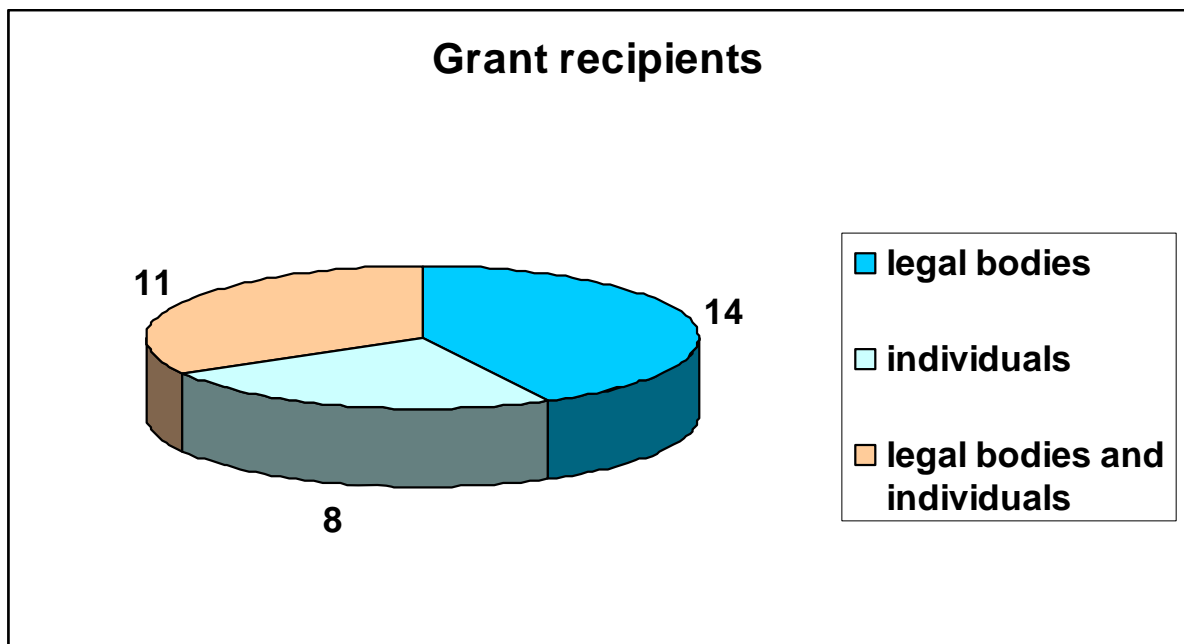


Fig.8. Legal bodies such as universities and industry are eligible to receive grants in 14 of the funding organisations. In 8 organisations individual researchers can act as grant recipients, while in 11 organisations both legal bodies and individuals are eligible for funding.

When legal bodies are grant recipients, they act as hosts for the research group. They take the legal responsibility for proper administration of the budget, and provide the necessary infrastructure to conduct the research activities. As a matter of course, it is still the research group and the principal investigator who benefit from the granted resources. Some funding organisations provide to the hosting institution an overhead in order to cover part of the expenses for infrastruc-

ture, and this overhead may account to a considerable fraction of the entire grant. Grants can be transferred to another legal body, when the principal investigator changes his or her affiliation within the country, although the bureaucratic effort may be higher than in the case of grants provided to individuals.

When individual researchers are funded, the grant is easily transferable, but usually only within the country. However, in nine of 18 organisations the grant is also transferable across national borders. This is a rare example of 'cross-border funding', which is not often practiced by funding organisations, due to budgetary and sometimes legal constrictions.

- Types of funded expenditure/cost:
- Personnel
  - Consumables
  - Animals
  - Subcontracts
  - Equipment
  - Travel
  - Overhead
  - Documentation
  - Others, please specify

In most cases, a grant comprises funding for personnel, consumables, equipment and travel. As an exception, personnel is not funded by KNAW (NL), equipment is not funded by CSO-MOH (IL). Consumables are not funded by FNRS (BE) and KNAW (NL) and travel costs are not funded by both CSO-MOH (IL) and KNAW (NL). Most organisations fund project specific cost or expenditure for animals, overhead, documentation, and subcontracts (Fig. 9).

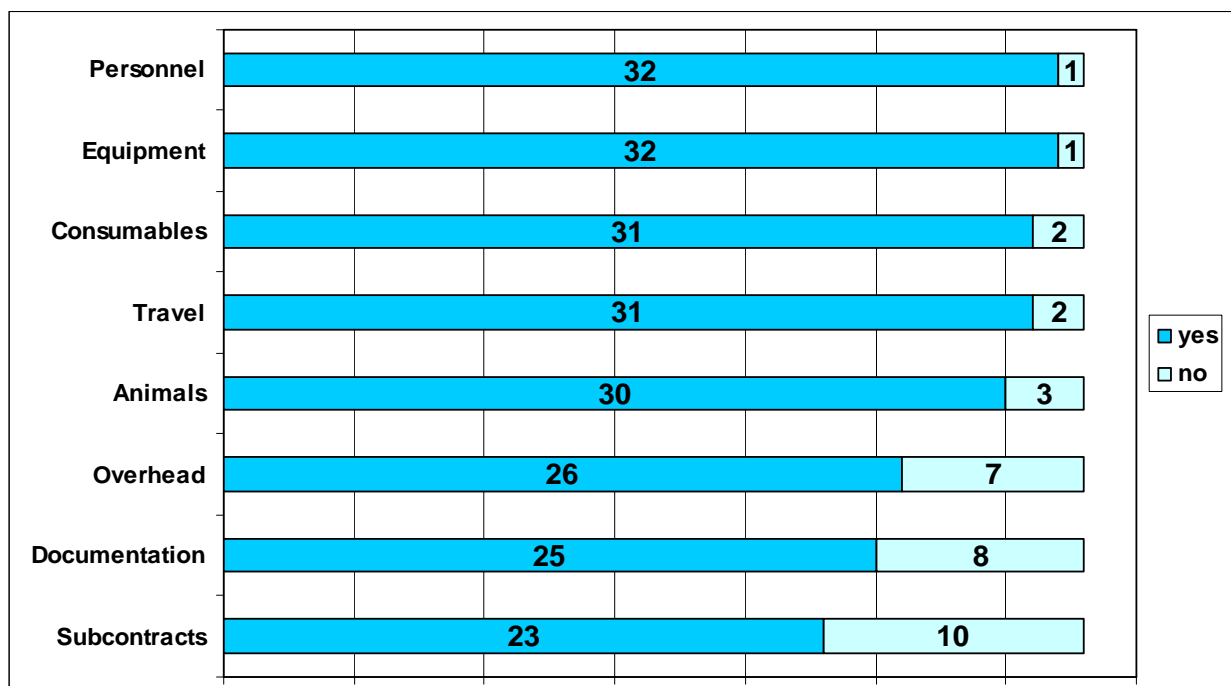


Fig. 9. Type of expenditure or costs that are eligible for funding.

## Chapter IV. Evaluation and monitoring procedures

### Review procedure

Do you practice an external review procedure by scientific experts (peer review)? (yes/no)

If yes, what type of review procedure do you use?

- remote (written)
- ad hoc panel (selected for a specific funding measure)
- ad hoc panel and remote
- study section (permanent for certain funding area)
- study section and remote

Who selects the reviewers?

- Scientific officers in your funding organisation
- Scientific community
- Others, please specify

Where do you recruit the reviewers?

- national
- international
- national and international

Selection of the best and most promising of all submitted research proposals is among the crucial tasks of each funding organisation, because this sets the course for the future success of the funding programme and proper spending of available resources. Accordingly, a lot of effort is invested into the review process and sets of best practice rules are used in funding organisations.

All 33 surveyed organisations have stated that the quality of grant proposals is assessed by external scientific experts, who give recommendations for funding by applying to each proposal the criteria of the call for proposals or general and specific criteria of the funding organisation. Thus, 'peer review' is a standard procedure rather than the internal selection of submitted proposals by scientific officers. Usually the experts' recommendations are accepted and followed, although the final funding decision remains with the funding body, which also has to take into account e.g. the budgetary situation.

The evaluation instruments used to conduct the peer review may vary even within a funding organisation and are matched to the requirements of the respective funding measure. They comprise remote written statements to the proposals, *ad hoc* review panels composed for a specific funding measure, more or less permanent study sections for specific research areas, or a combination of these possibilities (Table 2).

Experts for peer review are selected either by scientific officers within the funding organisation or by the scientific community. Only two organisations recruit exclusively national experts. Four organisations recruit only international experts, and the majority (27 organisations, 82%) recruit both national and international experts for their review process.

Table 2. Peer review procedures applied in different funding organisations.

	<b>written</b>	<b>ad hoc panel</b>	<b>written and ad hoc panel</b>	<b>study section</b>	<b>study section and written</b>
FWF (AT)	yes	yes	yes	yes	yes
FNRS (BE)		yes			
FWO (BE)			yes		
IWT (BE)	yes	yes	yes		
GACR (CZ)					yes
BMBF (DE)	yes	yes	yes		
DFG (DE)			yes	yes	
Hertie (DE)	yes	yes	yes	yes	yes
VW (DE)	yes	yes	yes	yes	yes
FI (DK)	yes				
ETF (EE)			yes		
ISCHII-FIS (ES)	yes				yes
MEC (ES)			yes		
AKA (FI)			yes		
ANR (FR)			yes		
INSERM (FR)			yes		
HEA (IE)	yes	yes			
HRB (IE)			yes		
CS-MOH (IL)		yes			
GIF (IL/DE)			yes		
ISF (IL)			yes		yes
MOH (IT)					yes
FNR (LU)	yes				
LZP (LV)	yes				
KNAW (NL)				yes	
ZonMw (NL)	yes	yes	yes		
Forsk (NO)		yes			yes
MNiSW (PL)			yes		
ANCS-MECT (RO)		yes	yes		
SRC (SE)				yes	
BBSRC (UK)			yes		yes
MRC (UK)	yes		yes		

### Funding ratio

<p>What is the approximate success rate (in % submitted grant applications)?</p> <p>&lt; 10</p> <p>10 – 20</p> <p>20 – 30</p> <p>30 – 40</p> <p>40 – 50</p> <p>&gt; 50</p>
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Considering all funding areas, in most funding organisations only about 20-30% of the applicants are positively reviewed and receive the requested grant, but this rate may even drop to 10-20% (Table 3 and Fig. 10). There are few exceptions with a success rate of more than 50%. In the highly competitive field of neurosciences the funding rate in general may be even lower.

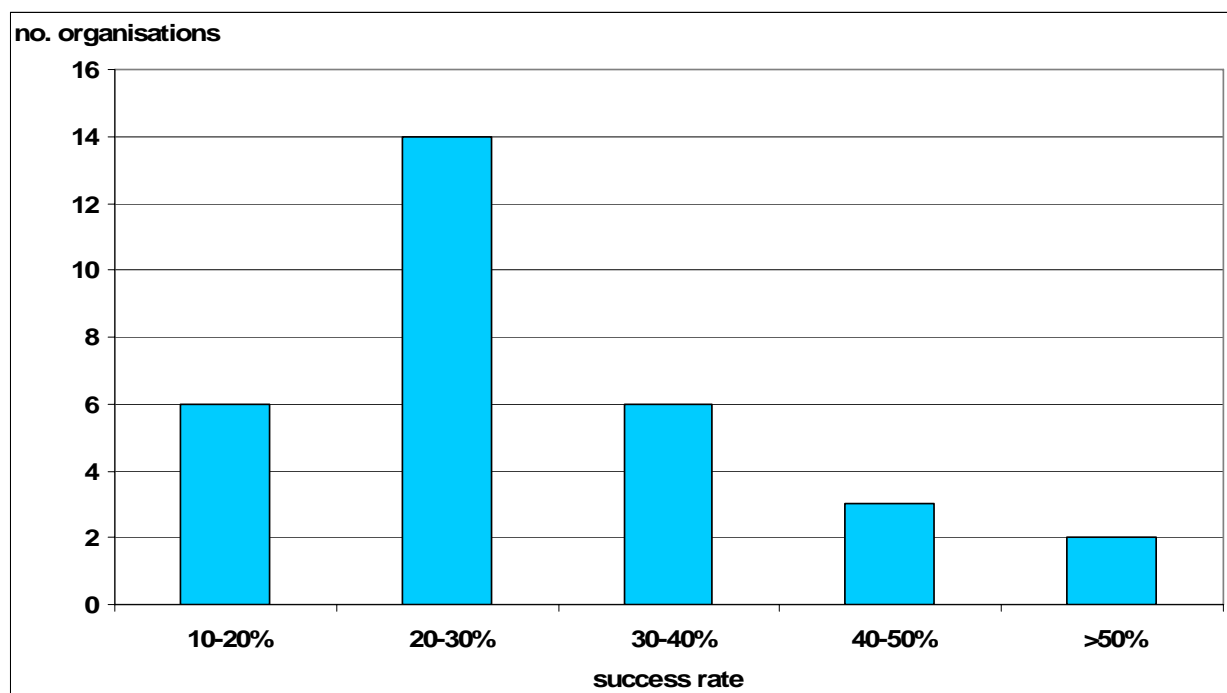


Fig. 10. Fraction of grant proposals that pass the review process and are selected for funding (two funding organisations were not able to quantify their success rate).

Table 3. Fraction of grant proposals that pass the review process and are selected for funding. (Two funding organisations were not able to quantify the success rate.)

<b>Funding organisation</b>	<b>Success rate (% of submitted proposals)</b>
ANR (FR)	10 - 20
MRC (UK)	10 - 20
Forsk (NO)	10 - 20
AKA (FI)	10 - 20
GIF (IL/DE)	10 - 20
FI (DK)	10 - 20
ISCIII-FIS (ES)	20 - 30
MNiSW (PL)	20 - 30
CSO-MOH (IL)	20 - 30
FWO (BE)	20 - 30
GACR (CZ)	20 - 30
INSERM (FR)	20 - 30
Hertie (DE)	20 - 30
HEA (IE)	20 - 30
HRB (IE)	20 - 30

ZonMw (NL)	20 - 30
BBSRC (UK)	20 - 30
CNRS (FR)	20 - 30
MOH (IT)	20 - 30
ANCS-MECT (RO)	20 - 40
BMBF (DE)	20 - 30
FWF (AT)	30 - 40
SRC (SE)	30 - 40
VW (DE)	30 - 40
ISF (IL)	30 - 40
DFG (DE)	30 - 40
FNR (LU)	40 - 50
MEC (ES)	40 - 50
ETF (EE)	40 - 50
KNAW (NL)	> 50
IWT (BE)	70

## Project monitoring

What are your instruments to monitor projects?

- Regular reports
- Regular symposia
- Midterm assessments
- Final assessments
- Others, please specify

Once a project has started, its success is monitored by all 33 surveyed organisations, at least at the end of the project. The instruments used are regular reports, midterm and final assessments (Fig. 11). Symposia to present the project results internally to peer reviewers and/or the scientific officers, or even to a broad scientific audience, are an instrument which is on the one hand adapted to the usual scientific practice. On the other hand, this monitoring instrument is the most demanding one in terms of cost intensity, needs and detailed preparation, either by the principal investigators or by the funding organisation. Accordingly, it is used relatively rarely, only in about 30% of the surveyed organisations.

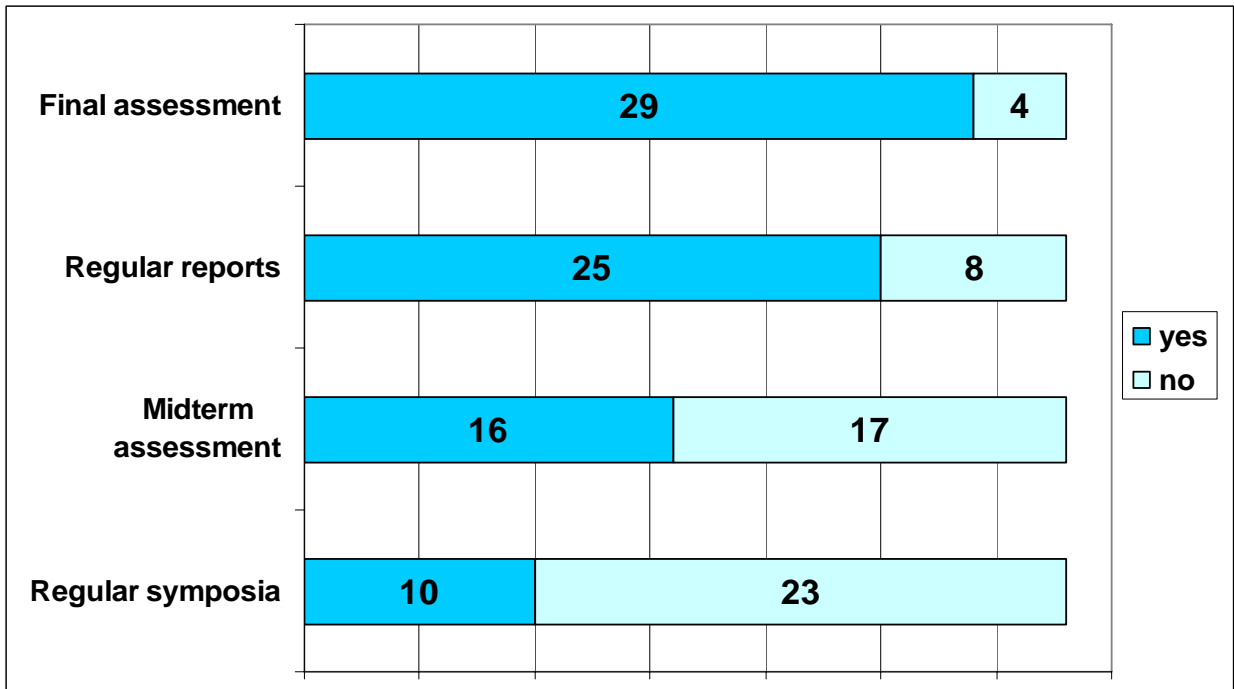


Fig. 11. Monitoring instruments used in funding organisations.

## Chapter V. Financial issues

### Financial sources and funding volumes

What is your financial source for funding?

Ministries

Industry

Private source

Others, please specify

Most organisations partaking in this survey are public bodies and, accordingly, their sole financial sources are the national budgets (23 organisations, 72 %). The proportion of the budget earmarked for research funding is subject to annual negotiations in the national Cabinet by the respective Ministries (of research, health, economy etc.) who either use the resources for their own funding programmes or distribute them among the national funding organisations, usually following a certain allocation formula or negotiations.

Private sponsors may contribute additionally to the funding budgets in seven organisations and one organisation is financed by a combination of the national budget, private sponsors and industry. In three organisations financial sources are entirely private (Table 4).

Table 4. Financial sources in different funding organisations.

	<b>Ministries</b>	<b>Industry</b>	<b>Private source</b>
FWF (AT)	Yes	No	No
FNRS (BE)	Yes	No	Yes
FWO (BE)	Yes	No	No
IWT (BE)	Yes	No	No
GACR (CZ)	Yes	No	No
BMBF (DE)	Yes	No	No
DFG (DE)	Yes	No	No
Hertie (DE)	No	No	Yes
VW (DE)	No	No	Yes
FI (DK)	n.a.	n.a.	n.a.
ETF (EE)	Yes	No	No
ISCIII-FIS (ES)	Yes	No	No
MEC (ES)	Yes	No	No
AKA (FI)	Yes	No	No
ANR (FR)	Yes	No	No
INSERM (FR)	Yes	No	No
HEA (IE)	Yes	No	No
HRB (IE)	Yes	No	No
CS-MOH (IL)	Yes	No	No
GIF (IL/DE)	No	No	No
ISF (IL)	Yes	No	No
MOH (IT)	Yes	No	No
FNR (LU)	Yes	No	No
LZP (LV)	Yes	No	No
KNAW (NL)	No	No	Yes
ZonMw (NL)	Yes	No	No
Forsk (NO)	Yes	Yes	Yes

MNiSW (PL)	Yes	No	No
ANCS-MECT (RO)	Yes	No	Yes
SRC (SE)	Yes	No	Yes
BBSRC (UK)	Yes	No	No
MRC (UK)	Yes	No	No

Volume of funding for biomedical research		
	in 2002:	€
	in 2003:	€
	in 2004:	€
	in 2005:	€
	(if available) in 2006:	€
Volume of funding for neuroscience research		
	in 2002:	€
	in 2003:	€
	in 2004:	€
	in 2005:	€
	(if available) in 2006:	€

The data presented in this chapter require a few words of caution:

- It appears to be very difficult for funding bodies to deliver financial data spent for a specific research area. Among others, this is reflected in the fact that from the 33 surveyed organisations only 26 could give this information, some of them incomplete (Table 4).
- The budgetary figures provided by different funding organisations are not readily comparable because they may be differently classified. Some of the surveyed funding organisations have a double mission: On the one hand they found and finance permanently or for a prolonged period of time research institutes, their infrastructure and staff, and on the other hand they provide project grants which are available to the entire research community for a specific project with a specific runtime. In terms of financial data, a clear separation between institutional funding and project funding is sometimes not available or the data is available only for one type of funding.
- Data reproducibility, over- and underestimation are serious problems when trying to quantify funding activities. Data are either acquired by using automatic search routines with more or less specific key words or by screening project lists. In both cases, it is the decision of each scientific officer to assign a specific project or a whole funding measure to the area of e.g. neurosciences or not.

It is far beyond the scope of this survey to reflect and take into consideration all these details and caveats. The questionnaire asked for the total funding volume with just a distinction between biomedical research in general and neuroscience research in particular. Thus, the funding volumes listed in Tables 5 and 6 do not allow further differentiation e.g. between institutional and project funding. It follows that the figures cannot be readily compared between organisations. Rather, the annual changes in budgets of each funding body were the main focus of the survey.

In many countries participating in this survey, neuroscience research is among the strongest scientific disciplines in the area of biomedical research. Some of the funding organisations or Ministries do not possess a research programme in the strict sense, dedicated solely to brain research. However, most of them have parts of programmes or strategic priorities that are dedicated to this research field,. On average, about 20 % (from 0 to 100 %) of all funds in the biomedical field are provided for neuroscience research and an annual budget of about 540 million euros was allocated to neuroscience research in 2006 (Table 5). The budget has been increasing from 2002 in many organizations.

Table 5. Funds spent for neuroscience research (in €) during the years 2002-2006

<b>Funding organisation</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
FWF (AT)	3,900,000	2,280,000	3,060,000	3,150,000	5,650,000
FNRS (BE)	3,526,300	4,192,900	4,421,100	6,105,600	5,356,800
FWO (BE)	1,533,106	2,228,282	2,205,301	2,761,165	3,064,500
IWT (BE)	2,969,000	4,344,000	7,387,000	7,404,910	3,997,331
GACR (CZ)	1,497,215	1,361,883	1,837,270	1,993,138	2,172,691
FI (DK)	n.a.	n.a.	n.a.	n.a.	n.a.
ETF (EE)	n.a.	n.a.	n.a.	n.a.	n.a.
AKA (FI)	n.a.	n.a.	14,758,137	n.a.	n.a.
ANR (FR) <sup>3</sup>	0	0	0	17,000,000	17,000,000
CNRS (FR)	8,000,000	7,800,000	7,200,000	10,900,000	9,000,000
INSERM (FR)	71,000,000		72,000,000		76,000,000
BMBF (DE) (only project funding)	25,800,000	28,500,000	38,200,000	50,500,000	42,500,000
DFG (DE)	37,835,673*	37,835,673	44,322,143	47,756,282	68,458,433
Hertie (DE)	7,474,000	7,143,000	6,023,000	4,528,000	4,921,000
VW (DE)	3,500,000	1,400,000	6,400,000	6,300,000	3,400,000
HEA (IE)	5,731,600	5,731,600	5,731,600	5,731,600	5,731,600
HRB (IE)	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000
GIF (IL)	547,885	284,850	284,850	298,963	298,963
CSO-MOH (IL)	116,000	87,000	87,000	81,610	189,457
ISF (IL)	449,593*	449,593*	449,593	564,270	531,193
MOH (IT)	31,560,000	29,000,000	24,000,000	25,000,000	25,456,000
FNR (LU)	0	0	750,000	1,000,000	750,000
KNAW (NL)	20,500*	20,500*	20,500	20,500	20,500
ZonMw (NL)	14,000,000	14,000,000	14,000,000	14,000,000	14,000,000
Forsk (NO)	11,000,000*	11,000,000*	11,000,000	10,000,000	11,000,000
MNiSW (PL)	7,000,000	6,500,000	6,200,000	7,200,000	7,800,000
ANCS-MECT (RO)	98,018	305,907	636,263	2,143,613	3,876,082
ISCI-FIS (ES)	15,225,000*	15,225,000	17,760,000	18,675,000	22,258,000
MEC (ES)	13,600,000*	13,600,000*	13,600,000	16,300,000	19,100,000
SRC (SE)	8,000,000	9,000,000	9,000,000	8,000,000	9,000,000
MRC (UK)	101,000,000	105,000,000	109,000,000	155,000,000	133,100,000
BBSRC (UK)	34,000,000	33,500,000	36,000,000	37,000,000	40,000,000
<b>total</b>	<b>412.983.890</b>	<b>344.390.188</b>	<b>459.933.757</b>	<b>463.014.651</b>	<b>538.232.550</b>

\* No information for this year available, gap(s) filled with estimates, same data as in previous or following year(s)

<sup>3</sup> Established in 2005

n.a. Data not available

Table 6. Funds spent for biomedical research (in €) during the years 2002-2006

<b>Funding organisation</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
FWF (AT)	21,370,000	22,400,000	15,720,000	21,240,000	19,470,000
FNRS (BE)	20,471,600	23,169,400	25,680,900	26,916,400	28,476,600
FWO (BE)	17,420,000	20,189,000	20,094,000	20,575,000	21,418,000
IWT (BE)	35,871,600	46,153,200	43,682,600	43,358,800	49,641,400
GACR (CZ)	8,223,196	8,257,994	9,921,080	10,282,241	11,126,582
FI (DK)	12,057,000	16,147,500	17,775,000	18,827,800	17,029,000
ETF (EE)	830,000	830,000	930,000	870,000	990,000
AKA (FI)	14,361,385	14,849,300	26,675,480	20,311,836	22,548,310
ANR (FR) <sup>3</sup>	0	0	0	102,000,000	124,000,000
CNRS (FR)	57,000,000	53,000,000	53,000,000	63,000,000	50,800,000
INSERM (FR) <sup>2</sup>	71,000,000		72,000,000		76,000,000
BMBF (DE) (only project funding)	144,000,000	144,000,000	160,000,000	158,000,000	168,000,000
DFG (DE)	444,600,000*	444,600,000	482,300,000	522,400,000	576,600,000
Hertie (DE) <sup>2</sup>	7,474,000	7,143,000	6,023,000	4,528,000	4,921,000
VW (DE)	19,400,000	12,200,000	11,600,000	10,700,000	5,600,000
HEA (IE)	59,533,431	59,533,431	59,533,431	59,533,431	59,533,431
HRB (IE)	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000
GIF (IL and DE)	3,750,000	4,000,000	4,000,000	4,000,000	4,000,000
CSO-MOH (IL)	1,265,000	899,000	893,000	927,381	906,492
ISF (IL)	3,722,466*	3,722,466*	3,722,466	4,562,947	3,379,819
MOH (IT)	303,924,000	268,628,000	206,809,000	197,339,000	279,300,000
FNR (LU)	1,500,000	1,000,000	1,500,000	1,000,000	750,000
KNAW (NL) <sup>2</sup>	20,500*	20,500*	20,500	20,500	20,500
ZonMw (NL)	35,000,000	35,000,000	35,000,000	35,000,000	35,000,000
Forsk (NO)	26,000,000*	26,000,000	29,000,000	27,000,000	25,000,000
MNiSW (PL)	59,290,000	68,320,000	63,300,000	64,000,000	70,000,000
ANCS-MECT (RO)	1,617,524	2,180,087	2,933,741	8,399,465	18,825,452
ISCIII-FIS (ES)	101,500,000*	101,500,000	118,400,000	124,500,000	153,500,000
MEC (ES)	55,800,000*	55,800,000*	55,800,000	64,200,000	79,200,000
SRC (SE)	45,000,000	50,000,000	45,000,000	53,000,000	62,000,000
MRC (UK)	602,000,000	623,000,000	645,000,000	730,000,000	730,000,000*
BBSRC (UK)	57,500,000*	57,500,000	60,000,000	63,000,000	75,000,000
<b>total:</b>	<b>2,261,501,702</b>	<b>2,200,042,878</b>	<b>2,306,314,198</b>	<b>2,489,492,801</b>	<b>2,803,036,586</b>

\* No information for this year available, gap(s) filled with estimates, same data as in previous or following year(s)

<sup>2</sup> No information on biomedical data available, neuroscience data inserted as an estimate

<sup>3</sup> Established in 2005

In comparison, in its Sixth Framework Programme, the European Commission spent 51 million euros for neuroscience research in the year 2006. Funding for brain disorders by the US National Institutes of Health amounted in the same year to 3.86 billion euros and thus by far exceeded the European funding activities.

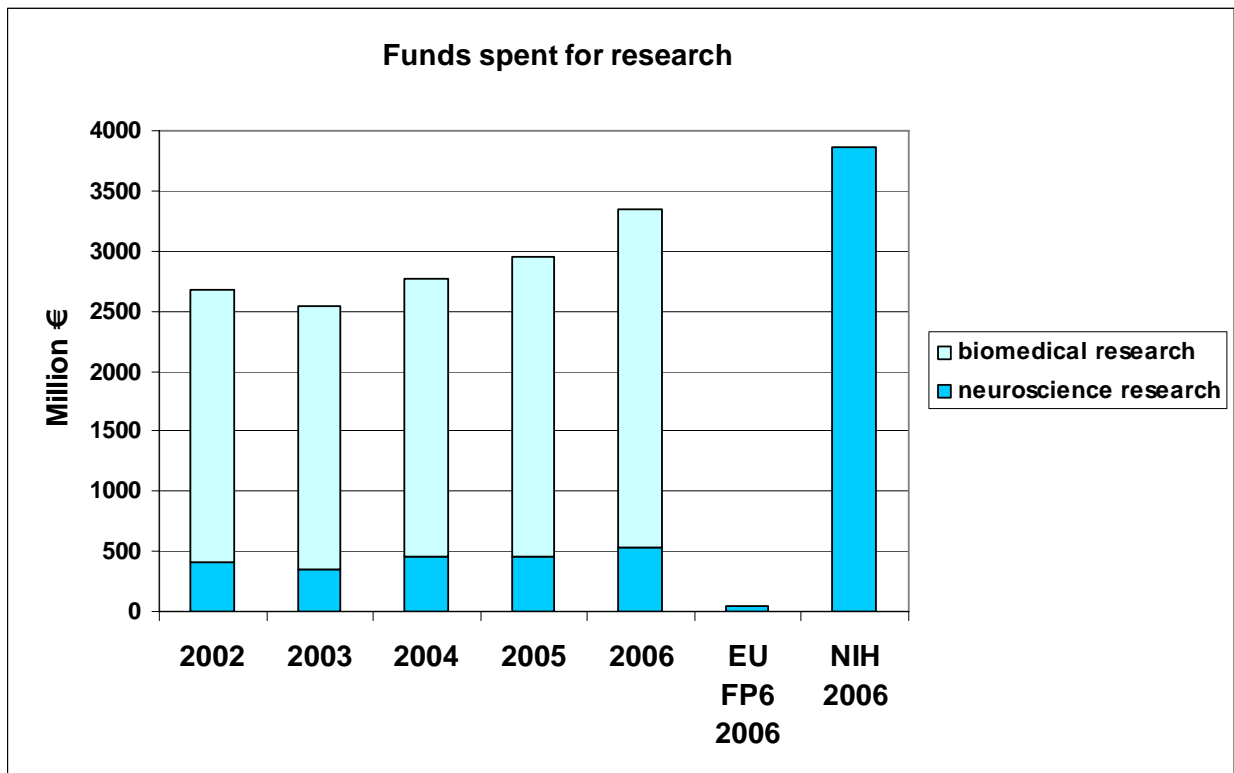


Fig. 12. Funds spent for biomedical and neuroscience research during the years 2002-2006 summed up for all partner organisations. For FI (DK) and ETF (EE) it was not possible to name the volume of funding for neuroscience research. For comparison, EU and NIH funds spent for neuroscience research in 2006 are pictured. Data were obtained for EU by personal communication (Dr. Patricia Tosetti) and for NIH from the internet (<http://nih.gov/news/fundingresearchareas.htm>).

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## **Annex: Web-pages**

FWT (AT): [www.fwf.ac.at](http://www.fwf.ac.at)  
FNRS (BE): [www.frs-fnrs.be](http://www.frs-fnrs.be)  
FWO (BE): <http://www.fwo.be>  
IWT (BE): [www.iwt.be](http://www.iwt.be)  
GACR (CZ): [www.gacr.cz](http://www.gacr.cz)  
FI (DK): [www.fi.dk](http://www.fi.dk)  
ETF (EE): [www.etf.ee](http://www.etf.ee)  
AKA (FI): [www.aka.fi](http://www.aka.fi)  
ANR (FR): [www.agence-nationale-recherche.fr/](http://www.agence-nationale-recherche.fr/)  
CNRS (FR): [www.cnrs.fr](http://www.cnrs.fr)  
INSERM (FR): [www.inserm.fr](http://www.inserm.fr)  
DFG (DE): [www.dfg.de](http://www.dfg.de)  
Hertie (DE) : [www.ghst.de](http://www.ghst.de)  
VW (DE) : [www.volkswagenstiftung.de](http://www.volkswagenstiftung.de)  
HEA (IE) : [www.hea.ie](http://www.hea.ie)  
HRB (IE) : [www.hrb.ie](http://www.hrb.ie)  
CSO-MOH (IL): [www.health.gov.il/research-fund](http://www.health.gov.il/research-fund)  
ISF (IL): [www.isf.org.il](http://www.isf.org.il)  
GIF (IL/DE): [www.gif.org.il](http://www.gif.org.il)  
MOH (IT): [www.ministerosalute.it](http://www.ministerosalute.it)  
LZP (LV): [www.lzp.lv](http://www.lzp.lv)  
FNR (LU): [www.fnr.lu](http://www.fnr.lu)  
KNAW (NL): [www.knaw.nl](http://www.knaw.nl)  
ZonMw (NL) : [www.zonmw.nl](http://www.zonmw.nl)  
Forsk (NO): [www.forskningsradet.no](http://www.forskningsradet.no)  
MniSW (PL): [www.mnisw.gov.pl](http://www.mnisw.gov.pl)  
ANCS-MEC (RO): [www.mct.ro](http://www.mct.ro)  
ISCIII-FIS (ES): [www.isciii.es](http://www.isciii.es)  
MEC (ES): [www.mec.es](http://www.mec.es)  
SRC (SE): [www.vr.se](http://www.vr.se)  
BBSRC (UK): [www.bbsrc.ac.uk](http://www.bbsrc.ac.uk)  
MRC (UK): [www.mrc.ac.uk](http://www.mrc.ac.uk)