



**Earth and Life Sciences**  
**Social Sciences**  
**Humanities**  
**ZonMw**

## **Call for proposals**

# **Brain & Cognition: an Integrated Approach**

## **Call for Interdisciplinary Education**

# Contents

<b>1</b>	<b>Introduction</b>	<b>1</b>
1.1	Background	1
1.2	Available budget	2
1.3	Validity of the call for proposals	2
<b>2</b>	<b>Aim</b>	<b>3</b>
<b>3</b>	<b>Guidelines for applicants</b>	<b>4</b>
3.1	Who can apply	4
3.2	What can be applied for	4
3.3	When can applications be submitted	4
3.4	Drawing up an application	4
3.4.1	Iris fact sheet	5
3.4.2	Core proposal	5
3.5	Specific conditions	6
3.6	Submitting an application	6
<b>4</b>	<b>Assessment procedure</b>	<b>7</b>
4.1	Procedure	7
4.2	Criteria	7
<b>5</b>	<b>Contact details and other information</b>	<b>8</b>
5.1	Contact	8
5.1.1	Specific questions	8
5.1.2	Technical questions about the electronic application system Iris	8
5.2	Other information	8

# 1 Introduction

## 1.1 Background

**The thematic programme 'Brain & Cognition: an Integrated Approach' strongly promotes integrative brain and cognition research. The aim is to understand cognitive functions from the molecular level all the way up to the interactions between human individuals.**

### **An integrative approach: the challenge**

One of the greatest challenges in current brain and cognition research is to integrate various disciplinary approaches to the understanding of specific cognitive processes - such as consciousness, language and memory- and to understand these processes from the level of molecules all the way up to behaviour, including its environmental dimensions. In the past, researchers from disciplines like psychology, neurobiology, medicine, behavioural biology, linguistics, logic, philosophy, sociology and computer science have worked on these issues, all from their own perspective but seldom in unison. The boundaries between these disciplines, however, are rapidly vanishing. Now the time has come to join forces and address important questions about how the brain serves the cognitive functioning of individuals, including the interactions with their physical, social and cultural environment.

To bridge the gap between the different levels of aggregation and to provide integrated theories of how the processes at the various levels are related and mutually constraining is arguably one of the biggest scientific challenges in the 21st century. An interdisciplinary effort is of eminent importance to achieve integration of our insights. Molecular and cellular events, for example, need to be linked to higher order processes taking place in networks of brain cells and areas. How these networks instantiate cognitive functions, and how cognitive functions express themselves in behaviour of the individual and its interaction with the environment, has to be understood as a set of constraints connecting the different levels of analysis. This includes an understanding of the various mechanisms by means of which higher-level processes influence the lower-level ones and vice versa, thus producing fundamental insights in how processes at one level sustain those at another.

The behaviour, interaction with the environment and productivity of human beings all depend on the immense integrative powers of the brain. Our brain enables us to go on learning throughout our life, and to continually adapt our skills to an ever-changing and increasingly demanding environment. Brain diseases, brain injury, psychiatric disorders such as depression, schizophrenia, and stress-related diseases, and their cognitive implications, therefore have far-reaching consequences for our functioning in society. The integrative powers of the brain are best studied by integrating ideas and methods from the various disciplines that investigate the brain by different experimental and theoretical approaches at different scales, ranging from neurotransmitters and animal models at one end, to symbolic capabilities at the other end. Such integration will facilitate the application of the growing knowledge of the brain and its cognitive functions, to learning and education, to the fight against neurological and psychiatric disorders, and to stress and antisocial behaviour.

We face a scientific challenge that can only be met by sustained interdisciplinary efforts that are firmly rooted in disciplinary results, but aim to go beyond them and transform them into new knowledge, without losing sight of the many conceptual

and technical difficulties. Achieving such an integrated vision is not only challenging from a fundamental scientific point of view, it will also enable us to face important societal and economic challenges related to, for instance, life-long education, appropriate versus deviant behaviour, ageing and optimal health.

### **Embedding in a National Initiative Brain and Cognition**

The NWO programme 'Brain & Cognition: an Integrated Approach' is part of the larger National Initiative on Brain and Cognition. At this moment, this NWO programme serves an initiating, facilitating and integrative role in the larger initiative.

### **Funding Instruments of the NWO programme 'Brain and Cognition: an Integrated Approach'**

In this programme, three funding instruments are available, in which funding can be obtained based on open competition:

- Formation of (inter)national networks which also serve as a platform for the preparation of national and international grant applications, i.e. the Call for Joint-Forces Network Grants (closed September 2, 2008);
- Stimulation of excellent integrative research, i.e. the Call for Programmes for Excellence (closed June 3, 2009);
- Ensuring high-quality research potential for the future, i.e. the present Call for Interdisciplinary Education.

## **1.2 Available budget**

A total budget of up to € 200,000 is available for this Call for Interdisciplinary Education. The budget for the entire programme 'Brain & Cognition: an Integrated Approach' amounts to M€ 7.5. The programme is funded by the NWO divisions Earth and Life Sciences, Humanities, Social Sciences, and ZonMw.

## **1.3 Validity of the call for proposals**

From 11 November 2008 applications can be submitted continuously until the end of the programme 'Brain & Cognition: an Integrated Approach'; there are no deadlines. However, the Call for Interdisciplinary Education will be closed at an earlier stage if the available budget is exhausted. This Call was updated in December 2011.

---

## 2 Aim

### **General aims of the programme 'Brain & cognition: an Integrated Approach'**

The overall and most important aim of the programme 'Brain & Cognition: an Integrated Approach' is to promote research that uses an integrative approach. Within this framework, four specific goals are set:

- Stimulation of excellent research;
- Formation of (inter)national interdisciplinary networks;
- Interdisciplinary education of high-potential junior investigators.
- Contribution to new insights into neural substrates of human cognition.

### **Call for Interdisciplinary Education**

To ensure high-quality research potential for the future, one needs to invest in talent at an early stage, such as very promising students at the Masters level or starting PhD students that have a strong interdisciplinary profile. The present Call for Interdisciplinary Education offers scientists the possibility to apply for a subsidy up to 20 k€, which allows the organization of interdisciplinary education activities, for instance, high-level summer schools. This is a very effective instrument to supply an inspiring scientific environment to young people but also to offer an opportunity for scientific staff to interact with distinguished researchers from abroad.

---

## 3 Guidelines for applicants

### 3.1 Who can apply

Researchers from the following knowledge institutions can submit proposals:

- Dutch universities;
- NWO and KNAW institutes;
- the Netherlands Cancer Institute;
- the Max Planck Institute for Psycholinguistics in Nijmegen, and
- researchers from the DUBBLE Beamline at the ESRF in Grenoble.

Senior scientists holding a doctor's degree may apply. The main applicant will be responsible for the scientific as well as the financial results of the project. All applicants should be listed in the proposal (see 3.4). Please indicate which applicant will be the coordinator of the project. If this is not specified, the applicant on top of the list will be considered as main applicant.

### 3.2 What can be applied for

Applicants can apply for small grants which allow the organization of interdisciplinary education for master and PhD students, for instance high-level summer schools. The educational activity is a one to two weeks lasting event which has to take place in the Netherlands. Costs covered by the grant include actual costs of the organisation of the courses, travelling expenses for invited foreign (scientific) experts, and/or other activities that contribute to a good educational activity. The subsidy does not include costs for publications and teaching materials. Actual research costs or costs of equipment are also excluded. You may apply for a budget with a maximum of Euro 20.000. Only actual expenditure may be claimed if your proposal is granted. The institution of the main applicant will be responsible for the infrastructural facilities necessary to execute the interdisciplinary education activity.

### 3.3 When can applications be submitted

Proposals may be submitted at any time. There are no deadlines. Applications can be submitted until the end of the programme 'Brain & Cognition: an Integrated Approach'. However, the Call for Interdisciplinary Education will be closed at an earlier stage if the available budget is exhausted. To prevent disappointment, you are advised to contact us before submitting an application.

### 3.4 Drawing up an application

Your grant application has two parts: a fact sheet and the application form.

- You complete the fact sheet directly in NWO's electronic application system Iris.
- The application form is on the grant page for this programme on the NWO website. As soon as you have completed it you can add this form to the Iris fact sheet as a PDF file.

The proposals must be written in English and should meet the prescribed format. All applications are evaluated according to a fixed set of criteria: interdisciplinarity, innovative potential, scientific quality, active participation of young researchers and national accessibility. For a detailed overview of the criteria used to evaluate the proposal, see paragraph 4.2.

It is important to clearly motivate in the application in what way the interdisciplinary education activity fits the criteria described in section 3.4.2.

The core proposal should not exceed 2500 words. If your application does not meet the prescribed criteria, it will not be eligible for further assessment.

### 3.4.1 Iris fact sheet

#### Project information

- Title of the proposal: give a short and specific title of the proposal.
- Concise summary (max. 150 words): give a short summary of the programme of the education activity. This summary serves as an explanation for the proposal's title and is suitable for publication. The location and date of the education activity should be mentioned here as well.

#### Your particulars

Enter the personal information of the main applicant (see also 3.1). Correspondence will be addressed to the main applicant.

#### Co-applicant(s)

Enter here the name(s) of the co-applicant(s). Co-applicants are or will be directly involved in carrying out the project.

Please ignore the question to give suggestions for reviewers.

### 3.4.2 Core proposal

#### – Goal and significance

Please give a detailed description of the significance and goal of the interdisciplinary education activity. Indicate the intended target group and add the preliminary programme.

#### – Intended partners and contributors

Provide a list of intended partners and contributors who will be involved in the interdisciplinary education activity. Please give the last name with initials and professional titles, including the name of the university, department, and research school with which they are affiliated. Motivate why this group of people is particularly apt for this project (i.e. relevant expertise).

#### – Relevance regarding the assessment criteria

Motivate clearly in what way the interdisciplinary education activity fits the five criteria described in paragraph 4.2. Applicants are expected to explicitly and clearly indicate the surplus value of the application regarding these criteria.

#### – Budget

Include a rough estimate of the budget of the interdisciplinary education activity. In case of additional funding sources, name the financial contributors including their allocated amount. Indicate clearly the budget which is applied for in the Programme Brain & Cognition: an integrated approach.

– Concise curriculum vitae applicant(s)

It is explicitly not required to submit exhaustive curricula vitae. Please restrict the CV's to those activities relevant for the assessment of the proposal. Please use no more than 150 words per person.

### **3.5 Specific conditions**

For this Call, the general criteria in the '[NWO Regulation on Granting](#)' (2011) are applicable, if not specified differently in this Call.

### **3.6 Submitting an application**

An application can only be submitted to NWO via the electronic application system Iris. Applications not submitted via Iris will not be admitted to the selection procedure. A main applicant is obliged to submit his/her application via his/her own Iris account.

If the main applicant does not have an Iris account yet then this should be created at least one day before the submission. Then any possible registration problems can still be solved on time. If the main applicant already has an Iris account then he/she does not need to create a new account to submit a new application.

For technical questions, please contact the Iris helpdesk.

# 4 Assessment procedure

## 4.1 Procedure

The first step in the assessment procedure is to determine the admissibility of the application. This is done using the conditions stated in Chapter 3 of this call for proposals.

The NWO Code of Conduct on Conflicts of Interest applies to all persons and NWO staff involved in the assessment and/or decision-making process.

If the application is not technically admissible, applicants will be offered a chance to comply with the requirements on short notice. The programme committee will assess the proposals and take the decision on funding. This assessment procedure will take about eight weeks.

## 4.2 Criteria

In evaluating the proposals, the programme committee will use the following criteria:

1. Interdisciplinarity of the proposal and organizing research teams; the education activity has to offer a coherent package of courses in which several disciplines will be integrated. Preferably, these courses cover a substantial part of cognition sciences, varying from psychology, neurobiology, medicine, behavioural biology, linguistics, logic, philosophy and sociology to computer science. Not only will ideas and results from different disciplines be assigned to the students, the interaction between the several disciplines will give the programme of the education activity a clear surplus value compared to mono-disciplinary education activities.
2. Innovative potential; for example by offering new courses which do not (yet) fit within the regular education programme. It is also possible that courses will be dedicated to new developments on the boundaries between different cognitive disciplines.
3. Scientific quality; participation of leading researchers at a(n) (inter)national level is required.
4. Active participation of young researchers; active participation of master students, PhD students and starting post-docs in the scientific programme, is considered as very important. This can be arranged by, for example, asking the participants to present a poster or to make assignments. In addition, junior staff members might be included in the scientific organization of the interdisciplinary education activities.
5. Accessibility; the open character of the interdisciplinary education activity is an important point of interest. This means that the education activity is not only meant for students from own faculties, but should be open for faculties on the (inter)national level. It does not have to be an activity without fee. The policy on recruitment and admission of external students should be described thoroughly.

# 5 Contact details and other information

## 5.1 Contact

### 5.1.1 Specific questions

For specific questions about Brain & Cognition: an Integrated Approach and this call for proposals please contact:

Mrs. dr. F.N. van Hasselt

Telephone +31 (0)70 344 09 03, e-mail: [f.vanhasselt@nwo.nl](mailto:f.vanhasselt@nwo.nl)

Mrs. C. Modder

Telephone +31 (0)70 344 09 33, e-mail: [c.modder@nwo.nl](mailto:c.modder@nwo.nl)

Further information on the programme and its annual activities, such as symposia and other events, will be announced via the e-mail alert service and on the programme website ([www.nwo.nl/bcia](http://www.nwo.nl/bcia)). You can register for this free monthly e-mail alert service by sending an e-mail with your name and address to [hersenencognitie@nwo.nl](mailto:hersenencognitie@nwo.nl).

For more information on the National Initiative Brain & Cognition we refer to the Brain & Cognition website ([www.brainandcognition.nl](http://www.brainandcognition.nl)).

### 5.1.2 Technical questions about the electronic application system Iris

For technical questions about the use of Iris please contact the Iris helpdesk. Please read the Iris manual before consulting the helpdesk.

The Iris helpdesk is available from Monday to Friday from 11.00 to 17.00 hours on +31 900 696 4747. Unfortunately not all foreign phone companies allow you to phone to a 0900 number in the Netherlands. You can also send your question by e-mail to [iris@nwo.nl](mailto:iris@nwo.nl).

## 5.2 Other information

### Composition of the committee

The following researchers participate in the programme committee:

- |                                     |                               |
|-------------------------------------|-------------------------------|
| – Prof. dr. C.C.A.M. Gielen (chair) | Radboud Universiteit Nijmegen |
| – Prof. dr. F.C. Verhulst           | Erasmus MC                    |
| – Prof. dr. N.F. Ramsey             | Universiteit Utrecht          |
| – Prof. dr. H. Mansvelder           | Vrije Universiteit Amsterdam  |
| – Prof. dr. N.O. Schiller           | Universiteit Leiden           |
| – Prof. dr. H. Aarts                | Universiteit Utrecht          |
| – Prof. dr. M. van Lambalgen        | Universiteit van Amsterdam    |
| – Prof. dr. L.C. Verbrugge          | Rijksuniversiteit Groningen   |
| – Prof. dr. W.B. Verwey             | Universiteit Twente           |

Published by:  
Netherlands Organisation  
for Scientific Research

Visitor's address:  
Laan van Nieuw Oost-Indië 300  
2593 CE The Hague

December 2011



Netherlands Organisation for Scientific Research