

## **STRESS AND MENTAL HEALTH (EuroSTRESS)**

# **Call for Outline Proposals**

## **Funding initiative in the field of STRESS AND MENTAL HEALTH (EuroSTRESS)**

### **What is EUROCORES?**

The ESF European Collaborative Research (EUROCORES) Programmes offer a flexible framework for researchers from Europe to work on questions which are best addressed in larger scale collaborative research programmes. The EUROCORES

Programmes allow excellent researchers from different participating countries to collaborate in research projects 'at the bench'. They also allow, when appropriate, colleagues from non-European countries, for example the US, to participate. The Programmes encourage and foresee networking and collaboration of researchers to achieve synthesis of scientific results across the programme, to link to related programmes, and to disseminate results.

EUROCORES Programmes allow national research funding organisations in Europe and beyond to support top class research in and across all scientific areas, by matching the needs articulated by the scientific community with their strategic priorities.

Funding decisions on the projects and the research funding remain with the national research funding organisations, based on international peer review operated by ESF. ESF also provides support for networking the researchers and for the scientific synthesis of research results and their dissemination<sup>(1)</sup>. This way, the EUROCORES Scheme complements the EC Framework Programme and other collaborative funding schemes at European level.

For further information see:  
<http://www.esf.org/eurocores>

<sup>(1)</sup> Currently supported through a contract with the European Commission under the Sixth Framework Programme (EC Contract no. ERAS-CT-2003-980409).

Following agreement with funding organisations in 13 countries, the European Science Foundation is launching a Call for Outline Proposals for Collaborative Research Projects (CRPs) to be undertaken within the EUROCORES Programme EuroSTRESS. EuroSTRESS will run for 3-4 years and it includes national research funding, as well as support for networking and dissemination activities provided by the ESF. The Programme aims to support high quality multidisciplinary research.

Outline Proposals are to be submitted by 21 May 2007 noon. It is expected that Full Proposals will be invited in July 2007; with 17 September 2007 noon as expected deadline for submission.

A Programme-specific website can be consulted for the latest updates at <http://www.esf.org/eurostress>

## **Background and objectives**

### ***Stress as a risk factor for mental health***

Repetitive and uncontrollable stress is known to be a powerful risk factor for mental disorders. Whether an individual will adapt or not to a stressor is defined by his/her genetics, developmental history and the complex environment in adulthood. In particular adverse or traumatic experiences early in life considerably add to the risk of subsequent psychiatric disorders including major depression and post traumatic stress disorder (PTSD). Traumatic events in adulthood or exposure to uncontrollable lifetime stressors -e.g. as part of the working life- are also reported to enhance the vulnerability to these psychiatric diseases in genetically predisposed individuals.

The societal and economic burden of these stress-related illnesses is enormous and expected to become even more so over the next decades. Hence it is of great importance to come to a better understanding of these influences of stress on mental health. In view of the recent great advances in neuroimaging and the development of reliable genetic markers, it is now highly propitious to address this major problem and gain the critical understanding.

## Scientific goals

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The main goal of EuroSTRESS is to understand **how** stress can increase the risk of mental disorders in vulnerable individuals. Therefore, studies designed to improve the mechanistic insight rather than descriptive studies are encouraged.

In general terms, EuroSTRESS will focus on two major questions:

- *How can adverse early life experience and genetic background in concert evoke lasting changes in signaling pathways within the brain, resulting in altered behavior and increased vulnerability to negative effects of stress in adulthood?*
- *How can periods of repetitive stress and/or traumatic events in adulthood (against a background of life history and genetic vulnerability) disrupt brain function such that the chances on precipitation of specific psychiatric disorders, i.e. major depression and PTSD, are increased?*

For both topics the investigation of rational intervention strategies (pharmacologically or otherwise) that normalize, ameliorate or prevent the consequences of stress exposure is encouraged. Research topics are addressed in more detail below.

### **Cross-disciplinary approach**

EuroSTRESS proposes a competitive European framework to improve our understanding of uncontrollable stress as a major risk factor in mental health. An essential aspect of the program is that it aims to promote cross-disciplinary studies to make further progress, combining fundamental (neuro)biological, medical, psychological, genetic or pharmacological approaches. Neurobiological approaches comprise investigations into the molecular and biochemical pathways activated by stress hormones as well as the functional consequences at the level of cells, cell networks (*in vitro* and/or *in vivo*) or animal behavior. Psychological approaches involve e.g. tests for cognitive performance, preferably combined with brain imaging techniques. With respect to the clinical perspectives, investigation of e.g. circulating hormone levels in combination with genotyping in search of functionality-active single nucleotide polymorphisms may form part of the study.

High priority will be given to projects with a translational component, i.e. those projects that make a true effort to link findings in experimental animal models to the human / clinical situation or vice versa.

### **Subsidy instruments**

The EUROCORES vehicle allows a coordinated approach, where complimentary expertise and globally-leading excellence from participating laboratories in various EU countries is combined in a powerful way. Groups (3 to 6 in total) can apply for funding through a Research Proposal, which allows cross-disciplinary high-level scientific collaboration between groups from at least 3 countries. Applicants should explain the added value of a trans-national approach. Detailed information is given below.

## Research topics

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### **Early life history**

This topic aims to support hypothesis-driven research that defines predictive factors for vulnerability or resilience to lasting consequences of uncontrollable early life stress. Descriptive projects are not encouraged; projects should make a true effort to understand the mechanism by which the action of these predictive factors results in a vulnerable or resilient phenotype.

Examples of research questions are:

- How do environmental factors change the functionality of stress mediators, more specifically those involved in the hypothalamo-pituitary-adrenal axis or the sympathetic nervous system, with neuronal substrates?
- How do perinatal stressors involving either the mother or the offspring lastingly alter signaling pathways in relevant brain areas like the prefrontal cortex, hippocampus or amygdala?
- Which genetic factors or epigenetic processes contribute to the lasting changes?
- How can new intervention strategies be developed and tested, based on the understanding of above-mentioned predictive factors?

### ***Repetitive or traumatic stressors in adulthood***

The objective of this topic is to get more insight into the signaling cascades that are promoted by exposure to repetitive uncontrollable stress or a traumatic event, leading to enhanced vulnerability to diseases. The emphasis is on common mechanistic principles, less so on the nature of the stressors or the (clinical) outcome.

Examples of research questions are:

- What are the molecular and biochemical pathways leading to dysfunctional signaling after exposure to repetitive or severe stressors?
- Are interactions between the amygdala, hippocampal formation and prefrontal cortex altered after exposure to repetitive or severe stressors?
- Which personality traits or genetic factors predispose to enhanced vulnerability or resilience in coping with stressful information?
- Which key factors in the above changes can be identified as rational targets for novel intervention strategies? Variations on existing treatment strategies of the psychiatric disorders of interest are not encouraged.

# Guidelines for applications

## (Outline and Full Proposals)

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Collaborative Research Project (CRP) proposals from individual scientists or research groups eligible for funding by the agencies participating in the Programme will be accepted for consideration in the EUROCORES Programme **EuroSTRESS**.

Proposals must, as a minimum, involve three eligible Principle Investigators (PIs) from **three different countries**. At the same time, a maximum of 50 % of Individual Projects (IPs) in a Collaborative Research Project (CRP) from one country are accepted. An individual scientist can only apply once as a Principal Investigator (PI), however, participate in other projects as associated partner.

Scientists or groups not applying for or not eligible to apply for funding from these agencies (including applicants from industry), can be associated with a proposal where their added scientific value can be demonstrated. Their participation as Associated Partners in a project must be fully self-supporting and will not be financially supported by the participating funding agencies.

Applications should be for three to four years although applications for shorter or longer time periods may be considered depending on the rules of the participating funding agencies. Taking into account the selection and approval processes, the successful projects are expected to begin their activities in **March 2008**.

## Online submission of applications

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Outline and Full Proposals will be submitted online. Applicants should follow the proposal structure as indicated in the Application Template for Outline Proposals available on the Programme website at:

<http://www.esf.org/eurostress>.

On this Programme website, links to information on national funding eligibility and requirements as well as to a EUROCORES Glossary and Frequently Asked Questions (FAQs) are available.

**Prior to submitting Outline Proposals, all applicants have to contact their national funding agencies in order to verify eligibility and to ensure compliance with their relevant agencies' granting rules and regulations.**

At the time of online submission of the Outline Proposals, the Project Leader is asked to confirm this on behalf of all the participants in the CRP.

## Outline Proposals

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**Outline Proposals are invited by 21 May 2007 noon.**

Outline Proposals will be examined by the participating funding agencies for formal eligibility. Therefore, it is crucial that all applicants contact their national funding agency prior to submitting their proposals.

In compliance with the rules and regulations of the participating national funding agencies, the requested funds under the EUROCORES Programme **EuroSTRESS** can include salaries for scientific and technical staff, equipment as well as travel costs and consumables within the project, specifying the amount requested from each Funding Agency. National policies may also require the proposal to contain additional specific information. Applicants should be aware that the participating funding agencies can make significant adjustments to the requested funds in order to bring these in line with their rules and regulations.

Applications will be assessed according to a set of criteria in a two-stage procedure, as to ensure a thorough selection of scientifically excellent proposals. At the outline stage, the Review Panel will select proposals with potential for scientific excellence, by applying the following criteria:

- Relevance to the Call for Proposals
- Novelty and originality
- European added value (scientific)
- Qualification of the applicants

An Outline Proposal submitted must comprise:

- A short description of the CRP (max. 1200 words, including objectives, milestones, methodologies (for example experiments and fieldwork);
  - o Short description of how (and why) the partners contributing to the CRP will work together;
- Short CVs of Project Leader (PL), all PIs and Associate Partners (max. one page each, including five most relevant publications);
- Estimated budget (consistent with the rules of relevant national funding agency) tabulated according to a provided template.

Associated Partners (APs) are also considered part of a CRP and will be assessed as such at both the Outline and Full Proposal stage.

It will be assumed that arrangements for the handling of IPR (Intellectual Property Rights) will be in place within projects, following the applicable national legislation and national funding agency rules. Applicants are strongly urged to have such arrangements in place, covering all research groups (including any associated groups) before the start of the projects. It is expected that the results obtained by the projects supported under this EUROCORES Programme will be placed in the public domain.

It is also expected that all relevant clearance of other national or international committees (for example ethics) has been obtained before funding is granted. It is the responsibility of applicants to clarify any such matters (if applicable) with their national contact points.

## Full Proposals

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**Full Proposals will be invited following the recommendations of the Review Panel. The deadline for full proposals is 17 September 2007 noon.**

Please note that only applicants who submitted an Outline Proposal can submit a Full Proposal.

For the Full Collaborative Research Project (CRP) proposals, the most important selection criterion is "Scientific quality". Other criteria include interdisciplinarity (according to the scope of the call), qualification of applicants, level of integration and collaboration, feasibility, European added value and relation to other projects (risk of double-funding and track record for collaboration).

The Full Proposals will be assessed by at least three independent external expert referees who are selected by the ESF from a pool of scientists suggested by the participating funding agencies and the Review Panel. A list of all referee names used for the international peer review will be published once the selection process is complete.

After receiving all referee reports, they will be made available (anonymous) to the applicants for their information and for commenting (optional). The Review Panel will rank all Full Proposals

based on the assessment of the Full Proposal, the anonymous referee reports and the applicant's responses to these.

The Review Panel will create a ranked list consisting of the best Full Proposals and will subsequently make recommendations to the Management Committee for the funding of these proposals. The actual granting of the funds to the Individual projects on the ranked list will depend on the total amount of funds available in each country by the participating Funding Agencies. The use of funds in a project will be subject to the rules and regulations of each participating Funding Agency as well as to the national laws of those countries.

Full proposals must include a well-argued scientific case (both for the collaboration envisaged and for the individual contributions), a list of participants, a detailed tabulated budget and other supporting information. A single, common scientific case must be made throughout the proposal to demonstrate an aim for scientific synergy and integration of multinational expertise. In addition, the amount requested from each national funding agency has to be clearly and separately specified. Detailed instructions on requirements and how to complete the application forms will be made available once Full Proposals are being invited.

The **Project Leader** will be the main CRP proposal contact point for ESF for the duration of the project. He/she will be responsible for representing the Collaborative Research Project, for its participation in programme activities, and for any reporting requirements placed on the project as a whole.

All **Principal Investigators** will be responsible for dealing with the requirements attached to the contributions of their own funding organisation.

# Programme Structure and Management

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## Programme Structure

The overall responsibility for the governance of the programme lies with a *Management Committee*, whose membership is formed by one representative from each participating funding agency (usually a senior science manager) together with an ESF representative.

Proposal assessment and selection are the responsibility of an international, independent *Review Panel*. The members of this panel are leading scientists, appointed by ESF following suggestions from participating Funding Agencies. The membership of the Review Panel will be available on the Programme website for information. The Review Panel is also expected to monitor the overall scientific progress of the programme.

The Scientific Committee which is formed by the Project Leaders of all funded CRPs will be responsible for proposing networking activities for scientific synergy in the EUROCORES Programme. They will also advise and support the EUROCORES Programme Coordinator in the coordination of networking activities.

## Programme Networking

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Networking activities are designed to strengthen the science objectives of this EUROCORES Programme by promoting coherence in the activities of the science community involved. This will provide the European added-value which is the central objective of any EUROCORES Programme.

Networking and collaboration within EUROCORES Programmes takes place at two levels:

1. between the various Individual Projects within each Collaborative Research Project (CRP) and
2. between the funded CRPs within the programme as a whole.

The intra-CRP activities are supported through the research grants each participant receives from the participating funding agencies in the given CRP. The cross-CRP activities are funded through contributions to the EUROCORES Programme.

The intra-CRP collaboration is motivated by the nature of the CRP's research objectives, i.e., by the scope and the complexity of the questions it deals with. In a CRP, the participating groups have the opportunity to gather the required critical mass to successfully address the objectives and challenges of their project.

The cross-CRP networking and collaboration is stirred by the aims and the nature of the particular EUROCORES Programme. The theme which was the basis of this EUROCORES Programme has been selected for its clear need of collaboration in the proposed field. The funded CRPs will collectively set up and further streamline this new collaboration. To this end, the CRPs will engage the programme participants and, when of clear benefit, colleagues from outside the programme in joint activities such as:

- Working Group meetings for the exchange of information and results across the CRPs;
- Joint scientific meetings or summer schools;
- Short term visits;
- Development and delivery of joint training schemes;
- Seminars, Workshops, symposia, invited sessions either stand-alone or as part of other larger events;
- Common web-facilities and publications.

Through active participation of scientists in the above mentioned activities, not only existing collaborations are enhanced but new and strategic partnership opportunities are also identified.

Furthermore, these activities may provide opportunities to explore aspects of the programme which are not covered by the funded research projects.

The integrative activities between the CRPs will help to strengthen the field by building coherence within this emerging research community and will serve as a platform for the research work which is done in the programme.

Project members are expected to participate annually in at least one cross-CRP activity.

When submitting your proposal, please note that the costs for networking within your CRP should be budgeted for in your proposal. Funds for networking between the CRPs will be centrally managed by the ESF through contributions from the participating member organisations.

## Programme evaluation

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A Mid-Term evaluation, conducted by the Review Panel, will evaluate the overall progress of the Programme, based on the progress of the funded CRPs. Here, the Review Panel has a steering function and can comment on the CRPs' work plan in relation to the objectives of the overall Programme. A final evaluation will assess the achievements of the whole EUROCORES Programme.

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*\*CNR's final decision for participation  
is expected by the end of March 2007.  
For further details and latest information  
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