



## Preliminary Announcement

Call for proposals for

# MECHANISMS OF RESILIENCE AND VULNERABILITY TO ENVIRONMENTAL CHALLENGES IN MENTAL HEALTH

Mental disorders in particular depression and anxiety are the leading cause of disability worldwide and the third leading cause of overall disease burden (in Disability-adjusted life years, DALYs). According to the OECD, one in every two people experience mental illness in their lifetime. These figures might steadily increase in the following years as a consequence of recent global and regional crises. These facts highlight the importance of improving our understanding of the pathophysiological and adaptative mechanisms with the potential to develop therapeutic and preventive approaches to preserve and improve mental health in Europe and worldwide.

Mental health may be affected by environmental, lifestyle, social, economic adverse factors which increase the risk of developing long-lasting mental health conditions. Nevertheless, environmental stress produces different reactions among individuals who experience it. In response to the same environmental stressor some individuals will activate dynamic and self-organized mechanisms enabling beneficial emotional and behavioral adaptations leading to the development of 'resilience'. In contrast, some others will be more 'vulnerable' and prone to developing mental health conditions.

The 'Network of European Funding for Neuroscience Research' (NEURON) has been established under the ERA-NET scheme of the European Commission ([www.neuron-eranet.eu](http://www.neuron-eranet.eu)). The ERA-NET NEURON aims to coordinate and optimize research efforts and funding programmes of its partner countries/regions in the field of mental, neurological, and sensory disorders. Under the umbrella of NEURON, a joint transnational call (JTC 2023) in the field of **resilience and vulnerability for mental diseases** is now launched. The following funding organisations have agreed to fund the joint call for multinational research projects in this scientific area. The call will be conducted simultaneously by the respective national and regional funding organisations and coordinated centrally by the Joint Call Secretariat.

National Health and Medical Research Council (NHMRC)	Australia*
Fonds de la Recherche Scientifique-FNRS (F.R.S.-FNRS)	Belgium*
Ministry of Science and Education (MSE)	Croatia
Estonian Research Council (ETAg)	Estonia*
French National Research Agency (ANR)	France†
Academy of Finland Research Council (AKA)	Finland*
Federal ministry of Education and Research (BMBF)	Germany†
German Research Foundation (DFG)	Germany†
National Research, Development, and Innovation Office	Hungary†
Health Research Board (HRB)	Ireland†
Chief Scientist Office, Ministry of Health (CSO-MOH)	Israel*
Ministry of Health (MOH)	Italy
Latvian Council of Science (LZP)	Latvia†
Research Council of Lithuania (LMT)	Lithuania
The Research Council of Norway (RCN)	Norway†
National Centre for Research and Development (NCBR)	Poland†
Executive Agency for Higher Education, Research, Development & Innovation Funding (UEFISCDI)	Romania
Slovak Academy of Sciences (SAS)	Slovakia
National Institute of Health Carlos III (ISCIII)	Spain†
Agencia Estatal de Investigación (AEI)	Spain†
Swiss National Science Foundation (SNSF)	Switzerland*†
National Science and Technology Council (NSTC)	Taiwan
The Scientific and Technological Research Council of Turkey (TUBITAK)	Turkey*†

\*Funding organisations with parallel national application procedures or extra requirements for submission.

†Pending on decision

## 1. Aim and scope of the call

The aim of the call is to facilitate multinational, collaborative research projects that will address critical translational questions to improve our knowledge concerning **neurobiological mechanisms involved in resilience or vulnerability to environmental challenges in mental health**.

It is presently unknown how traumatic and/or stressful events and adverse environmental context become neurobiologically embedded, increasing the vulnerability to mental disorders. Present hypotheses pinpoint to genetic and epigenetic risk factors as well as endocrine, and immune reactions as possible mechanisms. Similarly, how biological, social, cultural, psychological, and ecological factors manifest in neurophysiological mechanisms for the development of individual coping capabilities to enhance resilience towards adverse experiences is presently poorly understood.

The present call aims to fund preclinical research up to proof-of-concept clinical studies<sup>1</sup> addressing neurobiological mechanistic understanding of vulnerability and resilience to mental disorders. Research

<sup>1</sup> Eligibility and funding requirements for clinical trials vary between the partner countries. Clarification may be obtained from the individual funding organisations

areas may cover a broad range of aspects including among others genetic, epigenetic, anatomical, molecular, immunological, and endocrine mechanisms. Proposals aiming at developing predictive, preventative, diagnostic and/or therapeutic approaches with the potential to enhance resilience based on known or hypothesized neurobiological mechanisms are within the scope of this call, as are proposals to understand the neurobiological basis of therapeutic technologies promoting resilience.

The NEURON funding organizations particularly strive to fund multidisciplinary and translational research proposals that combine basic, clinical and/or technological approaches. The consortia should submit novel, ambitious ideas that can only be achieved by the complementary collaboration between partners.

Research proposals should cover at least one of the following areas:

- a) Fundamental research addressing mental health vulnerability and resilience including the pathogenesis, aetiology, progression, treatment, and prevention of mental diseases initiated by exposure to adverse environmental challenges. This may include the use of knowledge on neurobiological mechanisms for the development of innovative technologies with the potential to promote mental health, reduce the incidence of mental disorders and improve clinical outcomes.
- b) Clinical research addressing mental health vulnerability and resilience aiming to develop novel strategies for prevention, diagnosis, patient stratification, therapy and/or rehabilitation for mental diseases initiated by exposure to adverse environmental challenges. This may include research proposals aiming at the identification of neurobiological targets to enhance resilience.

Applicants should demonstrate that they have the expertise and skills required to conduct the study including already established external collaborations.

The translational value for human disease must be addressed explicitly in the proposals. If used, the choice of the animal model must be justified in the context of human pathology. The development of new animal or cell models is allowed if clearly justified and only if appropriate models are not available. The consideration of gender differences in the studies is mandatory.

Clinical studies are eligible up to the point of proof of concept<sup>2</sup>. Multimodal and multicenter clinical studies are highly encouraged. The proposals should consider the cultural, societal background and general individual diversity if relevant. ERANET NEURON will not fund the establishment of large cohorts, but the use of existing cohorts, biobanks/brain banks and exploitation of existing data sets is encouraged. Appropriate access to relevant, well-characterized patient populations or suitable biomaterial collections must be demonstrated. The proposal should describe plans to make data available for the research and clinical communities. If relevant, it is recommended that the appropriate European infrastructures are

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contacted early in the planning of the projects; the following are potentially of interest for the applicants to this call: EATRIS-ERIC (focused on translational medicine), BBMRI-ERIC (focused on biobanking), EBRAINS (focused on data and tools for brain-related research) and ELIXIR (focused on data sharing).

The following research areas are excluded from this call:

- Neurodegenerative disorders that are addressed by the EU Joint Programme – Neurodegenerative Disease Research (JPND)<sup>3</sup>.
- Proposals focusing on existing pharmacological treatments with their current indications
- Proposals focusing solely on technological developments in disregard of neurobiological mechanisms

The ERA-NET NEURON seeks to strengthen patient engagement in research. All applications should include a description of expected outcomes with potential relevance for patients. Applicants are expected to engage patients, their care givers or patient organisations as appropriate in the research. Meaningful patient engagement can occur at the level of research planning, conducting research or disseminating research results. Patient representatives will assess patient engagement aspects, the feasibility, and the relevance of the full proposals from a patient perspective.

## 2. General conditions for application

Joint transnational research proposals may be submitted by research teams working in universities (or other higher education institutions), non-university public or private research organisations, hospitals or foundations, and commercial companies, particularly small and medium-sized enterprises. The eligibility of the afore-mentioned institutions, together with details of eligible costs (e.g. personnel, material, consumables, travel money, investments), are subject to the administrative requirements of individual funding organisations and will therefore differ. Please note that, for some funding organisations, commercial companies are not eligible or are only eligible under certain conditions (e.g. only in partnership with academic institutions in the consortium). Clarification should be obtained from the individual funding organisations (see contact details below). It is strongly recommended to carefully read the funder-specific regulations regarding eligibility and funding and to contact the respective funding organisations, since additional national/regional procedures might be mandatory.

Only transnational projects will be funded. Each consortium submitting a proposal must comprise a minimum of three research partners eligible for funding by organizations listed in this call text (see above). Involvement of early career researchers (ECRs)<sup>4</sup> as consortium partners is highly encouraged

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<sup>3</sup> Alzheimer's disease and other neurodegenerative dementias, Parkinson's disease (PD) and PD-related disorders, Prion disease, Motor neuron diseases, Huntington's disease, Spinocerebellar ataxia, Spinal muscular atrophy

<sup>4</sup> **2-7 years of experience since completion of PhD** or medical specialization diploma **at the date of the launch of this call** and a scientific track record showing great promise. Allowed extensions 18 months maternity leave, duration of paternity leave, duration of long-term illness or national service, duration of clinical training with a maximum of 4 years). *Please check the funder specific regulations for the national/regional eligibility criteria that apply.*

and will be part of the evaluation criteria (see section 4). The eligible research partners must be from at least three different participating countries. The total number of research partners in a consortium is limited to five, including partners participating with their own expenses. No more than two consortium partners can be from the same country. Attention should be paid to respect gender balance among the partners of a consortium.

The ERA-NET NEURON strives to strengthen a global Brain Research Area by including as many partner countries/regions as possible in its funding scheme. Therefore, consortia including at least one partner from countries/regions that are to date underrepresented in this funding scheme (Croatia, Latvia, Lithuania, Slovakia, and Turkey) may increase the total number of partners to six.

Applicant partners who are not eligible for funding from their national/regional funding organisations or from countries/regions that are not involved in this call, may participate in consortia only if a) their participation clearly provides an added value to the consortium, and b) they have secured a budget for their part in the project. Such potential partners are not considered in the minimum number of three research partners mentioned above. In any case, the total number of research partners in one consortium must not exceed five, or six, if partners from the underrepresented countries/regions (listed above) are included.

Each consortium should have the critical mass to achieve ambitious scientific goals and **should clearly demonstrate added value** from working together. Each consortium must nominate a coordinator who represents the consortium externally and is responsible for its internal management (e.g. the application procedure, coordination of consortium agreement drafting, Data Management Plan, reporting). The consortium coordinator must be eligible for funding from one of the organizations listed in this call text.

A single proposal must be submitted by the consortium coordinator to the NEURON Joint Call Secretariat. The individual research partners in a consortium will be funded by the respective national/regional NEURON funding organization(s). Eligibility criteria are the matter of individual partner funding organizations and additional national/regional regulations and requirements may apply.

**The inclusion of a research partner that is not eligible for funding according to the specific regulations of its respective funding organization may result in the rejection of the entire proposal without further review.**

Only projects that fulfil the legal and ethical international/EU regulations (including ethical standards and guidelines in Horizon EUROPE) as well as national and institutional standards will be funded. All proposed activities including those undertaken in countries/regions outside the EU must comply with EU regulations (see Annex I of the full proposal). Ethical approval and/or a positive vote must be obtained from the relevant national/regional or local ethics committee(s) prior to the start of respective studies. The obtainment of ethical clearance will be queried by ERA-NET NEURON. All procedures involving human beings must conform to the Helsinki Declaration.

### **3.2 Submission of joint transnational proposals**

There will be a **two-stage procedure** for joint applications: **pre-proposals** and **full proposals**. In both

cases, one joint **proposal document** (in English) shall be prepared by the partners of a joint transnational proposal, and must be submitted to the Joint Call Secretariat by the coordinator.

### 3. Timetable

The launch of the call is scheduled in the beginning of **2023**.

The deadline for submitting the **pre-proposals** is scheduled in **March 2023**.

By mid-May 2022 the coordinators of selected pre-proposals will be invited by the Joint Call Secretariat to submit a **full proposal** by **June 2023**.

Funding is expected to start **early in 2024**.