PE00000006
“A multiscale integrated approach to the study of the nervous system in health and disease”

MNESYS
project cascade funding calls
SPOKE 1 - UNIPR

Call for Expression of Interest for external evaluators of project proposals

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INTRODUCTION

The project, "A multiscale integrated approach to the study of the nervous system in health and disease" (MNESYS), aims to develop new approaches for experimental and clinical neuroscience from a precision, personalized and predictive medicine perspective with a transformative impact on the treatment of nervous system and behavioral disorders.

The underlying paradigm of the MNESYS project involves the integration of medical, biological, technological, and computational expertise with the ultimate goal of a 360-degree understanding of some of the key aspects of nervous system functioning under physiological conditions and in the context of its most epidemiologically relevant pathologies.

PROJECT "MNESYS" – THE HUB

"MNESYS S.c.a.r.l." is an Extended Partnership consisting of 25 entities: 12 public universities, 9 Public Research Institutions, 4 Private Companies that aims to develop an integrated neuroscience study project.
The project was selected along with 14 other projects by the MUR following the competitive call (Notice No. 341 of 03/15. 2022 Extended Partnerships), issued by Directorial Decree March 15, 2022 for the submission of proposals for the creation of "Extended Partnerships to Universities, Research Centers, Companies for the Funding of Basic Research Projects" under the National Recovery and Resilience Plan, Mission 4 "Education and Research" - Component 2 "From Research to Enterprise" - Investment 1.3, funded by the European Union - NextGenerationEU.
The Hub, the implementing party of the Extended Partnership, has been established in the form of a Consortium Company with limited liabilitỳ named "MNESYS S.c.a.r.l."(P.IVA 02839940992), as provided in art. 4 in compliance with the timeframe indicated in art. 7, paragraph 1 of the Notice. It represents the Single Contact Person for the implementation of the Program towards the MUR and, therefore carries out the coordination and control activities of the Extended Partnership.
The MNESYS project aims to develop new approaches for experimental and clinical neuroscience from a precision, personalized and predictive medicine perspective with a transformative impact on the treatment of nervous system and behavioral disorders.
The project is divided into 7 "sub-projects" (SPOKES) each of which is focused on specific aspects of the study and divided into specific activities (WORKPACKAGES).
Each SPOKE has its own coordinator who specifically are all Public Universities:

- SPOKE 1 - Università degli Studi di Parma;
- SPOKE 2 - Università degli Studi della Campania - Luigi Vanvitelli;
- SPOKE 3 - Università degli Studi di Napoli – Federico II;
- SPOKE 4 - Università ALMA MATER STUDIORUM - Università Bologna;
- SPOKE 5 - Università degli Studi di Ferrara;
- SPOKE 6 - Università degli Studi di Genova;
- SPOKE 7 - Università degli Studi di Verona;

The total amount of the project is 114,700,000 euros, of which 23,000,000 euros are earmarked for the activation of cascading calls through which entities outside the Partnership will be involved in

the project that submit research projects consistent with and complementary to the Program and will receive appropriate funding.
The main objectives of the project, which will be completed in three years, are:
- The identification of biomarkers for early diagnosis and prognosis of diseases of the nervous system and response to treatment interventions;
- The identification of molecular and cellular targets for the development of new pharmacological tools;
- The development of computational models (i.e., digital twins) through multi-modal data acquisition and integration.
For further information please follow the URL https://mnesys.eu/ .

PROJECT "MNESYS"– SPOKE 1 – UNIVERSITÀ DI PARMA

The coordinator for the Spoke 1 is professor L. Bonini.
The activities will address the main aspects of neurodevelopment from a perspective that covers the entire life course, from preconception, childhood, and adulthood, This will elucidate the neural basis of cognitive development both physiologically and during disease, including the effects of the interaction between neural development and the environment; new biomarkers will be researched for monitoring complex diseases of the nervous system such as epilepsy and autism. This research will also be aimed at identifying key determinants of mental health, such as social cognition.
The research will be developed in the following activities:

- Anatomo-functional mechanisms of neurodevelopment and social cognition
- Identification of novel biomarkers for neurodevelopmental disorders
- Neural and molecular mechanisms of neurodevelopmental disorders and targeted therapies
- Environmental and social determinants of neurodevelopment, under conditions of health and disease.

The MNESYS project promotes a scheme based on Cascade funding to support fundamental research activity that is not available at PE Participating Institutions by fostering integration with other institutions where there is excellence in "neuroscience" on topics that are complementary to the research conducted within individual spokes.
The goal is to reach out to institutions that are strongly interested in implementing fundamental research projects in "neuroscience" that are original, medium to large in size and low in technological maturity level (TRL).

The Spoke 1, Università di Parma issued a cascading call with these topics:

1. Single-neuron correlates of social cognition and interaction in human cerebral cortex during awake surgeries.
2. The role of subcortical brain structure in social information processing through structural and functional MRI in human and non-human primates with and without intact visual cortex.
3. Anatomo-functional characterization of cortical and subcortical circuits involved in action observation in human and non-human primates with 7T ultra-high field MRI.
4. Seeking for biomarkers that can predict neurodevelopmental disorders in preterm and very preterm babies: a structural/functional connectivity-based approach.

5. Atlas of structural and functional connectivity of the vestibular network in human neonates and infants.
6. Optimizing the chemistry of antisense oligonucleotides and their formulation in non-viral particles through a high-frequency oscillatory motion device: moving towards clinical use of RNA therapeutics for neurodevelopmental disorders.
7. Study of the effects of early-life stress and of the fast-acting antidepressant Ketamine in Shank2 and Shank3 mutant mice to model comorbid psychiatric symptoms in neurodevelopmental disorders.
8. Role of maternal exposure to psychosocial stressors during pregnancy in the aetiology of autism-spectrum disorders: characterization of a non-genetic animal model for ASD.
9. Therapeutic exploitation of tumor-educated macrophages for neural development and regeneration.
10. Advanced cellular electrophysiological and imaging approaches to tackle complexity and identify multiorgan phenotypes in channelopathies.
11. Software for volumetric reconstruction of neuroanatomical data from histological sections and integration with Magnetic Resonance Imaging.

THE PURPOSE

The purpose of this call is to establish a Panel of external evaluators that will be engaged for evaluation of project proposals submitted under the calls deployed with reference to the Mnesys Cascade Funding activities.

PROFILE OF EVALUATOR

We are looking for experts in the fields neurodevelopment, cognition and social interaction, experienced in evaluating projects funded by international agencies, with a proven track record in the topics of cascade funding, and external to the Mnesys consortium.

Applications must be submitted sending by email to protocollo@unipr.it the application letter signed with attached an identity document and an updated cv with general information on your experience/expertise on "MNESYS topics" and previous evaluating experiences on EU- or internationally-funded projects.
The deadline for submission of the Expression of Interest is December 12th, 2023.

All personal data of which UNIPR comes into possession during the completion of the procedures referred to in this notice will be treated in compliance with Legislative Decree n. 196/2003 and EU Regulation no. 2016/679.

There is no remuneration for the activities carried out by the selected evaluators.