



UNIVERSITÀ DEGLI STUDI  
DI PERUGIA

Marie Skłodowska-Curie ITN Early Stage Researcher

**MIRIADE project**

**Multi-omics Interdisciplinary**

**Research Integration to Address DEmentia diagnosis**

**G.A. n. 860197**

University of Perugia, Department of Medicine, Section of Neurological Clinic

**You are the person to substantially improve diagnosis of Alzheimer's Disease by generating novel immunoassays in CSF and blood!**

**Did you study or work outside Italy in the past 3 years?**

**Then you may be the candidate we are looking for!**

**1. The MIRIADE project**

- The project is being pursued in the framework of the Marie Skłodowska-Curie Innovative Training Network [MIRIADE.eu](https://www.miriade.eu) (Multi-omics Interdisciplinary Research Integration to Address DEmentia diagnosis). The overarching goal of the MIRIADE project is to train a novel generation of scientists able to accelerate dementia biomarker development. MIRIADE comprises of ten world-leading research organisations, 5 small to large industries and 2 patients organisations, from 12 countries in the EU, South-Korea and USA. A total of 15 Early Stage Researchers (ESRs) will be hosted across the network. The project will leverage existing proteomics datasets to identify the most promising candidate biomarkers for the major forms of dementias. It will develop an openly accessible integrated data platform for biomarker development (ESR1). ESR project 2 will focus on the prediction of protein-antibody interactions success in biomarker assay development. ESR3 will characterise protein surface accessibility states in specific biological matrices, to improve biomarker assay development. ESR4-6 will develop specific reaction monitoring assays and validate these in CSF and blood of patients with AD (ESR4), FTD (ESR5) or DLB(ESR6). ESR7-10 will develop novel immunoassays in CSF and blood for all dementias (ESR7); AD (ESR8), FTD (ESR9) or DLB (ESR10). ESR11 and 12 will focus on the market-ready development of plasma abeta42 and abeta40 assays (ESR11) or neurofilament light (ESR12). ESR13 will develop reference methods for SRM assays for amyloid and neurofilament light CSF and blood assays. ESR14 and 15 will focus on innovation of the process, in order to generate a roadmap for efficient biomarker development. ESR14 will study how data are organized, shared, reused and integrated in academia and ESR15 will compare and evaluate different workflows of biomarker development.

**2. What you will do**

- We have a vacancy for an Early Stage Researcher in the MIRIADE project (Multi-omics Interdisciplinary Research Integration to Address DEmentia diagnosis) Grant Agreement n. 860197, to develop novel immunoassays to improve the diagnosis of Alzheimer's disease. Your main tasks and responsibilities in this project will be:
- to develop customized panels of immunoassays for analysis of novel biomarker candidates;
- to optimize these panels for biomarker detection in both CSF and blood using state of the art technologies, such as enzyme-linked immunosorbent assays (ELISA) or single molecule arrays;
- to technically and clinically validate these novel tests in relevant patient samples from different cohorts;
- to process and to analyse the data;
- to communicate results by means of oral presentations and scientific publications;
- to perform one secondment (Internship) of n. 6 (six) months at the Quanterix Corporation (US), to perform an ultrasensitive Simoa blood-based assay.



As an Early Stage Researcher you will work in the stimulating environment of the Laboratory of Clinical Neurochemistry, Section of Neurological Clinic -Department of Medicine of the University of Perugia, headed by Prof. Lucilla Parnetti, in collaboration with the postdocs Dr. Silvia Paciotti and Dr. Samuela Cataldi. You will be part of a multidisciplinary team, with experience in the field of biomarker clinical validation.

### 3. What we expect

We are looking for a highly motivated and enthusiastic early-stage researcher, with a strong interest in dementia, biochemistry and clinical chemistry. You must be pro-active and precise, we expect you to have excellent communication skills, talents for organising and to work optimally when collaborating with others. You must like to solve scientific problems and have an intrinsic motivation and capacity to continuously improve yourself.

To be eligible for this position, the applicants must satisfy the following requirements conform to Marie Skłodowska-Curie European Training Network (ETN):

- To be Early-Stage Researchers (ESRs) and undertake transnational mobility. For all recruitments, the eligibility of the researchers will be determined at the date of their first recruitment in the action.

Early-Stage Researchers (ESRs) must, at the date of recruitment by the Beneficiary, be in the first four years (full-time equivalent research experience) of their research careers;

- To have not been awarded a doctoral degree.
- To not have resided or carried out their main activity (work, studies, etc.) in Italy for more than 12 months in the 3 years immediately before the recruitment date.

In addition, you have to meet the following requirements and experience:

- Aiming to obtain a PhD degree
- Excellent communication skills in English, both written and verbal;
- Master's degree in the field of biology, biochemistry, chemistry or related. In addition, training in antibody based methods and biostatistics is a strong pre;
- Ability to generate scientific outputs for publication in peer reviewed journals;
- Experience in writing (international) publication(s);
- You are willing to travel to attend secondment, training and academic events;
- You have the ability to work within an internationally diverse team and to attain with the requirements of the funder.

### 4. Your working environment

The mission of the Laboratory of Clinical Neurochemistry, located at the University of Perugia, is to improve patient care for neurological disorders by developing and clinically validate biomarkers in body fluids. Laboratory of Clinical Neurochemistry is part of the Neurology section, which is dedicated to assist patients affected by a wide range of neurological diseases. Particularly, the laboratory of clinical neurochemistry works closely with the Center for Memory Disturbances which provides early diagnosis and treatment of patients suffering from neurological diseases leading to dementia.

In the laboratory, biospecimens are routinely collected from patients, handled and stored following rigorous internal standard operating procedures in a centralised biobank. Commercially available enzyme immunosorbent assays are used to investigate new biomarkers for neurodegenerative disorders.

Our research group is composed of a team of neurologists, neurophysiologists and biochemists, a biophysicist and a biostatistician. The different skills of the people employed at the Laboratory of Clinical Neurochemistry and at the Center for Memory Disturbances enhance the link between clinical and biochemical research activities providing a deep translational impact to the research.



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## 5. What we offer

Successful candidates will receive an attractive base-salary in accordance with the Marie Skłodowska-Curie Actions, for 36 months. The exact (net) salary depends on the EU-defined country correction factor, and on local tax regulations (for additional information see [EU MSCA website](#)).

With respect to the MIRIADE PROJECT, Grant Agreement n. 860197, the total amount for the salary is divided as follows:

Living allowance: 122.899,68 €

Mobility allowance: 21.600,00 €

TOT. € 144.499,68 €

(Family allowance: 9.000,00 €)

TOT. € 153.499,68 €

Next to your local PhD training, you will participate in attractive educational program customized to the MIRIADE early stage researchers. The MIRIADE training program consists of annual training weeks across Europe to optimally develop your academic and transferable skills, as well as the basis of innovation and entrepreneurship. This training program prepares you for a prosperous career as biomarker expert.

If you don't have the nationality of an EU/EEA country or Switzerland, you will need a residence permit in Italy. We will help you with the application for this.

### Further information

The starting date of this research activity will be on October 1<sup>st</sup>, 2020.

The starting date of the PhD Course will be on November 1<sup>st</sup>, 2020.

### Let's meet!

For any information about the grant or about the application procedures do not hesitate to contact Prof. Lucilla Parnetti at: [laboratorio.neurochimica-clinica@unipg.it](mailto:laboratorio.neurochimica-clinica@unipg.it)

You can apply by entering in the following link:

<https://www.unipg.it/ricerca/assegna-di-ricerca/bandi-e-procedure>