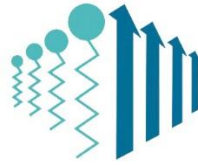




Università
di Catania



LipAgg

DOCTORAL NETWORK
ON AMYLOID PROTEIN

Organisation/University

University of Catania

Research Field

Biophysics

Researcher Profile

First stage researcher (R1)

Application Deadline

01/05/2026 23:00 Europe/Brussels

Location

Catania - Italy (24 months)

Bordeaux - France (11 months)

Bari - Italy (1 month)

Type of contract

Temporary

Job Status

Full-time

Hours per week

40

Offer Starting Date

01/09/2026

EU Research Framework Programme

HORIZON-MCSA-2024-DN

Marie Curie Grant Agreement Number

101227450

LipAgg Doctoral Network project

The LipAgg project seeks to unravel the structural complexities of amyloid protein-lipid aggregates and investigate their role in pathological aggregation, cellular toxicity, and intercellular spread. Focusing on key human amyloid proteins —amylin (IAPP), amyloid beta (A β), and α -synuclein (α S)—linked to type 2 diabetes (T2D), Alzheimer's disease (AD), and Parkinson's disease (PD), respectively, the project builds on recent discoveries made by the consortium. These findings highlight the critical role of free lipids in membrane damage through the formation of stable lipid-amyloidogenic protein complexes, leading to the lipid-chaperone hypothesis.

LipAgg Doctoral Network program

The selected PhD candidate will participate in the EU-funded HORIZON-MSCA-DN-2024-01 project LipAgg. The LipAgg network brings together partners from 6 European countries and comprises 11 academic or research institutions and 12 industrial partners. The consortium is committed to delivering an outstanding training programme for 15 Doctoral Candidates (DCs) aimed at elucidating the role of lipids in the toxicity and propagation of protein aggregation.

Supervisors

Prof. Carmelo La Rosa – clarosa@unict.it.

Dr. Lucie Khemtemourian- lucie.khemtemourian@u-bordeaux.fr

Involved Company

Biofordrug - <https://www.biofordrug.com/>

Title

Biophysical Characterization of IAPP–Lipid Complexes in Type 2 Diabetes

Objectives

This project focuses on the islet amyloid polypeptide (IAPP), a peptide involved in type 2 diabetes, and aims to establish a protocol to generate IAPP–lipid complexes and to characterize their thermodynamic and kinetic properties as well as their structure.

The Position

The selected PhD candidate will participate in the EU-funded HORIZON-MSCA-DN-2024-01 project LipAgg. The LipAgg network brings together partners from five

European countries and comprises nine academic institutions and twelve industrial partners. The consortium is committed to delivering an outstanding training programme for fifteen Doctoral Candidates (DCs) aimed at elucidating the role of lipids in the toxicity and propagation of protein aggregation.

The Doctoral Candidate's key tasks include managing and carrying out the assigned research project, participating in LipAgg training and network activities, taking PhD courses, writing scientific articles and the PhD thesis, presenting work at national and international conferences, undertaking a research stay within the LipAgg network, and disseminating the obtained results.

In particular, the DC recruited for this position will characterize IAPP–lipid complexes formed with lipid mixtures of varying composition, ranging from phospholipids to free fatty acids. The candidate will isolate β -cells from pancreatic islets and determine their lipid composition using lipidomics (in collaboration with a mass spectrometry centre). IAPP fibril formation and structure will be investigated using biophysical techniques, mainly fluorescence spectroscopy, circular dichroism, and microscopy. Finally, the DC will study the insertion of IAPP–lipid complexes into lipid membranes using RRS, as well as perform kinetic and thermodynamic measurements. The Doctoral Candidate will be enrolled at University of Catania under the supervision of Prof. Carmelo La Rosa. The project includes a 11-month secondment to prepare different IAPP-lipid complexes and explore their biophysical characterisation at the University of Bordeaux and CNRS (France) under the supervision of Dr. Lucie Khemtémourian, as well as a 1-month secondment in Biofordrug (Bari, Italy).

The expected start date is 1 September 2026.

The Candidate

The ideal candidate for this position is a highly motivated and talented researcher holding a Master's degree (MSc or equivalent) in Chemistry, Biochemistry or Biophysics.

The candidate should enjoy the challenge of novel scientific concepts and have a highly motivated, persistent and result-driven attitude. The candidate should be able to work well both independently and in an interdisciplinary team.

Excellent oral and written communication skills in English are required. Strong organisational and planning skills are also necessary.

Eligibility rules

This position is subject to the mobility and eligibility rules of the Marie Skłodowska-Curie Actions. In particular, the candidate must not have resided or carried out their main activity (work, studies, etc.) in Italy for more than twelve months during the three years immediately prior to the recruitment date, unless as part of a procedure for obtaining refugee status under the Geneva Convention. At the date of recruitment, the candidate must be a Doctoral Candidate, *i.e.* in the first five years (full-time equivalent research experience) of their research career and must not have been awarded a doctoral degree.

Funding

The successful candidates will receive a gross salary of 3821.53 € as well as a mobility allowance of € 710.00 per month in accordance with the MSCA regulations for Doctoral Researchers. The net salary depends on local tax regulations and on the country correction factor (to allow for the difference in cost of living in different EU Member States). The salary includes a living allowance, a mobility allowance, and a family allowance (if applicable). The PhD funding is for 36 months.

Required documents

CV - including methodological skills
Motivation letter
Copy of Master's degree (or proof of expected completion)
Master thesis (if available)
All academic transcripts
Contact information for at least two references

Contact information

To get more details please visit the website at URL: <https://lipagg.eu/> or write to clarosa@unict.it and lucie.khemtemourian@u-bordeaux.fr.