

INTERNATIONAL INTERNSHIP OPPORTUNITY



Instituto de Biomedicina de Sevilla (IBiS)



8 Month



Flexible, 2026,
Ideally March

Project Title

Proteomic analysis of CSP α /DNAJC5-dependent mechanisms in synaptic proteostasis and neurodegeneration

Environment

The internship will be hosted at IBiS (Sevilla) — a leading biomedical research institute affiliated with Hospital Universitario Virgen del Rocío, CSIC, and the University of Sevilla. The work will be carried out in collaboration with the Fornasiero Lab (Trieste), which specializes in synaptic proteostasis, protein dynamics, and quantitative mass spectrometry.

Project Overview

We are offering an 8-month internship at the Instituto de Biomedicina de Sevilla (IBiS), in the Fernandez-Chacón Laboratory, in close collaboration with the Fornasiero Laboratory (University of Trieste, Italy). The project focuses on understanding how the synaptic co-chaperone Cysteine String Protein- α (CSP α /DNAJC5) protects neurons from degeneration and maintains proteostasis in the adult brain. Mutations in DNAJC5 cause adult-onset neuronal ceroid lipofuscinosis (Kufs disease/NCL4), yet the molecular mechanisms underlying CSP α /DNAJC5 function remain poorly defined. Using conditional knockout mouse models, proteomic and lipidomic profiling, and advanced mass spectrometry, we aim to identify CSP α /DNAJC5 client proteins and characterize the alterations in protein turnover, lipid homeostasis, and synaptic proteome dynamics associated with its loss.



Internship Focus

The selected candidate will contribute refining the proteomic analysis of brain samples from conditional CSP α /DNAJC5 knockout mice and validate some key candidates.

Work will include

Data analysis of protein turnover and lifetime changes using isotopic labeling datasets. Integration of proteomic results with transcriptomic and lipidomic datasets to reveal affected pathways.

Requirements

Background in biochemistry, molecular biology, neuroscience, or bioinformatics. Interest in molecular biology, neurodegeneration, proteomics, and molecular neuroscience. Prior experience with mass spectrometry data or protein analysis is advantageous but not mandatory. Good communication skills and ability to work in an international, collaborative environment.

Interested candidates should send a CV, motivation letter, and contact information of one referee to:

Celora Lucia, lucia.celora@units.it