

PHD POSITION IN NEUROSCIENCE

A PhD position is offered in the Neurophysiology Lab from Universitat de Barcelona and Institute of Neurosciences-UB.

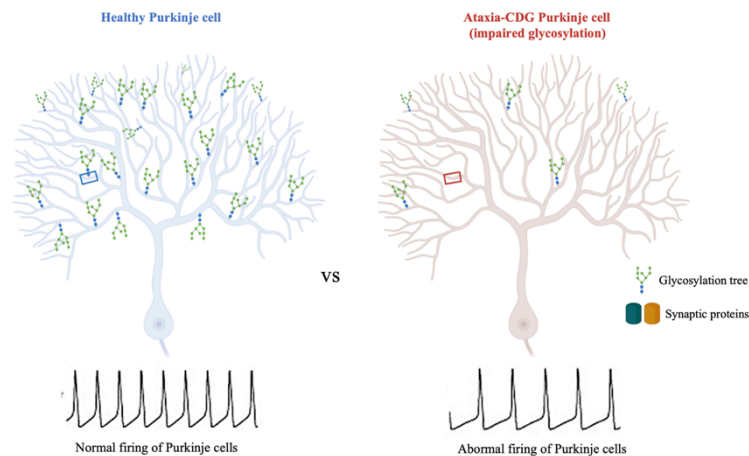
Research line and group leader:

Synaptic Function in Channelopathies, Mercè Izquierdo-Serra (merceizquierdo@ub.edu)

Title of the project: Unraveling N-glycosylation role in cerebellar synaptic physiology and pathophysiology

Summary of the project:

Cerebellar ataxia is a highly prevalent neurological disorder associated with several types of Congenital Disorders of Glycosylation (CDG)⁽¹⁾. The molecular mechanisms behind cerebellar syndrome and ataxia in CDG-patients had been hardly explored. **We hypothesize that pathological hypoglycosylation of synaptic proteins in CDG-patients might provoke aberrant PC function, ultimately leading to cerebellar ataxia.**



To study the impact of synaptic function in cerebellar networks, we work with dissociated primary cerebellar cultures and cultured cerebellar mouse slices where glycosylation is globally disrupted to mimic the condition of CDG-patients. Then to assess synaptic function and synaptic protein localization we apply advanced techniques in neuroscience such electrophysiology (patch-clamp), optogenetics, calcium/voltage imaging or immunostaining techniques applied to cleared and normal tissue.

We seek a motivated PhD student who is interested in the field of neurophysiology and possesses experience in neuroscience techniques, critical thinking, independence and curiosity. The Neurophysiology Lab provides an excellent setting for pursuing a PhD. Throughout the doctoral program, we highly encourage participation in both national and international conferences, and international experience will be a priority. It is required an enthusiastic attitude, independent and team-work skills, willingness to learn as well as a good dedication to the lab work. Previous experience in a research lab will be well considered.

The successful candidate will receive salary funding for the first 12-18 months, with the expectation of securing additional fellowships to sustain their research thereafter. Therefore, a high academic score is required.

1. J. Paprocka, A. Jezela-Stanek, A. Tylki-Szymańska, S. Grunewald, *Brain Sci.* **11**, 1–25 (2021).
2. M. Izquierdo-Serra *et al.*, *Int. J. Mol. Sci.* **19**, 619 (2018).