



PhD in Neurobiology/Synaptic physiology

The Laboratory of Cellular and Molecular Neurobiology is seeking for candidates for a 4 year contract (FPI call 2019)

Principal investigator: Dr. Artur Llobet

Offer description:

The research group of Dr. Artur Llobet is part of the Laboratory of Cellular and Molecular Neurobiology (<http://www.ub.edu/ptex/LabWebpage/Home.html>) of the Institute of Neurosciences of the University of Barcelona (www.neurociencies.ub.edu).

How do synapses adapt to a constantly changing environment? The project aims to understand the mechanisms that regulate the transfer of information at synapses. Through the recording of neuronal activity in *Xenopus tropicalis* tadpoles in vivo, the student will characterize the function of a group of synapses encoding olfactory information. Functional data will be associated to a morphological characterization. The responses to several manipulations will shed new light about how synapses alter their properties to correctly process information.

The research group of Dr. Artur Llobet investigates the cell biology of neurons by combining two experimental systems: autaptic cultures and *Xenopus tropicalis* tadpoles. See for example (Lopez-Murcia *et al.*, 2015; Terni *et al.*, 2017). The techniques applied involve electrophysiological recording, genetic manipulation and combinations of histological techniques.

Key responsibilities:

The successful candidate will work under the supervision of Dr. Artur Llobet but his/her daily activities will be coordinated with all other researchers of the Laboratory of Cellular and Molecular Neurobiology. Responsibilities involve carrying out experiments, performing data analysis and maintaining a fluent communication with the P.I. and the other members of the group. He/she will also be involved in dissemination tasks, such as participation in internal seminars or meetings.

Functions and tasks of the position:

- Carry out animal manipulations
- Electrophysiological recording
- Data analysis
- Histological techniques
- Preparation of summaries
- Communication of results

Requirements:

- EU citizenship (preferably)





- Top academic marks. In particular in Neurobiology, physiology, physics and mathematics

Educational level:

We are interested in candidates holding a degree in the biomedical sciences (biology, biomedicine, pharmacy,...), physics or chemistry and a master in neurosciences, biomedicine, or, bioengineering, however, we are open to interview candidates with other profiles as long as they are highly motivated for the job.

Skills:

- High motivation to carry out a career in science
- Background in electrophysiology and/or imaging
- Capacity to perform quantitative analysis of data
- Programming skills

Working language:

English

Starting date:

Mid 2020

Duration of the contract:

One year, renewable to a second, third and fourth (final) year.

Required documents:

1. Application letter, including motivation
2. CV
3. Two academic/professional reference letters

Send your application to:

allobet@ub.edu, Dr. Artur Llobet

indicating in the subject: **Application for FPI position**

References

Lopez-Murcia FJ, Terni B & Llobet A. (2015). SPARC triggers a cell-autonomous program of synapse elimination. *Proceedings of the National Academy of Sciences of the United States of America* **112**, 13366-13371.

Terni B, Pacciolla P, Masanas H, Gorostiza P & Llobet A. (2017). Tight temporal coupling between synaptic rewiring of olfactory glomeruli and the emergence of odor-guided behavior in *Xenopus* tadpoles. *J Comp Neurol* **525**, 3769-3783.

