UNIVERSITAT DE BARCELONA

Looking for Ph.D. Candidate for Stem Cell Biology Modeling of Neuredevelopment and Neurodegeneration

The **Lab *of Human Modeling of Neurological Disorders*** (Neurodevelopmental Disorders Group at Institut de Neurociències, University of Barcelona) directed by **Alberto Ortega** *PhD*, are seeking for a motivated and enthusiastic predoctoral candidate to apply for predoctoral fellowships.

PROJECT DESCRIPTION

The broad objective of our project is to decipher the effect of metabolic and microenvironment perturbations during the human cerebral cortex development under physiological and rare pathological paradigms, such in the MECP2 duplication syndrome. We employ biochemical coupled to high-throughput approaches to identify multiomic profile changes in human postmortem brain tissue samples as well as in 2D and 3D stem cell-based models *in vitro* of the human brain development. By identifying changes in these scenarios, we aim to elucidate developmental changes in the cerebral cortex and how they can modulate the generation and functional maturation of neural cell circuits. We also utilize human stem cell-based models of development and disease to identify new disease biomarkers and design more efficient therapeutic approaches.

HOST INSTITUTION

The candidates will work at the University of Barcelona Faculty of Medicine and Health Sciences. The University of Barcelona is one of Spain's top research universities. According to the Ibero-American SIR Ranking, it generates more scientific output than any other Spanish university.
Specifically, Alberto Ortega's is located at Campus de Bellvitge, which is composed of a set of spaces for teaching and research at the Faculty of Medicine and Health Sciences. The hosting group will be part of the Bellvitge Biomedical Research Institute (IDIBELL), one of the three major research foundations at University of Barcelona.

PROFILE OF THE CANDIDATES

- We are seeking a candidate in possession or be completing a Graduate in Health Science related degrees including Biomedicine, Biomedical Sciences, Biology, Pharmacology as well as Biotechnology, Biomedical Engineering, Biochemistry or Bioinformatics.
- Academic record with an average grade > 8/10.
- Good command of written and spoken English.
- The candidate should have good interpersonal skills, be able to carry out inter-dependent research activities within multiple and international teams, enjoy challenging experimental work and be willing to develop new projects.
- Expertise in any of the following approaches is desirable: cell culture techniques, bioinformatics, neurobiology

HOW TO APPLY

Applications should be sent **at latest by October 4th** to jalbertoortega@ub.edu with the subject "Predoctoral job application", and a single .pdf file as attachment with:
(**1**) Brief (1 page max) **cover letter** describing previous lab research experience and what motivates you to work in this project.
(**2**) Full **CV**
(3) Academic Records

PROJECTS

- *Refining iPSC-Based Spinal Cord Model Systems by Fabricating Developmentally Programmed Extracellular Matrix Cues*. NIH/NINDS. PI: Alberto Ortega in collaboration with Evangelos Kiskinis (Northwestern University) and Zaida Álvarez (IBEC).
- *Advancing in the research of traumatic injuries and neurodegeneration of the nervous system*. MICIU. PI: Alberto Ortega.
- *Proteomic characterization of the human cerebral cortex microenvironments during development: evolutionary and clinical relevance.* Ministerio de Ciencia e Innovación. PI: Alberto Ortega.

PUBLICATIONS

https://www.ncbi.nlm.nih.gov/myncbi/1ralxaOe9kmku/bibliography/public/