

Date of publication of the job offer: 14/02/2023

Position reference: POSTDOCTORAL POSITION IN NEUROSCIENCE (ERA-NET)

Job description

We are recruiting a PostDoc to work on the involvement of the insula in the autism neurodevelopmental disorder using rodent models. The successful candidate will join the NeuroPhar lab ([Neurophar \(UPF\)](#), @NeuroPharUPF), Departament de Medicina i Ciències de la Vida (MELIS), Universitat Pompeu Fabra (UPF), Parc de Recerca Biomèdica de Barcelona (PRBB), to work on this topic within the ERA-NET Neuron CANSHANK project (NEURON-ERA-NET: [PROJECT: JTC2021: CANSHANK - ERA-NET NEURON \(neuron-eranet.eu\)](#))



Candidates should have

* Ph.D. in Neuroscience. * Experience in rodent behavior. * Certification for animal experimentation. * At least some additional relevant skills (stereotaxic surgery, viral vector administration, immunofluorescence, and confocal microscopy, gene expression analysis, others). * Complementary skills: good English, communicative skills, teamwork, research ethic and responsibility, others.

Project

The CANSHANK project will explore the pathophysiological mechanisms underlying autism spectrum disorder (ASD). We will focus our attention on the involvement of a neuromodulatory system, the endogenous cannabinoid system, in specific cell types of a crucial brain region representing a hub of communications, the insular cortex. We will use a well-recognized genetic mouse model of ASD, the deletion of the Shank3 gene, and several complementary experimental approaches: additional genetic mouse models, behavioral and electrophysiological techniques, viral vector strategies to express and delete some genes in specific cell types in the brain, strategies to investigate the use and the transformation of energy at the cellular level and human cerebral organoids. Our research will have uniqueness and will result in a deeper understanding of the brain mechanisms involved in the onset and development of ASD. In our laboratory, the recruited candidate is expected to lead the execution of the animal behavior and histological assessment studies. The PostDoc will also collaborate with the other international groups in the CANSHANK network and will be allowed to collaborate on other projects running in the laboratory.

We offer

Contract for 3 years. Gross salary of about €32.248,92€. The host laboratory is located at the PRBB ([PRBB - Parque de Investigación Biomédica de Barcelona](#)), offering a quality work and dynamic scientific environment. Interested individuals are invited to send full C.V., an ID number (DNI/NIE/Passport), PhD degree, a short letter of interest, and generic letters of reference, if available, to the following e-mails: recruitment.melis@upf.edu, elena.martin@upf.edu and info.neurophar@upf.edu. The email's subject should indicate the position's reference (MELIS-I.DET-NG-2023-01).

Project and Institution that finance the contract This contract will be funded by European Union "NextGenerationEU/PRTR; the Spanish Ministry of Science and Innovation - MICIN, and the Research State Agency – AEI, through "Plan de Recuperación, Transformación y Resiliencia" funding program and the ERA-NET neuron translational research projects on neurodevelopmental disorders.

Official number reference: MCIN/AEI/UE - PCI2021-122073-2A/ 10.13039/501100011033

Estimated start date: 01/04/23

Deadline to submit applications: 01/03/2023

Contact: PhD Elena Martín García

Representative recent work of the laboratory

Domingo-Rodriguez, L., Ruiz de Azua, I., Dominguez, E., Senabre, E., Serra, I., Kummer, S., Navandar, M., Baddenhausen, S., Hofmann, C., Andero, R., Gerber, S., Navarrete, M., Dierssen, M., Lutz, B., Martín-García, E., Maldonado, R., 2020. A specific prelimbic-nucleus accumbens pathway controls resilience versus vulnerability to food addiction. *Nat. Commun.* 11. <https://doi.org/10.1038/s41467-020-14458-y>

García-Blanco, A., Domingo-Rodriguez, L., Cabana-Domínguez, J., Fernández-Castillo, N., Pineda-Cirera, L., Mayneris-Perxachs, J., Burokas, A., Espinosa-Carrasco, J., Arboleya, S., Latorre, J., Stanton, C., Cormand, B., Fernández-Real, J.-M., Martín-García, E., Maldonado, R., 2022. MicroRNAs signatures associated with vulnerability to food addiction in mice and humans. *J. Clin. Invest.* <https://doi.org/10.1172/JCI156281>

Maldonado, R., Calve, P., García-Blanco, A., Domingo-Rodríguez, L., Senabre, E., Martín-García, E., 2021. Genomics and epigenomics of addiction. *Am. J. Med. Genet.* <https://doi.org/10.1002/ajmg.b.32843>.

Maldonado, R., Calvé, P., García-Blanco, A., Domingo-Rodriguez, L., Senabre, E., Martín-García, E., 2021. Vulnerability to addiction. *Neuropharmacology* 186, 108466. <https://doi.org/10.1016/j.neuropharm.2021.108466>

Martín-García, E., Domingo-Rodriguez, L., Maldonado, R., 2020. An Operant Conditioning Model Combined with a Chemogenetic Approach to Study the Neurobiology of Food Addiction in Mice. *Bio-Protocol* 10, 1–23. <https://doi.org/10.21769/bioprotoc.3777>