

## Preddoctoral position at the Instituto de Neurociencias de Alicante.

The recently established [Wiring and Function of Somatosensory Circuits Group](#) offers a Ph.D. position at the Department of Cellular and Systems Neurobiology at the [Instituto de Neurociencias de Alicante](#), a Severo Ochoa Excellence Center. This contract is associated with the project "Discovery and functional analysis of Piezo2 associated proteins in nerve terminals of Low Threshold Mechano-Receptors. (ProteoTouch)" (project ref: PID2020-116381GA-I00 funded by Ministerio de Ciencia e Innovación).

**Description:** Piezo2 is the key force-gated ion channel for fine touch and proprioception while it is also involved in detecting mechanical pain. Besides its fundamental role in sensory biology, Piezo2 is used by some cancer cells to detect changes in mechanical clues and support cancer cell migration. To perform that many functions, the channel is presumed to interact with different accessory proteins. Nevertheless, up till now, the amount of Piezo2 interacting proteins is surprisingly scarce. This fact probably derives from the lack of studies of Piezo2 interactome in the nerve ending where mechanotransduction occurs. The main goal of this Ph.D. project is to unveil the Piezo2 interactome at the very nerve ending. We will do so by doing proteomics at the nerve endings of Pacinian Corpuscles, where the mechanotransduction occurs.

During this challenging project, we will use a diverse pallet of techniques ranging from in vitro end ex vivo electrophysiology, proteomics, Single-Molecule pull-down (SiM-pull), TIRF, and super-resolution microscopy. Additionally, we will generate a Piezo2-DogTag mouse line to study Piezo2 membrane dynamics in living nerve endings.

Some recent publications:

- Schwaller F et al. (*Nat Neuroscience*, 2021)
- Agarwal N et al. (*Neuron*, 2020)
- Taberner FJ et al. (*PNAS*, 2019)
- Dhandapani R et al. (*Nat Communications*, 2018)
- Prato V et al. (*Cell Reports*, 2017)

**Requirements:** We are looking for a highly-motivated hard-worker candidate with excellent communication skills and good command of English. The candidate must have a government permit to work with research animals. Previous laboratory experience in patch-clamp and coding competence (Python, R, or Matlab) will be positively evaluated. Candidates should hold a Master's degree in Physical or Life Sciences and an average academical grade over 8 (or over 2.5 in the 1-4 range).

**Contact:** Interested applicants should send their **motivation letter**, **Curriculum Vitae**, and **academic records** to Francisco Taberner ([ftaberner@umh.es](mailto:ftaberner@umh.es)) before next **November 7th**. For any further details please contact us via e-mail. Virtual interviews will take place between the 8th-9th of November.

