

Predoctoral position at the Instituto de Neurociencias de Alicante.

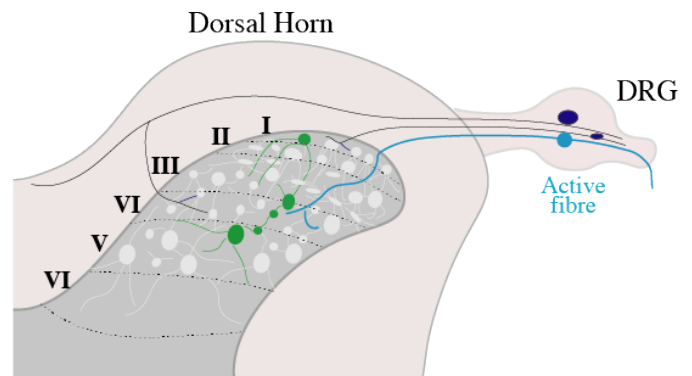
The recently established [Wiring and Function of Somatosensory Circuits Group](#) offers a research contract to obtain a Ph.D. degree at the Department of Cellular and Systems Neurobiology at the [Instituto de Neurociencias de Alicante](#), a Severo Ochoa Excellence Center. This contract is associated with the project "*Characterization of spinal cord circuits involved in cold/burning-pain sensory crosstalk and its therapeutic applications in chronic pain relief.*" (project reference: CIDEGENT/2020/052 funded by Generalitat Valenciana).

Description: Different stimuli such as pressure, vibration, or temperature are detected by terminals in the skin or other deeper tissues. This sensory information is then relayed to the spinal cord where it is integrated before reaching the brain. The group is interested in understanding how the sensory information is coded at the sensory terminals and how this code is deciphered and transcribed by spinal cord microcircuits. The main goal of the proposed Ph.D. project is to prove and unveil the connections that exist between cold and pain processing pathways to test their therapeutic potential to alleviate chronic pain.

During the project, we will use a diverse pallet of techniques ranging from *in vivo* and *in vitro* electrophysiology, viral tracing, single nuclei RNA-Seq (sNuc-Seq). We will also develop a new technology to mark sensory processing units in the spinal cord to later use the minimally-invasive IR-optogenetics to test the captured circuits.

Some recent publications:

- 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)
- Arcourt A et al. (*Neuron*, 2017)



Requirements: We are looking for a highly-motivated hard-worker candidate with excellent communication skills and good command of English. Organizational skills and attention to detail are essential. Previous laboratory experience and coding competence (Python, R, or Matlab) will be positively evaluated. Candidates should hold a Master degree in Physical or Life Sciences and an average academical grade over 7.5 (or over 2 in the 1-4 range),

Contact: Interested applicants should send their **motivation letter**, **Curriculum Vitae**, and **academic records** to Francisco Taberner (ftaberner@umh.es) before next **November 8th**. For any further details please contact us via e-mail. Virtual interviews will take place between the 10th-12th of November. The selected candidate will join the lab in January 2021.