3-years Postdoctoral position

Project: Effects of modulation of Abeta fiber afferent input on development of the nociceptive system and neuropathic pain.

Laboratory: UMR 1107: Neuro-Dol – Trigeminal Pain and Migraine
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Project coordinator (Montpellier): Dr. Patrick Carroll, DR2 CNRS

Description: A 3-year postdoctoral position funded by the French National Agency for Research (ANR) grant is available starting January 2018 in the group of Pr. Radhouane Dallel, at the Neuro-Dol Laboratory (Clermont-Ferrand, France). Neuro-Dol is affiliated with the French National Institute of Health and Medical Research (INSERM) and the University Clermont-Auvergne (UCA).

The laboratory is located in an exceptional environment in France that is affordable, challenging and highly recognized for its technical and scientific expertise. Located at the CHU Estaing Hospital, it was recently built in 2013 and offers a large (~ 750 m^2) and modern working area with high standards. Our team studies the cellular and molecular mechanisms of spinal and trigeminal pain in order to implement new treatment strategies. We combine preclinical (behavioral analysis, *ex vivo* and *in vivo* electrophysiology, mathematics, immunohistochemistry, confocal and multi-photon laser scanning microscopies, western blotting and quantitative RT-PCR, …) and clinical (epidemiology, quantitative sensory testing (QST), electroencephalography (EEG), transcranial magnetic stimulation (TMS) and mathematic tools,…) approaches to investigate the neurobiological basis of pain and its control.

A highly motivated, independent and well organized individual, is sought to conduct a research project, in collaboration with Dr. Patrick Carroll (Institute for Neurosciences of Montpellier), on the role of mechanosensory primary neurons in the establishment and function of pain circuits within the spinal dorsal horn. The project combines cutting-edge patch-clamp whole cell electrophysiology, living cell imaging and behavioral analysis in genetically modified mice. Applicants must hold a PhD in Neuroscience and have a genuine interest in experimental biology. The successful candidate should be hard-working, self-motivated, and comfortable with surgical procedures in rodents. In addition, experience in patch clamp electrophysiology and/or multi-photon imaging is needed.

Applicants should send a resume, short statement of research interests (1 page) and at least 2 letters of reference to cedric.peirs@inserm.fr or radhouane.dallel@uca.fr.

Additional information on the lab can be found on: http://neurodol.uca.fr/

Key words: Pain, Somatosensory system, Spinal cord, Electrophysiology, Multiphoton microscopy

Main publications related to the project:

- Bourane S, Garces A, Venteo S, Pattyn A, Hubert T, Fichard A, Puech S, Boukhaddaoui H, Baudet C, Takahashi S, Valmier J, Carroll P: Low-threshold mechanoreceptor subtypes selectively express MafA and are specified by Ret signaling. **Neuron**, 2009 Dec 24; 64(6):857-870.
- Peirs C, Bourgeois N, Artola A, Dallel R: PKCγ Interneurons Mediate C-Fiber-Induced Orofacial Secondary Static Mechanical Allodynia, but not C-Fiber-Induced Nociceptive Behavior. **Anesthesiology**, 2016 May 19;124(5):1136-52.
- Peirs C, Williams SP, Zhao X, Walsh CE, Gedeon JY, Cagle NE, Goldring AC, Hioki H, Liu Z, Marell PS, Seal RP: Dorsal Horn Circuits for Persistent Mechanical Pain. **Neuron**, 2015 Aug 19;87(4):797-812.
- Peirs C and Seal RP: Neural circuits for pain: Recent advances and current views. **Science**, 2016 Nov 4;354(6312):578-584.