

TWO POSTDOCTORAL POSITIONS

Team of María Cecilia Angulo INSERM U1128, Université Paris Descartes, Paris, France

We are looking for two postdoctoral fellows with expertise in electrophysiology, optogenetics, *in vivo* recordings and/or two-photon microscopy.

Cognitive, motor and sensory functions depend on the proper transmission of neuronal signals and their integration in the neuronal network. This is partly achieved by myelination of neuronal fibers, a process required to speed up neuronal transmission by insulating axons from current leakage. Myelination regulates the velocity of action potential conduction, ensuring the proper communication between different brain regions. By producing myelinating oligodendrocytes, oligodendrocyte precursor cells (OPCs) play a critical role in myelination during postnatal brain development and in remyelination of demyelinating lesions in the adult brain. Interestingly, OPCs are contacted by glutamatergic and GABAergic synapses from neurons in grey and white matter. The function of these synapses is still elusive. We are interested in the functional properties and roles of neuron-OPC synapses in the normal and diseased brain.

The present projects aims at demonstrating whether neuronal synaptic inputs control OPC fate in an activity-dependent manner during development and after injury. We will use a multidisciplinary approach that combines patch-clamp recordings, calcium imaging, immunostaining techniques, optogenetics and advanced optical methods to analyze OPC physiology and myelination in acute slices and *in vivo*.

Recent relevant publications:

- Wake H et al. (2015) *Nat Commun.* 6:7844.
- Orduz D et al. (2015) *eLife.* 4:e06953
- Sahel A et al. (2015) *Front Cell Neurosci.* 9:77.
- Balia M, et al. (2015) *Cereb Cortex.* 25(4):1114-23.

The positions will be initially for 2 years with the possibility of extension.

Starting date: From October 2015 to beginning 2016.

Website: <http://www.biomedicale.univ-paris5.fr/neurophysiologie/Groups/angulogroup.php>

Interested candidates should send their CV, research interests and names of 2 referees to:

María Cecilia Angulo, PhD
Research Director, CNRS
Laboratoire de Neurophysiologie et Nouvelles Microscopies (room E378)
INSERM U1128
Université Paris Descartes - 45, rue des Saints-Pères 75006 Paris FRANCE
Tel: 33-1-70649935
@ : maria-cecilia.angulo@parisdescartes.fr