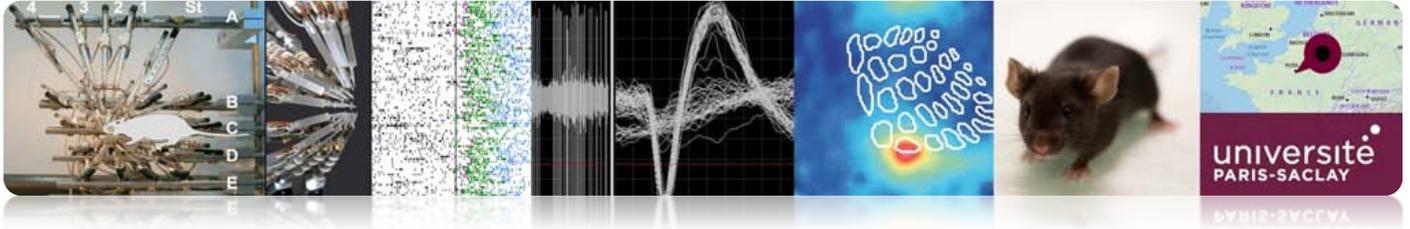


# Postdoctoral position in Integrative Neuroscience



## FRM Team: Neural Processing, Neuromodulation and Sensory Plasticity

**Unit of Neuroscience, Information and Complexity (UNIC) - Dir. Daniel Shulz**

**Centre National de la Recherche Scientifique**

CNRS FRE 3693, 1 Avenue de la Terrasse, 91198 Gif-sur-Yvette, France.

We are looking for a motivated post-doctoral fellow interested in studying neuronal coding of sensorimotor information and perception, as well as functional plasticity in the framework of a closed-loop brain machine interface (BMI). The project is funded by Fondation pour la Recherche M dicale (FRM) and the position is immediately available.

The scientific strategy of our team is to probe the brain with controlled natural sensory inputs *in vivo*, in order to gain understanding of the functional architecture of cortical networks and the plasticity rules that underlie perceptual learning and motor control. We focus on the cortical areas of the sensorimotor system of the mouse that are dedicated to the large whiskers on the snout and corresponding areas in the motor cortex. Our team studies BMIs aiming at integrating biomimetic sensory feedback in a motor neuroprosthesis.

In this framework, the successful candidate will join the team (three tenured scientists, four postdocs, three doctorates) to study the cortical coding of object whisker contacts in the awake behaving mouse by means of voltage-sensitive dye imaging and/or multisite electrophysiology. He/She will contribute to gain understanding on the periphery-to-cortex transformation of incoming whisker stimuli and to define the biomimetic cortical activation patterns that optimally improve the performance of the closed-loop BMI.

Our team is part of UNIC, a highly interdisciplinary environment with six laboratories working synergistically on Integrative and Computational Neuroscience. Technical support (histology, informatics, mechanical workshop, animal house facilities) is provided on site.

### **Candidate's profile:**

Applicants should hold a Ph.D. and have a background in Neuroscience. Proficiency in data acquisition/analysis software and hardware together with strong programming skills are a requirement.

Expertise in monitoring large neuronal ensembles (optical imaging and/or electrophysiological recordings) in behaving rodents is highly desirable. Experience in optogenetic manipulation of neuronal activity is also welcome.

Applicants should send their CV, a cover letter detailing their research experience and interests, and two letters of recommendation to [daniel.shulz@unic.cnrs-gif.fr](mailto:daniel.shulz@unic.cnrs-gif.fr)

