

## POST DOCTORAL POSITION IN NEUROSCIENCES

A post-doctoral position is available for a full-time, 2 years fixed term, funded by the Neurodis foundation at SBRI, INSERM U846 in Bron (Lyon - France), within the Team Neurobiology of executive functions directed by E. Procyk ([www.sbri.fr](http://www.sbri.fr)).

### Job description.

SBRI (Stem Cell and Brain Research Institute) devotes its research to the understanding of the fundamental principals of brain development, structure, and function and uses fundamental research to develop preclinical studies of neurodegeneration and brain repair. The team Neurobiology of Executive Functions studies the neural correlates of adaptive cognitive functions using system neuroscience methods. One aspect recently approached by the team is the integrative role of prefrontal cortico-cortical relationships and cortical aminergic input for adaptive processes in non-human primates. Within the institute this program of research also aims at studying the progressive impact of early dopaminergic degeneration on cortical information processing.

The present project concerns the characterisation and longitudinal follow-up of cognitive performances and of frontal neurophysiological markers before, during, and after the induction of Parkinsonism in a non-human primate model, and finally the use of such markers to evaluate a cell therapy.

The objectives are :

- 1- To obtain a fine longitudinal description of cortical oscillatory patterns related to voluntary action during a learning protocol as markers of adaptive functions.
- 2- To show the progressive co-evolution and possibly rearrangements of neurophysiological and behavioral markers during and after low dose MPTP treatment.
- 3- To monitor and describe brain reorganizations - based on the predefined markers- following intracerebral grafting.

### Requirements:

The candidate should have a PhD (completed **before** sending his/her application) in neurosciences be highly motivated and independent. Prior research experience with primate behavioral training and with any neurophysiological approach is required. The candidate is expected to have prior experience with collaborative studies, international scientific communication, and responsibility in conducting research project.

Expected start date: November 1<sup>st</sup> 2009

Gross income: 30.000 euros/year

Candidates should send CV (with list of representative publications) and the name of 3 referees by mail to: [contact@fondation-neurodis.org](mailto:contact@fondation-neurodis.org)

Application deadline in PDF format: September 20, 2009, shortly followed by an interview organized by the NEURODIS Foundation (phone conference will be possible)

For further technical or scientific information: Dr Emmanuel Procyk, [emmanuel.procyk@inserm.fr](mailto:emmanuel.procyk@inserm.fr)

For further administrative or financial information: [contact@fondation-neurodis.org](mailto:contact@fondation-neurodis.org)

## POST DOCTORAL POSITION IN NEUROSCIENCES

A position is available for a 2 year full-time Post-Doctoral Fellow funded by the Neurodis Foundation on a project “Rescue of vision by adeno-viral mediated ectopic expression of melanopsin in the non-human Primate” at Inserm U846 in Lyon (France).

### **Job description:**

The research project aims to explore the hypothesis that ectopic expression of melanopsin in retinal ganglion cells of primates can restore visual sensitivity. Melanopsin is an invertebrate-like photopigment that displays bistable photosensitive sensory transduction and chromophore regeneration properties *in vitro* (Panda et al., 2005) and *in vivo* (Mure et al., 2007, *in press*). Ectopic expression of melanopsin confers light sensitivity to cells that non-light responsive. In the project, the human melanopsin sequence will be expressed in primate ganglion cells by AAV2 vectors. The successful candidate will join the department of chronobiology in INSERM U 846, Stem Cell and Brain Research Institute. He/she will interact in the research project with the departments of chronobiology, stem cells and integrated neuroscience. Research tasks will involve assessment of visual capacities in primates using visual discrimination tasks, analysis of eye movements, pupil responses, optokinetic reflex and monitoring of sleep and circadian rhythms. Brain imaging using fMRI will be used to assess visual function at the cortical level. Facilities available in INSERM U846 include a large primate colony, high-speed eye tracking and pupil measurement systems, setups for electrophysiological and behavioural testing of awake primates, telemetry based polysomnographic sleep and circadian activity monitoring systems, complete facilities for molecular biology and histology. fMRI facilities are available locally, at the CERMEP imaging facility (5 min. walk from the lab). The post-holder will be responsible for (1) the design, conduct, analysis and writing-up of experiments in conjunction with the Principal Investigators, (2) disseminating the results at international conferences and (3) participating to the day-to-day running and scientific activity of the research group and laboratory (conferences, seminars, journal clubs).

### **Requirements:**

The candidate should have a PhD (completed **before** sending his/her application) and a background in the fields of circadian or visual neuroscience, behaviour and physiology. Experience in animal and preferably primate research (behaviour, neurophysiology or anatomy) is desirable. The candidate should be capable of conducting autonomous scientific work and possess a strong motivation to learn new and diverse techniques. A good knowledge of English is necessary.

Expected start date: earliest: November 1<sup>st</sup> 2009

Gross income: 30.000 euros/year

Candidates should send a CV (with representative publications attached as pdf) and the name of 3 referees by mail to: [contact@fondation-neurodis.org](mailto:contact@fondation-neurodis.org) and [howard.cooper@inserm.fr](mailto:howard.cooper@inserm.fr)

Application deadline in PDF format: September 20, 2009, shortly followed by an interview organized by the NEURODIS Foundation (phone conference will be possible)

For further technical or scientific information: Dr Howard M Cooper [howard.cooper@inserm.fr](mailto:howard.cooper@inserm.fr) or for financial information: [contact@fondation-neurodis.org](mailto:contact@fondation-neurodis.org)