

ICM job offer:

Post-doctoral position: MR-Guided Focused Ultrasound in experimental model

HR informations:

*Direct supervisor : **Mathieu Santin***
*Recruitment starting date: **October 2018***
*Contract duration: **18 months / Full time***
*Gross salary: **Based on experience***
*Status/category: **post-doctorate***
*Localisation of the employee (Building, level, office) : **ICM, CENIR***

Missions and main activities

A full-time 18-month postdoctoral position is available at the Center for Neuroimaging Research (CENIR) at ICM (Paris) in collaboration with the Institut Langevin (Paris) and the Neurodegenerative Diseases Research Group (Barcelona, Spain) to work on a new project recently funded by the Agence Nationale pour la Recherche (ANR) untitled "Focused ultrasound modulation of neuromelanin (NM) accumulation in a humanized murine model of Parkinson's disease (PD)". The goal of the project is to evaluate whether transcranial focused ultrasound (tFUS), an emerging non-invasive technology, can lower NM levels below their pathogenic threshold in NM-producing PD experimental models and prevent, halt or delay neuronal dysfunction and degeneration. If successful, this proposal will lay the groundwork for the development of a novel disease-modifying therapy for PD based on the modulation of NM levels with tFUS. CENIR is the ICM's neuroimaging platform directed by Pr. Stéphane Lehericy. This imaging facility consists primarily of human MRI scanners (3T), a small animal MRI scanner (Bruker Biospec 117/16 USR) equipped with an Image Guided Therapy (IGT) ultrasound system, and MEG, EEG, TMS and PET/MRI systems to study brain structure and function in normal and pathological conditions. Institut Langevin is expert in focused ultrasound technology (Drs. Jean-Francois Aubry and Michael Tanter).

The overall project will involve transversal collaborations between experts in PD, experimental models, MRI and ultrasounds, cellular imaging and histology within and outside the Institute. Pr. Miquel Vila is the principal investigator at the Neurodegenerative Diseases Research Group (Barcelona, Spain) and has developed the NM-producing PD experimental models.

The post-doctoral fellow will be involved in methodological developments of this new approach to trigger and enhance NM clearance. In this framework, the candidate will oversee the acquisition and analysis of data at 11.7T in murine model of Parkinson's disease. He/She might also be involved in behavioral and histological studies.

Profile

The ideal candidate will have a PhD in medical imaging physics, ultrasound, MRI, biomedical engineering, neuroimaging, or related fields. She/he should have previously worked with murine models and have experience in ultrasound and/or MRI.

Competences/Skills

Animal handling. Good programming skills (Matlab, Python, C...). will be a plus. Good oral and writing skills in English and the ability to work independently and in collaboration are expected.

Send CV and motivation letter to: mathieu.santin@icm-institute.org and jean-francois.aubry@espci.fr
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