

Postdoctoral position in the neural origins of pain processing and non-motor symptoms in Parkinson's disease using functional and anatomical MRI

Professor Oury Monchi, head of the Parkinson Cognition Action and Neuroimaging (PCAN) laboratory at the CRIUGM (affiliated to the Université de Montréal) is looking for a Postdoctoral Fellow with prior training in neuroimaging. The successful candidate will work on a project that aims to characterize pain processing in patients with Parkinson's disease (PD) with and without pain using behavioural, physiological, and neuroimaging data. This project is a collaboration with Professor Pierre Rainville head of the Neuro-Psycho-Physiology of Pain Laboratory (LaNeP3).

Pain is one of the most important non-motor symptoms in Parkinson's disease. The project aims to explore how PD might alter neural processes underlying pain perception and modulation. People suffering from PD with and without chronic pain will be compared to non-PD individuals with chronic pain and to healthy control without pain. Pain is a complex problem in this population, and we hope that the more precise characterization of their neuronal substrate by fMRI will inform us about the underlying mechanisms and potentially improve management by supporting treatment algorithms based on pathophysiological mechanisms.

The desired candidate is a motivated individual willing to work in a highly collaborative and multidisciplinary environment. Specific tasks will involve developing a pain BOLD fMRI protocol (using a thermal stimulator) and acquiring/analyzing data in the study populations. The candidate will also perform multi-modal neuroimaging (anatomical, diffusion and functional MRI) analyses using data from different longitudinal databases (including PPMI and the UK Biobank) to explore the neural underpinnings of non-motor symptoms (including pain) and their evolution in PD.

Education and experience requirements:

- Person with a PhD or about to finish a PhD
- Prior training in affective, behavioral, cognitive or clinical neuroscience
- Prior experience in experimental or clinical research with human participants
- Experience in anatomical and functional MRI acquisition and analysis
- Team player and excellent organizational, interpersonal and communication skills
- Knowledge of Python is an asset

Start, duration, and salary:

The position is available immediately and is based the *Centre de Recherche de l'Institut Universitaire de Gériatrie de Montréal (CRIUGM)*. Funding is available for 2 years, but selected candidates are expected to apply for external fellowship funding.

To apply:

Please send a cover letter stating your research interests and experience, along with a CV and the contact information for two references to oury.monchi@umontreal.ca and berengere.houze@umontreal.ca Applications will be accepted until the position is filled.