Sept 16th 2019

The PCAN lab: http://pcanlab.ca has a two-year funded postdoctoral research fellow position under the supervision of Dr. Oury Monchi starting immediately to work on one of the following two projects.

1. Neuroimaging and other predictors of cognitive and neuropsychiatric symptoms and decline in Parkinson's disease using multi-modal MRI imaging techniques and machine learning. The project is funded by the Canadian Institutes of Health Research (CIHR) and the Canadian Consortium on Neurodegenerative Aging (CCNA) and benefits from collaborations with Dr. Nils Forkert head of the Medical Imaging Processing lab and Machine Learning laboratory. A special focus will be given to the neural origins and predictors of Mild Behavior Impairment (MBI) in Parkinson's disease in collaboration with Dr. Zahinoor Ismail who has led the development of the MBI-checklist.
2. Online combination of High-Definition Trancranial Direct Stimulation (HD-TDCS) and functional MRI. This project is funded by the Natural Sciences and Engineering Council of Canada (NSERC). This project aims to better understand the effect and localization of HD-TDCS on cognition, task-based fMRI and functional connectivity. This project will benefit from the support of Dr. Liu Shi Gan staff scientist of the Non-Invasive Neurostimulation Network (N3) at the University of Calgary and the collaboration Dr. Bruce Pike head of the division of Image Science at the Department of Radiology, University of Calgary and world expert on Magnetic Resonance Imaging methods and applications.

The PCAN lab has been a pioneer in using different neuroimaging techniques to study the origins and evolution of cognitive more recently neuropsychiatric deficits in Parkinson's disease with the ultimate goal of early prediction of dementia in the disease. Other interests include the function and application of neuromodulation techniques such as transcranial magnetic stimulation, Transcranial direct stimulation and low intensity focused ultrasound. The PCAN Lab is located in the Healthy Brain Aging labs of the Hotchkiss Brain Institute part the Foothills Campus of the University of Calgary. The Foothills campus is home to the Seaman Family MR Research Centre which host a General Electric 3T research dedicated MRI scanner.

Requirements of the position include a PhD in Neuroscience, biomedical engineering, biomedical sciences, or Psychology with experience in the analysis of multiple MRI neuroimaging techniques such as task-based fMRI (e.g. GLM, PLS), functional connectivity (e.g. PPI, ICA, graph theory), diffusion weighted imaging (e.g. TBSS, tractography). Some fluency in computer programming (Linux, Unix, MATLA, or Python) is also required as well as the ability to write scientific peer-reviewed manuscripts.

Please send applications (Cover letter, CV, and the name of 2 references including current supervisor) to Oury Monchi: oury.monchi@ucalgary.ca