Postdoctoral Fellowship in Multimodal Neuroimaging of Sleep and Cognition

We are presently recruiting a **Postdoctoral fellow in Multimodal Neuroimaging of Sleep and Cognition**. This position consists in a prestigious **Horizon Postdoctoral Fellowship at Concordia University**, in Montréal (Québec, Canada).

The fellow will have the opportunity to setup and conduct advanced neuroimaging studies in clinical and healthy samples, as well as to analyze and write up findings of previously collected human neuroimaging data. He/she will also have the opportunity to develop and evaluate new multimodal data analysis approaches, as for instance the study of sleep patterns combining high-density Electro-EncephaloGraphy (EEG) with functional Magnetic Resonance Imaging and for the very first time EEG with Near-Infra Red Spectroscopy (NIRS) during whole night recordings. These techniques will allow addressing links between bioelectrical neuronal activity and hemodynamic processes during sleep. He/she will be based at Concordia University (Montreal, Quebec), jointly supervised by Dr. Christophe Grova PhD and Dr. Thanh Dang-Vu MD-PhD, and will work in a highly multidisciplinary environment (neurosciences, kinesiology, physics, engineering, psychology) and in collaboration with multiple academic and hospital institutions in Montreal (PERFORM Center, Centre de Recherche de l'Institut Universitaire de Gériatrie de Montréal [CRIUGM], Montreal Neurological Institute [MNI]).

The research themes that will be addressed by the Fellow will include:

- The neural mechanisms of sleep, sleep deprivation and sleep disorders (chronic insomnia, central disorders of hypersomnolence), and their relationship with cognition.
- Developing and evaluating methods dedicated to the analysis of multimodal neuroimaging data for sleep studies: (i) simultaneous EEG/fMRI, and (2) simultaneous EEG/NIRS, including the analysis of functional connectivity and brain network analysis

The PERFORM Centre is a 8,000 m2 research facility including eight inter-related research platforms, such as a state of the art sleep laboratory (3 bedrooms with polysomnography and high-density EEG) and a fully equipped imaging suite (3T MRI, high-density EEG, NIRS, TMS, SPECT-CT, PET-CT, Ultrasound and Dexa) entirely dedicated to research (http://www.concordia.ca/research/perform.html).

Applicants must have a PhD (or close to completion) in a related field (e.g., neurosciences, computer science, (bio)medical engineering, physics). Experience in the analysis of hemodynamic signals from fMRI or NIRS is important. Applicants should have strong knowledge of Matlab and/or experience in analysis of neuroimaging, excellent organizational skills, an aptitude for teamwork, good writing skills and a productive publication record. Experience in one or more aspects of the research themes will constitute an asset. Salary will consist of 47,500 $/year (plus benefits) for 2 years. The position has a flexible start date.

Interested applicants should submit their application as described in the following link, **before September 1st 2018**:
http://www.concordia.ca/sgs/postdoctoral-fellows/funding/horizon/descriptions/5007.html
Review of applications will begin as they are received and will continue until the position has been filled. All requests for additional information should also be directed to them. Only those candidates selected to interview will be contacted.

Dr. Christophe Grova, Ph.D,
Associate Professor
Department of Physics, Concordia U.
Adjunct Professor in Biomedical Engineering, Neurology & Neurosurgery, McGill U.
christophe.grova@concordia.ca

Dr. Thanh Dang-Vu, M.D., Ph.D.
Associate Professor, Neurologist,
Concordia University Research Chair in Sleep, Neuroimaging and Cognitive Health,
Department of Health, Kinesiology and Applied Physiology, Concordia U.
Assoc. Director for Clinical Research, CRIUGM
tt.dangvu@concordia.ca

For more information about our current research programs, please visit the lab websites:
https://www.concordia.ca/artsci/physics/research/grova-research-group.html
https://scnlab.com