

# Post-Doctoral Fellowship in Whole-Brain Modelling

Krembil Centre for Neuroinformatics  
Centre for Addiction and Mental Health, and the University of Toronto

The Whole Brain Modelling Group (PI Dr. John Griffiths; [www.grifflab.com](http://www.grifflab.com)) at the Krembil Centre for Neuroinformatics (KCNI) is looking to hire a Post-Doctoral Fellow with a background in neuroimaging and/or computational neuroscience. The successful candidate shall spearhead the group's efforts in computational modelling of large-scale brain dynamics, with a particular focus on brain stimulation (TMS, TDCS), EEG, neural plasticity, and macro-connectomics.

The fellow will have the opportunity to shape the details of the project based on their specific interests, as well as to contribute to other ongoing projects on a range of topics, including: neuroinformatics of whole-brain modelling, mapping and modelling anatomical connectivity and microstructure with DWI in relation to ageing and stroke, and multi-scale modelling of the thalamocortical system in relation to sleep, pharmacological neuromodulation, and neuropsychiatric disease.

The Krembil Centre for Neuroinformatics is situated in the Centre for Addiction and Mental Health (CAMH). CAMH is one of the largest psychiatric hospitals in North America, fully affiliated with the University of Toronto (Canada's premier academic institution), and an internationally recognized leader in basic and applied biomedical science. It is located in the heart of downtown Toronto within the UofT Campus, on the corner of Kensington, Chinatown, and University/discovery districts. Toronto is a major metropolitan centre (the 7th largest in North America), and a vibrant city with great culture and many eclectic neighborhoods.

The successful candidate will have

- A PhD in neuroscience, engineering, physics, psychology, or related area
- Strong programming skills in python (essential), matlab (desirable), R/C++/javascript (useful), Julia (interesting)
- Familiarity with git + github for version control and project management
- A track record for independent research and a strong publication record
- Familiarity with neuroimaging data analysis (s/d/fMRI, M/EEG), (and esp. TMS-EEG) would be advantageous
- Experience with computational modelling using numerical simulations (highly desirable) - particularly modelling of neural population activity with mean-field/neural mass/neural field techniques; or a strong motivation to learn plus excellence in other areas
- Experience teaching, mentoring students, performing scientific outreach, and developing open source software
- Strong verbal skills and effective writing skills

The position is for a duration of up to 3 years, renewed yearly. Compensation, including benefits, is competitive and will be based on experience. The candidate will also be expected to apply for independent research fellowships. A complete application should include a curriculum vitae, the names of 2-3 references, and a cover letter outlining your research interests, reasons for applying, and why you would be a good choice for the position.

Please submit applications to Dr. John Griffiths ([john.griffiths@camh.ca](mailto:john.griffiths@camh.ca)) with the title: “Post-Doctoral Fellowship in Whole Brain Modelling” in the subject line. The starting date of the position is Spring/Summer 2019 and the position will remain open until filled.