POSITION

Job Title

Post-Doctoral Fellow in Perfusion MRI

Job Description

The BRAIN-TO lab ("Brain Research in Advanced Imaging and Neuromodeling – Toronto") led by Prof. Dr. Kâmil Uludağ is currently offering a Postdoctoral Fellowship position in perfusion MRI. We are seeking a dedicated, highly motivated individual focusing on developing ASL, DSC and/or DCE MRI acquisition, modeling and analysis approaches. These approaches will be utilized on healthy subjects and in patients.

The successful candidate will pursue projects following our lab's main theme to expand the clinical and neuroscientific scope of MRI by extracting information about the perfusion state and vascular parameters of the human brain in health and disease.

For more details on our work, please visit: www.brain-to.uhnresearch.ca

Facilities

We are affiliated with the Techna Institute at the University Health Network (UHN), the largest research hospital in Canada. The lab is equipped with a research-dedicated Siemens 3T Prisma MR scanner and a Synaptive 0.5T MR scanner, embedded in the newly built state-of-the-art Slaight Family Centre for Advanced Imaging at the Toronto Western Hospital (UHN). Multiple clinical scanners (e.g., Siemens Vida 3T, Siemens Sola 1.5T) of the UHN are also accessible within the centre. In addition, the soon to be delivered 7T MRI will be available for MRI Physics research.

Qualifications

- PhD or graduating PhD candidate in physics, engineering, or related discipline
- Strong research record and excellent verbal and written communication skills
- Proficiency with programming languages (MATLAB/Python, C/C++, etc.)
- Ability and willingness to work in an interdisciplinary team environment

Preferred Experience and Skills

- PhD topic on MR Physics or Applications related area
- Knowledge of MRI approaches (acquisition and analysis) on brain perfusion
- Knowledge of Siemens IDEA platform for MR sequence development
- Experience on AI/deep learning-related projects
- Track record of self-driven, innovative work, incl. first authorship in peer-reviewed publications, patents, or equivalent.
- Mathematical affinity and creative problem-solving

CONDITIONS

- Starting Date: The position is available immediately. Review of applications will continue until the position is filled.
- Duration: 3 years, extension is possible after performance review
- Contact: Please send your CV, names of two referees and inquiries directly to Kâmil Uludağ (kamil.uludag@rmp.uhn.ca).

ABOUT BRAIN-TO

The BRAIN-TO lab led by Prof. Dr. Kâmil Uludağ pushes the limits of Magnetic Resonance Imaging (MRI) for clinical research and cognitive neuroscience in humans.

We strive to make the invisible visible using cutting-edge MRI techniques, unfolding its potential to deliver imaging-based biomarkers to diagnose, prognose and monitor brain and spine pathologies. In particular, we currently work on improving image fidelity, accelerating data acquisition and developing new tissue contrasts – thereby increasing the diagnostic value of MRI, patient throughput and reducing patient discomfort.

A second pillar of the research of the BRAIN-TO lab is to develop novel approaches to characterize distributed brain activation using advanced statistical methods and neuroscience-inspired artificial intelligence. Discovering fundamental principles or brain organization in healthy subjects and patient populations promises to ignite a revolution, allowing diagnosing diseases – on an individual basis – in pre-symptomatic stages and developing novel therapies & interventions.

In addition, we optimize image acquisition for clinical questions and advise clinical research groups on data analysis. We collaborate extensively with clinical groups to translate cutting-edge MRI acquisition and analysis into clinical practice.

ABOUT UHN

The University Health Network (UHN) encompasses Toronto General Hospital, Toronto Western Hospital, Princess Margaret Cancer Centre, Toronto Rehabilitation Institute and the Michener Institute of Education at UHN. The breadth of research, the complexity of the cases treated, and the magnitude of its educational enterprise has made UHN a national and international resource for patient care, research and education. UHN is a research hospital affiliated with the University of Toronto and a member of the Toronto Academic Health Science Network. Research across UHN's five research institutes spans the full spectrum of diseases and disciplines, including cancer, cardiovascular sciences, transplantation, neural and sensory sciences, musculoskeletal health, rehabilitation sciences, and community and population health. UHN is Canada's largest research teaching hospital, brings together over 16,000 employees, more than 1,200 physicians, 8,000+ students, and many volunteers. UHN is a respectful, caring, and inclusive workplace. We are committed to championing accessibility, diversity and equal opportunity.