EMPLOYMENT OPPORTUNITY

Project Scientist

Quantitative MR Imaging, Research Imaging Centre

The Research Imaging Centre at the Centre for Addiction and Mental Health (CAMH) is one of the first, and few, brain imaging facilities in the world fully dedicated to mental health research. We are developing new methods that will revolutionize our understanding of the brain, uncover the causes and biomarkers of mental illness, leading to new treatments. Our scientists use an integrated approach to study the brain with PET, MRI and genetics, working on collaborative projects with investigators within CAMH, throughout the University of Toronto neuroscience community, and beyond, to bring hope to patients with mental illnesses, their families and the community.

Position Description

The MRI Unit in the Research Imaging Centre at CAMH is seeking a full-time, contract (1 year) Project Scientist with expertise in broadband and proton spectroscopy. This person is expected to become a leader within the program. A focus of this position is to create and validate new knowledge and methods, drawing on the research infrastructure and data collection methods available, as well as identifying new opportunities to support MRS/MNS research at CAMH. We have immediate needs in two complementary areas. First, the successful applicant will work with MRI Unit scientists to help develop new engineering and pulse sequence methods in broadband MR spectroscopy in humans, with a focus on phosphorus (31P) and non-hyperpolarized carbon (13C) multinuclear spectroscopy (with and without proton-decoupling). Second, the applicant will support new innovations in proton MRS including application of editing methods and functional MRS.

The GE MR750 3T system at CAMH is fully-dedicated to research. CAMH receives support from the manufacturer to pursue novel methods. CAMH supports ongoing maintenance and upgrades to the scanner as needed, providing a truly state-of-the-art platform for MR research. The successful candidate will have the opportunity to work with scientists in the Azrieli-Neuroradiochemistry Centre to develop new, integrative multimodal (PET/qMRI/MNS) approaches to understanding brain structure/function. You will work with clinician-scientists at CAMH to implement these new methods in their research programs, and help them develop pipelines for data processing, evaluation and interpretation. You will assist with the supervision and management of staff and research trainees.

Qualifications

The successful candidate will have a PhD in MR Physics, MR engineering or equivalent field is required. Three (3) years research experience in MNS/MR/NMR methods at a postdoctoral or research associate level (or equivalent) is required. Four (4) or more years of experience is desired. You will have experience in proton and non-proton spectroscopy. You will have documented experience in designing, programming, modifying, and implementing pulse sequences to address new questions in MR imaging and spectroscopy. You will have documented experience in engineering methods related to multinuclear coil design and development, and in management of hardware issues related to MNS. Experience with the pulse sequence programming environment on a GE MRI is preferred. Documented experience in developing analytical pipelines for MRS/MNS is required. Experience developing quality assurance/quality control methods for MR and MRS data is a plus. Experience with imaging packages (e.g., FSL, SPM, AFNI), and development tools (e.g., IDL/MATLAB/python/GIT) is a plus. Experience with proton-decoupling hardware is a plus. The ability to communicate with and teach individuals who do not have a MR background is required. The successful applicant will have demonstrated potential to be on an independent/self-directed research track, and time will be allotted to achieve this goal. Publications in peer-reviewed journals and applications to external funding agencies to support your independent research will be encouraged.

Applicants should include a full research CV and statement of research interests with their application. Applicants selected for interview will be expected to provide three letters of recommendation.

All qualified candidates are encouraged to apply; however Canadians and permanent residents will be given priority.

Please Note: This full-time, contract (1 year) position in NOT part of any bargaining unit

Salary Range: Competitive salary and compensation package


CAMH is a Tobacco-Free Organization.

CAMH is fully affiliated with the University of Toronto and is a teaching hospital and research institute. As a CAMH employee you will be expected to actively support CAMH’s teaching and research activities, in addition to supporting the clinical work of the hospital.

As an employment equity employer CAMH actively seeks Aboriginal peoples, visible minorities, women, people with disabilities, (including people with who have experienced mental health and substance use challenges), and additional diverse identities for our workforce.

We thank all applicants for their interest, however, only those selected for an interview will be contacted. If contacted for an interview, please inform us should accommodation be required.

If you want more information, or want to meet with us at the ISMRM meeting in Montreal, contact: nancy.lobaugh@camhpet.ca