**Research Fellow - Imaging**

**About SickKids**

Dedicated exclusively to children and their families, The Hospital for Sick Children (SickKids) is one of the largest and most respected paediatric healthcare centres in the world.  As innovators in child health, we lead and partner to improve the health of children through the integration of healthcare, leading-edge research and education.  Our reputation would not have been built – nor could it be maintained – without the skills, knowledge and experience of the extraordinary people who come to work here every day.  SickKids is committed to ongoing learning and development, and features a caring and supportive work environment that combines exceptionally high standards of practice.

When you join SickKids, you become part of our community. We share a commitment and determination to fulfill our vision of Healthier Children. A Better World.

Don’t miss out on the opportunity to work alongside the world’s best in paediatric healthcare.

**Position Description**

The Children’s Stroke Program is the core centre from where local, national, and international paediatric stroke studies are conducted and coordinated. These studies aim to better understand paediatric stroke, its causes, outcomes and optimal management. The Stroke Imaging Laboratory for Children (SILC) has established a multi-centered clinical research program investigating paediatric stroke injury and recovery through the analysis of imaging data. SILC is: 1) harnessing cutting edge, research-based pediatric imaging techniques; and 2) leveraging large-scale neuroimaging data acquisition (e.g. importing International Pediatric Stroke Study [IPSS] MRI scans) with existing large-scale clinical data acquired in the Children’s Stroke Project multi-centre studies.

Within this program, we have an exciting opportunity for an Imaging Post-Doctoral Fellow to lead the scientific productivity in this space. The successful candidate will manage the analysis of MRI sequences for a national imaging trial that looks to establish individualized maps of brain motor development in children with perinatal stroke and hemiparetic cerebral palsy, while exploring the neurophysiological mechanisms of brain plasticity induced by motor learning. In addition, the candidate will also manage the analysis of a Brain Canada study, a prospective imaging study using multiple neuroimaging time points and biomarkers to study paediatric stroke. The candidate will lead the preparation, analysis and dissemination of research and clinical findings of additional imaging studies managed in the SILC space.

**Here’s What you Get to Do:**

Job duties will include, but are not limited to:

* Encourage and foster collaborative relationships with the healthcare team at SickKids, and other participating centres.
* Manage the dissemination of research and clinical findings of SILC studies through the statistical and computational analysis of imaging data, and preparation of abstracts and manuscripts for scientific and operations meetings.
* Effectively summarize and contextualize results both verbally and graphically for presentations, publications, and grants.
* Publish results in peer-review journals and conferences.
* Lead the collection and transfer of imaging datasets from non-HSC sites to SickKids.
* Perform analysis of MRI sequences to characterize lesion volume, location, cortical thickness, white matter microstructural integrity and sub-cortical volumes at baseline and on follow-up studies.
* Perform analysis of clinically acquired Imaging Data from our multi-national registry study, and aid in the development of a clinically acquired imaging processing pipeline. Experience in machine learning techniques is preferred.
* Supervise/mentor team of undergraduate/graduate/medical students and research coordinators/analysts.
* Occasional travel to conferences (pending research objectives and budget).

**Here’s What You Need:**

* PhD in an appropriate discipline, such as biomedical engineering, medical/biophysics or a related major.
* Expert knowledge of one or more MR-based neuroimaging acquisition techniques and related analysis methods.
* Experience in a research or academic health care environment preferred.
* Must have significant computer programming experience in a scientific setting, especially with MATLAB, Python, and R.
* Must have experience processing and working with neuroimaging techniques, such as fMRI, MRI, EEG, MEG and diffusion imaging
* Must have experience developing and executing analysis pipelines for large imaging datasets.
* General knowledge of MR acquisition techniques and post-processing approaches
* Proven statistical analyses experience using MATLAB, R, or SPSS.
* Experience with Linux and network administration is an asset.
* Ability to effectively communicate on technical solutions to both technical and lay staff.
* Strong communication and organizational skills. Ability to interact positively with research team.
* Strong work ethic and initiative, and with excellent problem solving and critical thinking skills

1 year contract with possibility for renewal.

If interested, please contact Rochelle Albert, Program Manager, at rochelle.albert@sickkids.ca.