

## **Postdoctoral Research Fellow (Sponsored by Siemens Canada)**

### **Motion and Attenuation Correction for PET/MRI**

Researchers at the Lawson Health Research Institute (Lawson) in **London, Ontario, Canada** have conducted innovative PET/MRI research (Siemens Biograph mMR) since 2012. Lawson and Siemens Canada are seeking a **2-year industry-sponsored postdoctoral fellow** that will assess motion and attenuation correction strategies for PET/MRI with applications to neurology, cardiology, and oncology and develop a next-generation motion correction approach based on free-breathing Golden-angle Radial Sparse Parallel (GRASP) MRI.

#### **Responsibilities:**

- Assess the impact of motion correction (BrainCompass), partial volume correction, and improved attenuation correction techniques (RESOLUTE) in brain PET/MRI.
- Assess the impact of motion correction (BodyCompass) and attenuation correction techniques (HUGE and SEGBONE) in cardiac and whole-body PET/MRI.
- Develop a cardiac and whole-body PET/MRI motion correction strategy based on the eXtra-Dimensional GRASP (XD-GRASP) MRI method from NYU (Feng et al. 2016).
- Data will be acquired on both PET/CT and PET/MRI, allowing a comprehensive comparison. Study cohorts will include patients with epilepsy, myocardial infarction, and prostate cancer.
- Postdoctoral fellow's time will be directed 50% by academic supervisors (Drs. Prato and Thiessen) and 50% by Siemens Canada (Dr. Moran), providing valuable academic and industrial experience in hybrid PET/MRI.
- Fellow will work closely with imaging scientists, clinicians, Siemens employees, and collaborating PET/MRI sites. Results will be disseminated in peer-reviewed scientific journals and conferences.

#### **Preferred Qualifications:**

- Ph.D. in Physics, Mathematics, Computer Science, Medical Biophysics, Biomedical Engineering, or equivalent with a focus on MRI and/or PET.
- Experience with MRI and/or PET data acquisition, image analysis, statistics, and programming (MATLAB, C/C++, or Python).
- Experience with Siemens Syngo, the Siemens IDEA pulse programming environment, and Siemens ICE image reconstruction pipeline programming environment are a plus.
- Peer-reviewed publication record

**Annual Salary:** Siemens Canada will be the industrial sponsor and Western University the academic partner for a two-year Mitacs postdoctoral fellowship ([www.mitacs.ca](http://www.mitacs.ca)). Salary will start at \$45,000 CAD but could increase to \$60,000 CAD upon successful application to the Mitacs Elevate program.

**Position is available immediately and will remain open until an appropriate candidate is recruited.**

Please send all enquiries and applications to:

- Frank S. Prato, PhD, FCCPM, ABMP, FCOMP, FURSI: [prato@lawsonimaging.ca](mailto:prato@lawsonimaging.ca)
- Jonathan D. Thiessen, PhD: [jthiessen@lawsonimaging.ca](mailto:jthiessen@lawsonimaging.ca)
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