

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). 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
- Jonathan D. Thiessen, PhD: jthiessen@lawsonimaging.ca
- Gerald Moran, PhD: gerald.moran@siemens-healthineers.com