Postdoctoral Fellowship Opportunity
Date: October 20, 2018
Gauthier Laboratory
Director: Susan Gauthier, DO, MPH
Candidate co-mentored by Dr. Thanh Nguyen (Dr. Yi Wang laboratory)
Timeline for hire: Late fall 2018/early winter 2018

Overview:
We are seeking a highly motivated postdoctoral researcher in the field of Electrical/Biomedical Engineering, Computer Science, Statistics, Applied Mathematics or related to join the laboratory of Susan Gauthier, DO, MPH. The Gauthier Lab is affiliated with Weill Cornell Medicine, Department of Neurology in New York City and has a strong research collaborative relationship with Dr. Thanh Nguyen and Dr. Yi Wang in Department of Radiology. This program is a rare opportunity for rich collaboration between clinicians and quantitative researchers in the field of neuroscience; the fellow would be mentored by both Dr. Gauthier and Dr. Nguyen. Dr. Gauthier’s lab is focused on the translation of early-stage MRI imaging techniques to explore biological mechanisms at play in multiple sclerosis with a specific interest in quantification of myelin and inflammation with the long-term goal of improving clinical practice. The fellow will develop new algorithms to analyze multi-modality neuroimaging data, with particular emphasis on image reconstruction algorithms and inverse problems arising in MRI including quantitative susceptibility mapping (QSM) and multi-component T2 relaxometry. The successful applicant will join a vibrant and collaborative research environment at one of the top universities in the world.

Responsibilities:
• Perform cutting-edge research in the area of quantitative neuroimaging (QSM, myelin mapping, diffusion tensor imaging, functional imaging).
• Develop new algorithms and tools to maximize the diagnostic and therapeutic value of neuroimaging data, as well as demonstrate the significance and potential of the research to translate into clinical knowledge or practice.
• Disseminate research results through publications in high-impact journals and presentations at top international conferences.
• Support and mentor the research by other fellows or students with medical or engineering background.

Requirements:
• PhD in Electrical/Biomedical Engineering, Computer Science, Applied Mathematics, Statistics or related field.
• At least 2-years of hands-on experience with medical image analysis, quantitative methods/machine learning and visualization.
• At minimum, a basic level of understanding of brain anatomy and physiology.
• Proficiency in quantitative analytical methods and optimization algorithms, and strong programming skills (Matlab, C/C++, Python, R, etc).
• Familiarity with Linux shell scripting and common libraries for neuroimage processing, e.g. FreeSurfer, FSL, Camino, SPM, Nipype.
- Significant track record of research and publications in top scientific conferences and journals.
- Effective communication skills, both written and verbal.
- Track record of effectively working both independently and as part of a multidisciplinary team.

**Highly Desired:**
Knowledge in one or more of the following:
- Neuroimaging, especially of QSM and myelin water imaging
- Machine learning applied to medical imaging data
- Statistical or mathematical models of biological systems
- MRI physics and scanner operation

**To apply:** Please send a one page statement of career goals and research interests and full CV to sag2015@med.cornell.edu

**Weill Cornell Medicine:** Founded in 1898, and affiliated with what is now New York-Presbyterian Hospital (NYPH) since 1927, Weill Cornell Medicine (WCM) is among the top-ranked clinical and medical research centers in the country. In addition to offering degrees in medicine, WCM also has PhD programs in biomedical research and education at the Weill Cornell Graduate School of Medical Sciences, and with neighboring Sloan-Kettering Institute and The Rockefeller University, has established a joint MD-PhD program for students to intensify their pursuit of Weill Cornell's triple mission of education, research, and patient care. WCM is divided into 24 basic science and patient care departments that focus on the sciences underlying clinical medicine and/or encompass the study, treatment, and prevention of human diseases. The basic science and clinical departments are located in buildings that straddle York Ave. between 68th and 72nd streets on Manhattan's Upper East Side. Weill Cornell Medical College has 1781 full-time faculty (3582 total faculty) distributed across 8 basic science and 15 clinical departments. WCM maintains major affiliations with Memorial Sloan-Kettering Cancer Center, The Rockefeller University, the Hospital for Special Surgery, as well as with the metropolitan-area institutions that constitute NYP Healthcare Network.

Weill Cornell Medicine is an equal opportunity employer. EOE/M/F/Vet/Disabled