Postdoctoral Research Fellow Position at Massachusetts General Hospital

The Athinoula A. Martinos Center for Biomedical Imaging, Department of Radiology at Massachusetts General Hospital is offering one postdoctoral position based on an NIH-funded Brain Initiative project developing novel multi-modal neuroimaging methodology in animal models. This position is open now until filled.

Potential candidates will be considered based on the following two research directions:

Research Direction #1 Multi-modal neuroimaging in animal brains, (Biologists/biomedical engineers/electrophysiologists)

a) Implement the MRI/EEG/calcium recording methods to specify brain state fluctuation correlated to pupil dynamics in awake rodents

b) Target specific nuclei with deep brain optogenetic stimulation methods to study circuit-specific brain state neuromodulation.

c) Develop an advanced fiber-optic imaging device for MRI compatible concurrent brain dynamic signal recordings, e.g., Ca2+, Glutamate, dopamine, and other neuromodulators.

Experience with viral transfection, 2-PM or optical fiber recordings, or in vivo. / in vitro. electrophysiology in animal models (rodents) is highly desirable. The candidates should bear experience or strong interests in brain functional imaging, e.g. task-based BOLD fMRI.

Research Direction #2 Advanced fMRI and computational method development (Bio-engineering and computational neuroscientists)

a) Develop and optimize the high spatiotemporal fMRI method with high field MRI (>11.7T).

b) Advanced resting-state fMRI analysis method development based on the neural network-based learning schemes. (being familiar with recurrent neural network design and implementation, e.g. ESN, GRU, et al.)

c) Machine learning-based multi-modal brain signal dynamic signal analysis, e.g. LFP, Calcium, fMRI, pupil dynamics, et al.

Candidates with strong computational skills and fMRI data processing experience are highly encouraged to apply for this position. The candidate should have strong teamwork skills to fit in a multi-disciplinary group.

Please send your CV, contact information of three references and a cover letter to describing your background, interests and research goals to Dr. Yu by e-mail: xyu9@mgh.harvard.edu. Please include “Postdoc Application for Multi-modal fMRI” in the subject line of your email.