Post-Doctoral positions for fast high-resolution MR metabolic and functional neuroimaging

Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital, Harvard Medical School, Boston, USA

Project description:
Two post-doctoral positions are available at Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital, Harvard Medical School, Boston, USA for the following aims:
- development of novel MRI and MRSI methods for metabolic and functional biomarkers of brain cancer and neurological diseases.
- improve the spatial resolution, brain coverage, acquisition time, data quality, quantification and robustness of imaging methods for precision medicine in patients.
- non-cartesian fast trajectories, compressed sensing, model reconstruction, real-time motion correction and shim update.
- deep learning
- 3T and 7T Siemens MR human scanners
- integration with novel MR hardware developed at Martinos Center
- clinical translation in patients with glioma and neurodegenerative diseases.

Career opportunities:
This project is part of an NIH funded Academic-Industry partnership between Massachusetts General Hospital and Siemens Medical Solutions. The following opportunities will be available:
- candidates with strong engineering background and interest for industry career will establish strong connection with Siemens Medical Solutions, the leading MRI manufacturing company.
- excellent environment that brings together outstanding academia, clinics and industry
- the candidates will have opportunities to pursue a future career in any of these directions.
- Martinos Center is famous for its unique research dedicated infrastructure: six 3T MR scanners, one Connectome scanner with strongest human gradients, two MR/PET scanners, two 7T MR scanners, 13C hyperpolarizer, TMS, RF lab, and high-performance GPU servers for deep learning.
- live in a vibrant city known for high quality of life and international hub for biomedical research and biotech industry

Qualifications:
Candidates that have experience with one or more of the following:
- MR pulse sequence programming and image reconstruction (Siemens IDEA & ICE)
- non-cartesian sampling, low-rank, sparse reconstructions, real-time feedback, B0 shim, RF pulses
- deep learning
- Programming skills: Matlab, C++, Python, Tensorflow, Docker, Linux
- Neuroimage software: FSL, Freesurfer, MINC, AFNI, SPM, LCMRUI
- Additional experience with RF hardware and coil building is beneficial
- PhD degree in a related field: physics, electrical/biomedical engineering, computer science or applied mathematics.

We seek highly motivated and innovative individuals who can push the limits of imaging methods and are able to solve problems that overcome technical challenges. Excellent organizational skills to handle multiple tasks to work independently and as part of a multidisciplinary team at a fast pace. The post-doctoral fellows are expected to develop new ideas and advance their own research interests.

Application:
MGH is an equal opportunity and affirmative action employer. Salary is commensurate with experience. Positions are available immediately and a minimum of two years commitment is required. Positions can be renewed up to five years based on satisfactorily yearly progress report.

Interested candidates should send their CV, cover letter with research interests and 3 letters of recommendation to Dr. Ovidiu C. Andronesi, MD, PhD, Assistant Professor of Radiology, Massachusetts General Hospital, Harvard Medical School, Thirteenth Street, Building 149, Suite 2301, Charlestown, MA 02129, USA, (oandronesi@mgh.harvard.edu).