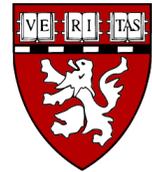


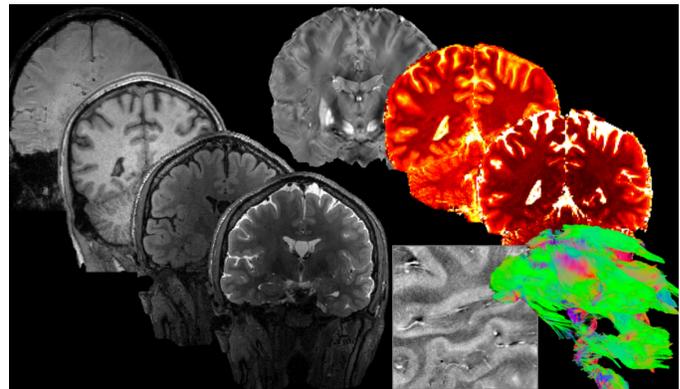
HARVARD MEDICAL SCHOOL  
MASSACHUSETTS GENERAL HOSPITAL



## RESEARCH FELLOW / EFFICIENT MRI ACQUISITION

A post-doctoral position to develop efficient MRI acquisition/reconstruction techniques is available at the Athinoula A. Martinos Center for Biomedical Imaging, under the supervision of Drs. Berkin Bilgic and Kawin Setsompop. The aim for this position is to develop cutting-edge acquisition methods that will improve the speed, sensitivity and specificity of *in vivo* brain imaging for both neuroscientific and clinical applications. Some of the techniques to be explored include parallel imaging, Simultaneous Multi-Slice (SMS) acquisition, machine learning, and joint multi-contrast reconstruction; which are to be deployed in structural, functional, diffusion and quantitative imaging (MR Fingerprinting (MRF), Quantitative Susceptibility Mapping (QSM) and Macromolecular Tissue Volume (MTV)).

This work will be carried out using state-of-the-art hardware systems available at the Martinos Center, which include several 3 Tesla MRI scanners, a 7 Tesla system, two MR/PET scanners, the “Connectom” MRI scanner with ultra high gradient performance, and large-channel-count receive arrays. The technologies being developed should enable highly detailed brain data at unprecedented temporal/spatial resolutions, with a wealth of quantitative information about brain structure and physiology.



Martinos Center is a world-renowned brain-imaging center, home to 200+ research faculty, post-doctoral fellows and graduate students. This position provides a valuable opportunity to collaborate with a diverse group of researchers developing cutting edge technology that will impact both the neuroscience and clinical research communities. This role will also provide an opportunity for a strong academic-industrial partnership with Siemens Healthineers in translating new technologies into commercial products. An example of technology that has been successfully translated is the SMS imaging technique, which we have developed and distributed to a large number of research and clinical sites worldwide (<http://www.martinos.org/software/c2p/sms>), and is now a clinical product on Siemens scanners. The newer acquisition sequences we have started distributing, Wave-CAIPI (<http://www.martinos.org/software/c2p/wave>) and 3D-MRF ([http://martinos.org/~berkin/mrf\\_3d.html](http://martinos.org/~berkin/mrf_3d.html)), are promising dramatic efficiency gains in volumetric acquisitions both in clinical exams and neuroscientific studies. More information on our technologies/developments can be found in <http://martinos.org/~berkin/> and <https://scholar.harvard.edu/setsompop/>

Ideal candidate for this position should have a strong analytical background with a PhD in electrical/biomedical engineering or physics, while displaying a high level of creativity. The candidate should have first-hand experience in MR physics, and image reconstruction algorithms and/or pulse sequence programming. Experience with the MATLAB programming environment is expected. It is also desirable, but not required, that the candidate has had experience with the Siemens IDEA/ICE environment or equivalent on other platforms.

## APPLICATION

Enquiries may be directed to Drs. Bilgic ([berkin@nmr.mgh.harvard.edu](mailto:berkin@nmr.mgh.harvard.edu)) and Setsompop ([kawin@nmr.mgh.harvard.edu](mailto:kawin@nmr.mgh.harvard.edu)). Interested applicants should send a CV, cover letter and contact information of referees. The position is full-time with benefits and is available immediately. A two-year time commitment is required. The Massachusetts General Hospital is an Equal Opportunity/Affirmative Action Employer.