

MGH/HST Athinoula A. Martinos
Center for Biomedical Imaging



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Re: Postdoc Position at the MesoVision Laboratory

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The MesoVision Laboratory at the Athinoula A. Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital / Harvard Medical School, is seeking a highly motivated postdoctoral research fellow to join our team in Boston, MA (<http://mesovision.martinos.org>).

Our laboratory uses state-of-the-art ultra-high-field 7T MR scanners and advanced 3T systems with high-performance gradients (Prisma, Cima.X, and Connectome 2.0) to investigate the fine-scale organization of the human visual system in health and disease. The successful candidate will work directly with Dr. Shahin Nasr (PI) on an NEI/NIH-funded project investigating the relationship between mesoscale brain organization, neural activity, and visual perception in amblyopia, a developmental visual disorder resulting from disrupted binocular vision early in life.

The postdoctoral fellow will become an integral member of a highly collaborative research environment at the Martinos Center and will have opportunities to interact with investigators across disciplines, including researchers developing advanced neuroimaging methods and technologies (Drs. Laurentius (Renzo) Huber and Berkin Bilgic), conducting psychophysical studies in individuals with typical and amblyopic vision (Prof. Peter Bex), and developing statistical and computational models (Prof. Antony Morland).

Principal Duties and Responsibilities

The postdoctoral fellow will work closely with the PI and initially focus on analysis and modeling of high-resolution neuroimaging data to characterize the fine-scale, including columnar-level, functional organization of human visual cortex and its relationship to visual perception.

As the fellow progresses, they will take increasing responsibility for experimental design, MRI data acquisition, analysis, interpretation, and dissemination of results. The fellow will have access to multiple ultra-high-field 7T MRI systems at the Martinos Center and opportunities to collaborate with MR physicists and engineers, software developers, neuroscientists, vision scientists, and clinicians.

The fellow will also participate in mentoring undergraduate students, research assistants, and research technicians working on related projects. An important goal of the position is the fellow's development toward scientific independence. The PI and broader research team will actively support the fellow in developing an independent research direction, building collaborations, publishing their work, and pursuing fellowship, career-development, and other independent funding opportunities.

Required Qualifications

- PhD in neuroscience, psychology, biomedical engineering, or a closely related field
- Experience with fMRI and dMRI data processing and analysis

- Experience with statistics, quantitative analysis, and/or data modeling
- Proficiency in MATLAB
- Comfort working in Linux environments and using the command line, including running computational jobs non-interactively
- Strong motivation to develop as an independent scientist
- Ability to work collaboratively and contribute to the mentoring of junior team members

Preferred Qualifications

Experience in one or more of the following areas would be advantageous but is not required:

- Human visual neuroscience
- Ultra-high-field or high-resolution fMRI
- Diffusion MRI
- Psychtoolbox
- FreeSurfer, LayNii, or related neuroimaging analysis tools
- Python or other scientific programming languages

Previous experience in a vision laboratory is **not required**.

Research Environment

The Athinoula A. Martinos Center for Biomedical Imaging provides an exceptionally rich environment for developing and applying advanced human neuroimaging methods. The fellow will have opportunities to work with multiple advanced 7T MRI systems and to interact closely with investigators spanning imaging physics, engineering, computational methods, neuroscience, psychology, and clinical research.

We are committed to providing an equitable, inclusive, and productive research environment in which individuals from different backgrounds and experiences can thrive.

How to Apply

Interested candidates should contact Dr. Shahin Nasr at shahin.nasr@mgh.harvard.edu and include a current CV, including a complete publication list. Candidates are welcome to include links or citations to relevant preprints or other research products.