



**Post-doctoral position at the Martinos Center at MGH, Boston:
Studying the neural bases of autism using (1) 7T fMRI, and (2) MEG.**

Applications are invited for an open NIH funded Postdoctoral Position at the Massachusetts General Hospital Athinoula A. Martinos Center for Biomedical Imaging in Boston, MA (<http://www.nmr.mgh.harvard.edu/>). The fellow will also be affiliated with Harvard Medical School.

Scope and overview of the project: The primary project will be focused on collecting and analyzing 7T fMRI and magnetoencephalography (MEG) data from adult participants with and without a diagnosis of autism, with the goal of establishing the balance between feedforward and feedback functional connectivity in each group. While data the project is being collected, the fellow will also have the opportunity to work with existing MEG and fMRI data, including MEG data from participants with and without autism, including data contrasting bottom-up versus top-down spatial attention, in both the visual and auditory domains.

For either project, the successful candidates will have the opportunity to apply (and help develop if so desired) state of the art neurophysiological MEG and 7T fMRI analysis approaches.

Responsibilities: Assisting with the recruitment of study participants, collecting both MEG and 7T fMRI data from participants, design and implementation of stimuli, and using the latest state of the art MEG and 7T fMRI methods to analyze the data. Other responsibilities will include the preparation of manuscripts and writing and submission of papers, assistance with the preparation and writing of grants proposals, and if desired, the development and implementation of new research ideas.

Requirements: A Ph.D. in a relevant field, such as neuroscience, experimental psychology, or similar, or a multidisciplinary degree in fields such as biomedical engineering, applied mathematics, computer science, combined with experience in applications to neuroscience. Experience with electrophysiological signal processing, irrespective of signal origin (single/multi-unit recordings, ECoG, EEG, MEG, etc.) and or 7T fMRI is strongly preferred. Specific experience with acquiring and analyzing MEG/EEG or 7T fMRI / 3T fMRI data is preferred, but not required. Similarly, familiarity with MEG/EEG and MRI analysis software packages, in particular MNE–Python, Brainstorm, and FreeSurfer, AFNI, FSL, and LayNii is preferred, but not required. Prior experience with cortical surface-based analyses, functional connectivity analyses, MEG/EEG source localization, laminar fMRI, or multimodal integration of MEG and MRI data is advantageous but not required. Candidates must have strong quantitative and programming skills. Experience with Python and scientific computing libraries is particularly advantageous, although expertise in other languages, such as MATLAB, is equally welcome.

To apply: Interested candidates should email a detailed CV, cover letter, and contact information for at least two references to Tal Kenet, tal.kenet@mgh.harvard.edu, and Jyrki Ahveninen, jahveninen@mgh.harvard.edu. The Massachusetts General Hospital is an Equal Opportunity / Affirmative Action Employer.