



National Institute
of Mental Health

Post-Doctoral Position Available

[Section on Functional Imaging Methods](#)

[Laboratory of Brain and Cognition](#)

National Institute of Mental Health

National Institutes of Health

Department of Health and Human Services

Bethesda, MD

The National Institute of Mental Health (NIMH) invites applications for a **post-doctoral position in the Section on Functional Imaging Methods, directed by Dr. Peter A. Bandettini**. Our lab focuses on better understanding the neuronal, vascular, and physiologic underpinnings of neuroimaging signals, in particular fMRI, towards advancing cutting-edge fMRI and MRI acquisition, modeling, and processing methods to improve the precision, interpretability, and clinical utility of functional neuroimaging.

We are driven by the goal of deriving a broader and deeper spectrum of information from the fMRI time series through **multi-modal imaging and assessment, dynamic spatiotemporal modeling, and ultra-high-resolution fMRI**. Ongoing projects include understanding the spatial and temporal principles of dynamic functional connectivity characterization, imaging laminar and columnar functional organization fMRI at 7T; understanding the contributions of neuronal and vascular physiology to the fMRI signal – both as a source of artifact and a possible source of unique information, and development of novel pulse sequences sensitized to different neuronal and physiologic processes including glymphatic transport.

The MRI resources available at the NIH are exceptional. They include those operated by the Functional MRI Core Facility, also directed by Dr. Bandettini. This resource consists of five MRI scanners: two GE 3T, a Siemens Skyra 3T and two Siemens 7T scanners. Additional scanners available include a Siemens Prisma 3T and a Siemens 7T. Additional available human brain research modalities include MEG, EEG (with simultaneous EEG-fMRI capability), TMS, and optical imaging. The NIH intramural program hosts a world-leading community of MRI experts, enabling close collaboration with groups specializing in fMRI methods, diffusion and microstructure imaging,

susceptibility contrast, parallel imaging, and molecular imaging. We also collaborate with clinical research teams studying neurological, psychiatric, and developmental disorders, as well as with the [Functional MRI Core Facility](#), the [Scientific and Statistical Computing Core](#), the [Data Sharing and Science Team](#), the [Machine Learning Team](#), and the [Center for Multimodal Neuroimaging](#).

Applicants should be highly independent, collaborative, and motivated to work at the intersection of neuroscience, physics, engineering, and computation. We care about neuroscience and clinical applications of fMRI but our focus is on developing methods that may allow novel applications. Strong quantitative skills and experience in MRI, fMRI, EEG, MEG, or related modalities are essential, along with comfort handling complex neuroimaging datasets and acquisition or reconstruction techniques. Training in neuroscience, neurophysiology, or time-series signal processing is desirable but not required. Most importantly, candidates should have a passion for fully understanding the fMRI signal and developing next-generation fMRI methods so that insights into brain organization and clinical applications may be realized.

The salary range is listed on the [NIH Training website](#). Applicants should send a curriculum vitae, and three letters of recommendation to Peter A. Bandettini, Ph.D., bandettini@nih.gov, and nimhsfim@mail.nih.gov. The National Institutes of Health is an equal opportunity employer.