Postdoctoral fellowship in diffusion MRI

Principal Investigator

Santiago Coelho, PhD, Department of Radiology, NYU Grossman School of Medicine, New York City.

Description

Join an interdisciplinary research program at NYU Grossman School of Medicine focused on advancing diffusion and quantitative MRI as tools for noninvasive microstructure imaging. The lab develops new methods for microstructure mapping, diffusion modeling, inverse problems, and image reconstruction, with the goal of improving the interpretation and quantitative reliability of MRI measurements.

The postdoctoral fellow will work at the interface of MRI physics, biomedical engineering, and computational imaging, contributing to the development of new acquisition strategies, biophysical models, and reconstruction and estimation methods for quantitative MRI. As a postdoctoral researcher, you will have access to the Siemens Connectom.X and several Siemens 3T scanners.

Research Areas

- Microstructure mapping using diffusion MRI
- Development of biophysical and signal models for tissue microstructure
- Inverse problems and parameter estimation in MRI
- Image reconstruction and subspace reconstruction methods
- Protocol optimization combining advanced diffusion encodings

Responsibilities

- Contribute to the development of new biophysical models and signal representations for diffusion MRI
- Work on inverse problems and new parameter estimation methods
- Contribute to MRI acquisition with microstructure constrained reconstruction methods
- Analyze diffusion MRI and quantitative MRI datasets
- Publish scientific papers and present at international conferences
- Collaborate with physicists, engineers, neuroscientists, and clinicians

Candidate Requirements

- PhD in biomedical engineering, physics, electrical engineering, applied mathematics, or a related field
- Strong background in at least one of the following:
  - Diffusion or quantitative MRI / Image reconstruction / Inverse problems / Signal processing / Computational imaging
- Programming experience (MATLAB, Python, or similar)
- Publication record and motivation for independent research

Environment

The position is based at the Center for Biomedical Imaging (CBI) at NYU Langone Health in New York City, which hosts a large interdisciplinary MRI research community including physicists, engineers, neuroscientists, and clinicians. The center has access to state-of-the-art MRI scanners, high-performance computing resources, and large clinical and research datasets.

Position Details

- Duration: 2 years (with possibility of extension)
- Competitive salary (range $70k-$85k yearly) and benefits
- Start date: Winter 2026-Spring 2027 (flexible)

To Apply

Send CV + Brief statement of research interests + Contact information for 2–3 references (in .pdf format) to Santiago.Coelho@nyulangone.org

