Penn Medicine

Department of Radiology

Hospital *of the* University *of* Pennsylvania

Postdoctoral Research Fellow Position in the Department of Radiology at the University of Pennsylvania

A postdoctoral position for an MR physicist is available in the Division of Neuroradiology/Department of Radiology in the Cerebrovascular Lab (www.TheSongLabBrain.com) at the University of Pennsylvania. The position is to conduct research on multiplexed neuroimaging. We will use new deep learning-based processes that fuse multimodal images and create higher quality, data-rich medical images. Maximizing imaging data from each modality, we will then use machine learning to identify, validate and implement the use of neuroimaging biomarkers for neurologic disorders. This AI-fueled project will leverage the expertise of an interdisciplinary team to propel medical innovation towards more precise and personalized diagnostic strategies. The position requires focused expertise in the specific area of developing advanced MRI pulse sequences, image reconstruction/analysis methods and applying these techniques to neuroimaging for neurological disorders. These skills will be further supplemented with training in clinical translation and bioinformatics with the support of our interdisciplinary team of collaborating faculty at the University of Pennsylvania.

The successful applicant will be highly motivated, team-oriented and an enthusiastic researcher with a desire to begin an independent career in translational neuroimaging research. The qualified candidate should have a doctoral degree in a field related to physics in biomedicine (e.g., MR physics, biophysics, computer science, electrical engineering, biomedical engineering, applied mathematics, computational neuroscience). Strong programming skills (e.g., C/C++, MATLAB and/or Python, PyTorch) and experience in MR physics, reconstruction algorithms, and pulse sequence programming are required. In addition, the candidate must also possess excellent English verbal and written communication skills, be able to work independently and creatively, and have a track record of productive independent research (via grant and publication history).

The position will capitalize on state-of-the-art 7 Tesla (Siemens Terra) and 3 Tesla (Siemens: VIDA, PRISMA, Skyra) magnets, including a 3T MRI adjacent to the neurointensive care unit. Penn offers great opportunities to collaborate with a large group of data scientists and clinicians from diverse research disciplines. Collaborating groups include imaging scientists, data scientists from the Penn Statistics in Imaging and Visualization Endeavor, as well as clinical researchers and thought leaders in neuroradiology, vascular neurology, and vascular surgery.

Philadelphia has a rich historical, cultural, and artistic history. Considered the “City of Brotherly Love,” it is one of the 10 largest metropolitan areas in the USA. It was the nation’s first capital and is home to the Liberty Bell and Independence Hall, as well as the Philadelphia Museum of Art with its famous steps from the Rocky movies. It has a lively restaurant scene, with 300+ BYOB (bring your own bottle) restaurants, a Chinatown, and the famous Italian Market and Reading Terminal Market. It is ranked as one of the most livable cities along the northeast corridor, flanked by New York City and Washington D.C.

The duration of the contract is two years with a possibility of further extension. Obtaining independent funding during this time to extend the contract is encouraged. The position is full-time and available immediately. Salary will be based on qualifications and experience. For consideration please send a cover letter and statement of research interests and goals, a CV (including a full list of publications) and a list of three potential references via email to Jae Song, MD (jae.song [at] pennmedicine.upenn.edu). The search will continue until the position is filled.