



Join us in advancing the future of neuroimaging! The [BioMedical Imaging Research Lab](#) (BiMIR) at the Advanced Imaging Research Center (AIRC), UT Southwestern Medical Center (UTSW), invites highly motivated and talented applicants for postdoctoral researcher and graduate student positions in the development of next-generation MRI technologies and their translation to neuroscience and clinical medicine. Our work focuses on creating innovative imaging methods that reveal previously inaccessible aspects of human brain structure, function, and physiology, with applications to neurological disorders including multiple sclerosis, Alzheimer's disease, and cerebrovascular diseases.

Located in Dallas, Texas, UTSW is a premier academic medical center, offering a highly collaborative environment that brings together experts in medicine, basic science, engineering and computational sciences. Trainees in our lab have the opportunities to work with state-of-the-art imaging platforms hosted in AIRC, including one human 7 T (Philips), three human 3 T (Prisma and Cima.X from Siemens and Acheva from Philips), three small animal MRI (4.7 T, 7 T and 9.4 T), an RF engineering lab and a clinical research support team. We also offer collaboration opportunities with clinicians and scientists to translate technical innovations into impactful clinical research.

Research Opportunities

Fast and Motion-Robust High-Resolution MRI Develop cutting-edge MRI acquisition, reconstruction, and motion-correction technologies that push the boundaries of spatial resolution and quantitative imaging. Projects include ultrahigh-field 7T MRI, AI-powered image reconstruction, and next-generation multiparametric MRI methods that enable reliable quantitative imaging at the mesoscale (300-500 μm).

MRI System Imperfections and Hardware-Aware Imaging Develop plug-and-play approaches for correcting B_1 transmit field inhomogeneity, gradient nonlinearities, and other hardware-related challenges that become increasingly important at ultrahigh field strengths and ultrahigh resolutions.

Neurofluid Imaging and the Glymphatic System Investigate the dynamic exchange of water and solutes between cerebrospinal fluid and brain tissue within the recently discovered glymphatic system. Projects aim to develop novel MRI biomarkers that improve our understanding of Alzheimer's disease, neurodegeneration, aging, and cerebrovascular disorders, opening new avenues for diagnosis and therapeutic monitoring.

We are seeking individuals with strong motivation and passion, a recent Ph.D. degree in Biomedical Engineering, Physics, Electrical Engineering or other related fields and computer programming experiences (MATLAB, Python, C/C++, etc). **Previous experience in MRI physics, image reconstruction and MRI sequence programming is preferred.**

Information on our postdoctoral and graduate training program, career development, benefits, and a virtual tour can be found at <http://www.utsouthwestern.edu/postdocs>, and the graduate program page of Biomedical Engineering at <https://gsbs.utsouthwestern.edu/programs/biomedical-engineering/>

Interested individuals can send an email, including CV, research statement and three references, to Jiaen Liu at Jiaen.Liu@UTSouthwestern.edu

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