

UT Southwestern Medical Center
Advanced Imaging
Research Center

Faculty position (open rank) in Cardiac MRI Methods Development

The Advanced Imaging Research Center (AIRC) at the UT Southwestern Medical Center in Dallas, Texas (USA) invites applications for a tenure-track faculty position in the field of methodological development for human cardiac and/or body imaging. The global aim is to fully develop hyperpolarized 3T MRI for human cardiac and body imaging and general 3T and 7T human MRI for cardiac applications and to enter collaborations with the Internal Medicine, Cardiology and Human Physiology departments at UTSW.

Potential topics include, but are not limited to the development of innovative acquisition and analysis methods for human 3T and 7T cardiac imaging in the area of (I) hyperpolarized ^{13}C MRI/MRSI of the human myocardium and body; (II) 7T human cardiac and body imaging; (III) advanced multi-modal ^1H MRI in the myocardium at 3T including quantitative MRI, diffusion weighted MRI, 4D flow or real-time motion imaging; (IV) interventional MRI methods; (V) general focus on fast imaging and image reconstruction.

Since its creation in 2005, the AIRC has established a track record of excellence in metabolic imaging including the development of MRI contrast agents, a hyperpolarization program, magnetic resonance spectroscopy as well as the investigation of tissue extracts by NMR after ^{13}C labelled isotope infusion. To better support an active clinical and basic science human imaging community at UTSW and its sister institutions, UTD and UTA, we aim to develop a strong MRI methodology expertise to complement the existing focus. UTSW has an international reputation in clinical and basic science excellence. There have been six Nobel Prize recipients since 1985.

AIRC has provided access to imaging equipment for faculty and students at the three University of Texas academic institutions in north Texas to advance human imaging studies and translational research in animals. The AIRC currently consists of 10 core faculty and more than 20 adjunct faculty and is expanded by about 5 core faculty in near future. AIRC is equipped with three small animal MR scanners (4.7T, 7T, 9.4T), three human research-only 3T MR scanners (Philips Ingenia, Siemens Prisma, GE 750w), one human 7T MR scanner (Philips), two hyperpolarization setups (HyperSense for preclinical and SpinLab for human application), 7 NMR spectrometers and a MRI contrast agent chemistry lab. The instrumentation inside the AIRC is undergoing a major upgrade that includes major changes 7T. In the nearby Radiology Department, there is access to a cyclotron for producing radiotracers, small animal and human PET/CT and SPECT/CT scanners, bioluminescence and fluorescence imaging for rodents and to a highly focused ultra-sound (HIFU) system integrated with small animal MRI. The installation of a new generation UHF human MRI possibly > 7T (AIRC), integrated human PET-MRI and MRI-HIFU systems (Radiology) and an integrated MR-LINAC (Radiation Oncology) are foreseen in future.

Applicants for these positions should have a strong scientific record of accomplishment in cardiac MRI methods development, including novel acquisition and analysis approaches

supported by respective publications and track record of securing extramural research funding. Experience in supervising graduate students and/or postdoctoral researchers is preferred. Applicants should have a degree in electrical engineering, physics, computational science, biomedical engineering or applied mathematics. Experience in either MRI sequence development or the development of comprehensive data analysis pipelines is required. Faculty are expected to develop an independent, externally-funded research program. Successful candidates will actively engage with clinical and basic research faculty across campus to apply the latest cardiac or body imaging technologies to probe human cardiac and organ physiology in health and diseases.

The position is available immediately. The rank (Assistant/Associate/full Professor), is dependent on qualifications. The offer will include an attractive start up package and highly competitive annual salary.

UT Southwestern Medical Center is an Equal Opportunity/Affirmative Action Employer. Women, minorities, veterans and individuals with disabilities are encouraged to apply.

Applications should include a letter of interest, a curriculum vitae, a list of publications (peer-reviewed original articles; review articles; book chapters; conference contributions; patents; other), a list of grants (please clearly distinguish grants as PI, as Co-PI and as person funded by the grant); a list of supervised students (Bachelor, Master, PhD) and postdoctoral researchers; a comprehensive summary of past research experience and future research interests (max 4 pages); PhD and Master certificates and respective transcripts; PDF copies of 5 most important publications and three references (contact details only).

All materials should be sent **electronically as a single PDF** file to Anke Henning, Director, Advanced Imaging Research Center, UT Southwestern Medical Center, Dallas, Texas, US: Anke.Henning@UTSouthwestern.edu.