

**UT Southwestern Medical Center
Advanced Imaging
Research Center**

**Faculty position (open rank) in
small animal MRI methods development**

The Advanced Imaging Research Center (AIRC) at the UT Southwestern Medical Center in Dallas / Texas / US invites applications for an **open rank (Assistant, Associate or Full Professor depending on qualification) tenure-track faculty position** in the field of preclinical magnetic resonance imaging.

Potential topics include but are not limited to (I) novel contrast mechanisms; (II) acquisition and analysis methods for high-resolution structural, microstructural and functional neuroimaging exploiting ultra-high fields and cryo-probes; (III) metabolic pre-clinical imaging using MR spectroscopy, CEST and non-proton MRI; (IV) simultaneous PET-MRI; (V) hyperpolarized MRI; (VI) advanced quantitative, functional and metabolic body MRI in rodents; (VII) integration of MRI with other modalities such as fluorescence imaging or optoacoustic imaging; (VIII) cross-validation of MRI contrasts against invasive methods (NMR, mass spectroscopy, optical and electron microscopy, biochemical assays) to enhance the physiological interpretation of imaging contrasts.

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 ¹³C labelled isotope infusion. Due to the recent establishment of the O'Donnell Brain Institute at UTSW and to better support an active clinical and basic science neuroimaging community at UTSW, UTD and UTA we aim to develop a strong MRI neuroimaging 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 provides access to human and preclinical MRI scanners to 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 12 primary faculty and more than 20 secondary or adjunct faculty and will expand by about 5 primary faculty in near future. AIRC is equipped with three human research-only 3T MR scanners (Philips Ingenia, Siemens Prisma, GE 750w), one human 7T MR scanner (Philips, first DDAS 7T system worldwide, software R5.9, parallel transmission fully integrated, state-of-the art neuroimaging scan protocols, enhanced multinuclear capability), *three state-of-the art small animal MR scanners (Bruker 3T with HP capability, Bruker 7T with PET insert, 9.4T with rat and mouse brain cryo-coils and strong gradients)*, two *hyperpolarization setups (Spin Aligner for preclinical and SpinLab for human application)*, 3 NMR spectrometers (Bruker) and a MRI contrast agent chemistry lab. The human and preclinical MRI and NMR facilities inside the AIRC recently underwent renovation and comprehensive hardware and software upgrades and are at the latest state-of-the-art. The nearby Radiology Department offers access to a cyclotron for producing radiotracers, small animal and human PET/CT and SPECT/CT scanners, bioluminescence and fluorescence imaging for rodents and a highly focused ultrasound (HIFU) system integrated with pre-clinical MRI. The installation of integrated human

PET-MRI and MRI-HIFU systems (Radiology) and two integrated MR-LINAC (Radiation Oncology) were completed recently.

Applicants for this position should have a strong scientific record of accomplishment in small animal MRI methods development, which is supported by respective publications and extramural funding. The research focus of the candidate should be the development of novel or the integration of multi-modal imaging methods, the development of novel acquisition and analysis approaches or innovative approaches to validate imaging contrasts. Knowledge of either MRI sequence development, MRI or multi-modal instrumentation development or the development of comprehensive data analysis pipelines is required. Applicants should have a degree in physics, biomedical engineering, electrical engineering, computational science or applied mathematics. Experience in supervising graduate students and/or postdoctoral researchers is preferred. Faculty are expected to develop an independent, extramurally-funded research program and actively engage with clinical and basic research faculty across campus to apply the latest small animal imaging technologies to probe basic physiology and investigate disease models.

The position is available immediately and the search is going to continue until a suitable candidate is found. The rank (Assistant/Associate/Full Professor), is dependent on qualifications, previous experience and record of accomplishment of the candidate. The offer will include an attractive start-up package and a highly competitive 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 and uploaded to the UTSW Talent Acquisition system: <https://jobs.utsouthwestern.edu/job/16793398/small-animal-mri-faculty-advanced-imaging-research-center-dallas-tx/>.