Position: Faculty-level MRI Scientist

The Core for Advanced MR Imaging (CAMRI) at Baylor College of Medicine (BCM) is hiring a faculty member with expertise in MRI, especially neuroimaging. The candidate will be responsible for developing, implementing, evaluating and applying MRI image acquisition and analysis techniques, with an emphasis on blood oxygen level dependent (BOLD) functional MRI (fMRI). The faculty appointment will be in the Department of Neurosurgery and the candidate will report to Michael Beauchamp, Ph.D., the Academic Director of CAMRI and the Director of Research for the Department of Neurosurgery. The position is fully supported by funds from BCM’s Advanced Technology Cores program.

CAMRI is a state-of-the-art neuroimaging facility with two research-dedicated Siemens 3-Tesla MRI scanners: a 64-channel Prisma and a 32-channel Trio. With 9,000 square feet of research-dedicated space, CAMRI is staffed with a full-time research MRI Technologist responsible for the day-to-day imaging operations; an Operations Director for management and billing; a Senior Research Coordinator for patient coordination; and a computer systems administrator for IT support. CAMRI contains all necessary equipment for human neuroimaging research, including 6 psychophysical testing rooms, in-bore and out-of-bore transcranial magnetic stimulation (TMS) and infrared eye tracking, and numerous stimulus presentation and response collection devices.

The candidate will work with CAMRI staff and users to develop and optimize MR protocols to meet the needs of new and ongoing projects. These projects span a broad range of cutting-edge basic and translational neuroscience research, including studies of multisensory processing, stroke, traumatic brain injury, speech perception, high-resolution and subcortical fMRI, and invasive brain stimulation for the treatment of psychiatric disorders. The candidate will implement and optimize acquisition techniques and processing pipelines for functional neuroimaging, include high-resolution anatomical images for cortical surface parcellation and segmentation, DTI/DSI sequences for tractography, and rapid acquisition schemes for BOLD, especially simultaneous multi-slice acquisitions. The development of a synergistic, independent research program is also strongly encouraged.

Requirements:
- PhD or equivalent in a relevant discipline (MR Physics, neuroscience, mathematics, engineering, computer science, biophysics or other physical sciences)
- Experience with human neuroimaging, especially BOLD fMRI
- Strong collaborative abilities

Preferred Qualifications:
- Experience with Siemens MRI scanners, including sequence programming
- Familiarity with common software tools, such as AFNI, FSL, FreeSurfer, the HCP pipeline
- Experience with independent writing of grant proposals, scientific conference abstracts and journal papers
- Teaching, mentoring and supervision experience in the field of MRI
Duties and Responsibilities:

- Implement and optimize acquisition techniques and processing pipelines for functional neuroimaging, including high-resolution anatomical images for cortical surface parcellation and rapid acquisition schemes for BOLD, especially simultaneous multi-slice acquisitions. Advance applications of new imaging methods on high-field MRI scanners in neurological disorders.
- Develop an independent research program
- Train CAMRI staff and users in specialized procedures and theoretical concepts to ensure project success