Position Description

A Postdoctoral Associate position is available in the Comparative MRI Research Lab at the University of Minnesota to develop, validate, and translate advanced magnetic resonance imaging (MRI) techniques to disorders of the hip, knee, and spine. The Postdoctoral Associate will be responsible for developing, testing, and analyzing new data acquisition strategies at high (3T) and ultrahigh (≥7T) field strengths to advance basic understanding and clinical management of ischemic and degenerative joint disorders that are precursors to osteoarthritis and low back pain. The work will include imaging of large animal models and human participants to assess injury and repair to bone and cartilage. MRI techniques of interest include (among others) relaxation time mapping (T2*, T2, T1ρ, and T2ρ), intravoxel incoherent motion (IVIM), ultrashort-echo time (UTE) imaging, and strategies for efficient, high-resolution imaging. Funding is available for at least three years.

Resources and Environment

The successful candidate will join an interdisciplinary, collaborative team of scientists and clinicians in engineering, veterinary medicine, radiology, orthopedic surgery, rehabilitation medicine, and basic science. The postdoc will be affiliated with the world-renowned Center for Magnetic Resonance Research (CMRR) and will have access to state-of-the-art imaging equipment and resources of this facility, including 3T, 7T, and 10.5T whole-body MRI scanners and 9.4T and 16.4T preclinical MRI scanners. The postdoc will also have access to a new, CMRR-compatible 3T MRI scanner in the College of Veterinary Medicine to support comparative animal model studies. The work will be conducted in a rich research environment with opportunities for career development, including participation in seminar series, presentation of research at international conferences and workshops, preparation of first-author manuscripts, and grant writing experience.

Required Qualifications

PhD in engineering, physics, computer science, or a related field
MRI data collection and analysis experience
Programming experience in Matlab, C/C++, and/or related languages
Strong oral and written communication skills as evidenced in part by peer-reviewed publications

Preferred Qualifications

MRI pulse sequence programming experience

Application Instructions

Please apply, providing a cover letter and CV, at:
https://hr.myu.umn.edu/jobs/ext/337918

Please direct any questions regarding the position to:
Casey P. Johnson, PhD
Assistant Professor, Department of Veterinary Clinical Sciences
Affiliate, Center for Magnetic Resonance Research
University of Minnesota
Tel: 612-624-2743
Email: john5037@umn.edu