UNIVERSITY OF MINNESOTA

Twin Cities Campus

Center for Magnetic Resonance Research

Department of Radiology**,** *Medical School*

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The University of Minnesota's ***Center for Magnetic Resonance Research (CMRR)*** at the Department of Radiology has an opening for a Research Associate in High and Ultrahigh Field Musculoskeletal Imaging (Proton, Sodium) for a 4-year period with the earliest starting date of October 2023. ***The work will be conducted in the Greg Metzger and Jutta Ellermann Lab with full integration into CMRR infrastructure and learning opportunities at the cutting edge of UHF***.

Duties and Responsibilities:

We are currently seeking a Post Doc or Research Associate (Researcher 6) for Musculoskeletal/ Orthopedic research projects. Research topics will include: **i)** special focus of our program is MSK imaging at 7 and 10.5 Tesla, **ii)** qualitative and quantitative imaging of cartilage, meniscus, bone pathology and repair, and **iii)** development and application of sequences capable of capturing the ultrashort T2-components in the musculoskeletal system (e.g., bone, meniscus). The research activities include data acquisition and post-processing utilizing different MRI equipment available at CMRR.

The work will be conducted on a clinical FDA approved 3T, 7T and our 10.5T human systems. Higher level data post-processing skills utilizing AI methods is a bonus. In addition, CMRR offers extensive facilities and experience in developing new sequences, hardware, coils and RF modeling to support the goals of this project. It is expected that the applicant will author manuscripts in peer-reviewed journals and abstracts for presentation at conferences. In order to continue support for this position into the future, additional responsibilities will include active participation in grant preparation.

Required and Preferred Qualifications:

Requirements for this position are:

Essential Experience:

PhD in Engineering, Computer Science, MR Physics, or related field

Publications in peer-reviewed journals

Image post-processing in Matlab and other software packages, such as Python

Preferred Experience:

MR pulse sequence development, interest / experience in UHF, interest/ experience in Sodium imaging

MR data post processing, statistical data analysis

Interest in MR hardware development

Expertise in AI for image reconstruction, segmentation, data analysis

Experience in Musculoskeletal Imaging (not required)

Please contact: Jutta Ellermann (eller001@umn.edu) or Greg Metzger (gmetzger@umn.edu)