The Center for Magnetic Resonance Research (CMRR), University of Minnesota, seeks Postdoctoral Fellows for conducting work focused on the development of advanced functional, structural, and diffusion weighted (dMRI) neuroimaging to create the next generation Human Connectome Project (HCP)-style data that can help us advance our understanding of human brain function.

The planned work will be conducted primarily at the ultrahigh magnetic fields of 7 Tesla (7T) with advanced capabilities that are currently unavailable on any other 7T system (e.g. 32 channel parallel transmit (pTx) and 64 channel receive, and high performance gradient coils). The planned work will also be carried out on the world's only 10.5T human system, which currently represents the highest field available for human imaging. The proposed work will involve high resolution whole brain structural, diffusion and functional MRI using cutting-edge acquisition methods and image reconstruction approaches that exploit the unique hardware capabilities present in the CMRR. The proposed work will also involve the analysis of such data through novel image processing and analysis tools developed within the Human Connectome Project. The ideal candidate should have a strong background and/or experience with MR image acquisition sequences and/or RF pulse design with pTx, and/or functional/dMRI/structural imaging in the human brain.

This Postdoctoral Fellow will be jointly mentored by Dr. Xiaoping Wu and Dr. Kamil Ugurbil (Director of CMRR) and will have the opportunity to collaborate with a diverse team of researchers with complementary expertise in MR physics, MR engineering, image reconstruction, neuroimaging, and neuroscience.

Responsibilities:

- Develop cutting-edge acquisition methods and collect HCP-style multimodal brain images (structural, diffusion and functional MRI).
- Analyze multimodal image data using existing data processing pipelines or developing new methods.
- Make observations, interpret findings, and present results internally and externally.
- Prepare conference abstracts, write journal papers, and assist in grant applications.

Requirements:

- PhD in Computer Science, Engineering, Physics, Mathematics, Neuroscience, or relevant field.

Preferred Qualifications:

- Proven experience in MRI data acquisition and data analysis.
- Track record of scientific publications (including peer-reviewed journal papers).
- Experience using common software packages (such as FSL) for MRI data processing and analysis.
- Working knowledge of Matlab, Python, or similar scientific computing environment.

For more details on the job and on how to apply, please visit the following link (Job ID #320555):
https://www.myu.umn.edu/psp/psprd/EMPLOYEE/HRMS/c/HRS_HRAM.HRS_APP_SCHJOB.GBL?Page=HRS_APP_SCHJOB&Action=U&FOCUS=Applicant&SiteId=1

Questions regarding the positions can be directed to:

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