Post-Doc position in Neuromodulation and MRI
Open immediately (100% appointment)

Qualifications

Required:
- PhD in physics, biophysics, biomedical engineering, computer science, mathematics, physical chemistry or similar fields, or MD/PhD
- Established experience in MRI technology and MR data analysis
- Strong background in software programming (Matlab and Python)
- Knowledge of neuronal biophysics including Hodgkin-Huxley dynamics modeling
- Track record of scientific publications

Preferred:
- Strongly prefer experience in functional MRI (fMRI) data acquisition and analyzes.
- Engineering skills to utilize neuromodulation devices, in particular microelectrode arrays
- Experience in analyzing diffusion tensor imaging (DTI) data
- Knowledge and understanding of MR relaxation mechanisms
- Knowledge of finite element models and experience in utilizing COMSOL and NEURON software
- Prior experience in working with animals
- Strong commitment to team science, and multi-departmental collaboration

Duties/Responsibilities

The Departments of Radiology and Biomedical Engineering at the University of Minnesota seek a scientist to join a collaborative research program which exploits fMRI methods for response of neuronal response on cellular level resolution during deep brain stimulation and extensive neuronal modelling of the neuronal response to novel stimulation paradigms. The research will be conducted at the University's world-renowned Center for Magnetic Resonance Research (CMRR) and Department of Biomedical Engineering, in collaboration between colleagues at the Department of Biomedical Engineering, CMRR, Columbia University (NY) and A.I. Virtanen Institute, Finland within recently awarded BRAIN Initiative U0-1 project.

Responsibilities will include fMRI data acquisition and processing combined with electrophysiological recording in animal models during DBS using ultra-high density electrodes, neuronal modelling of novel stimulation paradigms for neuromodulation, critical analysis of data quality, data storage and organization of databases, preparation of summary of results, preparation of manuscript and presentations, interaction with collaborators, mentoring other students, and pursuit of research and other scholarly activities.

To apply, follow the link:
https://www.myu.umn.edu/psp/psprd/EMPLOYEE/EMPL/c/HRS_HRAM.HRS_APP_SCHJOB.GBL?Page=HRS_APP_JBPST&Action=U&SitId=1&FOCUS=Applicant&JobOpeningId=323099&PostingSeq=1

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