Assistant Research Professor/MR Engineer
Brain and Behavior Institute, CMNS
University of Maryland, College Park, MD

Position Summary

The University of Maryland College Park is recruiting an Assistant Research Professor/MR Engineer to direct a new small animal MRI facility and a Bruker BioSpec 94/30 USR Superconducting Magnet System. The engineer will develop and conduct MRI image acquisition and analysis techniques for small animal high-field and MRI imaging with an emphasis on brain and nervous system.

The applicant will be responsible for training users and technologists with diverse experimental foci utilizing a wide range of animal models, to optimize image quality and add new capabilities to campus brain imaging. The position requires a creative and collaborative individual with exceptional problem solving abilities and a rigorous attention to detail. Excellent written and verbal communication skills are essential.

Essential Duties and Responsibilities

1. To direct the small animal MRI facility by developing and conducting MRI image acquisition and analysis techniques for small animal high-field and MRI imaging with an emphasis on brain and nervous system
2. Training and supervision of users and technologists with diverse experimental goals and utilizing a wide range of animal models, to optimize image quality and add new capabilities to campus brain imaging
3. Scanner protocol implementation, including set up, application and optimization. Foster the development of novel MRI protocols. Operate and maintain MR scanner.
4. Data analysis
5. Contribute to scientific reports in journals and grant proposals

Minimum Qualifications:

- PhD in Physics/Medical Physics
- Experience with operation/management of MR scanners, including data management
- Experience with design, development, and implementation of high-field MRI protocols
- Experience with training of facility users
- Experience in MRI functional imaging
- Excellent mathematics, problem solving, and analytical skills
- Excellent skills in establishing, implementing and evaluating and new imaging approaches
- Thorough understanding of MRI physics and associated biophysics
- Excellent communication and collaboration skills

Preferences:

- Experience with Bruker BioSpec 94/30, and MR hardware, RF coils and parallel imaging techniques
- Experience with color coded T-2 weighted image reconstruction
- Understanding of electromagnetic field theory and circuit design, proficiency in circuit analysis and field simulation/analysis
- Familiarity with neuroanatomy and biophysical properties of brain and other tissues
- Familiarity with MRI of animal models of disease states, including EAE mouse model of multiple sclerosis
- Excellent written and oral (scientific) communication skills
- Understanding of factors that affect MR image quality and data acquisition time
- Experience in maintenance of an MRI facility and interfacing with suppliers and manufacturers
- Experience with implementing, improving and using novel sophisticated image processing and image analysis programs
- Familiarity with diverse computer operating systems and programming including Unix/Linux, Matlab and distributed high-performance computing
- Experience with data analysis including SPSS
- Experience contributing to grant proposals, scientific conference abstracts and journal papers
- Teaching, mentoring and supervision experience in the field of MRI
- Ability to explain and lead users through the analysis of collected data

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For more information and to complete an on-line application, please visit
https://ejobs.umd.edu/postings/81312

Best consideration date is March 31, 2021.

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