MRI Physicist
Center for Biomedical and Brain Imaging
University of Delaware

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Job no: 496520
Work type: Staff
Location: Newark
Categories: Research & Laboratory, Full Time
PAY GRADE: 32E

CONTEXT OF THE JOB
The Center for Biomedical and Brain Imaging (CBBI) is a core imaging facility at the University of Delaware dedicated to scientific research. It is equipped with a Siemens Prisma 3T MRI scanner, Bruker 9.4T small bore MRI scanner, TMS, and MRI-compatible EEG. It supports a wide range of scientific investigations through imaging of humans, animals and materials.

Under limited direction of the CBBI Manager, the MRI Physicist is responsible for supporting the operations of the Siemens and Bruker MRI scanners. The MRI Physicist is expected to contribute to both research and training efforts that will include pulse sequence programming, parameter and image quality optimization, protocol design, scanner operation, technical support and user training. The MRI Physicist will be expected to maintain a broad knowledge of state-of-the-art MRI technology and equipment. The MRI Physicist must have excellent communication and organizational skills, the ability to positively interact with a diverse group of MRI users, and a strong motivation to learn new MRI techniques.

MAJOR RESPONSIBILITIES
- Pulse sequence programming on Bruker 9.4T and Siemens 3T MRI scanners.
- Assist users on appropriate choice and use of coils.
- Technical liaison for obtaining sequences or protocols for non-standard imaging (e.g. cardiac, musculoskeletal) from Siemens and other sites.
- File reports as needed for WIP sequences and Siemens MRA.
- Ensure data quality from the viewpoint of machine fundamentals.
- Technical support 9.4T and 3T scanners.
- Protocol design and testing for 9.4T scanner, including imaging of live animals and awake animals; as-needed for 3T.
- Routine quality assurance for 9.4T and 3T MRI scanners.
- Train users, including students, on use of 9.4T and 3T MRI scanners.
- Help users optimize pulse sequence parameters to maximize SNR and avoid imaging artifacts
- Consult on image analysis, as needed.
- Review journals and abstracts to keep abreast of new developments.
• Collaborate with ongoing research as needed; may have independent research projects if desired.
• Consult users about imaging details for manuscript preparation and grant applications, as needed.
• Perform miscellaneous job-related duties as assigned.

QUALIFICATIONS
• Master’s in Physics and four years of relevant experience, or equivalent combination of education and experience. PhD in MR physics preferred.
• Expert understanding of MR physics, image acquisition, signal processing, imaging processing and image reconstruction.
• MR pulse sequence programming.
• Experience with Bruker and Siemens MRI scanners.
• MRI scanning experience with both humans and animals—willing to handle animals.
• Ability to design experiments, optimize MRI protocols, troubleshoot image artifacts, analyze data, and interpret results.
• Knowledge of functional MRI, DTI, MRS, T1/T2 relaxation and perfusion.
• Siemens IDEA and ICE certification (or ability to obtain).

Notice of Non-Discrimination, Equal Opportunity and Affirmative Action
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Applications close: Open until filled