

## **Position: MRI Physicist**

**The Department of Neurology at the State University of New York, University at Buffalo School of Medicine and Biomedical Sciences** is expanding and adding to its research faculty. The MRI physicist will devote 100% of work time on developing, implementing, evaluating and applying novel MRI image acquisition and analysis techniques for human and animal high-field and ultra-high field MRI scanners with emphasis on brain, optic nerve, and spinal cord imaging.

This position requires a highly creative individual with exceptional abstract problem-solving abilities and a rigorous attention to detail. Excellent written and verbal communication skills are essential, particularly the ability to present and publish complex scientific approaches and results in an interdisciplinary field as well as to maintain clear and concise documentation.

### **Requirements:**

- PhD in Physics/Medical Physics (doctoral candidates are welcomed to apply)
- Extensive experience with design, development, and implementation of novel pulse sequences on high-field and ultra-high field MRI scanners with emphasis on the brain, optic nerve and spinal cord
- Experience with operation and management of MR scanners, including data management
- Extensive experience with scanner protocol implementation, pulse sequence compatibility, training of MR technicians, and consulting for multi-site projects
- Experience in MRI spectroscopy, functional imaging, or echo-planar imaging
- Excellent mathematics, problem solving, and analytical skills
- Excellent skills in implementing, evaluating and establishing new imaging approaches in a clinical/research environment
- Thorough understanding of MRI physics and associated biophysics
- Excellent collaboration skills

### **Preferred Qualifications:**

- Experience in MR hardware, RF coils, RF pulse design and parallel imaging techniques, in-depth theoretical knowledge in these fields
- Understanding of electromagnetic field theory (from static to radio-frequency) and circuit design, proficiency in circuit analysis and field simulation/analysis
- Familiarity with human neuroanatomy and biophysical properties of brain tissue
- Familiarity with MRI of brain diseases
- Excellent written and oral (scientific) communication skills
- Understanding of factors that affect MR image quality and data acquisition time
- Experience in setting up and leading (multi-site) projects and interfacing with suppliers and manufacturers
- Experience with implementing, improving and using novel sophisticated image processing and image analysis programs in a numerically efficient and robust way, preferably in the field of neuroimaging

- Familiarity with diverse computer operating systems and programming environments (in particular experience with Unix/Linux, Matlab and distributed high-performance computing highly preferred)
- Experience with data analysis (SPSS)
- Experience with independent writing of grant proposals, scientific conference abstracts and journal papers
- Project management and leadership skills, experienced in developing and establishing program plans and estimates.
- Experience in post mortem and animal data acquisition and analysis
- Teaching, mentoring and supervision experience in the field of MRI

**Duties and Responsibilities:**

To perform independent research and provide research support for the Department of Neurology including:

- Foster research on iron-related imaging in neurodegenerative disorders
- Advance applications of new imaging methods on high-field and ultra-high field MRI scanners in neurological disorders
- Scanner protocol implementation, pulse sequence compatibility, training of MR technicians, and consulting for multi-site projects
- Set up, apply and optimize novel MRI sequences in the study of neurological disorders
- Operation of MR scanners
- Teach, supervise and mentor students, residents and fellows
- Data analysis
- Publishing of scientific results in journals
- Writing of grant proposals

Please apply on-line at:

[https://www.ubjobs.buffalo.edu/applicants/jsp/shared/position/JobDetails\\_css.jsp](https://www.ubjobs.buffalo.edu/applicants/jsp/shared/position/JobDetails_css.jsp) or email [kdenz@bnac.net](mailto:kdenz@bnac.net). SUNY Buffalo is an Affirmative Action/Equal Opportunity Employer.