

Research Scientist, Dartmouth Brain Imaging Center

Description

The Dartmouth Brain Imaging Center (DBIC) serves as a hub for interdisciplinary research at Dartmouth College with a research-dedicated human 3T Siemens Prisma MRI scanner. We are seeking a high-performing Research Scientist with expertise in developing, implementing, and evaluating novel functional MRI image acquisition and analysis techniques.

This position requires a creative individual with strong technical skills in MR physics, a track record of scientific publications on physics/engineering fMRI applications (e.g., design, deployment, and validation of functional MRI pulse sequences), rigorous attention to detail, and interest in collaborating with and supporting researchers using fMRI to address outstanding questions in cognitive, affective, and social neuroscience.

The person in this position will work with the Director and staff of the DBIC on Dartmouth's central campus in Hanover, NH. The initial appointment will be for one year, renewable in 1 to 5-year increments depending on satisfactory performance.

Key accountabilities

- Research (50%)
 - Development and implementation of scanner protocols and novel applications; scientific publishing, and contributing to grant proposals
- Analysis (30%)
 - Optimizing MRI sequences and design for cognitive, affective, and clinical neuroscience studies; and consulting on neuroscience applications
- Training (10%)
 - Training and consulting with students, researchers, and faculty regarding DBIC protocols and applications
- Monitoring (10%)
 - MRI physics and quality assurance

Qualifications

Required qualifications

- Ph.D. in a relevant technical field (engineering, physics, mathematics, computer science, neuroscience).
- 3-5 years' postdoctoral experience or equivalent.
- Understanding of MRI physics and associated biophysics

- Experience with design, development, and implementation of novel fMRI pulse sequences on high-field and/or ultra-high field MRI scanners with emphasis on the brain
- Experience with operation and management of MR scanners, including data management
- Experience with scanner protocol and pulse sequence implementation for echo-planar MRI functional imaging
- Excellent skills in implementing, evaluating, and establishing new imaging approaches in a research environment
- Excellent collaboration skills

Preferred qualifications

- Experience and interest in one or more of the following fields: ultra high-field (7T) MRI, layer fMRI, combined brain-spinal cord imaging, combined TMS-fMRI or tDCS-fMRI, BOLD physiology, rodent opto-fMRI and chemo-fMRI, combined EEG-fMRI.
- Experience in MR hardware, RF coils, RF pulse design and parallel imaging techniques, in-depth theoretical knowledge in these fields
- Experience and interest in MRI quality assurance
- Understanding of human neuroanatomy and biophysical properties of brain tissue
- Excellent written and oral (scientific) communication skills
- 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
- Skill in sophisticated image processing, especially in neuroimaging. Proficiency in Unix/Linux, Matlab, and distributed high-performance computing highly preferred
- Capabilities and interest in data analysis, grant proposal writing, MRI teaching/mentoring, and collaboration with users

Application Instructions

Please submit the following electronically via Interfolio:

1. Cover Letter
2. CV/Resume

Review of applications is ongoing and will continue until the position is filled.

Application link: <https://apply.interfolio.com/136512>