

## RESEARCH SCIENTIST

### High-Performance 0.55 Tesla MRI

Magnetic Resonance Engineering Laboratory (<http://mrel.usc.edu/>)  
Signal and Image Processing Institute (<http://sipi.usc.edu/>)  
Department of Electrical and Computer Engineering, University of Southern California  
Los Angeles, California, USA

We seek a Research Scientist to 1) support a high-performance low-field (**HPLF**) MRI operating at 0.55 Tesla and 2) develop and support advanced applications. Our priority area is 3D real-time imaging and feature extraction, with applications to speech, breathing, joint motion, spine pain, and cardiac imaging. This position will involve design, implementation, and testing of methods on HPLF MRI scanners. It will involve evaluation in phantoms, volunteers, and outpatients. Responsibilities will include developing pulse sequences, scan protocols, and human subjects' protocols, interacting with clinical and basic science users, co-mentoring PhD students, and helping with center administration. *This position and associated projects are supported by the National Science Foundation (NSF), National Institutes of Health (NIH), Department of Defense (DOD), and private foundations.*

**QUALIFICATIONS:** We seek excellent communication and teamwork skills, first-author journal publications, and experience developing MRI methods, particularly in pulse sequence design (including RF pulses), quantitative imaging, and anatomy and physiology. Our interests include but are not limited to candidates having fluency with C/C++ programming, Siemens IDEA/ICE programming, and image analysis software. The successful applicant will have a competitive hiring package, excellent HPLF MRI access, and career advancement opportunities.

#### **RESPONSIBILITIES:**

- Plan, design, and conduct highly specialized, technical and complex research projects independently, and in consultation with supervisor. Work towards long range goals and objectives for HPLF MRI. Contribute to the development of new concepts and techniques for HPLF MRI. Create or modify methods and techniques for obtaining solutions. Ensure that solutions are consistent with research objectives.
- Contribute to the development of HPLF MRI research documentation for internal use and broad dissemination, including technical reports, journal and conference papers, software, and curated datasets.
- Operate and maintain sophisticated laboratory/scientific equipment, specifically the HPLF MRI and associated supporting equipment. Provide direction and guidance to all HPLF MRI users (including staff and students) regarding procedures, techniques, and use of equipment. This includes safety procedures and normal scanner operation.

**APPLY:** <https://usccareers.usc.edu/job/los-angeles/research-associate/1209/17830027>

**QUESTIONS:** Contact Krishna Nayak at [knayak@usc.edu](mailto:knayak@usc.edu)