Research Fellow in Non-Cartesian MRI

Boston Children's Hospital / Harvard Medical School
Computational Radiology Laboratory

We are seeking a highly motivated Postdoctoral Research Fellow to join our research program in the Computational Radiology Laboratory (CRL) at Boston Children's Hospital (BCH) and Harvard Medical School (HMS) (Principal Investigator: Dr. Xiaoqing Wang). Our group develops cutting-edge MRI acquisition and reconstruction techniques with a strong focus on **non-Cartesian imaging** for fetal, neonatal, and pediatric studies.

Key Responsibilities

- Develop and optimize non-Cartesian MRI acquisitions using Siemens IDEA and Pulseq frameworks.
- Design and test self-navigated acquisition strategies for motion-robust imaging.
- Develop model-based and deep learning–enhanced reconstruction pipelines (e.g., BART, PyTorch).
- Deploy new acquisition and reconstruction on state-of-the-art clinical MRI systems at BCH.
- Collaborate closely with on-site scientists from Siemens Healthineers and the multidisciplinary CRL team.

Qualifications

- Ph.D. in electrical/biomedical engineering, medical physics, computer science, or a related field
- Experience with MRI physics and pulse sequence development (e.g., Siemens IDEA and/or Pulseq).
- Background in non-Cartesian sampling, iterative reconstruction, or deep learning for MRI.
- Strong programming skills (C/C++, Python, MATLAB, CUDA a plus).

This role offers a unique opportunity to be part of a vibrant research environment at one of the world's top pediatric hospitals and universities, with strong collaborations across academia and industry. The fellow will have access to a dedicated research 3T Siemens Prisma scanner and high-performance GPU computing resources. The position is full-time with benefits, available immediately, and will remain open until filled.

For application, please send a single PDF (a brief cover letter, CV, and contact information for three references) to **xiaoqing.wang@childrens.harvard.edu**.

Boston Children's Hospital is an equal opportunity employer and values diversity. We encourage applications from candidates of all backgrounds and experiences.