The Biomedical Engineering and Imaging Institute (BMEII) at The Icahn School of Medicine at Mount Sinai is seeking a Postdoctoral Fellow to develop autonomous, low-field MRI methods for neuroimaging (building on the work in https://doi.org/10.1016/j.mri.2020.08.010) at 50mT by implementing intelligent image acquisition, reconstruction, and biomarker quantitation methods. The project will deploy these methods to image underserved communities in the United States and beyond, especially in communities that lack local MR expertise. This is an excellent opportunity to conduct innovative imaging research as a member of a team of technical and clinical experts with access to state-of-the-art imaging equipment housed in the Hess Center for Science and Medicine.

The individual will be mentored by Prof. Sairam Geethanath, BMEII, his team, and his collaborators. The individual will have the opportunity to interact with and be mentored by a diverse group of well-established investigators with complementary expertise in neuroimaging, cardiovascular imaging, cardiology, psychiatry, psychology, immunology, engineering, imaging science, and neuroscience.

BMEII is a 30,000 sq ft state-of-the-art Imaging Institute with over 15 faculty members and 50 members with cutting-edge instrumentation, including multiple research-dedicated systems including the Siemens: 7T, 3T, 1.5T, MR/PET, PET/CT, MDCT, among other instruments. The post-doctoral fellow will have access to two low-field systems at 50mT and 0.19T.

The candidate should have a Ph.D. in one of the following: Biomedical Engineering, Computer Science, Electrical Engineering, Physics, Mathematics, or a related field, with a focus on MR image acquisition and reconstruction. Experience in implementing deep learning (DL) models and associated explainable AI tools is highly desirable. In particular, peer-reviewed publications on the application of DL methods to accomplish any of the following tasks will be advantageous: i) denoise MR images; ii) slice planning; iii) biomarker detection

Specific tasks will include:

- Developing autonomous acquisition and reconstruction strategies using analytical and DL methods at low-field.
- Explore digital twinning of low-field systems using open-source platforms like Eclipse Ditto
- Data analysis, interpretation, and presentation using already existing analysis software packages or new methods
- Extraction of quantitative imaging biomarkers for a particular disease at low-field
- Writing manuscripts, conference presentations, contributions to grant applications, and mentorship of students.

Mount Sinai is located on the Upper East Side in New York City. Salary will be commensurate with the cost of living in the area. Subsidized housing close to the Mount Sinai campus is available for postdocs.

Please send a CV and a brief statement of research interests and experience to Prof. Sairam Geethanath at sairamgeethanath@gmail.com.