BACKGROUND:
The section on Quantitative Medical Imaging Section (QMI), NIBIB, NIH
https://www.nibib.nih.gov/labs-at-nibib/quantitative-medical-imaging aims to discover new MRI biomarkers and to overcome obstacles to the clinical translation of existing potential biomarkers for characterizing organ anatomy and physiology across the lifespan in health and diseases.
We have implemented most of our methodological contributions into a comprehensive processing pipeline for diffusion MRI (www.tortoisedti.org). We are looking forward to creating a new set of integrated acquisition, reconstruction, and post-processing strategies for quantitative clinical MRI to be used for personalized medicine.

QMI is part of the larger MRI research community at NIH, which has active programs in clinical and preclinical research. Equipment available in the NIH MRI Research Facility includes a number of 3 T and 7T human scanners and 4.7 T, 7 T, 9.4 T and 11.7 T animal scanners.

POSITION DESCRIPTION:
We are seeking an innovative and results-oriented MR physicist or engineer to join our team as a Staff Scientist to take forward QMI’s MRI research for the development of improved and novel MRI acquisition approaches. We have procured a high-performance head gradient insert coil which provides significantly higher slew rates and gradient amplitudes than can be achieved with a standard clinical MRI system. We are currently operating a prototype gradient coil unit which has been successfully integrated into a General Electric MR750 3T MRI scanner and is fully operational with the system, and we are expecting to receive a finished production version of the coil in the near future. We are also expecting to deploy an MR field camera to dynamically measure the in-bore magnetic fields and eddy currents arising from the use of diffusion and imaging gradients during MRI. The field camera will operate on both GE and Philips scanners. The successful candidate will be the primary leader for the research programs involving image acquisition tasks using this gradient insert coil, the field camera, and other scanners available at NIH. She/He will be encouraged to conduct innovative research, including proposing self-initiated projects that will be consistent with the overarching goals of QMI.

DESIRABLE QUALIFICATIONS:
We are looking for a candidate with MR Physics and/or MR Systems Engineering skills with a minimum of 3 years post-doctoral experience in academia or industry to develop the optimized pulse sequences and image reconstruction software needed to exploit the opportunities provided by the head gradient coil and field camera. Tasks may include design of pulse sequences, pulse sequence programming including design and implementation of custom gradient waveforms; development of image reconstruction code; and project management. Strong MR Physics knowledge and expertise in pulse sequence development is essential. Experience with signal processing, image reconstruction, and system control is highly desirable.
Other essential qualifications include: Ability to work independently proposing creative solutions to problems, a record of first-authored or senior-authored peer reviewed publications in the field of expertise, ability and interest to interact effectively with colleagues with very different expertise and backgrounds, as well as good verbal and written communication skills.

LETTERS OF INTEREST
For more information, please contact Dr. Carlo Pierpaoli (pierpaoc@nih.gov) with a statement of interest, current CV, and the contact information of three references. The listing is tentatively scheduled to open to applications the second week of October 2021; however, persons intending to submit applications for this position are strongly encouraged to contact Dr. Pierpaoli directly to indicate their interest and request any clarification. When the position opens, applications may be submitted through global recruitment at https://www.usajobs.gov/ under the “Staff Scientist (MRI Physicist)” listing. The position will remain opened until filled.

The U.S. Department of Health and Human Services, NIH, and NIBIB are equal opportunity employers.