We are looking for a postdoctoral researcher to join Prof. Lawrence Wald’s group at the Athinoula A. Center for Biomedical Imaging. The successful candidate will join a team of experts in MRI coil design and construction, electromagnetic simulation and parallel transmission. At MGH, the successful applicant will work closely with Prof. Wald and Prof. Guerin, an expert in RF pulse design, deep brain stimulation modeling and electromagnetic simulation. The pTx collaboration at MGH-MIT also includes the laboratories of Prof. Elfar Adalsteinsson and Prof. Luca Daniel at MIT. This creates an ideal environment for training, mentoring, brainstorming and presentation of research results.

Profs. Wald and Guerin have a strong track record in innovation in parallel transmission, coil design, ultra-fast electromagnetic simulation strategies and RF pulse design. We are looking for a candidate interested in numerical optimization and electromagnetic simulation to drive forward the numerical part of the parallel transmission project. There are several projects to choose from in this space, including RF pulse design, numerical optimization of coils, deep brain stimulation modeling and SAR reduction. There is some flexibility in the exact definition of the research project, this should be discussed in person with Profs. Wald and Guerin.

Below are several papers that are representative of our past numerical pTx work. Candidates can skim through this list to have a better idea of the topics being explored:


The Athinoula A. Martinos Center for Biomedical Imaging is a multi-disciplinary research center home to more than 200 research faculty, postdocs and graduate student with a vibrant culture of collegiality (journal groups, weekly seminars, informal gathering etc...). The central focus of the center is brain imaging using multiple modalities including PET, MRI, ultrasound and optical imaging.

The post is available immediately. Applicants should send a complete CV to Prof. Guerin (guerin@nmr.mgh.harvard.edu). The position is full-time with benefits. Salary will be commensurate with experience. The Massachusetts General Hospital is an Equal Opportunity/Affirmative Action Employer.

A Ph.D. degree in biomedical engineering, electrical engineering, physics or comparable is required. Only candidates of the highest caliber will be considered. Requirements for this job are expertise in numerical optimization and excellent programming skills (preferably Matlab or C++) as well as excellent collaboration and communication skills. Specific expertise in parallel transmission or electromagnetic simulation are an advantage but is not strictly required.