Doctoral Student

B₀ and B₁ Magnetic Field Control for in vivo Magnetic Resonance Research in Humans

We are seeking a sharp and enthusiastic individual to complement our team at the Magnetic Resonance Scientific Engineering for Clinical Excellence (MR SCIENCE) Laboratory in the Departments of Biomedical Engineering and Radiology at Columbia University in the City of New York. Our laboratory pursues MR engineering in the fields of magnetic resonance imaging and spectroscopy to advance both their research and clinical potential.

The focus of this position will be on the development of coil technology and MR methods for applications of the Dynamic Multi-Coil Technique (DYNAMITE) for B₀ field control in the human brain and body at 3T and 9.4T. The work will involve all aspects of translational research including development (from design and simulation to construction and testing) of MR hardware and acquisition methods, their implementation and evaluation, design and organization of in vivo studies, recruitment of volunteers and patients, experiment execution and data analysis.

The MR SCIENCE Laboratory is an interdisciplinary team of researchers with a broad range of interests from physics and software development to signal processing and neuroscience. For more information on the work that we do please check out our publication list, software developments, project pages, and introductory video.

Desirable Experience and Skills:

- Undergraduate degree in physics, engineering or related discipline
- Excellent verbal and written communication skills
- Previous experience with research in the natural sciences
- Proficiency with programming languages (MATLAB/Python, C/C++, Bash etc.)
- Ability and willingness to work in an interdisciplinary team environment

CV and inquiries should be sent directly to Christoph Juchem, Ph.D. (cwj2112@columbia.edu).

Sincerely,

Christoph Juchem, Ph.D.
Associate Professor
Biomedical Engineering & Radiology
Columbia University in the City of New York