

Christoph Juchem, Ph.D.
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Biomedical Engineering & Radiology
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[MR SCIENCE Laboratory](http://MRSCIENCE.Laboratory)
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Postdoctoral Research Scientist

MR Hardware and Sequence Development for Clinical Research

We are seeking a sharp, well-trained and enthusiastic individual to complement our team at the [Magnetic Resonance Scientific Engineering for Clinical Excellence \(MR SCIENCE\) Laboratory](http://MRSCIENCE.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 (MRI) and spectroscopy (MRS/MRSI) to advance both their research and clinical potential.

The focus of the position will be on the development of coil technology and MR methods for applications of the [Dynamic Multi-Coil Technique \(DYNAMITE\)](http://DYNAMITE) for B_0 field control in the human brain and body at 3T and 9.4T. The work will involve all aspects of translational research including development 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.

Minimum Experience and Skills:

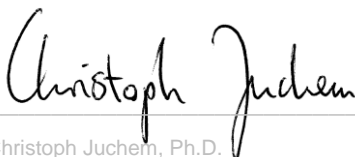
- PhD in physics, engineering, or related discipline
- General Electric (EPIC) sequence design and implementation
- Strong research record and excellent verbal and written communication skills
- Proficiency with programming languages (MATLAB/Python, C/C++, Bash etc.)
- Ability and willingness to work in an interdisciplinary team environment

Desirable Experience and Skills:

- Radiofrequency (RF) coil design and construction
- EM simulation with Opera3D, Sim4Life or CST software packages
- Gradient and/or shim coil design and construction
- CAD / FEA modeling, e.g. using SolidWorks software
- Workshop experience (e.g. CNC mill, soldering, epoxy resin, 3D printing)
- *In vivo* magnetic resonance spectroscopy (MRS)
- Clinical research

The position is available immediately. CV and inquiries should be sent directly to Christoph Juchem, Ph.D. (cwj2112@columbia.edu). Review of applications will continue until the position is filled.

Sincerely,



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