

RF Coil Developer for High-Field MRI



The Erwin L. Hahn Institute for Magnetic Resonance Imaging is an interdisciplinary research institution located on the grounds of the UNESCO World Cultural Heritage Zollverein in the city of Essen, Germany. It was founded by the University Duisburg-Essen (Germany) and the Radboud University Nijmegen (The Netherlands). The centerpiece of the institute is a 7 Tesla whole-body magnetic resonance imager from Siemens Healthcare, Erlangen, Germany. Beyond the advancement of magnetic resonance imaging (MRI) for both cognitive neuroscience and medical diagnosis and treatment, one of the main goals of the Erwin L. Hahn Institute is to extend the advantages of high-field MRI to the entire body and facilitate widespread dissemination of 7 Tesla technology.

As part of a European Union research grant, the Erwin L. Hahn Institute is seeking a

Research Assistant (m/f)

The position is time-limited with opportunity for extension.

The goal of the EU-funded project MRExcite is to develop a novel hybrid parallel transmission approach which will greatly enhance the flexibility of RF manipulation while limiting overall system complexity. For this purpose, a dedicated multi-channel transmit/receive RF coil for body MRI at 7 Tesla will be designed. To evaluate the clinical benefit of the new approach with respect to diagnosis and characterization of disease processes, standard as well as newly developed MR sequences will be adapted to the implemented hardware components and software procedures.

Successful candidates will become members of a multidisciplinary international team composed of engineers, physicists, and physicians. Candidates should have a graduate degree in physics, engineering, or a related discipline, and demonstrate a strong interest in scientific research, be able to work independently and goal-oriented, and possess good oral and written language skills in both German (ideal) and English (mandatory). It is intended that achieved results be presented at international conferences and published in high-impact journals. Motivation and team-work combined with excellent communication skills are expected.

Experience in the following areas is highly desirable:

- MR physics
- Radiofrequency technology
- Design and construction of antennas and RF circuits
- Electromagnetic field theory
- Scientific programming (C/C++, MATLAB, etc.)

The Erwin L. Hahn Institute is committed to increasing the proportion of female scientists and encourages female applicants to apply. Candidates with disabilities will be given preference among candidates of equal aptitude and qualifications.

Please send your application (electronic submissions are preferred) to:

Prof. Mark E. Ladd, PhD
Erwin L. Hahn Institute for MRI
Weltkulturerbe Kokerei Zollverein
Arendahls Wiese 199, Tor 3
D-45141 Essen
Germany
mark.ladd@uni-duisburg-essen.de