PhD-student (f/m) job offer in Bonn/Germany

MRI SEQUENCE DEVELOPMENT FOR THE DETECTION OF BLOOD-BRAIN BARRIER DISRUPTIONS AND ITS IMPLEMENTATION IN CLINICAL EPILEPTOLOGY

The department of epileptology at Bonn University is looking for a PhD-student (f/m) to join the junior research team for clinical MR-imaging led by Dr. Theodor Rüber and supervised by Prof. Dr. Christian E. Elger. We are a multidisciplinary, young research team using advanced MRI methodology to enhance our understanding and improve diagnostics of neurological diseases with a focus on epilepsy.

Research project
Various neurological pathologies are associated with damage to the blood-brain barrier. MR assessment of the blood-brain-barrier is thus crucial for diagnosis and therapy monitoring. There is first evidence showing associations of blood-brain barrier disruptions with epilepsy and epileptic seizures. This is of utmost relevance, as it could be used to localize the seizure onset, which in special patients may lead to effective epilepsy surgery. The PhD-student will develop new MR sequences for investigating the blood-brain barrier, implement them in clinical scanners and evaluate their performance in epileptological studies. The student’s successful work will thus directly open windows for further clinical research.

Research environment
The PhD-student will be working within a translational research project between the fields of MR physics, clinical epileptology and neuroradiology. The work will consequently be conducted as a cooperative project of the Bonn university hospital department of epileptology, the German Center for Neurodegenerative Diseases (DZNE), and the section neuroradiology of the department of radiology of the Bonn university hospital. The thesis work will be primarily supervised by Prof. Tony Stöcker, head of the MR physics group at the DZNE, and co-supervised by Prof. Elke Hattingen, head of the section neuroradiology at the Bonn university hospital, and Prof. Christian Elger, head of the Bonn department of epileptology. The shared supervision gives the thesis a thrust in physics, yet without losing concrete clinical perspectives.

Profile
We are seeking a pro-active student, holding a degree in physics, computer engineering, biology or any other STEM degree, who is as enthusiastic about multidisciplinary research as we are and is equally interested in MR physics and in the clinical applications of MRI. Experience in programming
and excellent IT-skills are prerequisites. As all research projects are conducted as part of the collaboration between two research groups, we are looking for a particularly social researcher who enjoys teamwork.

Offer
Direct access to a 1.5T and 3T scanner for research.
A strong personal mentoring for career development explicitly including support in the application for PhD-scholarships.
The cooperative integration into the research team for clinical imaging and into the MR physics research group.
An internationally renowned neuroscience environment with a high potential for personal development.
The opportunity to present results on national and international conferences.

Application
The employment is in accordance with TVöD (German Salary Grade 65% TV-L 13).
Equal opportunities are an essential part of our personnel policy, we therefore particularly welcome applications from qualified women. Disabled persons are given priority where applicants are equally qualified.

Please request information about the application process by sending an informal email to Theodor Rüber: theodor.rueber@ukbonn.de

We look forward to hearing from you!

Dr. Theodor Rüber
Scientific fellow at the department of epileptology at the Bonn University Hospital

Prof. Dr. Tony Stöcker
Leader of the MR physics research group at the DZNE Bonn

Prof. Dr. Elke Hattingen
Head of the neuroradiology unit at the Bonn University Hospital

Prof. Dr. Christian E. Elger, FRCP
Head of the department of epileptology at the Bonn University Hospital