
Department of Radiology and Neuroradiology at University Hospital Schleswig Holstein (UKSH) Campus Kiel is looking for the following person to work on ASL-pulse sequence development

Ph.D. student or Postdoctoral Fellow

wanted for a full-time or part-time job

Project description: The disruption of metabolic waste removal from the brain leads to many neuroradiological disorders, e.g. dementia. However, the exact brain clearance mechanisms are unknown. The cerebrospinal fluid (CSF) plays a central role in the removal of waste products from tissues. A noninvasive method for CSF flow imaging might enable the investigation of brain clearance mechanisms. Moreover, it will offer an early diagnosis of neuroradiological diseases as well as effective treatment monitoring. However, such methods are not available yet.

Therefore, the **goal** of this project is to develop a noninvasive magnetic resonance imaging (MRI) pulse sequence for CSF flow imaging. The sequence will be based on the arterial spin labeling (ASL) technique, which allows measurements of brain perfusion noninvasively at the tissue level.

Position: This Ph.D. or postdoc position aims to jointly develop the ASL method for CSF flow imaging. We offer initially a 1 year 65-100% TVL-13 fixed contract position with the opportunity of prolongation starting as soon as possible (e.g. March 2023).

Responsibilities and Duties:

- Development (sequence programming), optimization, and validation of ASL methods for CSF flow imaging
- Planning and implementation of in vitro experiments and in vivo human studies
- Quantitative analysis of the acquired MRI data sets
- Presenting the results at national and international conferences, and publishing them in scientific journals

Qualifications and Skills:

- Degree in Physics/Engineering/Materials Science or a comparable discipline (Master, Diploma, or Ph.D.)
- Excellent knowledge, practical experience, and abilities in the fields of magnetic resonance
- Experience in programming (Matlab, C, C ++, Python), modeling, and analyzing data would be an advantage
- Readiness for, a high degree of conscientiousness, reliability, and diligence
- Aptitude for planning, structure, and attention to detail, a good spoken and written English

Benefits:

- A position in a quickly developing University Hospital with access to state-of-the-art magnetic resonance equipment: six human MRI systems (1.5 and 3.0 Tesla, Siemens Healthcare GmbH and Philips Healthcare), a horizontal bore small animal MRI system (7.0 Tesla, Bruker BioSpin).
- Pleasant working environment with flexible working hours in an international research group
- Close collaboration between non-medical scientists and medical staff as well as industry partners

If you are interested, please send a short application letter consisting of a cover letter and curriculum vitae (including, if applicable, high school certificate, qualification certificates, job references, etc.) by e-mail to: Dr.-Ing. Mariya Pravdivtseva (mariya.pravdivtseva@rad.uni-kiel.de)