MR imaging of prostate cancer

PhD candidate position

2026-05-20

Background

Prostate cancer is the second leading cause of cancer-related death in men worldwide. In recent years, magnetic resonance (MR) imaging has become an essential tool in the detection and management of prostate cancer. In particular, diffusion-weighted imaging (DWI), alongside T2-weighted and dynamic contrast-enhanced (DCE) imaging, is a central component of multiparametric MR imaging of the prostate. Compared with other well-studied anatomical regions, the potential of DWI in prostate imaging may still be underestimated and could be further leveraged to gain insight into prostate microstructure, particularly in patients with complex tissue composition.

Project description

Numerous novel diffusion MRI methods have recently been developed that expand the possibilities for characterizing the microscopic structure of tissue. We are seeking a PhD student to explore these opportunities and related methods, with an initial focus on prostate cancer, though the project is not limited to this area. Experiments will mainly be performed on state-of-the-art clinical MRI systems operating at 1.5 T and 3 T (Siemens). One of the 3 T systems is dedicated exclusively to research use. Access to sequence source code has been arranged through a scientific cooperation agreement with Siemens Healthineers, who will collaborate closely on this project. Supervision and radiological support will be provided by UzL and UKSH.

Requirements

Applicants should hold a Master's degree in physics, engineering, or a closely related discipline. Prior experience in MR pulse sequence programming would be highly advantageous. A strong command of written and spoken English is essential; German language skills are desirable.

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Starting date: 2026 (summer)

Remuneration: 3-year appointment with a remuneration equivalent to TV-L E 13, 65 % of standard weekly hours

URL to job offer (German): https://jobs.uksh.de/job-invite/28546