

Postdoctoral Researcher (f/m/d) on MR-imaging in proton radiotherapy

For any questions, do not hesitate to ask:

Prof. Dr. Esther Gera
Cornelia Troost
Tel.: +49 351 458 2394,
Dr. Aswin Louis Hoffmann
Tel.: +49 351 458 3932,
Mrs. Beate Beger
Tel.: +49 351 458 7432,
Mrs. Kathrin Adamek-Genschmar

Place of work:

Dresden

Working hours:

39 h/week

Deadline:

19 January 2021

Online application

<https://www.hzdr.de/jobs>

Job-Id: 176/2020 (1108)



The HZDR is committed to equal opportunity employment and we strongly encourage applications from qualified female candidates. We also carefully consider all applications from job

As a member of the Helmholtz Association of German Research Centers, the HZDR employs about 1,200 people. The Center's focus is on interdisciplinary research in the areas energy, health and matter.

The OncoRay team is world-leading in the development of an MR-integrated proton radiotherapy system. Following the successful development of a first research prototype-demonstrator in 2018, a first-in-human study with a first clinical prototype is planned in the coming years.

This project aims at developing and optimizing the necessary MR pulse sequences on the low-field in-beam MR system to be used and to quantify and correct for geometric distortions in MR images. Furthermore, low-field MR images need to be incorporated into the radiation treatment planning system to enable treatment adaptation workflows. For this, data from the MR-LINAC of the Faculty of Medicine of the TU Dresden system will also be available.

The post-doctoral researcher (m/f/d) searched for is expected to drive the project within a multi-disciplinary team of (medical) physicists, engineers and clinicians at OncoRay.

The position will be available from March, 1st 2021. The employment contract is limited to two years.

Tasks:

- Development and optimization of the necessary MR pulse sequences and imaging protocols for our low-field in-beam MR system to allow for MR-guided proton therapy
- Quantification and correction of geometric distortions in MR images (both low- and high-field)
- Assess the sensitivity of image registration techniques to the presence of geometric distortions in MR images
- Incorporation of low-field MR images into radiation treatment planning software
- Development of thresholds and workflows for radiation treatment adaptation based on in-beam MR imaging
- Supervision of students (PhD, MSc, BSc)

candidates with severe disabilities.

Helmholtz-Zentrum
Dresden-Rossendorf
Bautzner Landstraße 400
01328 Dresden

Requirements:

- (Almost) completed PhD-thesis in physics, engineering or other relevant field
- Profound knowledge of and expertise in MR pulse sequence development, MR image reconstruction and analysis
- Profound knowledge of and expertise in analysis of medical imaging (i.e., CT, PET, MRI)
- Excellent programming skills
- Experience in writing scientific publications for high-impact journals
- Grant writing experience is of value
- Strong commitment, motivation and discipline to work independently and efficiently
- Strong team player with the ability to succeed in a dynamic international environment
- Excellent ability to communicate and write in English

We offer:

- A vibrant research community in an open, diverse, and international work environment
- Scientific excellence and extensive professional networking opportunities
- Salary and social benefits in conformity with the provisions of the Collective Agreement TVöD-Bund
- 30 Vacation Days per year
- Company pension scheme (VBL)
- A good work/life balance for which we offer assistance in the form of:
 - possibility to work part-time
 - flexible working hours
 - in-house health management

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