

## PhD Student (m/f/d) for integration of Magnetic Resonance Imaging and Proton Therapy

**For any questions, do not hesitate to ask:**

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**Place of work:**  
Dresden

**Working hours:**  
19,5 h/week

**Deadline:**  
3 June 2019

**Online application**  
<https://www.hzdr.de/jobs>  
Job-Id: 53/2019 (824)



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 candidates with severe disabilities.

Helmholtz-Zentrum  
Dresden-Rossendorf  
Bautzner Landstraße 400  
01328 Dresden

As 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.

At the Institute of Radiooncology – OncoRay scientists specializing in medicine, physics, biology and IT work together to substantially improve the treatment of cancer by administering radiation therapy that is biologically personalized and technically optimized.

As part of the Institute, the Section of Medical Radiation Physics, invites applications as PhD Student (m/f/d) for integration of Magnetic Resonance Imaging and Proton Therapy.

The position will be available from 1 August 2019. The employment contract is limited to three years.

We are looking for a highly motivated team player with a strong interest in research and development in experimental medical physics for precision radiation medicine.

### Tasks:

- Our research group has recently realized the world's first system of a research setting for MR-integrated proton therapy by combining an open MR scanner and a horizontal static proton research beam line. As a next step, the MR scanner is combined with a horizontal dynamic research beam line that delivers scanned proton pencil beams of clinical quality. The goal is to further develop this unique setup into a first prototype that is applicable for clinical use.
- For this project, the PhD Student will develop methods for 3D dose delivery and verification in the magnetic field of the MR-scanner by means of computer models for treatment planning and phantom measurements using suitable dosimetry equipment. Another aspect that will be addressed is the optimization of in-beam MR imaging methods and protocols.

### Requirements:

- Master's or equivalent degree in physics, engineering or computer science, preferably with specialization on medical radiation physics and/or MR imaging physics
- demonstrable experience with scientific programming is a prerequisite

### We offer:

- high scientific professional networking as well as scientific excellence
- internationality and diversity
- interesting and diverse tasks, flexible working hours, salary based on the collective agreement TVöD-Bund
- equality of opportunity and family-friendly structures, corporate health management
- attractive work and research terms in a highly motivated team

Kindly submit your completed application (including cover letter, CV, diplomas/transcripts, etc.) by 3 June 2019 **only** via **Online application** <https://www.hzdr.de/jobs>.

