

Helmholtz-Zentrum Dresden-Rossendorf e.V.



With cutting-edge research in the fields of ENERGY, HEALTH and MATTER, around 1,500 employees from more than 70 nations at Helmholtz-Zentrum Dresden-Rossendorf (HZDR) are committed to mastering the great challenges facing society today. At the Institute of Radiooncology - OncoRay scientists (f/m/d) specializing in medicine, physics, biology and IT work together to crucially improve the treatment of cancer by administering radiation therapy that is biologically personalized and technically optimized. The Department of Medical Radiation Physics is looking for a PhD Student (f/m/d) Compensation strategies for advanced proton beam treatment planning in MR magnetic fields.

PhD Student (f/m/d) Compensation strategies for advanced proton beam treatment planning in MR magnetic fields

City: Dresden; Starting date (earliest): 01/05/25; Duration: 36 months;

Remuneration: TVöD-Bund; Reference number: 2025/42; Closing date: 20/03/25

Working field

- Development of scientific results in the field of MR-integrated proton therapy in the research group 'Experimental MR-integrated proton therapy' (Prof. Dr. Aswin Hoffmann), especially on the topic 'Compensation strategies for advanced proton beam treatment planning in MR magnetic fields' as a basis for the preparation of the dissertation
- Literature research
- Development of methods to optimise the proton dose distribution in the presence of magnetic fields from our in-beam magnetic resonance (MR) imaging prototypes
- Planning, implementation and evaluation of computer simulations
- Publication and presentation of scientific results

Requirements

- Completed university studies (Diploma/Master) in the field of Mathematics, Computer science, Physics or related
- In-depth knowledge in the field of operations research / numerical optimisation algorithms
- A pro-active working attitude
- Independent work, also within a multidisciplinary team
- Programming experience in Python, MATLAB, C is an advantage
- Good written and oral language skills in English

What we offer

- A vibrant research community in an open, diverse and international work environment
- Scientific excellence and extensive professional networking opportunities
- A structured PhD program with a comprehensive range of continuing education and networking opportunities - more information about the PhD program at the HZDR can be found [here](#)
- Salary and social benefits in accordance with the collective agreement for the public sector (TVöD-Bund) including 30 days of paid holiday leave, company pension scheme (VBL)
- We support a good work-life balance with the possibility of part-time employment, mobile working and flexible working hours
- Numerous company health management offerings
- Employee discounts with well-known providers via the platform Corporate Benefits
- An employer subsidy for the "Deutschland-Ticket Jobticket"

Application

We look forward to receiving your application documents (including cover letter, CV, diplomas/transcripts, etc.), which you can submit via our online-applicationsystem: <https://www.hzdr.de/db/Cms?pNid=490&pLang=en&pOid=74298>

More information at <https://stellenticket.de/192039/HTWB/>
Offer visible until 20/03/25

