

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. The Institute for Ion Beam Physics and Materials Research is dedicated to the study of materials and their nanostructures that can be considered for future applications in information technology and are based on electrical, magnetic or optical functionalities. The Department of Nanoelectronics is looking for a PhD Student (f/m/d) Cotutelle PhD position in physics of 2D materials. The PhD study will be pursued within the framework of a cotutelle program between the Technical University of Dresden and Charles University in Prague. The successful applicant will join the teams of Dr. Otakar Frank at the J. Heyrovsky Institute of the Czech Academy of Sciences in Prague, Czechia, and Prof. Artur Erbe at the Helmholtz Zentrum Dresden Rossendorf, Germany. Alternating 1-year contracts at each institution (4 in total) are envisaged. The applicant will have to apply and be admitted to post-graduate study programme at the Faculty of Mathematics and Physics, Charles University in Prague, and TU Dresden.

PhD Student (f/m/d) Cotutelle PhD position in physics of 2D materials

City: Dresden; Starting date (earliest): 01/05/25; Duration: 30.04.2029;

Remuneration: TVöD-Bund; Reference number: 2025/55; Closing date: 24/03/25

Working field

The PhD student should work on the physics of nanoribbons from 2D materials: Investigate the effects of mechanical deformation on the structural, electrical, and optoelectronic properties of nanoribbons prepared from 2D materials, mainly graphene and transition metal dichalcogenides. Our teams are part of a larger collaboration, focusing on various aspects of 2D and other nanomaterials and sharing cutting-edge equipment and facilities.

Requirements

- Completed university studies (Master/Diploma) in the field of Physics, Electrical Engineering, Material Science, Chemistry or related field
- Experience with at least one of the following: 2D Materials preparation, Raman and photoluminescence spectroscopy, Atomic force microscopy, Electronic transport measurements, E-beam and/or optical lithography
- Publications in a peer-reviewed journal will be an advantage
- Excellent knowledge of English is required

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=74417>

More information at <https://stellenticket.de/192610/LUH/>
Offer visible until 24/03/25

