Helmholtz-Zentrum Dresden-Rossendorf e.V.

HELMHOLTZ ZENTRUM DRESDEN ROSSENDORF

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 Center for Advanced Systems Understanding (CASUS) is a German-Polish research center for data-intensive digital systems research. The Department of Department AI4Quantum – Machine Learning for Quantum Simulation and Computing is looking for a

Postdoc (f/m/d) in Quantum Algorithms for Fluid and Environmental Flow Modelling.

City: Görlitz; Starting date (earliest): 01/03/26; Duration: 2 years; Remuneration: TVöD Bund; Reference number: 2026/14; Closing date: 28/01/26

Working field

- Independent development and analysis of mathematical and numerical methods for partial differential equations
- Design and implementation of advanced algorithms, including variational and optimization-based approaches
- Investigation and adaptation of mathematical methods in hybrid classical–quantum computing contexts
- Documentation, dissemination of results, and contribution to scientific publications and project coordination

Requirements

- Completed university studies (PhD) in the field of Physics, Computer Science, (Applied) Mathematics, Computational Modeling and Simulation or related field
- Experiences with advanced numerical analysis and mathematical modeling of partial differential equations
- Knowledge of quantum algorithms or willingness to extend mathematical methods to quantum computing contexts
- Mathematical foundations of variational methods and optimization
- Algorithm development for large-scale scientific computing
- Experience with scientific software development and performance-oriented computing
- Ability to conduct independent scientific research and take methodological responsibility
- Strong analytical and conceptual thinking skills
- Experience in interdisciplinary collaboration and scientific discussion
- Clear and precise communication of complex scientific concepts
- Willingness to contribute to coordination, mentoring, and collaborative project activities

- Programming proficiency in Python and optionally in one compiled language
- Experience with scientific computing libraries and numerical software frameworks
- Ability to work with version control systems and collaborative software development tools
- Excellent command of English (written and spoken)

What 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 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-application-system: https://www.hzdr.de/db/Cms?pNid=490&pLang=en&pOid=76351

More information at https://stellenticket.de/200624/HTWB/
Offer visible until 28/01/26