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 Center for Advanced Systems Understanding (CASUS) is a German-Polish research center for data-intensive digital systems research. CASUS is looking for a Postdoc (f/m/d) in Quantum Computing for Quantum Chemistry.

Postdoc (f/m/d) in Quantum Computing for Quantum Chemistry

The successful candidate (f/m/d) will be part of the BMBF QuantumFutur Junior Research group led by Dr. Werner Dobrautz, which is being established at CASUS. The group's research project, qHPC-GREEN, aims to address the challenges posed by climate change and the imperative for a green energy transition by leveraging the synergistic potential of high-performance computing (HPC) and quantum computing (QC) to model quantum mechanical systems pivotal to biochemical and physical phenomena relevant to environmental and energy challenges. If you want to know more about the project and the group you can have a look here: qHPC-GREEN

City: Dresden; Starting Date: 01/04/25; Duration: 31.03.2027; Renumeration: TVöD-Bund; Reference number: 2025/016; Closing date: 12/02/25

Working field

- Basic research in quantum algorithm development for ground and excited state electronic structure calculations
- Development of efficient HPC/QC software solutions
- Preparation of publications for internationally renowned journals and presentation of research results at national and international conferences
- Preparation of grant applications and community building focused on CASUS research (optional)
- Collaboration with national and international industrial and academic partners

Requirements

- Completed university studies (PhD) in the field of Physics, Chemistry, Computer Science, Quantum Technologies/Computing, or a related field
- Expertise in computational quantum chemistry/physics, electronic structure theory, and near- or fault-tolerant quantum computing algorithms or high-performance computing
- Relevant professional experience in the specified area
- Evidence of the ability to publish results in top peer-reviewed journals
- Strong motivation to work in a collaborative environment and a high level of commitment and organizational skills
- Excellent programming skills in languages like Python, Julia, Rust, C++, Fortran, or similar

- Experience with quantum computing software packages (Qiskit, Pennylane, Cirq, or similar)
- Excellent communication skills in English and in a professional context (presentation of research results at scientific meetings, colloquial discussions, writing of manuscripts)

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=73693

Weitere Informationen unter https://stellenticket.de/190975/
Angebot sichtbar bis 14.02.2025