



Six PhD positions in quantum physics CRC 183 (theory) (f/m/x)

CRC 183 | Entangled States of Matter

We are one of the largest and oldest universities in Europe and one of the most important employers in our region. Our broad range of subjects, the dynamic development of our main research areas and our central location in Cologne make us attractive for students and researchers from around the world. We offer a wide range of career opportunities in science, technology, and administration.

The collaborative research center “Entangled States of Matter” (CRC183) exploits the fundamental laws of quantum mechanics to engineer condensed matter systems that materialize entanglement in a tangible manner. The following three concepts define our research: (i) Topological quantum matter, (ii) Quantum information, (iii) Quantum device. Our CRC runs as a joint venture of the Center of Quantum Devices in Copenhagen, the Dahlem Center for Complex Quantum Systems at FU Berlin, the Cologne Institute for Theoretical Physics and the Condensed Matter Department of the Weizmann Institute in Rehovot, Israel. More information can be found here: <https://www.crc183.uni-koeln.de/>

There are 6 open PhD positions within CRC 183:

- » Monitored quantum circuits (Trebst)
- » Chaotic transmons (Trebst)
- » Entanglement & Fractionalization via Tensor Networks (Rizzi)
- » Interplay between quantum gravity, quantum information and entanglement (Bagrets)
- » Quantum circuits, monitored and adaptive quantum dynamics, quantum complexity of many-body systems (Turkeshi)
- » Non-equilibrium quantum matter (Diehl)

YOUR TASKS

- » Explore quantum matter at the forefront of research in condensed matter physics
- » Develop and apply techniques of theoretical or computational physics
- » Present and disseminate research results in scientific conferences and publications

YOUR PROFILE

- » Excellent academic record
- » M.Sc. degree in physics or a related discipline
- » »Knowledge of relevant theoretical methods
- » Research experience relevant for the thesis project
- » Excellent command of English

- » High motivation, commitment, good communication skills and team spirit are an asset

WE OFFER

- » An exciting research project at the cutting edge of research on quantum matter
- » Work in an international collaborative team
- » A diverse working environment with equal opportunities
- » Support in balancing work and family life
- » Extensive advanced training opportunities
- » Occupational health management offers
- » Flexible working time models

The University of Cologne promotes equal opportunities and diversity. Women will be considered preferentially in accordance with the Equal Opportunities Act of North Rhine-Westphalia (Landesgleichstellungsgesetz – LGG NRW). We also expressly welcome applications from all suitable candidates regardless of their gender, nationality, ethnic and social origin, religion, disability, age, sexual orientation and identity.

The position is available as soon as possible on a part-time basis (50% in the first year, 75% afterwards). The contracts are initially limited to three years. If the applicant meets the relevant wage requirements and personal qualifications, the salary is based on remuneration group 13 TV-L of the pay scale for the German public sector.

Please apply online (specifying the position(s)) with proof of the required qualifications, including a transcript of records, without a photo under: <https://jobportal.uni-koeln.de>. The reference number is Wiss2407-01. The application deadline is 07.08.2024.

For further inquiries, please contact Sophie Hinzmann (crcl83-admin@uni-koeln.de).