UNIVERSITY OF COLOGNE

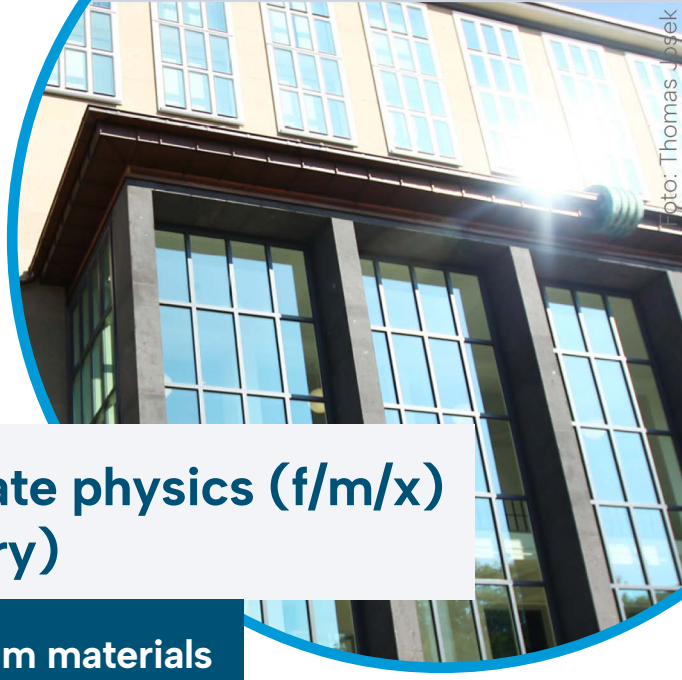
Photo: Thomas Obsek

Faculty of Mathematics and Natural Sciences

Several PhD positions in solid state physics (f/m/x) CRC 1238 (experiment and theory)

CRC 1238 | Control and dynamics of quantum materials

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 "Control and dynamics of quantum materials" (CRC1238) brings together a team of scientists from experimental and theoretical physics. Our vision is to discover, understand, and control novel collective phenomena and new functionalities in quantum materials arising from the interplay of spin-orbit-coupling, correlations, and topology. More information can be found here: http://crc1238.uni-koeln.de/.

There are ten (10) open PhD positions within CRC1238:

- RIXS interferometry on correlated materials with strong spin-orbit coupling (Grüninger)
- Fabrication and measurements of nano-devices based on topological materials (Ando, Breunig)
- Inelastic light scattering in Quantum Magnets (Grüninger, Van Loosdrecht)
- Spin liquids out of equilibrium (Seifert, Rosch)
- Non-equilibrium quantum matter (Trebst)
- Electrical and thermal transport studies in topological materials (Lorenz)
- Crystal growth and thermodynamic characterization of quantum magnets (Lorenz)
- Transport in quantum anomalous Hall insulators (Bocquillon)
- Microwave-spectroscopy of topological quantum-materials (Hemberger)
- Driven quantum systems and non-linear transport (Rosch)

YOUR TASKS

- Explore quantum materials at the forefront of research in condensed matter physics
- Develop and apply techniques of experimental or theoretical 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 experimental or 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 is committed to equal opportunities and diversity. Women are especially encouraged to apply and will be considered preferentially in accordance with the Equal Opportunities Act of North Rhine-Westphalia (Landesgleichstellungsgesetz – LGG NRW). We also expressly welcome applications from people with disabilities / special needs or of equal status.

The positions are available from 01.07.2024 on a part-time basis (50% in the first year, 75% afterwards), subject to approval of the DFG-funding for the third CRC funding period. The contracts are initially limited to three years. If the applicant meets the relevant wage requirements and personal qualifications, the salary will be based on remuneration group 13 TV-L of the pay scale for the German public sector.

Please apply online (specifying the position(s) you are applying for) with proof of the required qualifications, including a transcript of records, without a photo under: https://jobportal.uni-koeln.de. The reference number is Wiss2405-30. The application deadline is 30.06.2024.
For further inquiries, please contact Dr Matteo Cacco (sfb1238.buero@ph2.uni-koeln.de).

HR EXCELLENCE IN RESEARCH