

PhD Position (f/m/d) in 2D quantum materials

CRC 1238 | Control and dynamics of quantum materials

Foto: Thomas Josef

The University of Cologne is one of the largest and most research-intensive universities in Germany, offering a wide range of subjects. With its six faculties and its interfaculty centres, it offers a broad spectrum of scientific disciplines and internationally outstanding profile areas, supported by the administration with its services.

The collaborative research center "Control and dynamics of quantum materials" (CRC 1238) 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/>.

The open PhD position (Prof. Grüneis group) is concerned with the growth and electronic structure characterization of atomically thin materials (<https://ph2.uni-koeln.de/index.php?id=684>).

YOUR TASKS

- » Growth of graphene, transition metal dichalcogenides by molecular beam epitaxy.
- » Investigation of the electronic structure of two-dimensional layers and their vertical heterostructures will be performed by angle-resolved photoemission spectroscopy. The obtained energy band structure will be compared to calculations of the electronic band structure obtained from computer simulations.
- » The goal of this line of work is to induce novel electronic phenomena in two-dimensional materials by the stacking order and by chemical functionalization.

YOUR PROFILE

- » A master's degree (or a soon-to-be-completed master's degree) in a relevant field.
- » We are looking for an excellent and hard-working student who wishes to do a PhD in condensed matter physics of 2D materials.
- » Previous experience with ultra-high vacuum equipment and/or computer programming is considered a plus.

WE OFFER YOU

- » hands-on experience with top-notch experiments
- » a diverse and fair working environment
- » support in reconciling work and family life
- » flexible working time models
- » extensive advanced training opportunities
- » occupational health management offers
- » local transport ticket at a discount for UoC employees

The position is available as soon as possible on a part-time basis (75 %). It is limited to a term of 3 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.

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.

Please send your convincing application by email (in one pdf-file) to grueneis@ph2.uni-koeln.de with the reference number Wiss2104-14. The application deadline is the 30.05.2021.