Technische Universität Dresden - Exzellenzcluster "Komplexität, Topologie und Dynamik in Quantenmaterialien (ctd.qmat)"

Technische Universität Dresden

TUD Dresden University of Technology, as a University of Excellence, is one of the leading and most dynamic research institutions in the country. Founded in 1828, today it is a globally oriented, regionally anchored top university as it focuses on the grand challenges of the 21st century. It develops innovative solutions for the world's most pressing issues. In research and academic programs, the university unites the natural and engineering sciences with the humanities, social sciences and medicine. This wide range of disciplines is a special feature, facilitating interdisciplinarity and transfer of science to society. As a modern employer, it offers attractive working conditions to all employees in teaching, research, technology and administration. The goal is to promote and develop their individual abilities while empowering everyone to reach their full potential. TUD embodies a university culture that is characterized by cosmopolitanism, mutual appreciation, thriving innovation and active participation. For TUD diversity is an essential feature and a quality criterion of an excellent university. Accordingly, we welcome all applicants who would like to commit themselves, their achievements and productivity to the success of the whole institution.

10 Research Associates / PhD Students (m/f/x)

(subject to personal qualification employees are remunerated according to salary group E 13 TV-L) The Cluster of Excellence “Complexity, Topology and Dynamics in Quantum Matter (ctd.qmat)” offers in total 10 positions as Research Associate / PhD Student (m/f/x) starting at the earliest possible date. The positions are limited to 3 years and comprise 50% to 75% of the fulltime weekly hours. The period of employment is governed by the Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz – WissZeitVG). The positions offer the chance to obtain further academic qualification (usually PhD thesis).

City: Dresden; Starting date (earliest): At the earliest possible; Duration: für jeweils 3 Jahre; Remuneration: bei Vorliegen der persönlichen Voraussetzungen E 13 TV-L); Reference number: w26-074; Closing date: 15/04/26

Tasks

Within the Cluster of Excellence, materials and models for topological states of matter are investigated, with a focus on correlated electron systems, unconventional superconductivity, frustrated magnetism, and topological photonics. Possible fields of work include: Experimental condensed matter physics (4 positions), Theoretical condensed matter physics (4 positions) and Inorganic chemistry (2 position). The research activities planned within the Cluster of Excellence include: Synthesis of novel materials; crystal growth; measurement of thermodynamic and transport properties – including under extreme conditions; neutron, electron, and X-ray spectroscopy; nuclear magnetic resonance (NMR) studies; ab initio investigations and numerical simulations of microscopic models; calculation of thermodynamic and transport properties using microscopic or field-theoretical methods. Close collaboration with associated research groups is expected, as well as project-related support of student theses (Bachelor’s and Master’s level).

Requirements

- an excellent academic university degree, preferably in physics or chemistry
- a strong interest in fundamental research
- ability to work effectively in a team and strong organizational skills
- proficiency in written and spoken English and German
- ideally, experience with experiments or modelling of topological or magnetic materials, or photonic micro- and nanostructures

Application

TUD strives to employ more women in academia and research. We therefore expressly encourage women to apply. The university is a family-friendly university. We welcome applications from candidates with disabilities. If multiple candidates prove to be equally qualified, those with disabilities or with equivalent status pursuant to the German Social Code IX (SGB IX) will receive priority for employment.
Application: Please submit your detailed application with the usual documents (resume, qualifications, transcripts, and certificates) by April 15, 2026 (stamped arrival date of the university central mail service or the time stamp on the email server of TUD applies), preferably via the TUD SecureMail Portal https://securemail.tu-dresden.de by sending it as a single pdf file to ctdqmat@tu-dresden.de or to:
TU Dresden, Fakultät Physik, Institut für Theoretische Physik, Prof. Dr. Matthias Vojta, Helmholtzstr. 10, 01069 Dresden, Germany.
Please submit copies only, as your application will not be returned to you. Expenses incurred in attending interviews cannot be reimbursed.

TUD is a founding partner in the DRESDEN-concept alliance.
About ctd.qmat: The Cluster of Excellence ctd.qmat – Complexity, Topology and Dynamics in Quantum Matter — at Julius-Maximilians-Universität Würzburg and Technische Universität Dresden explores and develops novel quantum materials with tailored properties. Around 300 researchers from over 30 countries work at the interface of physics, chemistry, and materials science to lay the foundations for tomorrow’s technologies. In 2026, the cluster entered the second funding period of the German Excellence Strategy of the Federal and State Governments — with an expanded focus on the dynamics of quantum processes.

Reference to data protection: Your data protection rights, the purpose for which your data will be processed, as well as further information about data protection is available to you on the website:
https://tu-dresden.de/karriere/datenschutzhinweis.

More information at https://stellenticket.de/202496/TUBS/
Offer visible until 15/04/26