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.

At the Faculty of Chemistry and Food Chemistry, the Chair of Theoretical Chemistry offers, subject to the availability of resources, a position as

**Research Associate / PhD Student (m/f/x)**
(subject to personal qualification employees are remunerated according to salary group E 13 TV-L)

starting as soon as possible. The position is initially limited to 3 years and entails 65% of the fulltime weekly hours. The period of employment is governed by the Fixed Term Research Contracts Act (Wissenschafts-zeitvertragsgesetz - WissZeitVG). The position aims at obtaining further academic qualification (usually PhD).

The position is available in the research group of Dr. Dorothea Golze at TUD. In this position, you will have a chance to make an impact on the exploration of new 2D materials for next-generation quantum materials by developing and applying advanced theoretical methods. You will be part of the Collaborative Research Center on "Chemistry of Synthetic Two-Dimensional Materials" (CRC 1415). As member of the CRC 1415, you will work in a highly collaborative research environment.

**Tasks:** Develop and apply accurate computational tools for the prediction of vibrational spectra of low-dimensional materials, including resonant and solvent effects. In particular, you will work on accelerating the calculations by using machine learning and density fitting approaches. You are expected to implement your methods in the program package CP2K. Applications of the developed methods will be performed in close collaboration with our experimental partners in the CRC 1415.

**Requirements:** university degree in physics / chemistry / material science, preferentially with theoretical background. We are looking for a motivated candidate, who is interested in electronic-structure theory, code development and machine learning methods. Experience in programming is a plus, but not mandatory. However, a strong motivation to learn programming for supercomputing platforms is required.

**What we offer:**
- Training and courses in parallel programming at European supercomputing centers
- Work in international and interdisciplinary environment
- Broad qualification program and career support by the Graduate Academy of TUD

TUD strives to employ more women in academia and research. We therefore expressly encourage women to apply. The University is a certified family-friendly university and offers a Dual Career Service. 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.

Please submit your detailed application with the usual documents (CV, cover letter explaining your motivation to apply for this position and contact information of one reference) by **June 28, 2024** (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](https://securemail.tu-dresden.de) by sending it as a single pdf file to dorothea.golze@tu-dresden.de with the subject “Application for open PhD position/CRC1415” or to: TU Dresden, Fakultät Chemie und Lebensmittelchemie, Professur für Theoretische Chemie, z. Hd. Frau Dorothea Golze, 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.

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](https://tu-dresden.de/karriere/datenschutzhinweis)