

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 Mechanical Science and Engineering / Faculty of Physics, Institute of Materials Science**, the **Chair of Materials Science and Nanotechnology** (Prof. Dr. G. Cuniberti) offers, subject to the availability of resources, a position as

Research Associate (m/f/x)

(subject to personal qualification employees are remunerated according to salary group E 13 TV-L)

starting **October 1, 2023**. The position comprises 50 % of the fulltime weekly hours and is limited until September 30, 2026. The period of employment is governed by the Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz - WissZeitVG). The position offers the chance to obtain further academic qualification (usually PhD) and is embedded in the M-ERANET cooperative research project *p-n Heterojunctions of Emergent Wide band gap Oxides for self-powered UVC sensing* (HEWOX), which will explore and contrast the advantages of developing Ga₂O₃/NiO heterojunctions (in both thin film and nanomaterial form) for use as self-powered remote fire/flame sensors. The work will be closely integrated within the research activities of the TU Dresden Faculties of Mechanical Science and Engineering and Physics. Furthermore, close links exist within the Dresden Center for Computational Materials Science (DCMS) and the Dresden Center for Intelligent Materials (DCIM), which comprise more than 40 research groups and aim at fostering cooperation on modern materials research topics in Dresden.

Tasks: The goal of the research activities is to gain a deeper theoretical understanding of the structural and electronic properties of oxides and selected heterojunctions, and to rationalize pathways for a controlled modification of their properties. For this, the candidate will perform computational modelling studies involving atomistic approaches. To this end, the successful candidate will be fully integrated in the research activities of the experimental partners (Spain, France) constituting the HEWOX project.

Requirements: university degree in Physics, Chemistry or Materials Science; furthermore, interdisciplinary thinking and personal initiative, independent and team-oriented work, as well as excellent communication and writing skills in English. We target at top-notch dedicated and proactive dynamic scientists who plan to make their mark in science. Previous experience in atomistic modelling of material properties using Density-Functional Theory is considered as preferential.

What we offer: You will join a team of enthusiastic scientists who pursue creatively their individual research agenda inspired by the project's innovative approach and support. Your working environment will include the access to state-of-the-art facilities and instruments and your work will strongly benefit from a dense research network with leading institutions in Dresden and

internationally. We are committed to the promotion of gender equality and a family-friendly working environment.

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 (letter of motivation including a short statement about your integration within HEWOX, a Curriculum Vitae including a full publication list, and one reference letter) by **September 5, 2023** (stamped arrival date of the university central mail service applies) via the TU Dresden SecureMail Portal <https://securemail.tu-dresden.de> by sending it as a **single pdf file** to jobs.nano@tu-dresden.de with the **subject: "Application HEWOX, your_surname"**, or to: **TU Dresden, Fakultät Maschinenwesen, Institut für Werkstoffwissenschaft, Professur für Materialwissenschaft und Nanotechnik, Herrn Prof. Cuniberti, 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>.