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 Physics, Institute of Solid State and Materials Physics, the Chair of Ultrafast Solid State Physics and Photonics offers 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)

at the **earliest possible date**. The position is limited until December 31, 2026 with the with the option for extension. The period of employment is governed by the Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz - WissZeitVG). The position comprises 75% of the full-time weekly hours and aims at obtaining further academic qualification (usually PhD).

**Tasks:** The new group member will support the Chair of Ultrafast Solid State Physics and Photonics (https://tu-dresden.de/mn/ultrafast) in their research activities. The project within the ERC-CoG „T-Higgs – Phase-Resolved THz-Higgs Spectroscopy on Superconductors“ aims to realize “stack-and-twist-devices” of superconductors and prepare them for optical studies and the possibility for optical control. Therefore, we plan to establish a strong collaboration with the Leibniz Institute for Solid State and Materials Research and specifically with the group of Dr. Nicola Poccia (https://superpuddles-lab.ifw-dresden.de/). The student will learn a novel methodology for the stacking of ultra-clean twisted interfaces of complex superconductors. Complex superconducting nanosystems will be therefore prepared for optical measurements and control, using ultrashort and high-field MIR and THz pulses. The goal is to functionalize these devices and realize novel superconducting (e.g. topological) states that will be measured and characterized in the framework of Higgs-Spectroscopy. The projects are suitable as possible PhD thesis projects.

**Requirements:** university degree in physics (master/diploma; for possible routes with a bachelor degree please get in contact); interest in optics and solid-state science/quantum materials. Relevant experience in the field of either (1) ultrashort pulse lasers and time resolved experiments or (2) device fabrication are a plus as well as interest in solid-state research at table-top experiments and at large scale facilities is expected.

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 by **November 27, 2023** (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 stefan.kaiser@tu-dresden.de or to: **TU Dresden, Fakultät Physik, Institut für Festkörper- und Materialphysik, Professur für Ultraschnelle Festkörperphysik und Photonik, Herrn Prof. Dr. Stefan Kaiser, 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).