

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 Applied Physics**, the **Chair of Ultrafast Microscopy and Photonics** offers a full-time position as

Research Associate / Postdoc (m/f/x)

Time-resolved magneto-optical microscopy of van der Waals semiconductors

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

starting **February 1, 2026**. The position is initially limited to four years until January 1, 2030. 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 habilitation thesis).

Our research is focused on spectroscopy and microscopy of interacting electronic many-particle states in low-dimensional semiconductors using a variety of techniques from linear and non-linear spectroscopy to time-resolved microscopy as well as under the influence of external fields. We address an expanded material base of artificially assembled nanostructures to develop fundamental understanding and advanced concepts for manipulation and control of light-emitting excitations. Our aim is to address technologically motivated, critical questions from the basic science perspective. For more information regarding our research please visit the web page of the institute <https://tu-dresden.de/mn/physik/iap/photonics>.

Tasks:

- scientific research of optical and electronic phenomena in nanostructured condensed matter, in particular, two-dimensional van der Waals semiconductors
- setup and operation of optical experiments including, but not limited to, magneto-optical microscopy, white-light spectroscopy, time-resolved spectroscopy, and atomic-force microscopy
- fabrication and preparation of complex heterostructures involving van der Waals semiconductors in combination with a variety of nanomaterial systems
- analysis and communication of the research findings

Requirements:

- university and PhD degree in physics or similar discipline; interest in experimental condensed matter research
- expertise with magneto-optics and hybrid two-dimensional perovskites
- operation of high-field magnets
- expertise in optical spectroscopy of van der Waals semiconductors
- high self-motivation
- excellent command of English language
- excellent computer skills
- ready-to-use and up-to-date knowledge of the field of two-dimensional van der Waals materials and quantum well systems

What we offer: We will be happy to welcome you to an international team of highly motivated researchers to be part of a highly active scientific field. We further offer

- access to state-of-the-art facilities of the group and the institute
- collaborations and networking with leading research groups in the field
- promotion of gender equality and family-friendly work 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. 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 quoting the **reference number w25-290** (in English or German) including a motivation letter, CV, and copies of degree certificates by **November 26, 2025** (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 alexey.chernikov@tu-dresden.de or to:

TU Dresden, Chair of Ultrafast Microscopy and Photonics, Prof. Alexey Chernikov, 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.

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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>.