Technische Universität Dresden (TUD), 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 Center for Advancing Electronics Dresden (cfaed), the Dresden Center for Nanoanalysis (DCN) at cfaed offers a position as

**Research Associate / Postdoc (m/f/x)**

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

starting at **January 1, 2024**, limited for 12 months. 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. Balancing family and career is an important issue. The position is generally suitable for candidates seeking part-time employment. Please indicate your request in your application.

**Investigator:** Dr. Bernd Rellinghaus  
**Terms:** 100% of the full-time weekly hours  
**Topic:** Magneto-Transport at Work: In-situ Transmission Electron Microscopy of Topological Spin Solitons

**Tasks:** An experienced electron microscopist, the successful candidate will setup and conduct in-situ Hall effect measurements in the transmission electron microscope predominantly on (anti)Skyrmion host materials. The work includes the preparation of samples, the development of measurement concepts and strategies, and the setup and conduction of simulations. Active exploration of the research field and the communication and discussion of results on national and international conferences and workshops are expected. The work is embedded within the interdisciplinary priority program SPP 2137 “Skyrmionics” of the Deutsche Forschungsgemeinschaft (DFG). The candidate is expected to connect with researchers of the program, to generate and intensify collaborations, and to create synergies from this network.

**Requirements:**

- excellent university and - if applicable - PhD degree in physics, chemistry, materials science, or closely related areas
- long-term experience in analytical high-resolution transmission electron microscopy, particularly in one or more of the following fields: In-line and off-axis electron holography, electron energy loss spectroscopy (EELS), electron magnetic chiral dichroism (EMCD), Lorentz microscopy, differential phase contrast imaging (DPC), in-situ TEM (specifically electrically biased in-situ experiments), high resolution and LTEM contrast simulations.
- solid background in magnetism, preferably with experiences in the field of topologically non-trivial magnetic textures like skyrmions etc.
- excellent communication and writing skills in English, especially with respect to the communication with the European cooperation partners.
- ability to work in an interdisciplinary team.

**What we offer:** You will join an enthusiastic and ambitious research group, where your work will be inspired by the interactions with scientists in an international and multidisciplinary research landscape. Your research will be fostered by the cfaed philosophy to promote aspiring researchers, which includes:
  - access to state of the art research of leading academic institutes
  - promotion of gender equality and family-friendly work environment.

**About the DCN:** The DCN was founded in November 2012 as technology platform of the 'Center for Advancing Electronics Dresden'. Embedded in the DRESDEN-concept research alliance, it serves as a competence center of TUD. Research at the DCN has a strong focus on the structural and chemical analysis of nanoscale materials using electrons and x-rays with an emphasis on novel in-situ and in-operando techniques. The center provides a highly interdisciplinary working environment in a newly constructed state-of-the-art lab infrastructure including two ultra-low noise laboratories for analytical high resolution transmission electron microscopy. Besides pursuing own research interest, the DCN offers its infrastructure and know-how as service to the TUD as a whole. [https://cfaed.tu-dresden.de/dcn](https://cfaed.tu-dresden.de/dcn).

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.

Your application (in English) must include: a motivation letter, your CV with publication list, copy of degree certificate, transcript of grades (i.e. the official list of coursework including your grades) and two reference letters. Complete applications should be submitted preferably via the TUD SecureMail Portal [https://securemail.tu-dresden.de](https://securemail.tu-dresden.de) as a single pdf document quoting the reference number 2024_PostDoc-DCN in the subject header to recruiting.cfaed@tu-dresden.de or to TU Dresden, DCN, z. Hdn. Herrn Dr. Bernd Rellinghaus, Helmholtzstr. 10, 01069 Dresden. The closing date for applications is **September 27, 2023** (stamped arrival date of the university central mail service applies). 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).