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 **Faculty of Electrical and Computer Engineering, Institute for Solid State Electronics**, the **Chair of Coating Technologies in Electronics** 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)

starting as soon as possible with 35% of the full-time weekly hours. It is planned to increase the working time to at least 60% of the full-time weekly hours subject to funding. The position is initially limited to 36 months. The period of employment is governed by the Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz – WissZeitVG). The position aims at obtaining further academic qualification (PhD).

**Tasks:** The main objective of is to investigate the feasibility of using magnetron sputtering to grow ternary group-III nitride nanorods with the focus on their enhanced piezoelectric properties. The work will be composed of four parts: 1) gaining deep understanding of sputter process parameter space through literature and experiment, 2) structural analysis of the nanorods, 3) investigation of various seed layers and structured templates to gain better control of nanorod distribution, and 4) participate in design and fabrication of test structures for piezoelectric, dielectric, and other types of characterization, relevant to energy harvesting, sensing, and other applications.

**Requirements:**

- university degree (Diploma/Master), preferably in Material science, Nanotechnology, Physics, or other related fields;
- strong hands-on and problem-solving skills; high motivation, good organizational skills, and an independent and conscientious approach to work;
- reliability and a high degree of initiative; interest in material science as well as interdisciplinary cooperation and good team spirit;
- strong communication skills including good oral and writing skills; very good English skills and at least a basic knowledge of German would be preferred;
- previous experience with magnetron sputtering or other PVD methods, nanostructures, structural analysis, characterization of piezoelectric materials are not a pre-requisite but would be highly appreciated.

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 comprehensive application including the usual documents by **November 30, 2022** (stamped arrival date of the university central mail service applies) preferably via the TU Dresden SecureMail Portal [https://securemail.tu-dresden.de](https://securemail.tu-dresden.de) by sending it as a single pdf-document to coatingtech.ife@tu-dresden.de or to: TU Dresden, Fakultät Elektrotechnik und Informationstechnik, Institut für Festkörperelektronik, Professur für Beschichtungstechnologien für die Elektronik, Frau Prof. Elizabeth von Hauff, 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).