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.

The Boysen-TU Dresden Research Training Group for young researchers from Engineering, Social Sciences, Arts, and Humanities, co-financed by the Friedrich and Elisabeth Boysen Foundation and the Technische Universität Dresden, is offering a doctoral scholarship starting as soon as possible, for a maximum of 3 years. The interdisciplinary Research Training Group, in what is its fourth generation, is conducting research on the overarching topic Hydrogen Economy – Strategic element of a future GreenGas deal. It consists of four clusters. Cluster F: Impact H2 green combines five sub-projects (SP). A suitable person (m/f/x) is being sought to work on the topic SP F1: Technological-systemic impact of the hydrogen economy. The Chair of Energy Process Engineering at the Faculty of Mechanical Science and Engineering at TUD is responsible for the supervision. The interdisciplinary supervision takes place in the common rooms of the Research Training Group.

Abstract: In a first step, sub-project F1 analyzes the technological-systemic impact of the further expansion of renewable energies (RE) (wind and PV) for a green hydrogen economy. In a second step, the raw material requirements for the further expansion of RE are determined. For this purpose, sustainability concepts as well as concepts for the recycling and for applicable processes and plants are developed. In the third step, the direct interaction of wind and PV plants with each other and with the environment is investigated. For this purpose, assessments of exemplary wind and solar projects are carried out using the example of a reference energy park, e.g. with regard to biodiversity or the subsoil, etc. The interaction with the other four sub-projects within Cluster F is essential here.

Applicants are expected to have an above-average university degree in engineering or natural sciences with profound knowledge of thermodynamics, fluid mechanics, and/or meteorology/climatology, as well as a high degree of willingness to engage in interdisciplinary work and research.

Accepting the scholarship obliges your presence in the research group’s offices in Dresden on three fixed core days per week. Participation in the college’s teaching program is compulsory (24 ETCS in 3 years).

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.

1 The amount of the scholarship is 2000,- Euro/month
Please send your detailed application including a letter of motivation, curriculum vitae, copies of academic certificates or other relevant qualifications (language certificates, further training), and a max. 10-page sample text (e.g. final thesis, term paper, or publication) by **February 15, 2024** (stamped arrival date of the university central mail service or the time stamp on the email server of TUD applies) with the subject **"SP 1: Technological-systemic impact of the hydrogen economy"**, preferably via the TUD SecureMail Portal [https://securemail.tu-dresden.de](https://securemail.tu-dresden.de) as one PDF file to **simon.unz@tu-dresden.de** or to: **TU Dresden, Fakultät Maschinenwesen, Institut für Verfahrenstechnik und Umwelttechnik, z. Hd. Herrn Dr. Simon Unz, Mommsenstr. 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)