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. Lt 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[1] from **June 15, 2023**, for a maximum of 3 years, subject to available funding. 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 H: Techno-economic modelling of hydrogen value-added networks** combines four sub-projects (SP). A suitable person (m/f/x) is being sought to work on the topic **SP H2: *Coordination in hydrogen value creation networks from an actor-centered perspective.*** The Chair of Business Administration, esp. Industrial Management at the Faculty of Business and Economics at TU Dresden is responsible for the supervision. The interdisciplinary supervision takes place in the common rooms of the Research Training Group.

Abstract: To achieve the Paris targets for the reduction of greenhouse gas emissions, the production and use of green hydrogen play a central role. In this context, it is important to consider the entire value network from the procurement sources, through the production, distribution, and use of hydrogen, with the involvement of the actors involved, including the political and legal framework conditions. By selecting the best technologies at the individual stages of the network, an attempt is made to configure the entire hydrogen value creation network in such a way that hydrogen supply and demand are brought into line. However, this neglects the fact that legally independent actors, which often have their own interests, appear within the networks. These individual interests, however, do not necessarily have to be in harmony with the design or operation of the network from a holistic perspective. Therefore, the first step is to identify the business models that are attractive to the individual actors and then analyze how the individual objectives influence the interaction of the actors in the hydrogen network. Game theory provides a methodological tool with which the strategic behavior of actors within value networks can be analyzed. This dissertation project aims to examine the challenges of designing hydrogen value networks from an actor perspective using game theory methods to derive design recommendations for the coordination of the actors.

Applicants are expected to have an above-average academic degree in business administration, economics, or business engineering and a high degree of willingness to engage in interdisciplinary work and research. Ideally, in-depth knowledge of game theory and operations research methods is already available. 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).

[1] The amount of the scholarship is 2.000,- EURO/month.

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 send your compelling 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) until **May 10, 2023** (stamped arrival date of the university central mail service applies) with the **subject "SP H2: Coordination in hydrogen value creation networks from an actor-centered perspective",** preferably via the SecureMail Portal of the TU Dresden https://securemail.tu-dresden.de as **one** PDF document to **udo.buscher@tu-dresden.de.** Alternatively, applications can also be sent to the following address: **TU Dresden, Boysen-TU Dresden-Graduiertenkolleg, Herrn Prof. Udo Buscher, 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.