

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 "**Friedrich List**" **Faculty of Transport and Traffic Sciences**, the **Institute of Railway Systems and Public Transport** invites applications for the

Chair (W3) of Digital Railway Systems

to be filled at the **earliest possible date**.

Deutsche Bahn AG will endow the chair for the first ten years. After the end of the funding period, the endowed chair will be continued as a chair (W3) at TUD. The chair's research focuses on command control and signaling in the railway sector and related areas of digitalization. The aim is to advance the development of methods for the analysis and targeted design of safe technical systems, taking into account human and organizational factors, with a focus on the areas of safety and risk assessments, end-to-end digital data management, technology and accident analyses as well as approval and approval procedures in railway systems. Innovative methods from operations research, formal methods, artificial intelligence, modeling or simulation shall be used.

You (m/f/x) will represent the scientific field of command control and signaling in railway systems in teaching and research, including the further development of the chair's safety technology laboratory (SIL). You will have teaching obligations in the bachelor, master, and diploma degree programs at the "Friedrich List" Faculty of Transport and Traffic Sciences and contribute to teaching export to other faculties at TUD. We expect your participation in academic self-administration and your willingness to teach in English and German. One of your main tasks will be the successful acquisition of third-party funding from federal (DFG, BMBF et al.) or EU sources, as well as from industry partners. Therefore, experience in externally funded research is required. Your willingness to cooperate with other chairs of the "Friedrich List" Faculty of Transport and Traffic Sciences, other structural units at TUD, other institutions within the DRESDEN-concept alliance and external stakeholders is essential.

We seek a dynamic and dedicated personality with an excellent national and international academic track record in the field of command control and signaling in railway systems. We invite applications with proven expertise in at least three of the following areas:

- Safety and risk analyses of technologies, processes and applications of control-command and signaling subsystems of the rail system,
- Specification, project planning (engineering and data preparation) and implementation of ETCS, ATO, CBTC or Eulynx systems and associated approval procedures,

- System design, integrated/continuous modeling, operational analysis and optimization of digital railway systems,
- System integration and automated testing of digital control-command and signaling subsystems of the rail system, especially in automatic train operation (GOA2 and higher),
- Digitalization and automation in planning or operation of command control and signaling,
- Statistical methods and simulation, artificial intelligence methods, cryptography or cybersecurity for railway applications.

We are looking forward to your application if you hold a university degree in transportation science or related relevant fields and have pedagogical aptitude and excellent capability for scientific work, which you can prove by a doctoral/PhD degree and further outstanding academic achievements. The proof for the latter is a habilitation/postdoctoral qualification, a positively interim evaluated junior professorship, or an equivalent. In addition to the general requirements under employment law, applicants must fulfil the employment qualification requirements of § 59 of the Institutions of Higher Education Act in the Free State of Saxony (SächsHSG).

For content-related questions, please contact the chairwoman of the appointment committee Prof. Dr.-Ing. Regine Gerike (+49 351 463- 36501), email: regine.gerike@tu-dresden.de.

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. If you have any questions about these topics, please contact the Equal Opportunities Officer of the "Friedrich List" Faculty of Transport and Traffic Sciences (Ms. Susanne Wunsch, +49 351 463-36689) or the Representative of Employees with Disabilities (Mr. Roberto Lemmrich, +49 351 463-33175).

We look forward to receiving your application by **April 30, 2024** (time stamp on the email server or the stamped arrival date of the university central mail service of TUD applies).

Please attach the following documents to your letter of application: a curriculum vitae in tabular form, a description of your scientific career, a list of publications and previous teaching activities, including the results of the teaching evaluation (preferably of the last three years) as well as a copy of the certificate of the highest academic degree.

We kindly ask you to submit your application by email. Please use the SecureMail Portal of TUD (<https://securemail.tu-dresden.de>) and send your documents in a single PDF document to: berufungen-vw@tu-dresden.de. If you are applying by regular mail, please also attach your application documents in electronic form (CD or USB thumb drive) and send them to: **TU Dresden, Fakultät Verkehrswissenschaften „Friedrich List“, Dekanin, Frau Prof. Dr.-Ing. Regine Gerike, Helmholtzstr. 10, 01069 Dresden, Germany.**

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>.