

TUD Dresden University of Technology, as a University of Excellence, is one of the leading and most dynamic research institutions in Germany. Founded in 1828, today it is a globally oriented, regionally anchored top university, developing innovative solutions for the world's most pressing issues. In research and education, the university unites the natural and engineering sciences with the humanities, social sciences and medicine. This wide range of disciplines is an outstanding feature that facilitates interdisciplinarity and transfer of science to society. As a modern employer, TUD offers attractive working conditions to all employees in teaching, research, technology and administration. The goal is to promote and develop 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 and self-evident value and a quality criterion of an excellent university. In this spirit, we welcome all applicants who would like to commit themselves, their achievements and productivity to the success of the whole institution.

The **"Friedrich List" Faculty of Transport and Traffic Sciences** comprises more than 20 Chairs with numerous scientists and research projects on all modes of transport and mobility needs. At the **Institute for Railway Systems and Public Transport**, the **Chair of Railway Track Engineering** 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**. The position is limited to 3 years with the option of extension and entails 50% of the full-time weekly hours, with the possibility to increase up to 100% of the full-time weekly hours, dependent on research funding availability. The period of employment is governed by the Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz - WissZeitVG). The position aims at obtaining further academic qualification (usually PhD).

**Tasks:**

- academic research and teaching at the Chair, in particular with a focus on digital twins and AI applications on railroad track construction and track technology
- application for participation in national and international research projects
- communication with international students Publications for international conferences

**Requirements:**

- a university degree in the field of computer science, data science, computational modeling or related subjects in combination with civil engineering, transport engineering
- a strong programming background with experience in using Python, matlab, and/or Java, etc.
- a good command of German and English, both for teaching and for the preparation of research proposals and publications
- process excellent research, academic writing, leading laboratory or track side test and analytical skills.
- a highly independent and committed way of working, project lead, solid communication skills and team spirit
- Some experience with numerical simulations such as the Finite Element Method (FEM) and Multi-Body Simulation (MBS) is a plus.

**We offer:**

- a fascinating understanding at mobility in general with a particular focus on railroad infrastructure
- flexible, family-friendly working hours with the possibility of remote work
- a subsidized job ticket for local transport
- opportunities for professional and personal development
- university sports courses

TUD strives to employ more women. We therefore expressly encourage qualified women to apply. The University is a certified family-friendly university. 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 application with the usual documents by **June 20, 2025** (stamped arrival date of the University Central Mail Service or the time stamp on the TUD email server applies), preferably via the TUD Dresden SecureMail Portal <https://securemail.tu-dresden.de> by sending it as a single PDF file to [duo.liu@tu-dresden.de](mailto:duo.liu@tu-dresden.de) or to: **TU Dresden, Chair of Railway Track Engineering, Mr. Prof. Dr.-Ing. Duo Liu, Helmholtzstr. 10, 01069 Dresden**. Please submit copies only, as your application documents will not be returned to you. Expenses incurred in attending interviews cannot be reimbursed.

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**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>