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 Vehicles and Railway Technology seeks to appoint an outstanding candidate for the

Chair (W3) of Rail Vehicles

starting as soon as possible.

The following developments require a future-oriented continuation in the field of teaching and research for this chair: In the future, rail vehicles will have to be safer, more energy- and resource-efficient than today, flexible in multiple transport tasks and speed ranges, and increasingly automated in operation and maintenance. Integration into intermodal transport and changing mobility requirements call for more systemic (rather than technology-driven) development approaches than in the past. Development cycles of rail vehicles must significantly be reduced in time. These completely new vehicle concepts require new digitalized development and validation methods in which simulation and test methods are connected in a smart way. The automation of driving functions and maintenance must be driven forward such that significant progress significantly can be made in track capacity and operating efficiency while maintaining safety at least at the same level. High-speed trains and non-wheel-rail-based vehicle-track-concepts and their integration into existing infrastructures need to be considered.

Your teaching obligations will include vibrations, vehicle and running dynamics of rail vehicles, running gears and supporting structures, vehicle and propulsion configurations, braking systems of rail vehicles, and innovative research-based content. Your willingness to teach in German and English as well as your active participation in the academic self-administration are required. The task particularly requires cross-modal systemic thinking and strong networking with neighboring teaching and research areas. For the implementation, you will have a laboratory with the virtual vehicle platform "virTUro" at your disposal. Together with the Chair of Electric Railways, you will be responsible for expanding the system laboratory for track-guided vehicles for modern vehicle and drive systems.

We are looking for a dynamic and dedicated scientist (m/f/x) with an international academic track record in the field of rail vehicle technology with focus on conception and development of such vehicles. We invite applications with a visible profile in each of the following areas:

- development methods and tools in rail vehicle technology,
- conceptual design of track-guided vehicles / train sets,
• attribute design of characteristics, for e.g. vibrations, vehicle and running dynamics, acoustics, energy efficiency of train sets, especially under the influence of vehicle-track interaction,
• simulation of multi-body dynamics, structural characteristics and multi-physical chains of effects, in particular vehicle-track dynamics.

You should have relevant experience in at least two of the following specializations:
• lightweight design concepts in rail vehicles
• automated driving functions in rail transport
• digital twin, predictive maintenance
• design and manufacturing methods including modern multi-material construction methods
• simulation systems for verification in the design and approval process
• design of system and vehicle concepts in magnetic levitation or hyperloop technology

The prerequisites for an appointment are a completed university degree, pedagogical aptitude, special aptitude for scientific work as evidenced by the quality of a doctorate, and other outstanding scientific achievements. The latter can be demonstrated by a habilitation, a junior professorship or equivalent achievements. We attach particular importance to experience in applying for and carrying out research projects, in acquiring third-party funding - especially DFG funding - as well as proven successful international scientific publication activity. We expect your willingness to teach in English and your participation in academic self-administration. Applicants must fulfil the employment qualification requirements of § 59 of the Institutions of Higher Education Act in the Free State of Saxony (SächsHSFG).

If you have any questions regarding the call for applications, please contact the chairman of the appointment committee, Prof. Dr.-Ing. Günther Prokop (+49 351 463-34529, email: guenther.prokop@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 March 13, 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.