Technische Universität Dresden

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 **Faculty of Physics**, **Institute of Theoretical Physics,** the **Chair of Network Dynamics** (http://networkdynamics.info, Prof. Marc Timme) affiliated with the **Center for Advancing Electronics Dresden (cfaed)** offers, subject to the availability of resources, a project position as

Research Associate / Postdoc (m/f/x)

(subject to personal qualification, employees are remunerated according to salary group E 13 TV-L)

bridging fundamental theoretical physics research on the resilience of complex networked systems dynamics to solving immediate resilience challenges in industry starting **April 1, 2027**. The position is limited to December 31, 2030. The period of employment is governed by § 2 (2) Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz - WissZeitVG). Balancing family and career is an important issue. The position is generally suitable for candidates seeking part-time employment. Please indicate the request in your application.

Tasks:

- mathematical and theoretical research on collective dynamical phenomena of complex systems and networks with a focus on **designing resilient systems dynamics**
- develop and immediately apply concepts, methods and own research results to topical industry problems ranging from networked cyber-physical and sensor-actor systems, to electric power grids and socio-economic systems
- supporting the Chair in all matters, including the acquisition of third-party funding
- establishing and executing collaborative research, in particular with Lakeside Labs, Klagenfurt, Austria, and industry partners

Requirements:

- outstanding university and PhD degree in Theoretical Physics or a closely related field
- experience in mathematical modeling, statistical physics and nonlinear dynamics
- advanced programming skills
- a theory background in nonlinear dynamics and networks
- experience in direct academic-industry collaborations
- experience with mathematical analysis of power grid dynamics is a plus
- excellent commands in English and German
- high self-motivation and independent, target- and solution-driven work attitude
- ideally experience in (co-) supervising students and in collaborative research
- willingness to bridge into new fields and learn new tools
- willingness to travel to Klagenfurt (AT) and other locations of industrial and academic collaborators

We offer:

- the opportunity for engaging and independent work within a flat hierarchy, in an open-minded team and supportive atmosphere
- flexible arrangements for work hours to support a good work-life balance
- 30 days of vacation per year (based on a 5-day workweek)

- extensive opportunities for professional development and continuing education
- health care and sports programs offered by TUD
- a discounted job ticket (also available as a Deutschlandticket)
- participation in the supplementary pension scheme for employees in the public sector via VBL (Federal and State Government Employees Retirement Fund)

TUD strives to employ more women in academia and research. We therefore expressly encourage women to apply. The university is a 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.

Application: Please submit your detailed application **(in English only)** including a short motivation letter that states your longer-term goals, CV with publication list, names and contact details of two references, copy of degree certificates, transcripts of grades (i.e. the official list of coursework including your grades) and proof of English language skills by **December 10, 2026** (stamped arrival date of the university central mail service or the time stamp on the email server of TUD applies), preferably via the TUD SecureMail Portal https://securemail.tu-dresden.de by sending it as a single pdf file to **adminND@tu-dresden.de** or to:

TU Dresden, Chair of Network Dynamics, Prof. Marc Timme, 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.

TUD is a founding partner in the DRESDEN-concept alliance.

DRESDEN concept



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.