Technische Universität Braunschweig - Institute of Applied Mechanics

With more than 16,000 students and 3,800 employees, the Technische Universität Braunschweig is one of Germany´s leading institutes of technology. It stands for strategic and performance-oriented thinking and acting, relevant research, committed teaching, and the successful transfer of knowledge and technologies to the economy and society. We consistently advocate for family friendliness and equal opportunities. Our research focuses on mobility, engineering for health, metrology, and city of the future. Strong engineering and natural sciences are our core disciplines. These are closely interconnected with economics, social and educational sciences and humanities. Our campus is located in the midst of one of the most research-intensive regions in Europe. We work successfully together with over 20 research institutions in our neighbourhood as we do with our international partner universities. Starting from the earliest possible date, the Institute of Applied Mechanics is looking for a

Research Associate (PhD student, m/f/d) in the field of Data-Driven Mechanics

(EG 13 TV-L, full-time/part-time) The position is to be filled on a fixed-term basis for an initial period of 3 years. The successful applicant will be given the opportunity to pursue a doctorate. Within the Institute of Applied Mechanics, the applicant will be associated with the Division Data-driven modelling of mechanical systems led by Prof. Henning Wessels. The group’s research focuses on the exciting intersection of (nonlinear) continuum solid mechanics, machine learning and uncertainty quantification. In this context, our current research interests include, but are not limited to: • Scientific and physics-informed machine learning • Parameter identification, model discovery and (statistical) model updating • Machine learning in multi-scale modelling • Generative modelling Thereby, we primarily envision applications in the area of non-linear solid mechanics. Further details regarding our research activities and recent publications can be found on our website.

City: Braunschweig; Starting date (earliest): At the earliest possible; Duration: 3 years; Remuneration: EG 13 TV-L; Closing date: 15/06/25

Working field

• You will carry out research in the area of data-driven mechanics, i.e. design, implement and test computational methods and machine learning algorithms.
• You will publish research findings and participate in national and international conferences.
• You will be involved in teaching at the University (preparation and implementation of courses as well as supervision of students’ work).

Requirements

• You have a strong background in continuum solid mechanics, prior experience in machine learning (and ideally in Bayesian statistics).
• You have experience in and do enjoy coding, in particular with Python (or Matlab). Julia

is a plus.
• You have very good English language skills. German language skills are of advantage.
• You are flexible and work well in a team, while also being capable of working independently with a high degree of initiative.
• You have a degree (Master’s or equivalent) with a strong focus on continuum solid mechanics and computational methods (for instance in mechanical, civil or computational engineering, applied or techno-mathematics, or similar).

What we offer

• Latest laptops and compute servers, as well as height-adjustable desks in light-flooded offices.
• Access to extensive experimental equipment (and real-world data).
• Pay in accordance with the collective agreement TV-L (a special payment at the end of the year as well as a supplementary benefit in the form of a company pension, comparable to a company pension in the private sector) including 30 days' vacation per year.
• Flexible working and part-time options and a family-friendly university culture, awarded the "Family-friendly university" audit since 2007.
• Special continuing education programs for young scientists, a postdoc program, as well as other offerings from the Central Personnel Development Department and sports activities.
• Work on exciting future-oriented research topics in an inspiring work environment as part of the university community (exemplified, e.g., by an active GAMM junior group).
• A vibrant campus life in an international atmosphere with lots of intercultural offers and international cooperations.

Application

We welcome applicants of all nationalities. At the same time, we encourage people with severe disabilities to apply. Applications from severely disabled persons will be given preference if they are equally qualified. Please attach a proof of disability to your application. We are also working on the fulfilment of the Central Equality Plan based on the Lower Saxony Equal Rights Act (Niedersächsisches Gleichberechtigungsgesetz—NGG) and strive to reduce under-representation in all areas and positions as defined by the NGG. Therefore, applications from women are particularly welcome in this case.

The personal data will be stored for the purpose of processing the application. By submitting your application, you agree that your data may be stored and processed electronically for application purposes in compliance with the provisions of data protection law. Further information on data protection can be found in our data protection regulations at www.tu-braunschweig.de/datenschutzerklaerung-bewerbungen Application costs cannot be reimbursed.

Questions and Answers
For more information, please visit our website www.tu-braunschweig.de/iam and/or contact
Prof. Dr.-Ing. Henning Wessels at h.wessels@tu-braunschweig.de

Deadline for applications is June 15, 2025

Are you interested? Please send your application via email to application-iam@tu-braunschweig.de Please make sure your application contains a cover letter (max. 2 pages), your CV, transcripts and relevant certificates in one single file (pdf).

More information at https://stellenticket.de/194137/TUBS/
Offer visible until 15/06/25