



## PhD at the interface of computational and experimental neuro-mechanics

The University of Stuttgart represents outstanding, world-renowned research and first-class teaching in one of Europe's most dynamic industrial regions. As a reliable employer, the university supports and promotes the academic careers of its researchers. It is proud of its employees, who currently come from over 100 different countries. The university is a partner for knowledge and technology transfer and focuses on multidisciplinary.

Publication date: June 18<sup>th</sup>, 2025  
Position ID: 1183  
Application Deadline: July 18<sup>th</sup>, 2025  
Anticipated Start Date: September 1<sup>st</sup>, 2025

The **Institute for Modelling and Simulation of Biomechanical Systems** at the University of Stuttgart invites applications for a full-time position as a **PhD student (f/m/d)**, 100% TV-L E13, in the field of neuro-mechanics.

### *About us*

The Continuum Biomechanics and Mechanobiology research group is one of the two chairs at the Institute for Modelling and Simulation of Biomechanical Systems. The group focuses on developing and applying computational and experimental methods to investigate the neuromuscular system and related fields.

### *About the project and the position*

The research project is part of the DFG Priority Programme (SPP) 2311, entitled *Robustly coupling continuum-biomechanical in silico models to obtain active biological system models for later use in clinical applications*, and aims to **translate non-invasive electromyography-based diagnostics into clinical practice** (see here).

The project is in cooperation with researchers from the University of Tübingen and brings together an interdisciplinary team of clinicians and engineers, and combines in vivo experiments and in silico models. This position focuses on enhancing our understanding of electromyographic data in patients through simulations and algorithms for data evaluation.

### *About you*

To develop novel biomarkers for monitoring neuromuscular diseases, we seek candidates with a strong background in at least one of the following fields:

- Modelling of biological systems
- electrographic recordings
- bio-signal processing
- numerical simulations
- AI and data science

Good programming skills in Python, MATLAB, etc. are expected. Further, the candidate is expected to have an excellent master's degree (or equivalent) in studies focusing on biomedical engineering, civil engineering, data sciences, simulation sciences, applied physics, or applied mathematics. The ability to work in an interdisciplinary team, good communication skills, and the willingness to take on teaching responsibilities are essential requirements.



**University of Stuttgart**  
Institute for Modelling and Simulation of  
Biomechanical Systems

Please submit your complete application via JoinUS: <https://bit.ly/4e4EPY6> or use the QR-Code:



If you have any questions regarding this application, please contact [thomas.klotz@imsb.uni-stuttgart.de](mailto:thomas.klotz@imsb.uni-stuttgart.de).

At the University of Stuttgart, we actively promote diversity among our employees. We have set ourselves the goal of recruiting more female scientists and employing more people with an international background, as well as people with disabilities. We are therefore particularly pleased to receive applications from such people. Regardless, we welcome any good application.

Women who apply will be given preferential consideration in areas in which they are underrepresented, provided they have the same aptitude, qualifications and professional performance. Severely disabled applicants with equal qualifications will be given priority.

As a certified family-friendly university, we support the compatibility of work and family, and of professional and private life in general, through various flexible modules. We have an employee health management system that has won several awards and offer our employees a wide range of continuing education programs. We are constantly improving our accessibility. Our Welcome Center helps international scientists get started in Stuttgart. We support partners of new professors and managers with a dual-career program.

Information in accordance with Article 13 DS-GVO on the processing of applicant data can be found at [https://careers.uni-stuttgart.de/content/privacy-policy/?locale=en\\_US](https://careers.uni-stuttgart.de/content/privacy-policy/?locale=en_US).