The Tübingen Faculty of Medicine and University Hospital are part of the University of Excellence Tübingen. They provide medical services at the highest level and cover the entire spectrum of modern medicine, research, teaching and clinical care.

The Faculty of Medicine at the University of Tübingen invites applications for a position at the Center of Neurology and the Hertie Institute for Clinical Brain Research as a

**Full Professor (W3) of Morphological Computation in Neuromechanics and Neurorehabilitation**

available immediately.

We are looking for an internationally recognized personality whose research and teaching focus is on mathematical modeling and forward-dynamic computer simulation of the neuromechanics of human movement, with the goal of developing concepts for improving the quality of assistive devices for everyday activities in neurorehabilitation. A conceptual focus on the investigation of the neuro-musculo-mechanical interaction between environment and human or assistive device and patient is expected. In particular, proven experience in quantifying the contributions of biomechanical muscle properties to direct force generation and neural information processing, i.e. "morphological computation," is expected. Ideally, these models should be closely related to clinical research in neurology and should be the starting point for generating synthetic motion for exploring new concepts in biorobotics and for assistance systems, especially from the field of "soft robotics."

Accordingly, proven experience in at least four of the following research fields is expected:

- Neuro-bio-mechanical models and forward dynamic simulation of human movement
- Neuromechanical models of dysfunctional motor control especially in neurology
- Neuromechanical interaction with assistance systems
- "Morphological Computation" and its quantification
- Concepts for assistive devices, especially in the field of "Soft Robotics"
- Neuromechanically inspired concepts for biorobotic systems

The professorship is intended to further strengthen the existing research focus at the University of Tübingen in clinical neurorehabilitation and sensorimotor research and to ensure connection to the research focus on artificial intelligence and the Cyber Valley. Close cooperation in the field of basic biorobotics research and the development of assistive systems with partners in the local environment is expected. To this end, active participation in cooperative research projects at the University of Tübingen, as well as in the local environment with the Max Planck Institute for Intelligent Systems, the University of Stuttgart, and the Fraunhofer IPA is expected. Connectivity to other research activities related to biomechanics, such as occupational medicine, paleoanthropology, or the BG Klinik is also desired.

Internationally visible scientific achievements, such as an excellent doctorate and subsequent scientific activities, are a prerequisite for employment.

In the area of teaching, extensive interdisciplinary teaching experience and commitment are expected, especially with regard to innovative curricula of the study programs of the Faculty of Medicine, such as neuroscience, medical informatics, and medical technology, as well as
active participation in the design of lectures and other teaching formats in German and English. The position has a teaching load of nine hours per week during the semester.

Required qualifications include a PhD or equivalent international degree and postdoctoral qualifications equivalent to the requirements for tenure. This includes evidence of teaching effectiveness.

The University of Tübingen is particularly interested in increasing the number of women in research and teaching and therefore strongly encourages women to apply. In line with its internationalization agenda, the university welcomes applications from researchers outside Germany.

Applications from equally qualified candidates with disabilities will be given preference.

Please observe the applicable vaccination regulations.

The German-language advertisement is the sole legally binding advertisement of this position. General information on professorships, hiring processes, and the German academic system can be found here: https://uni-tuebingen.de/en/213700

Please submit your entire application using the web-based application platform https://berufungsportal.medizin.uni-tuebingen.de. The deadline for applications is January 5, 2023.

Enquiries may be directed to the Dean.

Dean of the Faculty of Medicine
University of Tübingen
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