



Universität
Stuttgart

PhD Researcher

100%, TVL-E13, Institute for Adaptive Mechanical Systems

📍 Stuttgart, Campus Max-Planck-Institute | 📅 Start: 1/8/2026 or later

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.

At the newly founded [Institute for Adaptive Mechanical Systems](#) (IAMS), we are developing the next generation of intelligent robots – ranging from soft-material systems to agile legged robots, as well as assistance and rehabilitation robots. Our goal is to establish the scientific foundations for robotic systems in which intelligence is embedded from the design stage onward.

The research group of Philipp Rothmund is seeking a PhD student to investigate the embodiment of control functions into soft actuators by exploiting nonlinear mechanics, multiphysics interactions, and functional materials.

The project:

Soft robotics draws inspiration from biological systems like octopuses and elephant trunks, whereas traditional robotics relies on rigid links and discrete joints. Soft robots offer immense potential for medicine and search-and-rescue, yet controlling these systems remains a significant bottleneck; they typically require complex, bulky control systems, which prevent their use in practical robots. Our work aims to move past those limitations. Soft materials offer the opportunity to embody intelligent behavior into the hardware of robotic systems by exploiting mechanics, multiphysics interactions, and materials functions. Your role will be to develop new mechanisms for actuation, sensing, and control. You will

- ... leverage computational tools and simulation to design robotic systems that you will physically implement and characterize.
- ... use knowledge from continuum mechanics, physics, and materials science.
- ... disseminate the scientific results in high-impact publications.
- ... commit to the mission of our research group and institute and participate in the institute's teaching.

Your profile:

- You are a talented, independent, and driven person with an excellent Master's degree in Mechanical Engineering, Physics, Mechatronics and other Robotics-related fields, or Materials Science.
- You have a broad range of interests, ranging from mathematical theory to hands-on work on hardware implementations.
- You are motivated to work in an interdisciplinary team.
- We search for an open-minded person with excellent communication skills. Proficiency in English is required, knowledge of German is welcome but not compulsory

Not sure if your profile is a good fit? No problem! Reach out to us, and we can discuss.

Your benefits:

- A full-time (100%) academic position with a competitive salary (TVL-E13, ca. >55k Euro/year, [full salary table](#)).
- An established and supportive research environment at the Institute for Adaptive Mechanical Systems.
- An attractive workplace. Note that the IAMS is physically located on the campus of the Max-Planck-Institute for Intelligent Systems (MPI-IS) in Stuttgart.
- An excellent training opportunity towards becoming an independent researcher. This includes exposure to the academic field via conference visits, research exchanges, and training programs to support your first steps as an early-career scientist.
- A well-connected ecosystem, with established links to [MPI-IS](#), [Cyber Valley](#), [IMPRS-IS](#), [RIG](#), [BITS](#), and others.

Interested?

We look forward to receiving your application. Please send **one single PDF** containing a cover letter, a current CV, a transcript of records, and the names of 1-2 references to institute@iams.uni-stuttgart.de with the subject line „PhD Position“ –The position will be filled as soon as a suitable candidate is found. – We cannot reimburse any costs related to your application or potential job interviews.

Questions?

Philipp Rothmund is looking forward to your email (philipp.rothmund@iams.uni-stuttgart.de).

Diversity and equal opportunity:

At the University of Stuttgart, we actively promote diversity among our employees. We have set ourselves the goal of recruiting more women 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 offers our employees a wide range of continuing education programs. We are consistently improving our accessibility. Our Welcome Center helps international scientists get started in Stuttgart.