

Hier
entsteht
Zukunft!



Foto: Uwe Beilhäuser

Saarland University is a campus university with an international reputation for research excellence, particularly in computer science and in the life sciences and nanosciences. The university is also distinguished by its close ties to France and its strong European focus. Around 17,000 students, studying over one hundred different academic disciplines, are currently enrolled at Saarland University. Saarland University is officially recognized as one of Germany's family-friendly higher-education institutions and with a combined workforce of more than 4000 it is one of the largest employers in the region.

The Adaptive Polymer Systems Group is inviting applications for the following position commencing 01 May 2023

Academic research assistant (m/f/x)

Reference number W2243, salary in accordance with the German TV-L salary scale¹, pay grade: E13 TV- L, duration of employment: 3 years, volume of employment: 100 % of standard working time.

Workplace/Department:

The Adaptive Polymer Systems group (Department of Systems Engineering) is looking for a highly motivated, talented, and outstanding candidate with a strong background in the areas of mechatronic systems modeling and control, as well as interest and passion for interdisciplinary research which combines theoretical and experimental investigations.

The PhD position is expected to start on May 2023, and has a duration of 3 years (with possibility for an extension).

Job requirements and responsibilities:

You will work on the DFG funded project **DECMAS phase 2 – Dielectric Elastomer Membranes for Cooperative Micro-Actuator/Sensor Concepts**, under the supervision of Prof. Gianluca Rizzello. The project is part of the priority program SPP 2206 **KOMMMA – Cooperative Multistage Multistable Microactuator Systems**. The specific goals of the PhD position are the development of physics-based mathematical models to describe and simulate the behavior of cooperative arrays of micro-scale dielectric elastomer actuators, the design of cooperative control algorithms which allow the micro-array to perform complex global actuation tasks in a decentralized fashion, and the design of distributed estimation methods to allow sensorless implementation of feedback controllers.

¹ TV-L = collective agreement on remuneration of public sector employees in the German *Länder*

The pay grade assigned to an employee depends on their professional qualifications and the number of years of service. Each pay grade is further subdivided into levels. Entry-level employees with no previous experience will initially be assigned a level 1 rating. After one year at level 1 of the E10 pay grade, an employee will move up to level 2. After a further two years, the employee will move to level 3, etc.

More info on the first phase of the DECMAS project: <https://www.spp-komma.de/79.php>

More info on the KOMMMA priority program: <https://www.spp-komma.de/index.php>

During your PhD, you will:

- Work on a highly innovative and emerging research field of mechatronics
- Work in a collaborative, multi-disciplinary, and multi-cultural research environment
- Perform independent research work under the guidance of your supervisor, and in collaboration with your team members
- Work with a flexible working time, including part-time home office availability
- Write high-quality and peer-reviewed scientific publications
- Participate to scientific conferences and workshops

Your academic qualifications – essential:

- Completed university studies in Mechatronics/Control/Automation/Systems Engineering or similar (Master's degree)
- Good knowledge of written and spoken English
- Good knowledge physics-based modeling and simulation of mechatronic systems
- Good knowledge of systems and control theory, including linear systems in both time and Laplace domains as well as fundamentals of nonlinear systems
- Good knowledge of MATLAB and Simulink

Your academic qualifications – preferential:

- Knowledge of smart material transducers, especially dielectric elastomers
- Knowledge of cooperative control systems
- Knowledge of sensorless control systems
- Knowledge of finite element simulation software, e.g., COMSOL
- Experience on real-time architectures for control systems, e.g., microcontrollers
- Proven experience of scientific writing, including published peer-reviewed publications

What we can offer you:

- A flexible work schedule allowing you to balance work and family, among other things the possibility of teleworking
- Secure and future-oriented employment with attractive conditions
- A broad range of further education and professional development programmes (for example language courses)
- An occupational health management model with numerous attractive options, such as our university sports programme
- Supplementary pension scheme (RZVK)
- Discounted tickets on local public transport services ('Job-Ticket Plus' of the saarVV)

We look forward to receiving your **meaningful online application** (in a PDF file) by **28.02.2023** to gianluca.rizzello@imsl.uni-saarland.de. Please include the reference number **W2243** in the subject line of the e-mail and attach the following documents to the email:

- CV in English
- Motivation letter of the candidate
- Recommendation letter of your Master's thesis supervisor
- Transcript of records (or equivalents) for both Bachelor's degree and Master's degree, including the list of exams

If you have any **questions**, please contact us for assistance. Your contact:

Herr Gianluca Rizzello

gianluca.rizzello@imsl.uni-saarland.de

Tel.: +49 (0)681-302-71358

Pay grade classification is based on the particular details of the position held and the extent to which the applicant meets the requirements of the pay grade within the TV-L salary scale. Part-time employment is generally possible.

If you have obtained a foreign university degree, a proof of the equivalence of this degree with a German degree by the Zentralstelle für ausländisches Bildungswesen (ZAB) is needed before hiring. If necessary, please apply for this in time. You can find more information at <https://www.kmk.org/zeugnisbewertung>.

Unfortunately, neither costs for attending an interview at Saarland University nor costs for any certificate evaluation by the ZAB can be reimbursed in principle.

We welcome applications regardless of gender, nationality, ethnic and social origin, religion/belief, disability, age, and sexual orientation and identity. In accordance with its policy of increasing the proportion of women, the University actively encourages applications from women. Applications from severely disabled persons will be given preferential consideration in the event of equal suitability.

When you submit a job application to Saarland University you will be transmitting personal data. [Please refer to our privacy notice for information on how we collect and process personal data in accordance with Art. 13 of the Datenschutz-Grundverordnung](#). By submitting your application you confirm that you have taken note of the information in the Saarland University privacy notice.