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 newly established Chair of Data-Driven Simulation and Analysis in Materials Science (Prof. Dr. Roland Aydin) at Saarland University jointly affiliated with the German Research Center for Artificial Intelligence (DFKI), is inviting applications for the following position commencing at the earliest opportunity:

Academic research assistant (m/f/x)

Reference number W2879, salary in accordance with the German TV-L salary scale[1], pay grade: E13 TV- L, duration of employment: 3 years (with the option of extension), volume of employment: 100 % of standard working time.

Workplace/Department:

Saarland University, Chair of Data-Driven Simulation and Analysis in Material Science, Subject Area: Foundation Models and Agentic AI for Physical Systems

Job requirements and responsibilities:

What we work on:

Our group develops LLMs and agentic AI systems for scientific discovery, engineering and physical systems. We investigate how AI can reason about scientific problems, interact with simulation software and support the design of complex physical systems. The group is jointly embedded at Saarland University and DFKI in Saarbrücken.

Current Research Directions include:

- **AI for scientific computing** – neural operators and learning-based surrogates for physical systems
- **LLMs and scientific agents** – large language models that autonomously reason, plan and execute scientific workflows
- **AI for engineering design** – LLM-driven agents for autonomous optimization and design of materials, structures and processes

[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.

- **Multimodal scientific AI** – integrating language, images, sensor data and simulations
- **Alignment for scientific AI** – scalable oversight, verification and control of LLM-based agents
- **AI for materials discovery** – generative models, active learning and autonomous discovery of novel materials

We welcome applications from candidates whose interests align with one or more of these directions and who are excited about advancing the interface between AI and the natural sciences.

Your potential responsibilities:

- Pursue an independent research project, develop your own research line, within one of the research directions above or a closely related area
- Develop, train and evaluate modern ML models on GPU/HPC infrastructure – including graph neural networks, transformers, neural operators, diffusion models and foundation-model-based systems – and, where relevant, combine them with numerical simulation and scientific computing workflows
- Publish at leading venues (e.g. NeurIPS, ICML, ICLR, AAAI, npj Computational Materials) and present your work at international conferences
- Contribute to collaborative research projects with our close partners at EPFL and at Hamburg University of Technology and help shape future research initiatives and funding proposals
- Support teaching, co-supervise students (PhD/Master/Bachelor, as appropriate to your level) and collaborate actively across Saarland University, DFKI, Saarland Informatics Campus, and international partners

Your academic qualifications:

- Doctoral degree / PhD in one of the above disciplines, with a demonstrated research record at the interface of AI and science
- Language skills (according to GER): English C1

The successful candidate will also be expected to have:

- Solid foundations in machine learning and deep learning, together with an interest in scientific computing, numerical simulation, computational engineering or computational materials science
- Strong programming skills in Python, both with vibe coding and without, and experience with PyTorch (or JAX/TensorFlow) and the scientific-Python ecosystem
- Independent and structured working style, strong communication skills and genuine enthusiasm for interdisciplinary research
- Excellent English skills for research, scientific writing and collaboration; German is not required at the time of hiring
- Welcome additions: publications, open-source contributions, or hands-on experience with diffusion models, foundation models, LLM fine-tuning, agentic AI systems, or scientific simulation software

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' of the saarVV)
- Job bike leasing (JobRad)

We look forward to receiving your **meaningful online application** (in a single PDF file, max. 10MB) by **15.08.2026** to **roland.aydin@uni-saarland.de**. Please include the reference number **W2879** in the subject line of the e-mail.

Please include:

- A short motivation letter, up to 2 pages stating which direction interests you most – or proposing your own
- A CV including publication list (please highlight your three most relevant papers)
- PhD certificate or confirmation of submission
- Names and contact details of three academic referees
- Optional: links to GitHub, personal website, or preprints

If you have any **questions**, please contact us for assistance. Your contact:
Herr Prof. Dr. Roland Aydin, Chair of Data-Driven Simulation and Analysis in Materials Science, Saarland University
roland.aydin@uni-saarland.de

Frau Susanne Kern-Schumacher
Tel.: +49 681 302 70500

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.