

Hier  
entsteht  
Zukunft!



UNIVERSITÄT  
DES  
SAARLANDES

Foto: Uwe Beilhäuser

Saarland University is a campus university that is internationally recognized for its strong research programmes. Fostering young academic talent and creating ideal conditions for teaching and research are a core part of the university's mission. As part of the University of the Greater Region, Saarland University enables students and staff to share and exchange knowledge and ideas between disciplines, between universities and across borders. With over 17,000 national and international students, studying more than a hundred different academic disciplines, Saarland University is a diverse and dynamic learning environment. Saarland University is officially recognized as one of Germany's family-friendly higher-education institutions and with a combined workforce of more than 4,000 it is one of the largest employers in the region.

The Department of Mathematics is inviting applications for the following position commencing at the earliest opportunity.

## Post-Doctoral Researcher

**Reference number W2562**, salary in accordance with the German TV-L salary scale<sup>1</sup>, pay grade: E13 TV- L, duration of employment: three years, volume of employment: 100 % of standard working time.

### Workplace/Department:

Prof. Andreas Rupp has joined the Department of Mathematics at Saarland University in September 2024 and is currently building up his research group on applied mathematics. His mathematical focus comprises, but is not limited to investigating

- multigrid methods for (mixed hybrid) finite element discretizations and the Discrete de Rham method,
- multiscale methods (such as the LOD) for finite elements with non-nested test and trial spaces,
- partial differential equations on graphs (or networks of lines) and hypergraphs (surface networks),
- stabilization of finite element discretizations for hyperbolic conservation laws (limiters, etc.),
- positivity-preserving schemes for parabolic and elliptic equations,
- the use of artificial neural networks to conduct super-resolution of numerical simulations or as preconditioners,
- positivity-preserving schemes for parabolic and elliptic equations,
- quasi-Monte Carlo and sparse grids in conjunction with non-standard finite elements,

<sup>1</sup> 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.

- mathematical image analysis (with partial differential equations), and
- model order reduction

to be rigorously analyzed, efficiently implemented, and used in academic and industrial applications.

The successful applicant will work in applied mathematics and contribute to one or several of the above research fields. We also hope that the candidate contributes some of his own research ideas and is familiar with the analysis or implementation strategies related to numerical methods for partial differential equations.

#### **Job requirements and responsibilities:**

- Excellent Ph.D. degree in applied mathematics or a related field.
- Strong mathematical background in the numerical mathematics and/or implementation skills in Python and C++.
- Strong proficiency in both written and spoken English.

#### **Your academic qualifications:**

- Doctoral degree / PhD with excellent results in applied mathematics or a related field.
- Language skills (according to GER): are advantageous but not necessary (e.g.: *German -C2*)

#### **The successful candidate will also be expected to:**

- Conduct high-level research in applied mathematics and publish the results in top-tier journals.
- Contribute to the teaching at Saarland University (in accordance with Germany's/Saarland's legislation).
- Collaborate with other researchers in the group and participate in thesis supervision.

#### **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)

We look forward to receiving your **meaningful online application** (in a PDF file) by **13.01.2025** to **andreas.rupp@uni-saarland.de**. Please include the reference number **W2562** in the subject line of the e-mail.

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

Herr Prof. Dr. Andreas Rupp und Frau Cindy Ernst  
Fakultät für Mathematik und Informatik  
Tel.: 0681-302-3018

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.