

POSITION

(m/f/d, 75% (PhD), 100% (PostDoc), E13 TV-L, temporary for the duration of 3 years)

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.

The Cluster of Excellence "Data-Integrated Simulation Science" (EXC 2075) is an interdisciplinary research center with more than 200 scientists of different ages, gender identities, nationalities and different subject areas, jointly performing research towards a common goal: We target a new class of modeling and computational methods based on available data from various sources, in order to take the usability, precision and reliability of simulations to a new level.

Within the independent research group of Dr. Benjamin Unger, you will work on the BMBF funded project ELAN (Effiziente lokale Abwärmenutzung in Niedertemperaturnetzen - Efficient local waste heat utilization in low-temperature networks), which is a collaborative research project together with partners from Trier University, the University of Konstanz, and the Fraunhofer Institute for Industrial Mathematics (ITWM). The goal of the project is the design of efficient simulation tools for low-temperature networks.

Your tasks:

- Development, implementation (e.g. in MATLAB, Python, or Julia), and analysis of novel model order reduction schemes for low-temperature networks, which will be modelled as switched delay differential-algebraic equations
- Close cooperation with the partner institutions
- Publication of research results

Your qualifications:

- Very good degree in applied mathematics or a study program with a strong mathematical background
- Demonstrated interest in research questions focused on model order reduction or switched systems
- Previous experience in model order reduction and dynamical systems
- Ideally previous experience in differential-algebraic equations, delay differential equations, and numerical linear algebra
- Previous experience in at least one programming language common in quantitative fields (e.g., MATLAB, Python, Julia, or C++)
- Proficient English skills (spoken and written); German skills are an asset

We offer:

- An inspirational and supportive research environment at the Cluster of Excellence SimTech with ample networking opportunities
- A nationally and internationally well-connected research group
- Fully funded conference visits and a fully funded research stay abroad
- Diverse and responsible tasks in a growing interdisciplinary and intercultural team
- Training programs to support your first steps as an early career scientist

Please submit your complete application, including one-page motivation letter, academic CV, one letter of reference (optional), as well as academic certificates and transcript of records to Dr. Benjamin Unger, benjamin.unger@simtech.uni-stuttgart.de **until February 02nd, 2023**.

If you have any questions regarding this application, please contact Dr. Benjamin Unger (benjamin.unger@simtech.uni-stuttgart.de).

At the University of Stuttgart and the Cluster of Excellence EXC 2075, 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.

Information in accordance with Article 13 DS-GVO on the processing of applicant data can be found at https://careers.uni-stuttgart.de/content/privacy-policy/?locale=en_US