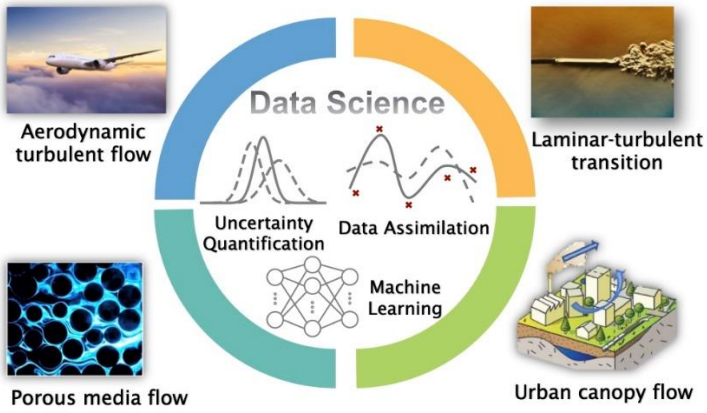
Postdoctoral Researcher (f/m/d)

INSTITUTE FOR AEROSPACE THERMODYNAMICS (ITLR), Chair: Data-Driven Flow Dynamics | 30.08.2023 | **EG 13 TV-L | 100% full-time | Temporary Position**



Research in the Chair of Data-Driven Flow Dynamics, University of Stuttgart

Job Description

The “Data-Driven Fluid Dynamics” group (ITLR, Faculty of Aerospace Engineering and Geodesy, University of Stuttgart) and at the Center of Excellence SimTech, led by Prof. Heng Xiao, invites applications for a full-time research position as a **Postdoctoral Researcher (100%).**

The group "Data-Driven Fluid Dynamics" is uniquely positioned at the intersection of fluid dynamics, data science, and high-performance computing. We develop innovative data-driven methods to tackle technically challenging, socially impactful problems of computational fluid dynamics. Specifically, we use machine learning and data assimilation to advance understanding and improve predictions of multi-scale physical systems in fluid flows, e.g., (1) aerodynamic turbulent flow and laminar-turbulent transition, (2) subsurface flows in porous media, and (3) granular and particle-laden flows. More details can be found on our group website (hengx.org). The postdoctoral researcher is expected to work in the broader area of developing data-driven, physics-informed machine learning methods to simulate fluid flows, where physical constraints such as symmetries and invariances are embedded in the design of machine learning algorithms.

What We Will Offer

We are a growing, international team working at the intersection of machine learning and fluid dynamics. We have a track record of publishing at top-tier journals both in fluid mechanics and in computational methods, such as Annual Review of Fluid Mechanics, JFM, JCP, and CMAME. Former members of our group have found faculty positions in top universities and institutions in the United States and around the world. We will provide you with a friendly but challenging interdisciplinary research environment and support your academic career. You will have the opportunity to work with other researchers to develop innovative and useful data-driven methods for fluid flows. We work closely with experts from academia and industry and care deeply about the real-world impact of our research.

Eligibility
Applicants for the position are required to have doctoral degree or equivalent in engineering or a related discipline (e.g., Mathematics, Physics). Due to the nature of the research project, we are specifically looking for applicants with knowledge in machine learning and fluid dynamics. Experience with OpenFOAM and Python programming are advantageous. Excellent communication skills in English and the ability to work in an international team are indispensable for the position. Knowledge of German is a plus but not required.

Depending on the experience of the candidate, the salary of the position can be TV LE13 or TV LE 14. The position is intended for 2-3 years. However, the time frame can also be extended.

Location: Universitätsstraße 32, 70569 Stuttgart, Germany.

Please submit your application in one PDF file including a letter of motivation, a curriculum vitae and scans of all of your original transcripts and diploma certificates from each university degree (or stamped, official translations) until 30.08.2023, by email with the subject “Postdoctoral position in Data-Driven Fluid Dynamics” to (heng.xiao@simtech.uni-stuttgart.de). We will continue to screen applications until the position is filled.

Contact: Prof. Heng Xiao (heng.xiao@simtech.uni-stuttgart.de)

At the University of Stuttgart, we actively promote diversity among our employees. We have set ourselves the goal of recruiting more female 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 offer 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. We support partners of new professors and managers with a dual-career program.

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.