



Job Vacancy (m/f/d)

At the Institute of Fluid Mechanics of the Technische Universität Braunschweig starting 01.04.2020 or soon after. The deadline for submitting an application is **11.03.2020**.

The offered position is for a

Scientific researcher (wissenschaftlichen Angestellten)

for a 3 years contract with a possibility for extension. The position is full time (39.8 hrs/week) and aimed at candidates who would like to *pursue a doctorate degree*.

The project is financed by the German Research Foundation (DFG) as part of the research unit FOR 2895, which includes several German university partners, the German Aerospace Center (DLR) and Airbus. The overall project objectives include the simulation, experimental measurements, and modeling of the transonic buffet flow over a transonic aircraft with and without an engine nacelle. The project shall use state-of-the-art scale-resolving numerical simulations and experimental measurements in the ETW cryogenic wind tunnel.

The job vacancy is for a subproject that deals with analyzing and modeling the flow using data-driven and machine learning methods. The motivation lies in the ability to handle the very massive numerical simulation data, to analyze and post-process the results, to understand the flow physics, and to model the flow field.

Main Research Activities:

- Expansion and assessment of a physics-based mesh reduction algorithm
- Implementation of new modal decomposition methods (DMD)
- Expansion and adaptation of the in-house flow modeling tool xROM
- Cluster-based analysis and modeling

Competencies sought:

- Completed Master of Science degree in engineering or physics with good standings
- Good knowledge of aerodynamics, fluid mechanics, programming (Python), and mathematics (linear algebra)
- Independent, sociable, enthusiastic, and willing to work in teams and to travel abroad
- Good spoken and written English. Good spoken German is a plus.

This appointment will be compensated by 100 % TV-L up to E13 for 3 years, and offers the possibility of PhD. We are an equal opportunity employer and all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin, disability status, or any other characteristic protected by German law. For the purpose of carrying out the application process, personal data will be stored. In the case of severe disability, proof must be attached. Application expenses cannot be reimbursed.

Application:

Please send your application including all necessary documents to:

Dr. Richard Semaan
Institut für Strömungsmechanik der TU Braunschweig
Hermann-Blenk-Str. 37, 38108 Braunschweig

If you have any questions, please contact Dr. R. Semaan, Tel.: 0531/391-94258, e-mail: r.semaan@tu-braunschweig.de