Job description: For a joint project the Institutes of Fluid Mechanics (ISTM) and Applied and Numerical Mathematics 2 (IANM2) at Karlsruhe Institute of Technology (KIT) seek a highly motivated PhD Researcher to conduct research in the field of computational fluid mechanics with strong mathematical orientation. The aim of the project is to develop a predictive tool for hydrodynamic and thermal characterization of industrially relevant rough surfaces. During this research project, Direct Numerical Simulation (DNS) of fluid flows and heat transfer are carried out and Machine Learning (ML) methods will be used to develop a mathematical model based on the DNS results. You are expected to carry out High Performance Computing (HPC) simulations, post-process and physically interpret the results, and develop mathematical models based on them.

Qualification: You must have a Master’s degree in Applied Mathematics, Mechanical Engineering or Computational Engineering and have a solid knowledge on fluid mechanics and turbulent flows. Prior experience in computational fluid dynamics (preferably DNS) and data evaluation is highly beneficial. In addition, basic knowledge of mathematical modeling and/or ML is advantageous. Besides the professional qualifications, strong motivation, self-responsibility and commitment as well as the ability to work independently are expected. Fluent verbal and written English skills are also required, as well as basic German skills.

We offer: We offer an attractive and modern workplace with access to excellent facilities of KIT, diverse and responsible tasks, a wide scope of advanced training options, supplementary pension with the VBL (Pension Authority for Employees in the Public Service Sector), flexible working time models, a job ticket (BW) allowance, and a cafeteria/canteen.

Salary: The remuneration occurs on the basis of the wage agreement of the civil service in TV-L, E13.

Institute: Institute of Fluid Mechanics (ISTM) and Applied and Numerical Mathematics 2 (IANM2)

Contract duration: limited up to one year

Starting date: as soon as possible

Application up to: March 13th, 2020

Contact person in line-management: For further information, please contact Prof. Dr.-Ing. Bettina Frohnapfel, Tel.: +49(0)721/608-43031.
Application can be submit at **Karlsruhe Institute of Technology (KIT)**, Institute of Fluid Mechanics (ISTM), Prof. Dr.-Ing. Bettina Frohnepfel, Head of Institute, Kaiserstraße 10, Building 10.23, 76131 Karlsruhe, Germany, email: Bettina.Frohnepfel@kit.edu

We prefer to balance the number of female and male employees. Therefore, we kindly ask female applicants to apply for this job.

If qualified, handicapped applicants will be preferred.

KIT is certified as a family-friendly university (familienfreundliche Hochschule) and offers part-time employment, leaves for family-related reasons, dual career options, and individual coaching for family-work balance.