Faculty of Mechanical Science and Engineering

The Institutes of Process Engineering and Environmental Technology and the Institute of Fluid Mechanics offer together, subject to the availability of resources, five positions as

Research Associate/PhD Student
(Subject to personal qualification employees are remunerated according to RL Marie-Curie)

starting September 1, 2021. The positions are limited for 36 months. The period of employment is governed by the Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz-WissZeitVG). Balancing family and career is an important issue. The posts are generally suitable for candidates seeking part-time employment. Please note that in your application.

Tasks:
• Overall tasks for the joint team of PhD candidates are the development of models for flotation processes, implementation of these models in computer codes, and performing experiments to validate the models.
• Each PhD candidate will focus on one of the five specific topics:
  1. Interaction between particles and bubbles by means of attachment
  2. Particle-bubble collision in turbulent flow
  3. Bubble coalescence and breakup in the presence of particles and surfactants
  4. Turbulence modulation due to particles and bubbles
  5. Particle fate modelling on the basis of in-depth automated mineralogy
  For more information on the 5 specific topics and the requested profile please consults: https://cloudstore.zih.tu-dresden.de/index.php/s/66MRgsSxSjPrZ
• Apart from research work, the candidates are expected to participate in trainings, to carry out project management tasks, to write a PhD thesis and to write scientific articles as well as to be involved in departmental and group activities.

Requirements:
• excellent university degree (Master/Diploma) in natural science or engineering
• strong background in fluid dynamics and/or physical chemistry
• Experience with CFD / OpenFOAM / C++ programming or R Studio / Python is ideal
• Experience with techniques such as PIV / shadowgraphy / tomography / AFM or Automated Mineralogy
• Project commences in Dresden/Germany with international travel during the duration of the project.
• Strong interdisciplinary and communication skills– including very good knowledge of the English language
• Self-dependent, structured and target-oriented working style and the ability to work as part of a team
• Applicants must not hold a PhD degree and must have less than four years of research experiences.

We offer:
• Working contract with payment according to EU H2020 ITN rules
• Scientific excellence and extensive professional networking opportunities among the seven global engineering and mining companies acting as industrial partners of FlotSim
• Vibrant research community in an open, diverse, and international work environment
• Intense complementary trainings on scientific and transferable skills as well as industrial secondments, including travel stipend to and from. Degree is awarded through TUD.

Applications from women are particularly welcome. The same applies to people with disabilities. Please submit your comprehensive application including the usual documents by April 30, 2021 (stamped arrival date of the university central mail service applies) by mail to: TU Dresden, Fakultät Maschinenwesen, Institut für Verfahrenstechnik und Umwelttechnik, Professur für Transportprozesse an Grenzflächen, Frau Prof. Dr. et Ing. habil Kerstin Eckert, Helmholtzstr. 10, 01069 Dresden or via the TU Dresden SecureMail Portal https://securemail.tu-dresden.de by sending it as a single pdf-document to teresa.schurz@mailbox.tu-dresden.de. Please submit copies only, as your application will not be returned to you. Expenses incurred in attending interviews cannot be reimbursed.

Reference to data protection: Your data protection rights, the purpose for which your data will be processed, as well as further information about data protection is available to you on the website: https://tu-dresden.de/karriere/datenschutzhinweis