TECHNISCHE UNIVERSITÄT BERGAKADEMIE FREIBERG
Die Ressourcenuniversität. Seit 1765.

FAMILIE IN DER HOCHSCHULE
Mitglied des Best Practice-Clubs

The Institute for Mechanics and Fluid Dynamics – Chair of Micromechanical Materials Modelling, offers a position as

Scientific employee / wissenschaftlicher Mitarbeiter

erc
European Research Council

The position is part of the project MuDiLingo, funded by the European Research Council (ERC).

Vergütung: Entgeltgruppe 13 TV-L
Stellenumfang: 1,0 VZÄ (40h/Woche)
Befristung: 2 years

The vision of this European Research Council (ERC) funded project MuDiLingo („Multiscale Dislocation Language for Data-Driven Materials Science") is to develop and establish for the first time a Unifying Multiscale Language of Dislocation Microstructures. Bearing analogy to audio data conversion into MP3, this description of dislocations uses statistical methods to determine data compression while preserving the relevant physics. It allows for a completely new type of high-throughput data mining and analysis, tailored to the specifics of dislocation systems. This revolutionary data-driven approach links models and experiments on different length scales thereby guaranteeing true interoperability of simulation and experiment. Furthermore, machine-learning-based microstructure models will allow to reach length and time-scales that, so far, are not accessible to classical simulation methods. The application to technologically relevant materials will answer fundamental scientific questions and guide towards design of superior structural and functional materials.

This PostDoc position is concerned with data-mining of discrete dislocation dynamics and molecular dynamics simulations with the goal to set up a data-base of microstructure and energy density data that can be used together with machine learning approaches to predict the structure-property relation during plastic deformation of small-scale specimens.

This PostDoc project is embedded in a multidisciplinary research group requires team work, very good English proficiency and the ability to „think out of the box“. A suitable candidate holds a PhD/doctoral degree in a relevant field such as materials science or mechanics with emphasis on computational aspect. She/he has ample experience in 2D and/or 3D simulation methods for dislocations. Furthermore, it is expected that the candidate is experienced in and enjoys state of the art programming and statistical data analysis.

The position is a 100% full time equivalent position. The contract duration is 2 years with the option for a prolongation. It will start at the earliest possible date. For further information on MuDiLingo please see http://tu-freiberg.de/fakult4/imfd/mimm

Please include the reference number **(03/E/2018)** on your application.

Kindly send your application documents only as hard copy (including PhD certificates, CV, letter of motivation, letter of recommendation) not later than 01.30.2018 to (the postmark of the ZPS of the TU Bergakademie Freiberg is valid):

TU Bergakademie Freiberg - Dezernat für Personalangelegenheiten - 09596 Freiberg