



**Technische Universität Berlin**



Technische Universität Berlin offers an open position:

## **Research Assistant - salary grade E13 TV-L Berliner Hochschulen**

part-time employment may be possible

### **Faculty III - Institute of Process Technology / Process Technology**

**Reference number:** III-125/25 (starting at 01/06/25 / limited for 36 months / closing date for applications 18/04/25)

#### **Working field:**

As part of the DFG-funded project "Analysis and Modeling of Radial Heat Transfer Mechanisms in Packed-Bed Reactors for Process Intensification," the development and application of high-resolution methods for simulating transport phenomena in packed-bed reactors with small tube-to-particle diameter ratios are being investigated. This includes the development, implementation, and validation of CFD simulations to perform a detailed analysis of heat, mass, and fluid transport in such reactors. A central focus of the work is on advancing simulation techniques - such as optimizing mesh generation algorithms for packed beds with complex particle geometries - as well as identifying and quantifying the governing transport mechanisms. Moreover, research data management and data science methods are of key importance for efficiently collecting, evaluating, and utilizing the data generated in the project.

#### **Requirements:**

- successfully completed scientific university degree (Master's, Diplom, or equivalent) in Energy and Process Engineering, Numerical Engineering, Mechanical Engineering, Natural Sciences, or a related field
- basic programming skills in, for example, Java or Python
- experience in using CFD software
- good knowledge of German and/or English required; willingness to acquire the respective missing language skills

#### **Desirable:**

- interest in engineering numerical research work
- interest in the fields of heat transfer and fluid dynamics in porous media, as well as in CFD-based multiphysics modeling of flows in complex geometries
- teamwork skills, curiosity, and creativity
- interest in numerically oriented engineering research
- prior knowledge in the fields of heat transfer and fluid dynamics in porous media, as well as in CFD-based multiphysics modeling of flows in complex geometries
- experience in using the Simcenter STAR-CCM+ software
- familiarity with multi-objective optimization
- experience in interpreting experimental results

Please send your **written** application with the **reference number** and the usual documents to Technische Universität Berlin - Die Präsidentin - **Fakultät III, Institut für Prozess- und Verfahrenstechnik, FG Verfahrenstechnik, Prof.Dr.-Ing. M. Kraume, Sekr. ACK 7, Ackerstraße 76, 13355 Berlin** or also welcome by e-mail to **sekretariat.vt@tu-berlin.de**.

Please send copies only. Original documents will not be returned.

By submitting your application via email you consent to having your data electronically processed and saved. Please note that we do not provide a guarantee for the protection of your personal data when submitted as unprotected file. Please find our data protection notice acc. DSGVO (General Data Protection Regulation) at the TU staff department homepage: [https://www.abt2-t.tu-berlin.de/menue/themen\\_a\\_z/datenschutzerklaerung/](https://www.abt2-t.tu-berlin.de/menue/themen_a_z/datenschutzerklaerung/).

To ensure equal opportunities between women and men, applications by women with the required qualifications are explicitly desired. Qualified individuals with disabilities will be favored. The TU Berlin values the diversity of its members and is committed to the goals of equal opportunities. Applications from people of all nationalities and with a migration background are very welcome.

The vacancy is also available on the internet at <https://www.personalabteilung.tu-berlin.de/menue/jobs/>

