



Technische Universität Berlin



Research Assistant - salary grade E 13 TV-L Berliner Hochschulen

part-time employment may be possible

Faculty III - Process Sciences, Faculty III - Institute of Chemical and Process Engineering / Process Dynamics and Operations Group

Reference number: III-336/25 (starting at 01/10/25 / limited until 30/09/2028 / closing date for applications 22/08/25)

Your responsibility:

As part of the project funded by the DFG "Fundamental Theoretical/Experimental Characterization of Flow Morphology and Local Heat Transfer in Wiped Film Evaporators" (Project Number: 561285967), the flow morphology and its influence on single-phase heat transfer on wiped surfaces of wiped film evaporators (WFE) will be investigated. The project is being conducted in collaboration with TU Braunschweig. At TU Berlin, simulations of fluid dynamics are primarily carried out, while experimental investigations are conducted at TU Braunschweig. The numerical simulations will examine the bow wave geometry as well as the interactions between the film zone and the bow wave, characterizing the mixing between these two zones. Additionally, the single-phase, product-side heat transfer will be simulated. The results will be used to develop a mechanistic model that describes the fluid dynamics and the essential heat transfer in the WFE.

The following specific tasks are to be addressed:

- Development of 2-phase simulation in 3D
- Determination of the interaction between wiper/film
- Determination of the turbulence level
- 2-phase simulation with heat transfer in 3D

You can find further information on the group at www.tu.berlin/dbta.

Your profile:

The interdisciplinary department is based in chemical process engineering, but always welcomes applicants from other specialisations and disciplines. With regard to the advertised position, we are looking for employees with the following qualifications and interests:

- A successfully completed scientific university degree (Master, Diploma or equivalent) in a suitable field (process engineering, chemical engineering, computational engineering science, or similar) is required
- Our team is very international, good German and/or English language skills are required; willingness to learn the respective missing language skills is expected
- Very good knowledge of numerical fluid mechanics in finite volume methods is required
- Very good knowledge of numerical simulation of flows coupled with heat or mass transfer is required
- Very good knowledge of numerical simulation of multiphase systems is required
- Experience with OpenFoam Software is an advantage
- Experience with simulating rotating systems are an advantage
- Independent, well-organized working style is desirable

How to apply:

Please send your application **with the reference number** and the usual documents (CV, records/grades, application letter, all combined in a single pdf file, max. 5 MB) by email to **Prof. Dr.-Ing. habil. Jens-Uwe Repke** (sekr@dbta.tu-berlin.de).

By submitting your application via email you consent to having your data electronically processed and saved. Please note that we do not provide a guaranty 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/.

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.jobs.tu-berlin.de>

