

Research assistant (m/f/d)

In the Department of Foundry Technology at the Institute of Metallurgy at Clausthal University of Technology, there is a position available from 1st of April 2024 as a

Research assistant (m/f/d)
(provided that the requirements EG 13 TV-L are met)

initially to be filled full-time (100 %) for a period of 19 months. The position is generally suitable for part-time work. Place of work is Clausthal-Zellerfeld.

Your task is to work on the DFG project "*Interfacial reaction and diffusion kinetics in solid-liquid couples of the Al-Cu-Zn system: experiments and multiscale simulations*".

Project Overview:

The project aims to create a multiscale sequential model to predict the growth of intermetallic phases between aluminium and brass during compound casting. This offers the possibility of determining suitable process parameters for a strong bond in a compound cast and thus optimizing the production of hybrid components. Key contributors to this project include Professor Babette Tann, who leads the Foundry Technology Department, Professor Harald Schmidt, head of the Solids Kinetics Department, and Junior Professor Nina Merkert, chair of the Clausthal-Göttingen Simulation Science Center (SWZ).

Role Overview:

We are looking for a highly motivated Research Associate to join our multidisciplinary team. The selected candidate will primarily be responsible for:

- Designing and executing diffusion reaction experiments to study the time and temperature effects on the kinetic growth of intermetallic layers
- Develop models to predict the thickness of the intermetallic layer during the compound casting process
- Implement, verify and validate the models
- Collaborate closely with project partners to ensure a coherent and comprehensive approach to the project

Your profile:

- Successful completion of a degree (M.Sc., diploma or equivalent) in Mechanical Engineering, Material Sciences, Metallurgy or a related field
- Experience with Computational Fluid Dynamics is a must
- Experience with model development and implementation
- Experience with C++ in an Open Foam environment
- Independent, structured way of working and quick comprehension
- Enjoy interdisciplinary application problems and exchanging ideas with other scientists
- Good written and spoken English knowledge

We offer:

- Exciting topics and participation in top international research
- A family-friendly and collegial working environment in committed teams as well as varied areas of responsibility
- The opportunity to develop innovative approaches and solutions independently
- The possibility of pursuing a doctorate in engineering

The salary complies with the labour contract for the public sector (TV-L) and includes an annual special payment at the year-end. In addition, we offer separate supplementary benefits as a company pension (VBL).

TU Clausthal supports the compatibility of family and profession by means of flexible part-time work schemes within the scope of the official feasibilities and is member of the academic association "Familie in der Hochschule".

Equality with its facets of equal opportunities, diversity and family-friendliness is an important concern at Clausthal University of Technology. People with disabilities will be given priority if they are suitably qualified. Applications from people of all nationalities are welcome

Please send your application with the usual documents by 15.02.2024 (cover letter, CV, certificates) by email (in a single PDF file) to **Prof. Dr. Babette Tonn**

Email: babette.tonn@tu-clausthal.de

If you have any further inquiries, we will be happy to address them.

We look forward to seeing you!

Please note our information on data protection in the application process: <https://www.tu-clausthal.de/universitaet/karriere-ausbildung/stellenangebote/hinweise-zum-datenschutz-im-bewerbungsverfahren>.

Application costs cannot be reimbursed. The application documents will be destroyed after completion of the selection process in compliance with the legal provisions.