



The Faculty of Mechanical, Process and Energy Engineering, Institute of Mechanical Process Engineering and Mineral Processing, seeks to fill the positions of **two**



Research Associates (m/w/d) – reference number 283-E/2021

for a limited period (36 months).

Salary: Pay group 13 TV-L
Job size: **each** position 100 % (Part-time possible, if applicable)
Start of work: 01.02.2022 or later

Job description:

In May 2020, the Senate of the German Research Foundation DFG approved the Priority Program 2315 "Engineered Artificial Minerals (EnAM) - a Geo-metallurgical Tool to Recycle Critical Elements from Waste Streams", in which research is being conducted jointly at more than 15 locations on the production, processing and characterization of artificial crystals/ minerals. The artificial minerals crystallize from a metallurgical slag with the aim of enriching dissipated chemical elements there. The aim is to achieve recycling of technology elements by metallurgical processes even for low concentrated elements. Unique working opportunities are offered by the integration of the research topic into the PP, especially with regard to scientific networking in the national and international expert community. At the Institute of Mechanical Process Engineering and Mineral Processing, the main focus will be on mechanical processing, in particular the fracture behaviour during comminution and the necessary imaging particle and structure analysis. Computed tomography will be used to quantify the structure of the crystals in the slag matrix in terms of particles and to investigate the fracture behaviour. For this purpose, an in-situ test cell is used in which individual particles can be loaded and fractured directly in the tomograph. (https://www.dfg.de/foerderung/info_wissenschaft/2020/info_wissenschaft_20_65/index.html)

Your tasks are:

- Working on a research topic in the field of mechanical recycling technology
- Experimental research on the characterization and/or comminution of inter-grown material mixtures (artificial minerals); (further) development of evaluation routines for image data from computer tomography
- Process modelling - data evaluation - digitization

What we offer:

- A varied and responsible job in the laboratories and at the excellent measurement technology of the institute MVT/AT; excellent research infrastructure in laboratory locations as well as in the associated particle analytics
- Integration of your research work into a professional network
- Industrial relevance of the research work; working at a family-friendly university with flexible working hours
- Remuneration according to the provisions of the collective agreement for the public service of the German states (Länder) in accordance with personal requirements; attractive fringe benefits, e.g. capital-forming benefits (VL), company pension scheme (VBL), health management; further training opportunities

What we expect from you:

- Above-average Master degree (or equivalent) in process, materials or environmental engineering, chemical engineering, mechanical engineering, applied natural sciences or comparable
- Knowledge of the basic processes of mechanical process engineering as well as programming
- Good English language skills (verbal and written) and willingness for further education

For further questions on the content of the individual topics, please contact Prof. Dr.-Ing. Urs Peuker (urs.peuker@mvtat.tu-freiberg.de, 03731 39-2916).

Severely disabled or equivalent applicants (m/f/d) will be given preferential consideration in the event of equal suitability, performance and qualifications. For appropriate consideration, we ask that proof of the severe disability/ equality is attached to the application documents. The TU Bergakademie Freiberg aims to increase the proportion of women in teaching and research and is therefore particularly interested in applications from qualified women.

Please send your application with the usual documents and quoting the **advertisement code (283-E/2021)** by **30.11.2021** (the postmark of the ZPS of the TU Bergakademie Freiberg applies) to:

TU Bergakademie Freiberg - Dezernat für Personalangelegenheiten - 09596 Freiberg

E-Mail: bewerbungen@tu-freiberg.de

Your application materials will not be returned; please submit copies only. Interview costs will not be covered. The TU Bergakademie Freiberg is also looking for scientific personnel from different disciplines. Information under: <http://tu-freiberg.de/wirtschaft/karriere/stellenausschreibungen>