At the Faculty of Mechanical, Process and Energy Engineering, Institute of Mechanical Process Engineering and Mineral Processing, a position is available from 01.09.2025 as a

Research assistant (m/f/d) - job advertisement reference number 86-E/2025

to be filled on a temporary basis as part of a third-party funded project.

Remuneration: Pay group 13 TV-L
Scope of position: 1,0 FTE (40 hours/week; part-time possible)
Time limit: 12 months (extension of up to 24 or 36 months is sought)

At the Institut für Mechanische Verfahrenstechnik und Aufbereitungstechnik, work on mechanical battery recycling is being carried out in several projects. This involves producing a concentrate of the electrode coatings, the so-called black mass, which is chemically leached i.e., hydrometallurgically processed in further steps. In this context, the filtration properties of the black mass are a key factor in the design of the subsequent process chain. As part of a research project, the filtration characteristics of various black masses from different mechanical pre-treatment processes are now to be quantified and the yield of the filtration and washing processes optimised. The structure-process relationships determined in this way are an important contribution to the digitalisation of the battery recycling process chain. The research topic enables extensive cooperation with various partners from science and industry.

These are your tasks:
- Working on a research topic in the field of particle technology and mechanical solid-liquid separation technology
- Further development and experimental research work on filtration processes for the circular economy
- On- and off-line characterisation of material flows from recycling, development of structure-process relationships
- Process modelling - data evaluation - digitization

What you can expect from us:
- Working at a family-friendly university with flexible working hours
- Remuneration in accordance with the provisions of the collective agreement for the public service of the federal states in line with personal requirements
- Attractive fringe benefits, e.g. capital-forming benefits (VL), company pension scheme (VBL), health management; discounted ticket for local public transport "Job-Ticket"
- Further training opportunities
- A varied and responsible job in the laboratories and at the pilot plants of the MVTAT Institute; excellent research infrastructure in laboratory facilities and in the associated particle analysis technology
- Integration of your research work into an excellent professional network with further scientific training
- Industrial relevance of the research work

What we expect from you:
- Above-average Master degree (or equivalent) in process or materials engineering, chemical engineering, physics, chemistry, applied natural sciences or comparable
- Knowledge of the basic processes of mechanical process engineering as well as programming
- Good English and German language skills (verbal and written) and readiness for further qualification

For further information, please contact Prof. Peuker (Tel.: 03731 39-2916; e-mail: urs.peuker@mvtat.tu-freiberg.de).

Applicants (m/f/d) must fulfill the recruitment requirements for the conclusion of employment contracts for a fixed term in accordance with the WissZeitVG. Severely disabled or equivalent applicants (m/f/d) with equal aptitude, performance and qualifications will be given preferential consideration. For appropriate consideration, please enclose proof of severe disability/equal status with your 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 stating the advertisement **reference number (86-E/2025) by 11.08.2025** (the postmark of the ZPS of the TU Bergakademie Freiberg applies) to:

TU Bergakademie Freiberg - Department of Human Resources - 09596 Freiberg or by e-mail: bewerbungen@tu-freiberg.de

Interview costs will not be covered. The TU Bergakademie Freiberg is also looking for staff from various disciplines. Further information can be found at: https://tu-freiberg.de/stellenangebote