

At the TU Bergakademie Freiberg, Faculty of Mechanical, Process and Energy Engineering, Institute of Energy Process Engineering and Chemical Engineering, Head of Reaction Engineering a position is available as a

Research Associate (m/f/d) – reference number 11-E/2025

to start as early as possible. The research is part of a publicly funded project dealing with the elucidation and modelling of the effect of ammonia on the soot oxidation in diesel particulate filters coated with a SCR catalyst.



Pay grade: according to German pay grade E13 TV-L
Hours: 1,0 FTE (40 hours/week; part-time may be possible)
Contract type: 30 months

For mobile and stationary diesel engines, particulate filters with integrated SCR coating are used to simultaneously remove soot and NO_x from the diesel exhaust gas. In this context, the aim of the project is to develop a detailed understanding of the interaction of soot oxidation and NO_x reduction (SCR process) in diesel particulate filters. For this purpose, both mechanistic and kinetic investigations are to be carried out, on the basis of which the kinetic modeling of the combined SCR reaction and soot oxidation is performed. Kinetic investigations are conducted in synthetic and real diesel exhaust gas. The diesel engine investigations are carried out by a further research institute using conventional (B7) and renewable diesel fuel (HVO, GTL).

Job description:

- Research in the fields of exhaust gas aftertreatment, heterogeneous catalysis, chemical process engineering and technical chemistry
- Investigations on mechanism and kinetics of soot oxidation and NO_x reduction (SCR process) in diesel particulate filters
- Kinetic modeling of the simultaneous conversion of soot and NO_x in particulate filters using Matlab software
- Validation of the model, e.g. on the basis of engine tests by the cooperation partner

What you can expect from us:

- 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 federal states in accordance with the personal requirements
- A wide range of networking, mentoring and development opportunities
- Attractive fringe benefits, e.g. asset-based benefits (VL), company pension schemes (VBL), health management; Job Ticket for public transportation

What we expect from you:

- University diploma or master degree or doctorate in the fields of natural sciences and engineering
- Good written and spoken German and English skills
- Knowledge of the Matlab software is advantageous
- Independent scientific work as well as scientific curiosity and the ability to work in a team

**For further information please contact Prof. Dr. Sven Kureti, phone: +49 3731 39 4482,
e-mail: kureti@iec.tu-freiberg.de**

The applicant (m/f/d) must meet the hiring requirements for a fixed-term contract according to the WissZeitVG. Applicants with disabilities will receive preferential consideration, providing they possess equal qualification. For consideration, we ask you to submit proof of your disabled status together with your application documents. TU Bergakademie Freiberg is committed to increase the number of women in teaching and research positions, hence qualified female candidates are especially encouraged to apply.

Please send your application with a cover letter/motivation letter, CV, copies of all relevant certificates, quoting the **job advertisement reference number (11-E/2025) by 23.02.2025** (the postmark of the ZPS of the TU Bergakademie Freiberg applies) to:

**TU Bergakademie Freiberg, Dezernat für Personalangelegenheiten, 09596 Freiberg
or by e-mail to: bewerbungen@tu-freiberg.de**