

TU BERGAKADEMIE FREIBERG

TUBAF
Die Ressourcenuniversität.
Seit 1765.

Research Associate (m/f/d)

Reference Number 188-E/2026

Faculty of Geosciences, Geoengineering and Mining

Scope:	1.0 FTE (40 hours/week, part-time possible)
Pay grade:	E13 TV-L
Contract type:	24 months (project duration)
Starting:	As soon as possible

The Institute of Drilling Engineering and Fluid Mining at the Faculty of Geosciences, Geoengineering and Mining invites applications for the above position within the project HydroPercuss **"Development of a water-driven hammer for shallow geothermal drilling"**, funded by the Dr. Erich Krüger Foundation. The position is to be filled at the earliest possible date for a fixed term.

Your Tasks are:

- Conceptual design and fluid-mechanical layout of a water-hydraulic percussion mechanism (down-the-hole hammer), including CAD design and simulation
- Supervision of prototype manufacturing, setup of a test rig, and execution and evaluation of laboratory tests (impact energy, impact frequency, sealing performance)
- Preparation and execution of field tests together with an industrial partner, and benchmarking against conventional pneumatic DTH systems
- Setup of sensors and data acquisition for process monitoring as a basis for digital or AI-assisted process control
- Investigations into the treatment and recirculation of the drilling fluid
- Contribution to the patent application and product development concept, project reporting, and publication of results

What we expect from you:

- University degree (Diplom or Master's) in mechanical engineering, drilling engineering, geotechnical engineering or a comparable engineering discipline
- Sound knowledge of hydraulics/fluid power and fluid mechanics
- Experience in CAD design and ideally in numerical simulation (FEM/CFD)
- Experience with experimental work, measurement technology and data analysis
- Enjoyment of hands-on work in the laboratory and on the drill site; a driving licence (class B) is desirable
- Very good written and spoken German and English
- Independent, structured way of working and ability to work in a team

What you can expect from us:

- Work at a family-friendly university with flexible working hours
- Work in a committed and motivated team
- Remuneration according to the Collective Agreement for the Public Service of the German Federal States (TV-L), depending on personal qualifications
- Attractive additional benefits, e.g. capital-forming payments (VL), company pension scheme (VBL), health management, further training opportunities, discounted public transport ticket ("Job-Ticket")

Your application:

Please send your application with the usual documents, quoting the reference number (188/2026) by 15 December 2026 by e-mail to:
bewerbungen@tu-freiberg.de

rr to:
TU Bergakademie Freiberg
Dezernat Personalangelegenheiten
09596 Freiberg, Germany

For further information, please contact Prof. Dr.-Ing. Ulf Kirsten:Ulf.Kirsten@tbt.tu-freiberg.de
Phone: +49 3731 39 2677

Please note the information on the collection of personal data in the application process at:
https://tu-freiberg.de/Stellenangebote

Applicants (m/f/d) must meet the requirements for fixed-term employment contracts under the German Academic Fixed-Term Contract Act (WissZeitVG). Severely disabled applicants or applicants with equivalent status (m/f/d) will be given preference if equally suitable, qualified and capable. Please enclose proof. TU Bergakademie Freiberg specifically promotes the proportion of women and explicitly encourages qualified women to apply.

FAMILIE IN DER HOCHSCHULE

Zertifikat seit 2023 audit familiengerechte hochschule

Innovative Hochschule

WELTOFFENE HOCHSCHULEN GEGEN FREMDENFEINDLICHKEIT