



The Faculty for Geosciences, Geoengineering and Mining, at the Institute of Geotechnics, Chair of Soil Mechanics and Foundation Engineering, is seeking a



**Research Assistant /Wissenschaftlichen Mitarbeiter (m/f/d)**  
**Reference Number 223-1/2019**

<b>Vergütung (compensation):</b>	Entgeltgruppe 13 TV-L
<b>Stellenumfang (full-time percentage):</b>	1,0 VZÄ (full time; This job can also be carried out as a part-time position.)
<b>Befristung (time limit):</b>	to be filled from February 2020 for a period of 4 years (subject to funding approval).

Work together with world-leading teams on the numerical simulation of multiphysical processes in geomaterials and contribute to the understanding of complex coupled underground processes.

In the current selection procedure for a repository site for high-level radioactive waste in Germany, a high understanding of the geological and geotechnical barrier properties and their modelling is of great importance. The work is therefore carried out in cooperation with the Bundesgesellschaft für Endlagerung mbH, the federal company for radioactive waste disposal.

**Your tasks:**

You develop continuum mechanical approaches for the description of the deformation and alteration as well of the two-phase flow (water/air) in clay rock and clay-based geomaterials, and implement them in the open-source scientific simulation software OpenGeoSys. The application background of your research is the description of gas transport processes in geotechnical and geological barriers during the final disposal of radioactive materials in deep geological repositories. The database is based on experiments from geomechanical laboratories as well as large-scale in-situ experiments in underground laboratories. By means of the experimental-numerical approach you deepen the process understanding and validate the developed physical approaches. Your research is embedded in the international model development and validation initiative DECOVALEX ([www.decovalex.org](http://www.decovalex.org)). Therefore, we expect you to work closely with the participating experimental groups and other international modelling teams. You will present your results to the authorities and at international conferences and publish them in relevant international journals. This position offers you the opportunity to earn your doctorate.

**What we offer:**

- A family friendly work environment and flexible hours
- Guidance and support provided by experienced senior level researchers
- Opportunities for on-the-job training and professional development
- Competitive wages and attractive benefits

**What we expect:**

- You have a Diploma/Master in Geophysics, Geotechnics, Geosciences, Civil Engineering, Mechanical Engineering, Applied or Theoretical Physics, Computer Science or Applied Mathematics.
- You have knowledge in continuum mechanics as well as in numerical methods (especially the finite element method).
- Proven programming skills (preferably in C++) round off your professional profile.
- You work scientifically-methodically, problem-solution-oriented and are characterized by a high degree of commitment and personal responsibility.
- You speak and write English fluently. German skills are a major advantage.
- You enjoy communicating with colleagues from various disciplines

For more information, please do not hesitate to contact Univ.-Prof. Dr. Nagel ([thomas.nagel@ifgt.tu-freiberg.de](mailto:thomas.nagel@ifgt.tu-freiberg.de))

Kindly send your application documents no later than **08.11.2019**. Please include the **reference number (223-1/2019)** on your application and address it to:

**TU Bergakademie Freiberg - Dezernat für Personalangelegenheiten - 09596 Freiberg**

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