

Helmholtz-Zentrum Dresden-Rossendorf e.V.



With cutting-edge research in the fields of ENERGY, HEALTH and MATTER, around 1,500 employees from more than 70 nations at Helmholtz-Zentrum Dresden-Rossendorf (HZDR) are committed to mastering the great challenges facing society today. The Institute of Resource Ecology performs research to protect humans and the environment from hazards caused by pollutants resulting from technical processes that produce energy and raw materials. The Department of Reactive Transport is looking for a

PhD Student (f/m/d) Experimental analysis of the sorption kinetics for radionuclides on sheet silicates

Colloid-borne transport processes can govern the migration behavior of radionuclides. In this respect, the kinetics of their interaction with both the colloids and the solid rock is of critical importance. By elucidating and quantifying the underlying processes in temporally and spatially resolved radiotracer studies (particularly regarding the adsorption and desorption kinetics on sheet silicates), you will contribute to extending the scientific basis for safety assessment of final disposal concepts in respect of radionuclide retention. The doctoral thesis is part of a joint project funded by the Federal Ministry of Research, Technology, and Space (BMFTR). It includes an interdisciplinary training program based on the concept of a graduate school. In the 2nd year there is the option of increasing the weekly working hours to 75%. Recruitment is subject to final approval by the project sponsor.

City: Dresden; Starting date (earliest): 01/03/26; Remuneration: TVöD-Bund; Reference number: 2025/168; Closing date: 31/01/26

Working field

- Conceptualizing and performing radiotracer experiments in colloidal and coarse-particle adsorption systems, including methods for colloid characterization
- Spatially resolved surface analysis using interference microscopy and autoradiography
- Derivation and parameterization of mechanisms
- Interdisciplinary cooperation with project partners
- Publication and presentation of research results

Requirements

- Completed university studies (Master) in the field of Chemistry, Physics, Earth sciences or related field
- Experience in experimental work and instrumental analytics
- Knowledge of elemental and colloid analytics as well as microscopy is an advantage
- Readiness to handle open radioactive materials in a radiation-controlled laboratory area

- Careful style of working
- Personal commitment, motivation and self-discipline to carry out research independently
- Communication skills in an interdisciplinary research environment
- Excellent command of spoken and written English

What we offer

- A vibrant research community in an open, diverse and international work environment
- Scientific excellence and extensive professional networking opportunities
- A structured PhD program with a comprehensive range of continuing education and networking opportunities - more information about the PhD program at the HZDR can be found [here](#)
- Salary and social benefits in accordance with the collective agreement for the public sector (TVöD-Bund) including 30 days of paid holiday leave, company pension scheme (VBL)
- We support a good work-life balance with the possibility of part-time employment, mobile working and flexible working hours
- Numerous company health management offerings
- Employee discounts with well-known providers via the platform Corporate Benefits
- An employer subsidy for the "Deutschland-Ticket Jobticket"

Application

We look forward to receiving your application documents (including cover letter, CV, diplomas/transcripts, etc.), which you can submit via our online-application-system: <https://www.hzdr.de/db/Cms?pNid=490&pLang=en&pOid=76295>

More information at <https://stellenticket.de/200407/TUBS/>
Offer visible until 31/01/26

