

The Institute of Applied Geosciences at the Karlsruhe Institute of Technology at the Chair of Geochemistry and Economic Geology invites applications for a

PhD Research Fellow for 3 years

TV-L E13 (75%)

to start at the next possible date. The candidate will have the responsibility to conduct internationally visible research in the BMWK funded project "Optimizing the combustion properties of biogenic residues in biomass power plants" (ResOpt) which is carried out in cooperation with the industry (www.intec-energy.com, <https://ib-reichelt.de/>). The aim of ResOpt is to define optimized biofuel mixtures, which reduce the amount of slag and other deposits in biomass power plants, which result in shutdown times for revision. Minimizing deposits will thus increase energy efficiency of the plant.

You will focus on the relationship between type of fuel and additives, combustion temperature and the resulting mineralogy and geochemistry of the solid residues. Your responsibility will be:

- designing, performing and evaluating laboratory-based sinter experiments,
- describing reaction pathways both from a mineralogical and thermodynamic point of view,
- evaluating options for slag reuse, and
- supporting and evaluating the transfer of the results into regular operation of biomass power plants.

Results are expected to be published in internationally recognized journals. You will be given the opportunity to prepare a PhD thesis.

As qualification we expect you to have a MSc degree (or equivalent) in geosciences or comparable subjects with a strong research interest in applied mineralogy and analytical methods. You have basic experience and interest in mineralogical and geochemical methods, thermodynamic modelling and experimental work. You are motivated, open for new research fields and able to communicate with technicians, other researchers and industry. Field work will be carried out at three power plant sites of our partner.

We offer an attractive international work place with modern state-of-the-art geochemical lab equipment (<https://lura.agw.kit.edu/english/index.php>) and access to the world-class analytical pool of the KIT. We have a strong and interdisciplinary team with petrologists, mineralogists, geochemists and geologists working in different fields of geosciences (<https://egg.agw.kit.edu/english/index.php>, <https://www.agw.kit.edu/11706.php>) and a partnership with other institutes at KIT.

Equal opportunity is an inherent part of our personnel policy. Therefore, we are particularly welcoming applications from qualified women. Disabled persons will be given preferential treatment in the case of equal qualification.

Applications should include a letter of motivation and the usual documents (motivation letter, CV, complete publication list, certificates). Applications must be sent in digital form until **November 27th, 2022** to **Karlsruhe Institute of Technology (KIT) – Campus South, Dr. Elisabeth Eiche, Institute of Applied Geosciences, Chair of Geochemistry and Economic Geology, Adenauerring 20B, 76131 Karlsruhe, Germany**, or via email to victoria.weist@kit.edu. For information about the position, the project and the institute, please contact Dr. Elisabeth Eiche (Elisabeth.eiche@kit.edu; +49 721 608 43327).

Vacany number: 2255/2022

Further information: <https://www.pse.kit.edu/karriere/joboffer.php?id=91515&new=true>