

PhD position (75%)

DFG-funded project “Emplacement conditions of pyroclastic deposits inferred from magnetic properties of the Eger maar-diatreme (ICDP-EGER Bohrung S4) and Eifel volcanoes”

Job description:

Magneto-mineralogy from different pyroclastic eruptive sequences is mostly complex and offers a complementary tool to paleomagnetic directional analysis for emplacement temperature estimates and may contribute information on the volcanic material history and their emplacement conditions. The aim of this project is to investigate if magnetic mineralogy is suited to separate different eruptive sequences from pyroclastic deposits of differently fractionated alkaline magmatic rocks in the Quaternary volcanic provinces in Central Europe. Your task:

(1) investigate the rock magnetic properties and characteristic magnetic mineralogy of the two ICDP-Eger Rift Drillings S4a/S4b and well-described Quaternary eruptive volcanic sequences from the Volcano Eifel.

(2) test if Curie temperature of titanomagnetite and its (non-) reversibility using the temperature-dependence of in- and out-of-phase magnetic susceptibility is suited to unravel not yet explored intrinsic magnetic and structural properties in titanomagnetite.

(3) combine rock magnetic, magneto-mineralogical and paleomagnetic investigations with mineral chemical, high-resolution transmission electron microscopy and Raman spectroscopy in order to get a more fundamental understanding of the non-reversibility of Curie temperatures in titanomagnetite.

Qualification: MSc in Earth Sciences

The candidate must have a strong interest in laboratory work on volcanic materials. Knowledge of mineralogy and interest in geophysical methods are required.

Salary: The remuneration occurs on the basis of the wage agreement of the civil service in TV-L, E 13

Institute: Institute of Applied Geosciences

Contract duration: 36 months limited

Starting date: 1st June 2023 (tentatively)

Application up to: 11th April 2023

We prefer to balance the number of employees (f/m/d). Therefore, we kindly ask female applicants to apply for this job. If qualified, severely disabled persons will be preferred.

Application: Please send your complete application with curriculum vitae, copies of certificates and letter of motivation in the form of one PDF file to:

Prof. Dr. Agnes Kontny, Email: agnes.kontny@kit.edu