



As part of the Faculty of Earth Sciences, Geography and Astronomy at the University of Vienna the Department of Lithospheric research is a lively and well-equipped department with two full professors and about 30 members of staff. The University of Vienna features 178 fields of study, approximately 9,800 staff members and about 90,000 students. We invite applications for a

Pre-doctoral Researcher in Geo-Materials Science

The position is embedded in a three-year bilateral Austrian-German project funded by the Austrian- (FWF) and German (DFG) science foundations. In the frame of this project, three PhD students will work on “ICE-NUCLEATION ACTIVITY OF ALKALI FELDSPAR IN AEROSOL” a highly interdisciplinary project combining geo-materials science, aerosol physics and computational physics.

Job description

Alkali feldspar - a major rock forming mineral - has been shown to be the most ice-nucleating active mineral aerosol playing an important role in the glaciation of clouds, which, in turn, has substantial impact on cloud physical properties and dynamics. The project is targeted at unravelling the processes underlying the exceptional ice nucleating activity of alkali feldspar.

The doctoral candidate will perform feldspar conditioning experiments including cation exchange at ambient pressure, dissolution experiments in the hydrothermal apparatus and HF etching. Run products will be characterized using powder- X-ray diffraction, optical and scanning electron microscopy, electron probe micro-analysis, and gas adsorption for determining specific surface area. In addition, the doctoral candidate will do ice nucleation experiments using cold stage setups at University of Vienna and at Karlsruhe Institute of Technology. The doctoral candidate will get training in thermodynamic and kinetic modeling and closely collaborate with a doctoral candidate based at the faculty of Physics at the University of Vienna, who will do atomistic modeling of feldspar water interfaces, and with a doctoral candidate based at KIT, who will perform ice nucleation experiments in a variety of experimental settings. The doctoral candidate is expected to complete a doctoral thesis within the duration of the project.

Requirements

- Master's degree in mineralogy, petrology, chemistry, physics, meteorology or a related field
- Excellent spoken and written English skills
- Capacity for sustained independent work combined with the ability to communicate clearly and work closely with an international team
- Experience in and basic knowledge of optical and scanning electron microscopy
- Genuine interest in a rational analysis of microphysical processes in nature

Employment details

- Location: Department of Lithospheric Research, University of Vienna, Vienna, Austria.
- Duration: 3 years from anticipated start date of **June 2023**.
- Working hours and salary: 30 hours / week, gross salary € 2464.80 / month (14 times a year).

The University of Vienna is an equal opportunity employer. Women are especially encouraged to apply. Applicants with disabilities will be preferentially considered if equally qualified.

Please submit your application by email to elena.petrishcheva@univie.ac.at until **31.3.2023**. Applications should consist of a motivation letter, CV (including a list of publications, if applicable), copies of relevant educational certificates, and the names and email addresses of two potential referees. Promising applicants will be invited to give interviews via digital videoconferencing in the two weeks following the deadline. Please direct any questions to:

Dr. Elena Petrishcheva: elena.petrishcheva@univie.ac.at