



Leibniz
Universität
Hannover



PhD position in experimental petrology at the Leibniz University Hannover

Within the scope of the second funding period of the DFG Research Unit "Diffusion Chronometry of Magmatic Systems" (FOR 2881) hosted at the Ruhr University Bochum and the Leibniz University Hannover we are looking for a candidate to fill a **3-year PhD position in experimental petrology at the Leibniz University Hannover**.

Who we are

The main objectives of the DFG Research Unit FOR 2881 are to carry out experimental measurements and develop theoretical modelling tools for diffusion chronometry in various high temperature systems. Thereby, a focus is laid on igneous systems, but most tools are very much applicable to metamorphic rocks and meteorites as well. The working environment within the Research Unit is strongly collaborative and characterised by a high scientific exchange. More information on ongoing and former projects within the Research Unit is available under: <https://diffchron.ruhr-uni-bochum.de/>.

Research at the Section of Mineralogy of the Institute of Earth System Sciences (IESW) at the Leibniz University Hannover focusses on high-temperature igneous processes and the general characterisation of magmatic systems with the ultimate aim to better understand the formation and differentiation of the continental and oceanic crust. Our well-equipped experimental lab, including several internally heated pressure vessels (IHPV), as well as the availability of state-of-the-art analytical facilities (SEM, EPMA, fs-LA-ICP-MS) allow us to conduct ground-breaking research covering a variety of different topics in igneous petrology. At our institute, we have an informal and supportive working environment and we promote the active exchange between individual team members.

The project

The main objective of the project is to provide essential boundary conditions for the application of the diffusion chronometric tools developed by the other projects within the Research Unit. Thus, we are looking for a PhD candidate to carry out phase equilibria experiments on calc-alkaline and alkaline systems at high pressures (P) and temperatures (T) with a special focus on amphibole stability and crystallisation systematics using internally heated pressure vessels and piston cylinder presses. Run products will be characterised using state-of-the-art analytical techniques such as SEM, EPMA, Raman, and Synchrotron Mössbauer Spectroscopy (SMS). Experimental results will be used to quantify the effect of various parameters (e.g. pressure, volatile contents, fO_2 , bulk composition) on the stability and composition of amphibole and develop new petrological tools to predict the crystallisation systematics of amphibole. The project will be supervised by Dr. Felix Marxer and Prof. Dr. François Holtz.

The position is funded for 36 months (fixed-term contract, TV-L E13, 75%).

Your profile

We are looking for a person with a strong commitment to research and laboratory work. Required qualifications are:

- MSc in Earth Sciences (or equivalent)
- strong background in (igneous) petrology and mineralogy
- experience with routine analytical techniques (e.g. SEM-EDS and EPMA-WDS)
- ability to work independently and as part of a team with international collaborations
- very good English skills (written and oral)

Some knowledge and experience in high-pressure-temperature experimental research (e.g. 1-atm gas mixing furnace, cold seal pressure vessel, internally heated pressure vessel, piston cylinder apparatus) and thermodynamic modelling of petrological processes is highly desirable.

Application and further information

To apply for the position, please send a motivation letter (max. 2 pages), CV, contact details of two referees, copies of BSc and MSc certificates and diploma, and an overview of previously used techniques and methods in a single PDF file to f.marxer@mineralogie.uni-hannover.de.

Review of applications will start immediately until the position is filled.

For questions and further information, please contact Dr. Felix Marxer (f.marxer@mineralogie.uni-hannover.de).

As an equal opportunities employer, the Leibniz University Hannover intends to promote women and men. For this reason, suitably qualified women are specifically invited to apply. Preference will be given to equally qualified applicants with disabilities. Part-time employment is possible.

Information on the collection of personal data according to article 13 GDPR can be found at: <https://www.uni-hannover.de/en/datenschutzhinweis-bewerbungen/>.