

Two fully funded (salary and research) PhD positions supported by the Swiss National Science Foundation are available at the **Department of Earth Sciences of the University of Geneva (Switzerland)**. The positions are financed for 4 years.

The doctoral candidates will be part of the group of **Volcanology and Petrology** (<http://www.unige.ch/sciences/terre/en/research/petrology-and-volcanology>).

Timeframe

Applications will be accepted until the **30th of June 2019**.

Successful candidates should start at the latest the **1st of September 2019**.

Project Title

Quantifying the thermo-chemical evolution of magma reservoirs using mineral chemistry: a combined experimental and statistical approach

Summary

This project focuses on improving our understanding of the thermal and chemical structure of subvolcanic magma reservoirs to establish the link between magmatic processes occurring at inaccessible depths, volcanic eruptions. We will use Mt Etna volcano as a natural laboratory to collect samples of eruptions that occurred throughout its eruptive history and characterised by different eruptive dynamics. One student will perform experiments in collaboration with the Petro-Volcanology group of the University of Perugia (Italy). Synthetically zoned crystals will be produced experimentally in static and dynamic conditions. Crystals will be analysed for major and trace elements and the data treated with statistical techniques to identify chemical clusters and their relative proportions as function of the conditions at which the experiments will be performed. The second PhD student will work in close collaboration with Dr Rosa Anna Corsaro of INGV Osservatorio Etneo in Catania (Italy) and perform analyses of samples from various eruptions we selected for this study and focus on the petrographic, geochemical characterisation of olivine, clinopyroxene and plagioclase. The data will be analysed statistically and compared with the experimentally produced minerals. The two students will work in close collaboration and interact during the entire duration of their doctoral studies.

The University of Geneva, University of Perugia and INGV-Osservatorio Etneo offer a wide range of state-of-the-art analytical and experimental facilities that will be fully available within the framework of this project.

Requirements

The applicant should have a master degree in Earth Sciences and a strong background in volcanology and petrology. The students will be integrated in a dynamic research group and we are looking for highly motivated candidates with a keen interest in unveiling the secrets of volcanic systems.

The interested applicants should send a **CV, academic record, a short motivation letter** (Maximum 1 A4 page), and **names and contacts of two potential referees** to:

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