

# Postdoctoral position in Experimental Petrology and Geochemistry

**Starting date: between 1 February and 1 May 2025**

**Duration: 12 months (renewable for more than 12 months subject to performance)**

**Net salary: at least 33 k€/year (depending on experience)**

The Earth's continental crust is distinguished from other planetary crusts by its predominantly felsic composition (rich in Si and Al). The origin of this crust is related to global geochemical fluxes via the planetary geodynamics and interactions magma-rock-ocean-atmosphere. The understanding of these links is largely conditioned by the use of mineral proxies among which zircon has been holding the first place. This understanding is especially important for the Hadean eon (> 4 Ga), because no Hadean rock but uniquely zircon grain record was preserved.

The successful Post Doc will work on zircon-silicate melt elemental partitioning at a wide pressure-temperature range using essentially the piston cylinder technique (0.2 – 6 GPa pressure range). Reaction experiments will be also required to constrain partitioning between minerals and melts produced during reaction of (ultra-)mafic melts with rocks of mantle specifics. The experimental constraints will allow building novel geochemical model linking the shallow felsic crust production, segregation with mantle-crust differentiation and planetary geodynamics. The present project is an essential part of the ERC ADG-funded PLANETAfelsic project (WP1 and WP2). The main work will be carried out in the newly built piston-cylinder laboratory at GET in Toulouse, France.

## Prerequisites

Applicants should hold a recent PhD degree in Geology, Chemistry or Physics. The candidate must have a strong background in either petrology, mineralogy or physical chemistry, as well as a strong enthusiasm for experimental work. We seek for a highly motivated person, with a strong background in experimental petrology and PhD experience in the piston cylinder techniques. Experience in experimental petrology-geochemistry and kinetics of melt-rock and melt-mineral reactions would be a plus. Preference will be given to young candidates (post-PhD experience <3 years), but exceptional “more experienced” candidates may also be considered. The candidate must be fluent in English. Knowledge of French is desirable and will be a plus.

## Application

Candidates should submit, in a single pdf file by email, a short statement of research experience and interests, a detailed CV including the complete list of publications, and the names and contact information of three potential referees to: Dr. HDR Anastassia Borisova, [anastassia.borisova@get.omp.eu](mailto:anastassia.borisova@get.omp.eu), phone: (+33)5 61 33 26 31.

Review of applications will start immediately and will continue until the position is filled. Please contact Dr. Anastassia Borisova for additional information concerning the project. General information about the GET laboratory is available at: [www.get.obs-mip.fr/Anastassia Borisova \(CR CNRS, HDR 2015\)](http://www.get.obs-mip.fr/Anastassia%20Borisova), Tél : 05-61-33-26-31 ; E-mail : [anastassia.borisova@get.omp.eu](mailto:anastassia.borisova@get.omp.eu)

## Références bibliographiques:

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- Luo, Y., & Ayers, J. C. (2009). Experimental measurements of zircon/melt trace-element partition coefficients. *Geochimica et Cosmochimica Acta*, 73(12), 3656-3679.
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- Tompkins, H. G. D., Ibañez-Mejía, M., Tissot, F. L. H., Bloch, E., Wang, Y., & Trail, D. (2023). Zircon growth experiments reveal limited equilibrium Zr isotope fractionation in magmas. *Geochemical Perspectives Letters*, 25.
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