

Postdoc in mineral physic, volcanology

Job offer from the institut de physique du globe de Paris | CNRS UMR 7154

Researcher in	mineral physic, volcanology
Duration	24 months
Affectation	Geomaterial team
Salary	the minimum could be around 2,400 euros net before tax and may vary according to experience
Date of publication	15/04/2024
Starting date	Between september 1st and December 1 st , 2024
Location	1, rue Jussieu 75005 Paris

The institut de physique du globe de Paris

A world-renowned geosciences organisation, the IPGP is associated with the CNRS and an integrated institute of the Université Paris Cité. Bringing together more than 500 people, the IPGP studies the Earth and the planets from the core to the most superficial fluid envelopes, through observation, experimentation and modelling.

The research areas are structured through 4 main unifying themes: Interiors of the Earth and Planets, Natural Hazards, Earth System and Origins.

The IPGP is in charge of labelled observation services in volcanology, seismology, magnetism, gravimetry and erosion. And the IPGP's permanent observatories monitor the four active French overseas volcanoes in Guadeloupe, Martinique, Réunion Island and Mayotte.

The IPGP hosts powerful computing resources and state-of-the-art experimental and analytical facilities and benefits from first-class technical support. The IPGP provides its students with geosciences training that combine observation, quantitative analysis and modelling, and that reflects the quality, richness and thematic diversity of the research conducted by the IPGP teams.

Team Department

The Geomaterials team studies the thermodynamic properties and structure of glass, liquid, magma and crystals. The team's fields of application range from volcanology to industrial processes, in partnership with major industrial groups such as Corning, Lafarge and CEA.

Missions

We are planning to hire two postdocs as part of the ANR "USB-MAC" (ANR-22-CE49-0008) project, which aims at understanding and modeling sulfur speciation, solubility, and degassing in natural and synthetic silicate melts through experimental and spectroscopic studies. The partners in this French collaborative project are research groups from LMV Clermont-Ferrand (Etienne Médard, Séverine Moune, Muriel Laubier), IPGP Paris (Daniel Neuville), SIMAP Grenoble (Ioana Nuta, Alexander Pisch) and Roberto Moretti at Università degli studi della Campania.

One postdoc will be based in Clermont-Ferrand, and will focus mainly on high-pressure, high-temperature experiments applied to natural systems (magmas). Along with piston-cylinder experiments, the post-doc will be in charge of performing one-atmosphere experiments, EMPA and spectroscopic analyses, thermodynamic modeling, and carrying out a



comparison with natural samples relevant to the “excess sulfur” issue in volcanic systems. Preferred candidates will have a strong background in experimental petrology and/or volcanology.

The second postdoc will be based in IPGP Paris and will focus on the sulfur incorporation and its role in silicate glasses and melts investigated by Raman spectroscopy, viscosimetry, and thermodynamic measurements. The project will also involve high-temperature experiments, thermodynamic modeling, and applications to industrial glass synthesis.

Activities

The postdoc based in IPGP Paris will be focus on the sulfur incorporation and its role in silicate glasses and melts investigated by Raman spectroscopy, viscosimetry, and thermodynamic measurements. The project will also involve high-temperature experiments, thermodynamic modeling, and applications to industrial glass synthesis.

Expected Skills

Preferred candidates will have a background in spectroscopy and/or material science.

Both postdoctoral positions are funded for 24 months, and will involve visits to partner institutions as well as synchrotron facilities.

Obligations and risks

- > Adjustable working hours between 9 a.m. and 6 p.m. daily, 37 hours a week
- > No on-call duty
- > Possible travel to particle gas pedals (SOLEIL-Saclay, ESRF-Grenoble)

Training and experience required

Candidates' profiles required: - PhD in material science/ petrology and/or volcanology with experience in experimental work. - Autonomy, rigor, initiative and efficiency. - Capacity to write scientific publications and communications

How to apply

This position is open to contract staff. 18-month fixed-term contract with a 2-month trial period, which may be renewed.

The person recruited will be entitled to up to 54 working days' leave, depending on his/her weekly working hours. Outside the health crisis, teleworking is available at the IPGP, subject to the agreement of the line manager and the Human Resources Department (up to 2 days a week for employees with 6 months' seniority).

To apply, please send an informal application by email to Etienne Médard (etienne.medard@uca.fr) and Daniel Neuville (neuville@ipgp.fr), preferably before May 15, 2024. More information on the formal application process will be forwarded to interested applicants.