Postdoc in geochemistry for the development of experiments on condensation in plasmas

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

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| **Researcher in** | Geochemistry/Cosmochemistry |
| **Duration** | 24 months |
| **Affectation** | IPGP, team CAGE |
| **Salary** | Dependent on experience |
| **Starting date** | 23/12/2024 |
| **Location** | IPGP, 1 rue Jussieu, 75136 CEDEX 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 aeras 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 CAGE

### The CAGE team (Cosmochemistry, Astrophysics, and Experimental Geophysics) brings together researchers and faculty members united by a primary research focus on the formation and early evolution of the solar system, the Earth's formation, differentiation, and ancient geological history.

### The uniqueness of this team lies in its integration of diverse approaches and expertise to address a common question: our origins. Their work encompasses astrophysical numerical modeling, studies of extraterrestrial matter, isotopic geochemistry, mineralogy, high-temperature and/or high-pressure experimentation, and physico-chemical modeling.

### Team members are deeply involved in experimental development at the IPGP (piston-cylinder and multi-anvil presses, laser-heated diamond anvil cells, aerodynamic levitation laser furnaces with controlled atmospheres, SEM, FEG, FIB) and in analytical development on IPGP mass spectrometers (MC-ICPMS Neptune, TIMS, Noblesse for noble gases, and in situ analysis coupled with laser ablation). They have regular access to ion probes from the national INSU service at the CRPG in Nancy and various synchrotron light sources (ESRF, APS, DESY). Numerical simulations are conducted on two computing clusters and the S-Capad system at the IPGP.

### In addition to cosmochemistry projects, team members pursue other research themes, ranging from chemical geodynamics and Archean Earth studies to major geochemical cycles, the structure and physico-chemical properties of deep Earth minerals and rocks, and the application of isotopes in medicine.

### Missions

> Presentation of the missions within the context: Develop experiments on condensation in plasmas using the plasma reactor at the LSPM laboratory of Université Paris Nord, and analyze the experimental products to aim for the production of oxide and silicate condensates with mass-independent oxygen isotopic variations. Interpret and publish the results.

> Number of agents: 1

> Position of responsibility: no

> For researchers: research project for the UnivEarthS LabEx

### Activities

> Description of the activities : Experiments, analysis, conference presentations, publication.

### Expected Skills

> Specific training : PhD in geochemistry/cosmochemistry, expertise in conducting high-temperature experiments in plasmas, proficiency in in-situ analytical techniques (SEM, electron probe, Raman, SIMS).

### Obligations and risks

### > Working hours: Standard full-time hours, Monday to Friday. The postdoctoral researcher will divide their time between the IPGP, the LSPM for experiments, and the national ion probe laboratory at the CRPG in Nancy. No on-call duties or special hours.

### > Travel: Conferences and collaboration meetings in France and abroad.

### Training and experience required

> Maximum of 5 years experience post-PhD

> Education level or diploma : PhD

### How to apply

> CV and cover letter

> Contacts (2 contacts are required for the interview): Marc Chaussidon ([chaussidon@ipgp.fr](mailto:chaussidon@ipgp.fr)), François Robert ([francois.robert@mnhn.fr](mailto:francois.robert@mnhn.fr))