



Funded by
the European Union



European Research Council
Established by the European Commission



Post Doc position (ULB, CRPG, AWI): a LA-ICPMS perspective on the basal ice of Greenland ice cores (2 years PostDoc position, ERC Green2Ice)

Offer Description

We are seeking a highly motivated postdoctoral researcher to investigate the distribution and behavior of inorganic elements and impurities in basal ice of the Greenland Ice Sheet, using state-of-the-art laser ablation inductively coupled plasma mass spectrometry (LA-ICP-MS) and complementary methods. The position offers a unique opportunity to work on exceptional ice-core material and to contribute to fundamental questions on ice-bed interactions and basal ice formation.

Project description and aim

Basal ice layers preserve invaluable records of debris entrainment, physicochemical processes, and interactions between ice sheets and their beds. Recent advances in LA-ICP-MS now enable the spatially resolved analysis of major and trace elements at the scale of individual ice crystals and grain boundaries. This postdoctoral project aims to leverage these developments to better constrain the origin, structure, and evolution of basal ice beneath the Greenland Ice Sheet. By combining high-resolution chemical mapping with detailed microstructural analyses—encompassing crystal shape and orientation, as well as bubble size and distribution—across basal ice sections with contrasting facies, the project will address several key open questions. These include the nature and sources of debris in basal ice and the mechanisms governing their incorporation, as well as the distribution and impact of impurities within basal ice and how this differs from that in overlying debris-free meteoric ice. Cross calibration experiments using bulk analysis of samples (or synthetic standards) with ICPOES/MS will permit to constrain the matrix effect that could affect the LA-ICP-MS mapping. Lab experiments might possibly be undertaken to document the kinetic and the mechanisms of the impurities migrations.

The project will involve close collaboration with Dr. Pascal Bohleber and Dr. Nicolas Stoll and includes extended research stays at the Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research (Germany). For informal inquiries about the project or the position, please contact François Fripiat at francois.fripiat@ulb.be, or Pierre-Henri Blard at pierre-henri.blard@univ-lorraine.fr.

What are we looking for?

We are looking for an enthusiastic, motivated, and autonomous researcher with:

- A PhD in glaciology, geochemistry, physics, Earth sciences, or a closely related field
- Strong interest in ice-core science and basal ice processes
- Expertise in ice-core physics and/or chemistry
- Expertise in LA-ICP-MS or closely related micro-analytical techniques
- Expertise in programming and image analysis tools
- Good communication skills and the ability to work both independently and collaboratively
- Willingness to be mobile and to undertake extended research stays at partner institutions abroad

What do we offer?

A fully funded 2-year postdoctoral position jointly hosted by the Université libre de Bruxelles (Brussels, Belgium) and the Université de Lorraine (Nancy, France). The position is funded for two years, with one year of salary supported by Brussels and one year supported by Nancy. The successful candidate will receive a competitive salary with full social benefits according to the regulations of the host institution for each funded year. The project offers access to world-class analytical facilities and unique

ice-core samples, within a stimulating international research environment and a strong collaborative network. The starting date is flexible, with a preferred start around September 2026.

Application Procedure

Interested candidates should submit their application by **April 6** to francois.fripiat@ulb.be and pierre-henri.blard@univ-lorraine.fr.

Applications should consist of a single PDF file including: A motivation/cover letter (maximum 2 pages); Contact details of two referees; A CV, including a list of publications.

If this position may interest someone in your network, we would appreciate you forwarding this announcement.