



**PhD fellowship
in Mineral Physics / Materials Science
starting fall 2024**

Deformation of metallic alloys in the Earth's inner core

The [ERC HotCores](#) project aims at *reenacting key events of the history of the Earth's Inner Core* in the laboratory. We are looking for *one PhD fellowship, to start work in the fall of 2024*. PhD's in France are for 3 years. The fellowship is paid according to French standards for PhD fellowships, including all associated social benefits.

The research will involve *laboratory- and synchrotron-based deformation of metallic alloys* using a new apparatus recently delivered to the lab. The candidate will be in charge of calibrating the instrument and study the microstructural response of metallic alloys as a function of applied deformation, and temperature, up to the alloy's melting temperature. The candidate will have access to the local, staffed [electron microscopy facility](#) for characterizing the sample states prior and after the mechanical tests. Tests will be performed in the [Lille High Pressure Laboratory](#) and at synchrotrons.

The working language in the laboratory can be either French or English. The position is based at the Université de Lille, in Northern France. Lille can be reached by train in 1 hour from Paris, 40 minutes from Brussels, and 1h20 from London.

Prerequisites:

We seek a highly motivated individual with keen interest in high pressure and mechanical properties experiments as well as deep Earth processes. The ability to work independently on experimental developments is essential to the project. The candidates should hold a master's degree in Physics, Materials, or Earth Science at the start of the fellowship. Good command of English (written and spoken) is a plus.

Applications:

Candidates should submit, in a single pdf file, a short statement of experience and interests, a CV, and the names and contact information of two or three potential referees by May 1st 2024 to Prof. Dr. Sébastien Merkel (sebastien.merkel@univ-lille.fr) and Dr. Nadège Hilairot (nadege.hilairot@univ-lille.fr). Review of applications will start immediately and will continue until the position is filled. Do not hesitate to contact S. Merkel for additional information and to discuss the conditions for applications.

Other positions will be available in the future on related topics in the HotCores ERC project. Please get in touch for further information.

Links and supplementary information:

Hosting research group at Université de Lille: <http://umet.univ-lille.fr/MTP>

ERC HotCores project: <https://erc-hotcores.univ-lille.fr/>

Project Principal Investigator, Sébastien Merkel: <http://merkel.texture.rocks/>

Local facilities at Univ. Lille: [high-pressure lab](#), [electron microscopy platform](#)