CBH Graduate School
Université Grenoble Alpes

FRANCE 2030

Identification of lanthanide-protein interactions in mammalian cells

24-month postdoctoral position in Grenoble, France

Context: Recent technological developments have expanded and intensified the use of lanthanides (Ln) in domains as diverse as renewable energy, computing, and medicine. The increasing usage of these metals raises the question of their impact on the environment and human health. However, the potential toxicity of these metal ions, and its underlying molecular mechanisms, are still little known and rarely investigated in human cell models. Identifying direct metal-protein interactions in cell is key to answer these questions, yet it is also a challenge due to the labile character of these interactions.

Project: We aim to identify the protein interactome of lanthanide ions (lanthanoproteome) by combining molecular tools and proteomic approaches. The postdoc will synthesize molecular tools to enrich and/or label covalently proteins interacting with Ln(III) ions. He or she will assess the efficacy of these molecular tools on isolated proteins, then implement these tools in mammalian cells to identify the interactome of lanthanide ions by mass-spectrometry-based proteomics.

Position details:

- **Location:** The postdoc candidate will be part of a collaborative project between two research groups in Grenoble, France: the CIBEST team of the SyMMES lab (synthesis, *in vitro* proof-of concept, toxicology) and the EDyP team of the BGE lab (proteomic analysis).
- **Funding:** 2-year funding by EUR-CBH Graduate school. Salary in agreement with the postdoctoral salary guidelines of Université Grenoble Alpes.
- **Starting date:** October 1st, 2026.

Profile: The candidate should have a PhD degree in chemical biology, bio-organic chemistry, bio-inorganic chemistry or a related field at the beginning of the postdoc. He or she should have skills in organic synthesis, and a strong motivation for collaborative work at the chemistry-biology interface. Experience in protein biochemistry, cell culture or proteomics would be a plus but is not required.

Application deadline: April 15th, 2026.

How to apply: Applicants should send their CV (1 page max.), a cover letter, and contact information of two references to sarah.hostachy@cea.fr and yohann.coute@cea.fr.

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