CITÉ DES ÉNERGIES by cea

BIAM-UMR 7265
INSTITUT DE BIOSCIENCES & BIOTECHNOLOGIES D'AIX-MARSEILLE

The CEA recruits a Scientist in "Mechanisms involved in the interaction of bacteria with essential or toxic metals"

A permanent scientist position is open in the team "Interactions Protein-Metal" (IPM) in connection with the "Metal Acquisition and Metalloproteins" group in the team "Environmental Molecular Microbiology" (MEM) within the *Bioscience and biotechnology Institute of Aix-Marseille* located in the Cadarache Centre, Southern France (Provence)

Mission and activities of the host team

You will benefit from the expertise of the host team "IPM" and of the "Metal Acquisition and Metalloproteins" group and from the environment of the *Bioscience and biotechnology Institute of Aix-Marseille (BIAM)*, CEA and Aix-Marseille University. BIAM is interested in the responses of living organisms to environmental constraints and in the mechanisms of conversion of solar energy into energy-rich biomass.

The IPM team is composed of 3 scientists, 2 research engineers, 3 technicians and hosts PhD students and postdocs. The "Metal acquisition and metalloproteins" (Metallo) group is composed of 1 scientist, 1 technician, PhD students and post-docs.

In the IPM team and the "Metallo" group, we investigate the molecular mechanisms involved in metal trafficking and homeostasis in bacteria, as well as their perturbation by non-biologic (toxic) metals and radionuclides. Metals of interest span lanthanides and actinides, iron, cobalt, zinc, copper and alkaline earths.

We address these questions using a multidisciplinary approach based on experimental microbiology, biochemistry, biophysics associated with metal-protein interactions (Fluorimetry, iTC, FTIR and Raman spectroscopy) and structural biology. We work on environmental (soil) bacteria and are interested in their role in biogeochemical metal cycles as well as in selective metal uptake. The approach of these topics from a mechanistic point of view allows us to contribute both to fundamental scientific knowledge and to applications

with a strong potential impact on society and the bioeconomy. The topics addressed are radiation protection, decommissioning and remediation, recycling of strategic metals or climate change with CO_2 sequestration in alkaline earth carbonates.

Requirement

The position is open to candidates with a PhD and at least 1 postdoctoral experience. The candidate's research project should fit within the IPM team and “Metallo” group research lines, and ideally involve a pluridisciplinary approach with significant biochemistry.
The project could benefit from collaborations with the BIAM platforms for the handling of radionuclides (SALTO), for protein production, purification and characterization (ProteinTec), ion dosage with ICP-OES and ICP-MS (Ionotech), confocal and Raman imaging (ZoOM) and of a bioinformatic cell.

The ability to interact with other researchers in the team is very important. The person recruited will also be expected to write grant proposals and scientific publications and will therefore need good oral communication and writing skills. He/she will also have to supervise master students, PhD students or post-docs.

A good command of English is essential. French is not necessary in the laboratory but its learning will be recommended to facilitate the insertion in the social life.

Application procedure

Please **send your application file at cite-des-energies@cea.fr,** including:

- A cover letter
- Your recent CV including a list of publications
- Major achievements/research contributions (2-4 pages) and general outlines of the research project that you would like to develop (1-2 pages). The whole document (Arial 12, single space, all margins 2 cm) must not exceed 5 pages.
- 2-3 references who could provide letters of recommendation.

Please, submit your application as a single pdf file and name the file with your last name first and the name of team (IPM), *e.g.* DUPONT_application_IPM.pdf.

The deadline to apply is April 16, 2023 11:00 p.m. CET.

Shortlisted candidates will be invited to discuss with the host team and precise their research project. Interviews of candidates will be held as of June 2023 for a position in September 2023.

CEA's life quality

Expected salary range at the beginning: net salary from 2700€/month to 3200€/month for 1 to 6 years of postdoctoral experience.
Social benefit: 52 days of annual paid holidays; retirement plan; French national social security for health and retirement, free school system and international school for foreign children.

For scientific questions, please contact: catherine.berthomieu@cea.fr and pascal.arnoux@cea.fr