MESMic : Scientific Hub Metals in Environmental Systems Microbiology

Postdoctoral position: Hg isotopic fractionation in terrestrial and aquatic environments.

Hosting institution: Université de Pau et des Pays de l'Adour and CNRS, Institute of Analytical Sciences and Physico-Chemistry for Materials and the Environment (IPREM - Environmental Chemistry and Microbiology Unit)

Program: Scientific Hub Metals in Environmental Systems Microbiology (MESMic), E2S/UPPA

https://iprem.univ-pau.fr/en/projects/thematic-hubs/mesmic.html

Supervisor: D. Amouroux (CNRS, E2S/UPPA), Co-PI of the MESMic Hub.

Contact: david.amouroux@univ-pau.fr

Dead line for applications: December 25th 2022 – Starting date: March-April 2023 – Duration: 12 months (min)

Natural isotopic fractionation of Hg will be investigated to develop new proxy of parallel biotic and abiotic pathways that will be applied to decipher Hg biogeochemical pathways in the natural terrestrial and aquatic environments. Hg is recognized as a "non-traditional model element" for its isotopic system and analytical development over the last three decades now makes it possible to quantify the isotopic ratios of Hg in minerals, plants, animals, water or air. The use of Hg isotopes has considerably improved our understanding of its cycle because it exhibits both significant mass-dependent (MDF) and mass-independent fractionations (MIF). This opens up a large toolbox to study the different processes and, for example, identify the Hg pathways through soils, water and food chains. The reaction mechanisms involving Hg produce isotopic fractionation for biologically driven as well as abiotic dark- or light-induced processes. In order to decipher biotic versus abiotic pathways taking place under various environmental systems a specific sampling and experimental strategy must be developed.

The Postdoctoral work will be conducted in the framework of the MeSMic Hub (Metals in System Microbiology at E2S/UPPA). In this project, the postdoctoral fellow will investigate biotic and abiotic controlled Hg transformations through the fate of Hg compounds in various environmental compartments from specific tropical and temperate watersheds. This Postdoc project includes intense team-work and interdisciplinary scientific exchanges

Applicants should have strong background in (bio)geochemistry and/or environmental chemistry, and more specifically in isotopic (bio)geochemistry and analysis and field and/or experimental studies.

Applicant will have to teach environmental sciences (64 hours /year) at the College of Science and Technology for Energy and Environment of the UPPA (https://college-stee.univ-pau.fr). Gross salary 3065 Euros / month.

Applicants must send their application including a CV and a motivation letter by email before December 25th 2022 to (david.amouroux@univ-pau.fr).