



PhD PROJECT

Doctoral school of Exact Sciences and their Applications - ED 211
Avenue de l'université BP 1155 64 013 PAU Cedex – France

POSITION DESCRIPTION

Role of micro-organisms diversity on peatland functioning in the context of climatic change

SUMMARY:

Peatlands are unique ecosystems whose functioning is likely to be affected by global change. However, peatlands constitute one of the largest belowground carbon (C) stock of the planet and it is generally assumed that higher temperatures will increase peat decay, causing a positive feed-back to climate warming and contributing to the global positive carbon cycle feedback.

Although there is growing interest in the diversity and functioning of peatland microbial communities, the role of microorganisms in both the dynamics of organic matter and the mobilization and transformation of metals remains underexplored. Because peatland functioning is intimately linked to climatic conditions, it is important to better understand the role of microbial communities on the dynamics of organic matter and on the mobilization and transformation of metals. A better understanding lies mainly in our ability to simultaneously identify microbial communities at both taxonomic and functional levels, to characterize organic matter and trace elements, and track carbon and specific metals and/or metalloid fluxes. The aim of the PhD project is two-fold: (1) to generate a unique dataset on microbial communities and trace elements in peatland and (2) to integrate these data with spatial and climatic variables (obtained by the partners of the POCTEFA-REPLIM project) in order to highlight how these different components (metals, biodiversity, climate) interact between each other. This project will rely on the expertise in microbial ecology and geochemistry of the research unit IPREM. This project is part of the section "Chemistry and microbiology of environment" of IPREM.

Keywords:

Microbial communities - biogeochemical fluxes - biotic interactions – metagenomics - biostatistics- biogeography – environmental parameters -

POSITION DETAILS

Project and details for application: **contact Béatrice Lauga or François Rigal**

More information about the REPLIM project: <http://www.ipe.csic.es/replim> and <https://twitter.com/replimpoctefa>

Work place UMR 5254 CNRS-UPPA, INSTITUTE OF ANALYTICAL AND PHYSICO-CHEMICAL SCIENCES FOR THE ENVIRONMENT AND MATERIALS (IPREM)– Campus universitaire, Av de l'université - BP 1155 - F64013 Pau FRANCE

Start date: October or November 2017

Duration: 3 years

Monthly gross salary: 1685 €

SKILLS AND EXPERTISE OF THE RESEARCH UNIT

Environmental microbiology, Microbial ecology, Numerical ecology, Environmental chemistry, Analytical chemistry, Physical chemistry, Metals and metalloids speciation, Metal and trace element isotopic analysis

CONTACTS

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APPLICATIONS OPEN UNTIL FILLED