



Postdoctoral position in environmental microbiology

METIS, Sorbonne Université, Paris

The “Biogeochemistry” group of the METIS laboratory (Sorbonne Université, Paris; head: Dr. Sylvie Derenne) has an opening for a post-doctoral fellowship in environmental microbiology to study the **Impact of environmental conditions on the 3-hydroxy fatty acid profile of soil bacteria**. The position will start as soon as it is filled (ideally end of 2019/early 2020) and is funded for 1 year. A summary of the project is provided below.

Microorganisms are able to adjust their membrane composition in response to the prevailing environmental conditions to ensure the optimal state of this key cellular compartment. Recently, lipid analysis in surficial soils led to propose 3-hydroxy fatty acids (3-OH FAs) as potential temperature and pH proxies. Even though these results are promising, they were obtained empirically from a few bulk soils. The relationships between 3-OH FA distribution in soils and temperature/pH need to be further confirmed by working at the microbial level. Obtaining accurate information on the adaptation profile of 3-OH FA from the source microorganisms to temperature/pH changes is indeed essential before envisioning the development of robust (paleo)-environmental proxies based on these lipids.

The objective of the project will be to investigate the effect of temperature and pH on soil Gram-negative bacteria and 3-OH FA membrane lipids. To this aim, we will perform complementary laboratory experiments – cultivation of Gram-negative bacteria and soil incubations in the presence of labelled substrates.

This work will be based on a multidisciplinary approach, combining bacterial cultivation, state-of-the-art molecular biology, electron microscopy, geochemistry and isotope techniques.

Required qualifications:

- PhD in environmental microbiology/microbiology.
- Interest in microbial lipid synthesis or the development of environmental proxies.
- Demonstrated skills in microbiology/molecular biology. Skills in electron microscopy would be a plus.
- Basic knowledge and interest in organic geochemistry.
- Demonstrated record of presenting and publishing research results.

For more information about this position, please contact [Dr. Arnaud Huguet](#) or [Dr. Sylvie Collin](#).

Applications should include a detailed CV and a cover letter.