**POSTDOCTORAL POSITION IN MARINE MICROBIAL ECOCENOMICS.**

The Maignien group is welcoming applications for a postdoctoral position in microbial ecogenomics of the Southern Ocean. The researcher will be primarily based in the Lab. for microbiology of extreme environments (UMR6197, U. Brest, CNRS, IFREMER), in Brest, France. The position is for up to 3 years, starting beginning of 2020, and will be funded by the ACE-Ecogenomics ANR grant.

The Southern Ocean (SO) is a rapidly changing environment with an important role in global carbon cycling. Previous explorations of microbial diversity in this ocean have revealed unique assemblages of genes, organisms and communities most likely due to singular conditions of geochemistry, light cycle and ocean circulation, thus forming a very distinct marine ecosystem. While many studies have focused on understanding local SO ecosystem properties, a large-scale exploration of planktonic diversity and activity across contrasted Southern Ocean biomes is still lacking in order identify key microorganisms and metabolic pathways engaged in this original ocean’s functioning and ecology.

This project aims at exploiting samples and data acquired during the ACE cruise, an international expedition that explored the Southern Ocean (SO) during the austral summer 2016/2017 in a circumpolar path from and to Cape Town, South Africa. This expedition has allowed the coordinated sampling of different Southern Ocean systems and gathered 22 research projects providing a rich set of ancillary geochemical parameters to explore the environmental drivers of biodiversity.

The overarching goal of this project is thus to better understand the ecology of SO plankton and its implication in biogeochemical cycles based on a spatial and depth resolved analysis of viral, bacterial, archaeal and eukaryotic taxonomic and genomic diversity in austral summer waters.

The postdoctoral researcher will have the responsibility to analyze shotgun metagenomics and metatranscriptomics data from over 300 selected samples spanning different SO biomes, depths and size fractions. She/He will focus these analysis on the Archaeal and Bacterial part of the microbial...
community using read-, gene-, and genome-centric approaches. Based on these original datasets, possible directions for the project may include the following questions:

- Originality of the SO compared to other oceans, from community structure to population genome level, including pole-to-pole comparisons.
- Biogeography of Bacteria and Archaea in the SO
- Biotic and abiotic controls on the SO microbial community and population structure
- Relation with surface primary productivity (in collaboration with the Cassar Lab)
- Linking Bacterial and Archaeal diversity with the SO virome (in collaboration with the Duhaime Lab), and the microbial Eukaryotic communities (in collaboration with the Wincker Lab)

What we offer...
The researcher will work at IUEM institute, in a major international marine research campus, with a rich scientific environment spanning most aspects of marine sciences. Within the institute, the Lab has a longstanding expertise in exploring microbial communities in extreme marine ecosystems, from subseafloor to hydrothermal vents and cold seep settings. In addition, the successful candidate will benefit from excellent conditions to realize a high-profile research, including:

- access to outstanding computing resources at the Genoscope national facility, the IFREMER Datarmor cluster, and local bioinformatics servers
- recruiting and mentoring a PhD student and MSc. interns, specifically working on the ACE-ecogenomics project.
- funds for international networking, visiting research and conferences
- working within a lively research group interested in microbial ecogenomics approaches for microbial ecology communicating in English.
- possibility to teach in the microbiology graduate program and at the EBAME workshop

We are looking for...
An enthusiast postdoctoral researcher with a background in marine microbial ecology, strong bioinformatic skills including demonstrated experience with concepts and computational biology tools involved in microbial omics analysis. Excellent communication and mentoring skills to integrate his/her research within the larger ACE-ecogenomics consortium and engage in the group research activities beyond his/her project.

To apply
If you feel you are the right candidate for this position, we would like to learn more about your background and motivations! Please, contact us for more details, or send us a resume with references, together with a short research statement that may include your own vision for this project.

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