

POSTDOC POSITION IN MARINE MICROBIAL ECOLOGY

A postdoc position is available at the MIO (Toulon) in the framework of the project “FOS-SEA: Environmental risk assessment of biological fouling control along the Mediterranean coast”, funded by the French National Research Agency

Project description

Chlorination of seawater is still considered as one of the most effective and least expensive process to control biofilm formation (micro-fouling) that may block the heat exchangers or development of molds (macro-fouling) in industrial pipelines. This process is used in many industrial sites around the world in order to use this water for cooling purposes (petrochemical and steel industries) or for warming (LNG terminals for the liquefaction of gases). This process has also been selected by the International Maritime Organisation as one of the methods to be used for the control and management of ships ballast water before discharge into the sea.

The major concern related to the use of this process is potential output of many halogenated compounds formed by complex reactions between the chlorine inorganic residual and organic constituents. Little data exists on the nature, concentration levels, reactivity and fate of these byproducts in coastal waters, mostly based on the knowledge acquired in freshwater studies.

One of the objectives of FOS-SEA project is to investigate reciprocal interactions between marine microbial communities and chlorination byproducts in conditions representative from a French industrialized marine coastal ecosystem (Gulf of Fos). In this context, the candidate will participate to current studies and/or develop new approaches to (i) characterize the taxonomic and functional responses of microbial communities to brominated byproducts at concentrations and in environmental conditions representative from the Gulf of Fos, (ii) look for microbial degradation genetic potential along a contamination gradient and (iii) provide microbial expertise and data to modelers interested in the fate of these contaminants in the marine environment. The candidate will combine field sampling and lab experiments, focusing on the benthic and/or pelagic environments.

We are looking for a highly motivated and independent postdoctoral fellow willing to work in a multidisciplinary environment grouping microbial ecologists, ecotoxicologists and chemists. Applicants should demonstrate significant interest in contaminants ecodynamics as well as a strong background in microbial ecology. The selected candidate will join the MEB team of the MIO in Toulon. The MEB group is interested in microbial ecology and in organic matter degradation in various marine environments (coastal, offshore, and extreme) by focusing on both aerobic and anaerobic microorganisms involved in marine biogeochemistry and contaminants ecodynamics. The selected candidate will be able to use a large panel of molecular approaches, flow cytometry, and benefit from renowned experience of the MIO in environmental studies dealing with microbial communities and/or trace contaminants.

Essential skills

- PhD in microbial ecology

- Practical experience in molecular biology (DNA, RNA, (RT)qPCR)
- Experience in generating and interpreting (meta-)omics data
- Excellent written and oral communication skills and a demonstrated ability to work as part of a collaborative research group

Experience in field work, microcosm studies and/or trace condition lab-work would be appreciated.

Appointment

12 months of appointment starting on September 3rd 2018 according to the salary scheme of the University of Toulon (net salary of ~2000€ per month)

Application and contact

Open until June 15th. Contact Benjamin MISSON (misson@univ-tln.fr) for informal inquiries and applications (please provide CV and letter of motivation).