

Workshop Announcement

The microbial view of marine biogeochemical cycles

19-21 May 2010 in Banyuls-sur-Mer, France

Scientific Committee:

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The main objective of this workshop is to discuss key marine biogeochemical cycles focusing on their main drivers the highly diverse microbial assemblages inhabiting marine environments.

Over the past two decades, a suite of culture-independent molecular based techniques has allowed us to determine microbial community composition at different phylogenetic levels in the ocean. These techniques have given insight into the dominant microbial groups present at varying temporal and spatial scales. More recent high throughput approaches such as pyrosequencing have the potential to reveal the so-called “rare biosphere” of microbial communities and thus to nearly unlock what we once considered a black box. However, the functional role of individual microbial groups in biogeochemical cycles remains thus far poorly understood. Single-cell analysis and quantitative determination of particular genes and their expression are presently the most common approaches to link microbial community structure to function. The extraordinary advances in (meta)genomics, (meta)transcriptomics, and (meta)proteomics present additional new approaches that have the potential to provide detailed insight into the metabolic capabilities and thus functional roles of natural microbial communities. Together, these techniques offer us the possibility to address questions at different phylogenetic levels, from natural microbial communities to strains with entirely sequenced genomes.

The objective of this workshop is to discuss how these various approaches can contribute to address major, but thus far unresolved issues in marine biogeochemistry. Focus will be put on the questions “What level of phylogenetic diversity is an appropriate target if we are to better understand the functional role of microbes in marine biogeochemical cycles?” and “How can we integrate the “-omics” sciences to investigate functional groups in relationship to biogeochemical cycles?”

This workshop will offer the opportunity to bring together marine biogeochemists, microbial ecologists and molecular biologists.

For logistic reasons, participation to this workshop will be limited. Participants will be chosen on a first come first serve basis. If you are interested in participating, please send an e-mail to ingrid.obernosterer@obs-banyuls.fr until December 15th 2009 providing the following information: education level, oral or poster presentation, a tentative title and co-authors.