



Microbial community metagenomic profiling in shallow gas fields from the Ría de Vigo (NW of the Iberian Peninsula)

Alejandro de Carlos (1), Sandra Vázquez-Dorado (1), Soledad García-Gil (2), and Andrés Sanjuan (1)

(1) Department of Biochemistry, Genetics and Immunology. University of Vigo. Vigo, Spain (adcarlos@uvigo.es), (2) Department of Marine Geosciences. University of Vigo. Vigo, Spain.

The Ría de Vigo is a shallow water submarine incised valley running east to west along the NW coast of the Iberian Peninsula. Seismic and geochemical analyses from the sedimentary record indicate the presence of methane accumulations mapped as different gas fields, which are related with the presence of microbial communities. The aim of this investigation is to gain an initial perspective into the microbial diversity of the shallow gas fields from the Ría de Vigo. Two gravity corers, one from a gas-free area and another from a gas-accumulation zone, were taken. Genomic DNA was isolated from the recovered sediments and the 16S rRNA gene was amplified by PCR using primers specific for bacteria and archaea. The resulting products were analysed by pyrosequencing in a Genome Sequencer FLX System. The two sequence libraries were compared to the 16S rDNA database from the Ribosomal Database Project. The microbial communities from the two corers were characterised and compared. The different geochemical and sedimentary environments of each sample (i.e. the presence or absence of methane in the sediment) are discussed.