

AN INTEGRATIVE ACADEMIC-INDUSTRY COLLABORATION FOR BIOTECHNOLOGY-DRIVEN DISCOVERY OF NEW FUNCTIONS IN MARINE ENVIRONMENTAL METAGENOMES

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The large scale integrated FP7 EU project 'Marine Microbial Biodiversity, Bioinformatics and Biotechnology' (Micro B3, www.microb3.eu) builds on the expertise of 25 academic and 7 industrial partners. This highly interdisciplinary consortium comprises world-leading experts in bioinformatics, computer science, biology, ecology, oceanography, bioprospecting and biotechnology, as well as legal aspects. Micro B3 is set out to create innovative bioinformatic approaches and a legal framework to make large-scale data on marine viral, bacterial, archaeal and protistic genomes and metagenomes accessible to marine ecosystems biology and to define new targets for biotechnological applications.

The talk will outline the challenges faced integrating high volumes of heterogeneous data from biodiversity, genomic, oceanographic and earth observation databases into one Micro B3 Information System (MB3-IS), based on global standards for sampling and data processing. The developed standards, legal framework as well as analysis tools and pipelines will be immediately put to test in Micro B3's 'Ocean Sampling Day (OSD)'. OSD is planned as a simultaneous, coordinated sampling campaign of the world's oceans on summer solstice (June 21st) 2014. The resulting integrated datasets will provide insights into fundamental rules describing microbial diversity and function, and will contribute to the blue economy through the identification of novel, ocean-derived biotechnologies.

The consortium values open access to data and open source software products which are based on clear communication of intellectual property rights. This open, integrative and cross domain spirit has created a stimulating environment for academic-industry cooperation for integrated software development and the discovery of new processes and enzymatic functions in marine metagenomic data.