



**Embargo: 2pm on Saturday 21 June 2014**

## A Worldwide Scientific Adventure for Biodiversity:

### The Ocean Sampling Day, a Global Event for Sequencing the Oceans

[www.OceanSamplingDay.org](http://www.OceanSamplingDay.org)

June 21 2014, The Western Channel Observatory (WCO): Ocean Sampling Day successfully performed by scientists from The Marine Biological Association (MBA).

Today a worldwide sampling campaign of microbial life within marine surface water is performed within the framework of Micro B3's Ocean Sampling Day (OSD). It encompasses more than 150 marine research locations from Iceland to Antarctica and from Moorea (French Polynesia) via the Americas to South Africa including the UK.

With the advent of Next Generation Sequencing techniques (NGS) scientists worldwide have started to "Sequence the Oceans". In the recent past, scientists have been overwhelmed by the extremely large amount of data available through NGS. They tantalizingly point towards unknown organisms and species and many novel gene functions. Only through standardized methods for sampling, shipping, data transfer and based on bioinformatics support, can valid information be generated. This approach is of key importance for predictions and comparisons of both known and unknown genes and their products for innovative ecological knowledge and potential biotechnological applications.

The novel Ocean Sampling Day (OSD) concept was designed within the EU-funded project Micro B3 to facilitate a global, coordinated, standardised campaign in marine data collection. Until now the downstream analysis methods used in this field did not always enable easy interpretation and comparisons. OSD pilot sampling activities (four held to date) have shown that this new approach is generating an exciting set of new and fully standardized data from sampling to sequencing, analysis and annotation of gene functions.

In the months after the OSD DNA from the marine microbial communities thriving in the world's oceans and populating our surface waters at the sampled sites will be sequenced. This will be done according to standard operating procedures (SOP) for biodiversity bioinformatics, and also to find out about unknown functional genes. Environmental data, some of them captured with help from citizen scientists ([www.My-OSD.org](http://www.My-OSD.org)), will be integrated for these purposes through the Micro B3 Information System. All data, once validated and quality controlled, will become publicly available.

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The OSD leader, Prof. Dr. Dawn Field from Univ. Oxford said "OSD is the first simultaneous sampling of the world's oceans at a significant scale. As such, it is a historical event - and hopefully it's just the beginning and may continue in the future!"

The MBA senior Research Scientist, Dr Declan Schroeder (<http://www.mba.ac.uk/fellows/schroeder/>), and lead WCO coordinator for OSD relates how the OSD campaign is part of the wider research effort at site L4 in the English Channel.

"Understanding microbial dynamics over time and space is essential if we seek to determine how healthy our seas really are. Microbes control key life processes such as nutrient cycling, ocean chemistry and biological diversity. These ultimately determine how much fish is in the sea, whether our beaches are safe for swimming and even the oxygen we breathe."

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**Ends**

**Notes for editors:**

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**The Marine Biological Association (MBA)** is a professional body for marine scientists with some 1400 members world-wide. Since 1884 the MBA has established itself as a leading marine biological research organization contributing to the work of several Nobel Laureates and over 170 Fellows of the Royal Society. In 2013, the MBA was awarded a Royal Charter in recognition of its long and eminent history and its status within the field of marine biology. The award strengthens the Association's role in promoting marine biology as a discipline and in representing the interests of the marine biological community.