

SESSION: Ecosystems, Biodiversity and Biodiscovery**MARS Themes:**

Understanding natural and anthropogenic drivers of change

Title:

Using computational tools to shed light on microbes with the capacity to degrade microplastics in the oceans.

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Abstract:

The Atlantic Ocean is the second largest ocean, which is split into North Atlantic and South Atlantic Oceans. The South Atlantic Plastic pollution in our oceans is reaching an all-time high. These plastics are broken down into microplastics which cause adverse effects on both marine life and humans. Current methods of microplastic removal are either expensive, ineffective, or toxic to the environment. Extensive research has been done on microbes with the capacity to degrade microplastics and has been catalogued by databases such as the Plastic Biodegradation Database (PlasticDB). Research on the core microbiome of the ocean by the *Tara Oceans* project provides an overview of its microbial distribution. However, the distribution and functional composition of plastic-linked microorganisms in the ocean is still not well understood, particularly in the Southern Ocean. In this study, we analysed microbes from ocean metagenomes collected at various conditions, to discover putative plastic degrading taxa and the proteins that they may employ.

Format:

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Keywords:

Atlantic Ocean; Microplastics; Biodegradation; Microbial diversity