



Prof. Dr. Linda Amaral-Zettler

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Following the lecture, the WEB invites anyone interested in talking to Prof. Amaral-Zettler to stay for some discussion with coffee and biscuits!

“IT WAS VERY EXCITING IN THOSE DAYS.
WE WERE EXPLORERS.”
Marie-Tharp [1920-2006], Oceanographer

Friday, 21st February 2020, 11:00 a.m.

GEOMAR Lecture Hall West (R.54) | Düsternbrooker Weg 20, 24105 Kiel

The Hitchhiker’s Guide to the Plastisphere



Plastic Marine Debris (PMD) is a major source of marine pollution and potential source of invasive alien species including harmful algal blooming species, two important ocean health index criteria.

While macroplastic is the most conspicuous and iconic debris in the environment, micro (< 5 mm) and nano-sized (<50 µm) plastic particles are now recognized as a growing concern. Plastics are almost instantaneously colonized upon contact with water of any kind by a thin film of microorganisms, what we refer to as the “Plastisphere”, particularly plastics in the smaller size ranges. My lab has been studying microbial interactions with

PMD using a multiphasic approach including high-throughput amplicon and metagenomics sequencing, culturing, Scanning Electron Microscopy, and most recently Combinatorial Labelling and Spectral Imaging – Fluorescence In Situ Hybridization [CLASI-FISH]. These techniques all lend themselves to time-series sampling of developing biofilms on “virgin” substrates that can be sampled at desired time-points thereafter. Our early investigations revealed that Plastisphere communities are quite distinct from the surrounding environment, but time series investigations provide a time-stamp on the succession and community assembly in Plastisphere communities that is difficult if not impossible to achieve in naturally collected samples. My talk will review what is known about diversity in the “Plastisphere” to date and discuss the advantages and disadvantages different technologies present in addressing some of the most urgent questions regarding this newest of marine habitats.