

# 'The BIG Questions'

## Lecture Series



# The Small Things that Matter: the potential for microorganisms to protect our marine environment

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Venue: GEOMAR Westshore (Düsternbrooker Weg 20), Lecture Hall

The ocean is experiencing change at unprecedented speed and magnitude, with extremes in environmental conditions causing stress to marine flora and fauna that often manifests itself in disease and mortality.

It is known that these flora and fauna intimately interact with a myriad of microorganisms including viruses, bacteria, archaea, and micro-eukaryotes. Many of the diseases can be linked to specific microbial pathogens or to a general dysbiosis of the host-associated microbiome. While the mechanistic understanding of these diseases increases, we have yet to explore how facilitative interactions can be exploited to benefit the host.

By understanding community assembly and interactions we predict that in the future we will be able to manipulate marine microbiomes to both provide disease protection and stress resistance and improve overall performance. Engineered host-microbe interactions has the potential to protect our ocean from current and future environmental change and to contribute to a sustainable blue economy.

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