'The BIG Questions' Lecture Series

future ocean KIEL MARINE SCIENCES

The Dance of the Plankton: Ecological and Physical Factors Governing Phytoplankton Biomass

Prof. Michael Behrenfeld

Oregon State University, USA, Department of Botany and Plant Pathology 18 September 2014 | 16:00 h

"Climate change will unquestionably influence the global ocean plankton because it directly impacts both the availability of growth-limiting resources and the ecological processes governing biomass distributions and annual cycles. Forecasting this change demands recognition of vital, yet counterintuitive attributes of the plankton world. Biomass of the photosynthetic phytoplankton, for example, is not proportional to their division rate. Perhaps more surprising, physical processes (such as deep vertical mixing) can actually trigger an accumulation in phytoplankton while simultaneously decreasing their division rates. These behaviors emerge because changes in phytoplankton division rates are paralleled by proportional changes in grazing, viral attack, and other loss rates. In this presentation, I will discuss this trophic dance between predators and prey as seen from space, how it dictates when phytoplankton biomass remains constant or achieves massive blooms, and how it can determine even the sign of change in ocean ecosystems under a warming climate."

Venue: GEOMAR westshore building, large conference room (großer Konferenzraum) **www.futureocean.org/isos**





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