SPEAKER DETAILS

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ABSTRACT Subject :

The Interactive Influence of the Micronutrients Iron, Zinc, and Vitamin B12 on Ross Sea Primary Productivity.

Abstract

Life requires a suite of nutrients for growth and production of biomass. The productivity of marine phytoplankton communities are generally controlled by the availability of one or more of those nutrients, with iron being a dominant control in Southern Ocean ecosystems such as the Ross Sea. Yet given the high productivity of the Ross Sea polynya, as well as increasing inputs of iron from ice shelf and benthic sources, the importance of micronutrients such as vitamin B12 and zinc can also become important as secondary or even primary limiting nutrients. Use of zinc by phytoplankton rivals that of iron in quantity, and it is important for accessing carbon dioxide. B12 provides enhanced enzymatic efficiency in key enzymes in many phytoplankton and has a fascinating ecology and chemistry. This presentation will discuss the field experiments and biogeochemical and proteomic observations from the CORSACS and CICLOPS expeditions in the Ross Sea region.

Research Interests: Trace metal and vitamin biogeochemistry, marine microbiology, and marine metaproteomics.