

Category

BE Biology, Ecology, Ecosystems, Biodiversity

Session Number

BE-3

Session Title

Polar perspectives on microbial evolution, adaptation, and ecological function

Session Description

Arctic and Antarctic microbes (Archaea, Bacteria, and single-celled Eukarya) are adapted at the molecular, cellular, and community levels to the unique conditions of the polar environment. These adaptations include tolerance to high salinity and low temperatures, oxidative stress, and to the dynamic range of these conditions. These adaptations and the capacity for evolution will determine how polar microbial communities respond to rapidly changing climatic conditions. Although environmental responses to climate change often differ between the Arctic and Antarctic, the physiological and ecological responses of marine microbes to a given set of conditions can be similar. Because polar microbial ecologists often focus on either the Arctic or the Antarctic there are limited opportunities for intellectual exchange between these communities. This session is designed to encourage cross-fertilization between regional specialists, and solicits abstracts on microbial adaptation, evolution, and ecological function in either the Arctic or Antarctic. Studies based on ecophysiology, microbial growth strategies, 'omics' techniques, and molecular and metabolic modeling are all welcome. We particularly encourage abstracts that link between environments, taxonomic domains, and methods, such as work linking molecular structures and mechanisms with physiological or ecophysiological effects.

Keywords: Antarctic, Arctic, bacteria, archaea, phytoplankton, algae, protist, microbe, bioinformatics, ecology

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