

Bacterial Physiology in an Environmental Context

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Microorganisms have evolved in the cold, nutrient-poor ocean for millions of years. Yet, laboratory studies of marine bacteria often use conditions vastly different from their natural habitats. To better understand the physiology of marine bacteria, we study model systems under conditions that mirror the natural environment.

Beyond environmental conditions such as temperature and nutrient regimes, many marine bacteria are influenced by interactions with algal hosts. Algal-bacterial interactions include competition, cooperation, and communication, which significantly impacts both algae, bacteria, and their environment. In marine ecosystems, these interactions shape nutrient fluxes and foodwebs.

My talk will zoom into our recent discoveries about bacterial physiology in the context of algal hosts, focusing on the bacterial transition from starvation to growth. I will present our findings on how algal cues shorten the bacterial lag phase and trigger specific bacterial processes.