

Conference Title:

Living stuck to the bottom: strategies to improve resource acquisition in benthic organisms

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Abstract:

Sessile suspension feeders must compete for resources, such as space, energy and nutrients, to survive in the marine environment without a displacement capability. Space is usually the main limiting factor that benthic organisms face coming from the planktonic stage. Once they are settled, the acquisition of energy and nutrients become the crucial processes to remain in the community and to ensure progeny. Benthic suspension feeders have developed a wide variety of strategies to successfully persist in a changing environment based on the type of energy and nutrient that they can use, and the control over the availability of these resources that they may exert. This lecture will explore different approaches on how benthic suspension feeders establish associations with microbial organisms that provide the consortium with alternative metabolic pathways not available for eukaryotes (Madigan et al., 2003). It will also examine how some benthic suspension feeders can become ecosystem engineers transforming ecosystem properties, such as nutrient availability and, therefore their energy income, through their presence or their feeding activities (Jones et al., 1994).

References:

Jones CG, Lawton JH, Shachak M. 1994. Organisms as ecosystem engineers. *Oikos* 69:373-386.

Madigan MT, Martinko JM, and Parker J. 2003. Metabolic diversity. In *Brock Biology of Microorganisms*. Madigan MT, Martinko JM, and Parker J. (eds). Upper Saddle River, NJ, USA: Pearson Education, pp. 552–597.