

Deep-sea microbial diversity and ecology: overview of micro eukaryotic and prokaryotic biota

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Deep-sea ecosystems harbor highly diverse microbial communities encompassing both prokaryotes (e.g. Bacteria, Achaea), and eukaryotes (e.g. Fungi). These poorly explored systems pose environmental challenges for microbial life, leading to the diversification of basal clades and the acquisition of crucial adaptations. Assessing the extent of both eukaryotic and prokaryotic diversity is essential to our understanding of microbial evolution, and the structure/function of deep-sea food webs.

Microbiology has evolved over the last few decades, advancing into the molecular era. This has broadened its scope to a number of contributions of social and economic consequences such as genetics, natural product research, among others. This Special Session, aims to explore recent advances in microbial diversity and molecular ecology (of both eukaryotic and prokaryotic organisms), ranging from metabarcoding, transcriptomics, cross-kingdom interactions, and genomics. Conclusively, this forum will provide an overview of the broad range of research being carried out in this groundbreaking area, as well as an excellent opportunity for open discussion on knowledge gaps, and to interact with worldwide researchers about their most recent work.

Proposed talks (already confirmed with the authors):

1. Laura Espinosa Asuar et al. Bacterial communities from deep-hydrothermal systems in the southern Gulf of California.
2. Jesica Hernandez-Monroy et al. Pairwise fungal-bacterial interactions as a model to understand dynamics in deep-sea hydrothermal systems at the southern Gulf of California.