
Woods Hole Oceanographic Institution
Biology Department Seminar



Thursday, October 19, 2023 – 12:00 Noon

Mechanisms of Adaptation and Acclimatization to Mesophotic Environmental Conditions

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The recent devastating declines of shallow-water coral reef communities are expected to increase as oceans continue to warm, leading to more frequent and severe mortality events. Mesophotic Coral Ecosystems (MCEs), located between roughly 30 – 100m depth, are often buffered from several of the local and global impacts affecting shallow-water coral reefs and it has been suggested, therefore, that MCEs may serve as an important refuge for coral species. Yet, MCEs remain underexplored compared to their shallow-water counterparts. If MCEs are in fact an important lifeboat for coral survival, it is critical to understand the various processes regulating community composition and ecosystem function. Resilience of ecosystems under rapid environmental change relies, in part, on the capacity of organisms to adapt and/or acclimatize to new conditions. Here, I explore community composition on Caribbean MCEs and examine how plasticity and adaptation enable certain coral species to thrive across broad depth gradients. Finally, as we undergo the most severe mass bleaching event to occur in the Caribbean, I will discuss the role of MCEs as a thermal refuge for depth generalist corals.

HYBRID! **In person:** Redfield Auditorium **Zoom:** <https://whoi-edu.zoom.us/j/96555332802> Meeting ID: 965 5533 2802 **By phone:** Find your local number: <https://whoi-edu.zoom.us/u/a3GJ91d9v>