
Woods Hole Oceanographic Institution
Biology Department Seminar



Thursday, October 31, 2024 – 12:00 Noon

Exploring Fine-Resolution Dynamics of Newly Settled Invertebrates Using a Prototype Camera Across Systems

Kharis Schrage

MIT-WHOI Joint Program Student

Settlement dynamics and post-settlement mortality of sessile invertebrates is a black box in marine benthic ecology. Most studies capture recruitment (i.e., survival of an individual until the researcher returns) rather than the in-situ growth and survival of newly settled sessile invertebrates. Quantification of settlement is labor-intensive and nearly impossible in remote habitats. Using CATAIN (CAmera To Analyze Invertebrates), a prototype camera system developed in the Meyer-Kaiser lab, we have a glimpse into this important transitional period. CATAIN captures settlement, growth, and post-settlement mortality in sessile invertebrates. For my PhD research I have deployed CATAIN in both Woods Hole and in the Arctic. Beyond tracking seasonality of settlement, we found relationships between environmental factors (temperature and tidal phase) and the settlement timing and growth of four taxa in Woods Hole. We also documented variable survivorship across taxa. In preliminary data from the Arctic we are gaining valuable insights into settlement timing and mortality of barnacles. Generally, the adherence to accepted paradigms seems to be species and region specific. These exploratory studies show not only the capabilities of CATAIN as a promising research tool, but illuminate previously unknown early life-history characteristics of common subtidal benthic invertebrates both locally and in a rapidly changing remote environment.

HYBRID! In Person: Redfield Auditorium **Zoom:** <https://whoi-edu.zoom.us/j/97000865816> Meeting ID: 970 0086 5816 **By phone:** Find your local number: <https://whoi-edu.zoom.us/j/97000865816>