



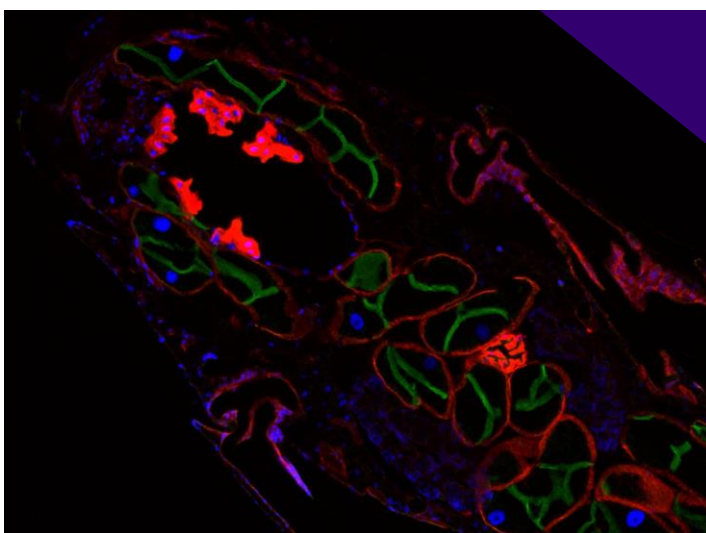
Biology Seminar

Speaker: **Andrea C. Durant Ph.D.**

University of Miami | Postdoctoral Fellow, Department of Marine Biology and Ecology

<https://www.researchgate.net/profile/Andrea-Durant>

Is being spineless really a bad thing? The physiology of aquatic invertebrates in challenging and changing environments



Monday, February 6, 2023

12:00PM PST | HCK 132

Osmoregulation and ion regulation are essential features for normal physiological functions in animals. Using integrative approaches to describe coordinated cellular and organ-level mechanisms with physiological traits, my research broadly examines fundamental features that allow invertebrate animals to adapt to fluctuating environmental conditions.

My talk will focus on work examining the interplay of anthropogenic disturbances and ion regulation in two different arthropod groups, amphipods and mosquitoes. *Hyaella azteca* are freshwater amphipod crustaceans that have been shown to have high tolerances to salt-contaminated freshwaters. My work with road salt has shown this tolerance is likely attributed to the presence of two functionally and morphologically distinct gill types in *H. azteca*. As a widely used crustacean model in toxicology, my research on *H. azteca* has aided adverse outcome pathway frameworks. As freshwater bodies are becoming saltier due to human activities, knowledge of the physiological adaptations of aquatic animals that have invaded saline waters will reveal interesting and predictive information in our understanding of responses to global climate change. Saline-tolerance of aquatic mosquito larvae (~5% of species) involves distinct changes to the organs that they use to osmoregulate. Using *Aedes taeniorhynchus* as a model for investigating climate change impacts on marine-adapted invertebrates, my work applies multi-generational and stressor approaches to examine how such organisms can acclimate or adapt to warming and increasingly acidic environments.

Seminar Speaker Hosts: Lauren Buckley and Emily Carrington

