The University of Hong Kong
School of Biological Sciences

Qualifying Seminar

The impact of a warmer and wetter world on subtropical corals and their algal symbionts

Date: April 17th, 2023 (Mon)

Time: 3pm

Venue: 3N-01 & Zoom

About the speaker:

Joseph Brennan is a PhD Student in the Baker Lab. His research focuses on the stress response of corals and their algal symbionts to predicted extreme weather events resulting from climate change.

Abstract:

Subtropical corals are known for their capacity to withstand variability in annual temperature ranges, turbidity, and many other environmental factors. However, coral bleaching events have emerged in higher latitudes, and predicted increases in marine heat waves and heavy precipitation events raise concerns toward the effects of climate change on the health and biodiversity of subtropical coral communities. Understanding how physiological function in corals and their symbiotic algae, *Symbiodiniaceae*, is impacted by predicted extreme weather events can improve our ability to predict the breakdown of the coral-algal symbiosis before these conditions occur.

Stress resistance capabilities can vary across hundreds of reef building coral species and thousands of coral-algal combinations. I will perform multiple ecological stress experiments combining traditional and novel metrics of stress identification to monitor the effects of increased temperature and decreased salinity on diverse assemblages of coral and *Symbiodiniaceae* genera. Phenotypic variation identified across these assemblages will be compared *in hospite* and in culture to determine which coral-algal combinations face the greatest threat from predicted extreme weather conditions.