Seminar title: "Big lessons from small subjects: the biology of larval mantis shrimp eyes"

Abstract: Stomatopod crustaceans, known commonly as mantis shrimp, possess one of the world's most complex visual systems. These compound eyes possess up to 16 different photoreceptor types for detecting color, including different 'colors' of ultraviolet light, as well as linear and circular polarization vision. By contrast, we know very little about the function, development, and evolution of eyes in mantis shrimp larvae, or babies. While larval mantis shrimp possess complex compound eyes, these eyes lack most of the special morphological and physiological features found in adults. Until recently, larval mantis shrimp were thought to possess rather unremarkable eyes, typical of other crustaceans found in the open ocean. Though mantis shrimp larval eyes appear simple, my investigations reveal surprising optical and physiological features beneath the corneal surface.  In this seminar I will present some of the discoveries made from studying stomatopod larvae, how these findings inform our understanding adult eye development, and what this all means in the context of stomatopod ecology and evolution.