



QUANTITATIVE AND SYSTEMS BIOLOGY COLLOQUIUM: Masked identity: genomic and functional insights from intracellular and social symbionts



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About the Speaker:

I am an Assistant Professor at Texas A&M University at Galveston in the Marine Biology Department. As a trained molecular ecologist, I integrate field, laboratory and computational tools to address fundamental questions surrounding interspecies interactions and their persistence under climate change. My goal is to transform these results into applied solutions for conservation. Our lab primarily studies cnidarian (corals, sea anemones and jellyfish) – algal symbiosis and innate immunity of invertebrates.

Abstract:

Symbiotic associations between species occur along a spectrum of interactions (mutualism to parasitism) with differing degrees of interdependence (endosymbiosis to social coexistence). These relationships require complex molecular, chemical and/or behavioral recognition systems, and coevolution between the host and symbiont to maintain stable partnerships. My research uses genomic data to investigate how ecological and evolutionary forces shape species interactions. I will highlight my previous and ongoing research on what we've learned about bioactive signaling lipids in mediating symbiosis onset, maintenance and breakdown in cnidarian-algal symbioses using functional genomics and genetics. We use symbiotic model systems such as the sea anemone *Exaiptasia* and jellyfish *Cassiopea* to compare lipid-mediated processes across deeply divergent lineages. Secondly, I will discuss recent findings from my prior postdoc on the large radiation of rove beetles and various ways in which they have convergently integrated into hostile ant colonies as social symbionts using comparative and population genomics.

Date:

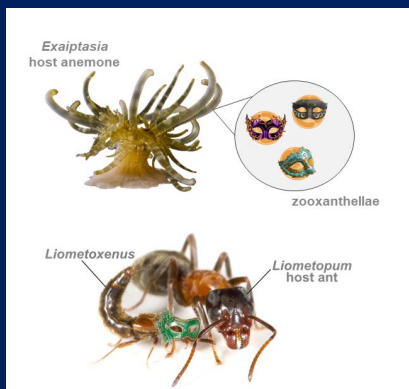
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Time:

10:30 AM - 11:45 AM

Location:

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