

"Bacterial symbionts use a type VI secretion system to compete for host colonization sites"

Abstract: The squid-*Vibrio* light organ symbiosis is a natural host-microbe association that is both simplified and tractable. In this association, multiple strains of bioluminescent *Vibrio fischeri* bacteria are found within the light organ of *Euprymna scolopes* squid. This symbiosis has served as a valuable model system for decades, revealing important fundamental rules about interbacterial and host-microbe interactions during a beneficial infection. My lab uses this system to study how interbacterial competition within the host impacts host colonization outcomes and spatially structures the host-associated population. Using multiple, co-isolated strains, we show that symbiotic *V. fischeri* contain a strain-specific genomic island that encodes a functional type VI secretion system (T6SS), which is a contact-dependent interbacterial weapon deployed during host colonization. In this talk, I will present evidence of beneficial bacterial symbionts using the T6SS to eliminate competitors to spatially structure the symbiotic population as they establish a mutualistic relationship with an animal host.