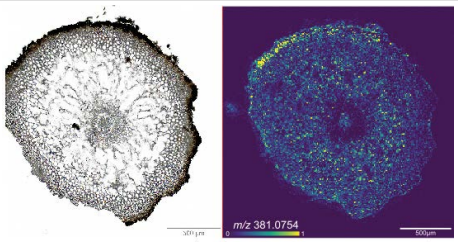
SCHOOL OF NATURAL SCIENCES

SEMINAR SERIES

Metabolites shape host-microbial interactions



Mass spectrometry image of a seagrass root section showing the distribution of sucrose

Almost all life thrives in the context of their microbiomes. Symbiotic relationships – or the art of living together – encompass a range of interactions between hosts and one to many microbial partners. Regardless of the type of interaction, small molecules or metabolites serve as the currency between the host and it's microbiome. My research centers on characterizing how organisms interact with one another by defining their metabolite composition in the context of host-microbial metabolism. For example, my current and planned research revolves around studying the microbial interactions between seagrass meadows and their rhizosphere microbiomes. Like their terrestrial relatives, seagrasses are evolutionary programmed to stimulate a rhizosphere community by excreting small compounds to their sediments. Using a strong interdisciplinary approach that combines metabolomics with next generation sequencing approaches and sediment physiological experiments, I show that multiple species of seagrasses select for a specific community of microorganisms through the excretion of sugars and other compounds to their sediments. By exploring how both biological and environmental processes shape symbiotic relationships, I aim to advance our understanding of host-microbial interactions across molecular, organismal and ecological scales.

Monday, 3/09/2020	**10:15am - 11:15am**	**S&E I, Rm. 270K**	For more information, contact: Professor Miriam Barlow at mbarlow@ucmerced.edu

Maggie Sogin

Department of Symbiosis
Max Planck Institute for Marine Microbiology

As an undergraduate at Brown University, I became passionate about *all things symbiosis* and began to explore, analyze, and combine complex datasets from a broad range of symbiotic systems. I did my PhD with Ruth Gates the University of Hawaii at Manoa and the Hawaii Institute of Marine Biology. I am currently building up a diversity of projects as a Project Leader at the Max Planck Institute for Marine Microbiology in Bremen, Germany as a member of Nicole Dubilier's Department of Symbiosis.