MICROBIOLOGY

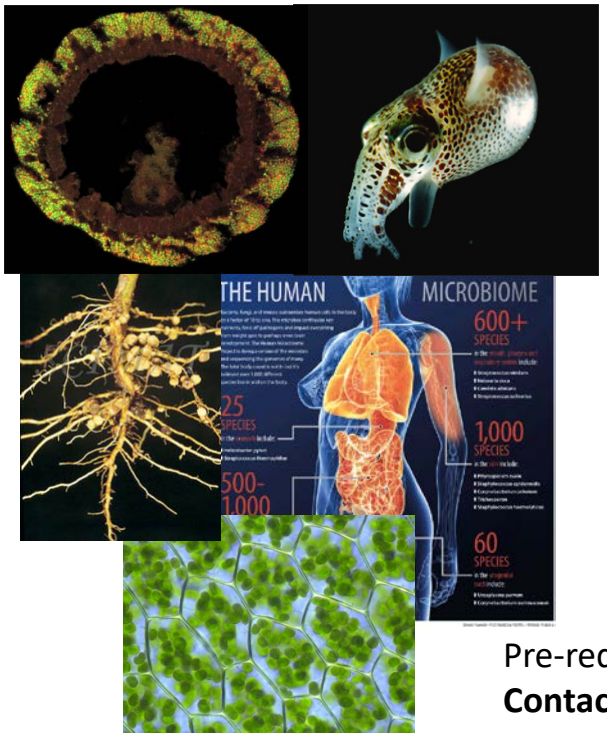
NC STATE

Microbial Symbiosis & Microbiomes

BSC 495-083 & MB 590-002

Fall 2020 – 3 credit course, WF 8:30 – 9:45

Overview: This course explores core topics in the study of microbial symbioses, including partner recognition and communication, adaptations to host association, the role of symbiosis in genome evolution and ecology, and the effects of microbial symbiosis on host health. Lectures and discussions will draw heavily from the primary literature in the field of microbiome/symbiosis research, focusing on the most recent discoveries, key methodological advancements, and on diverse associations ranging from marine symbioses to the human microbiome.



Student Learning Outcomes:

1. Ecological and human health impacts of symbiotic relationships
2. Partnerships with microbes that have produced biological innovation
3. Interactions with beneficial and pathogenic microorganisms
4. Role of microbial metabolites in shaping symbiotic interactions
5. Experimental methods to study animal or plant-associated microbiomes
6. Effectively synthesize and present primary research papers
7. Interpret community-level biomolecular datasets describing microbiome diversity and function

Pre-req: *MB 351 General Microbiology or equivalent; or by Permission of Instructor*

Contact: Dr. Manuel Kleiner – manuel_kleiner@ncsu.edu