



Channing Microbiome Seminar
January 31 (Friday), 2020, 11am @ 5th-floor conference room



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An environment-dependent framework of ecological network structures

Abstract: The network architecture of ecological communities represents the backbone describing the occurrence of species and their interactions in a given place and time. Yet, recent heated debates argue whether the network structures are universal and whether they are strongly associated with ecological processes. Here we show the controversies originated from omitting the local environmental information where the networks were sampled, an important confounder between species coexistence and network structures. We map the environmental conditions into the study of ecological network structures via structural stability --- a probabilistic measure of species coexistence under changing environmental conditions. We provide empirical evidence to resolve the recent debates. This suggests that ecological processes and structures are strongly linked, but cannot be fully understood without attention to the environmental conditions acting upon them.

Bio: Chuliang Song is a Ph. D. candidate at MIT under the supervision of Professor Serguei Saavedra. He works on network and community ecology. He earned his B.Sc. in Mathematics from Zhejiang University, and was a visiting student at Harvard Medical School supervised by Professor Yang-Yu Liu.

Hosted by Yang-Yu Liu