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Department of Medicine  
Channing Division of Network Medicine

## Channing Microbiome Seminar

November 17 (Friday), 2017, 11am @ 5th-floor conference room



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### Feasibility Analysis of Ecological Systems

**Abstract:** The feasibility of an ecological community corresponds to the set of environmental conditions under which all species can have positive abundances. In this talk, we will first examine the mathematical formulation of feasibility and recently developed analytical tools. Then we show several applications of feasibility analysis: (1) we use feasibility to quantitatively link network structure to environmental uncertainties; (2) we disentangle the role of wild and human-introduced species in the assembly process through feasibility; (3) we demonstrate that feasibility can be a key predictor of the species turnover. Our results suggest that feasibility is a powerful tool to understand the tolerance of a system to environmental variations.

*Bio: Chuliang Song is a Ph. D. student 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