

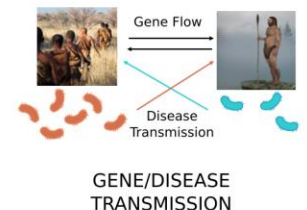
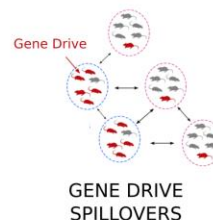
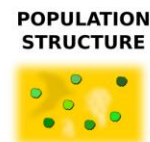
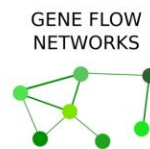
# Eco-Evolutionary Dynamics in Structured Populations

## Dr. Gili Greenbaum

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31/12/2019, 10:00, Institute seminar room, Sede Boqer Campus

Population structure is ubiquitous in natural populations. Studying this structure and the processes that shape it is key to understanding ecology and evolution, and is essential for conservation efforts. In many cases, ecological and evolutionary processes interact with population structure in a complex way to generate population genetic patterns. In this talk, I will describe how complex population structure can be modeled and investigated using networks and hierarchies. I will also present two cases where mathematical modeling of eco-evolutionary dynamics in structured populations provides important insights: (1) How, and if, CRISPR-based gene drives for control of invasive species can be designed to limit spillovers to non-target populations and avoid ecological catastrophes; (2) How dynamics of gene flow and disease transmission between populations can explain interactions between invasive and related native species, and how they may explain the outcomes of the modern human out-of-Africa migration and the disappearance of Neanderthals.



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