

Mathematical & Computational Biology Seminar

Organizer: Valerie Hower

Wednesday, 2:00–3:00pm, 939 Evans

Sept. 2 **Sebastian Schreiber**, UC Davis

Dispersal mediated persistence: Two tales from the ecological crypt

Ecologists have long recognized that movement of individuals across space can mediate persistence of interacting populations. In this talk, I will explore this theme using empirically motivated variations of two classical models: Lewontin & Cohen's model of a population living in a temporally variable environment and May & Leonard's model of rock-paper-scissor dynamics. For both models, I will illustrate how interacting populations can persist regionally at intermediate dispersal rates despite exhibiting extinction prone dynamics locally. The proofs underlying these examples are based on a (developing) mathematical theory of persistence for random and deterministic models of interacting populations.