

Population Dynamics Virtual Seminar



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Impact of population spatial structure on mutant fixation probabilities, from models on graphs to the gut

Microbial populations often have complex spatial structures, with homogeneous competition holding only at a local scale. Population structure can strongly impact evolution, in particular by affecting the fixation probability of mutants. I will first discuss a general model for describing structured populations on graphs. Then I will show that the specific structure of the gut, with hydrodynamics and gradients of food and bacterial concentrations, can increase the fixation probability of neutral mutants, with possible consequences for the diversity of the microbiota.