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On spatial Fleming-Viot models with selection and rare mutation

Abstract

The talk discusses a spatial population under resampling, selection, migration and rare mutation of fitter types exhibiting the phenomenon of punctuated equilibria (stasis). The focus is on the dynamics of the invasion by the rare mutants leading from emergence to fixation on the higher fitness level.

This phenomenon can be studied on complex geographical structures imitating two-dimensional space and hierarchically structured fitness landscapes. In the talk we demonstrate some of the effects in a simpler meanfield two-type model.