Evolution in spatially heterogeneous environments

Mohammad Reza Ejtehadi[1], Hosein Nemati, Melika Gorgi, kamran Kaveh
[1]*Sharif University Of Technology, Tehran, Iran*

Resources and dangers are usually not evenly distributed. Thus, environmental interactions are a major factor in determining the success of a new mutant in structured populations. Spatial variations in the concentration of resources locally alter the suitability of competing strategies and can thus drastically alter the outcome of evolutionary processes in unintuitive ways. We discuss the fixation probability and fixation time for a Moran birth-death process as fitness heterogeneity and its pattern vary. Various scenarios of competition between species and also the impact of migration were also examined.