
DON DAWSON, Carleton University

Some Probabilistic Objects Motivated by Evolutionary Biology and Ecology

We investigate the roles of rare mutations and spatial migration in the emergence and spatial distribution of new types in evolutionary theory in the framework of a class of spatially structured stochastic population models which incorporate the effects of migration, selection and mutation. The objective is to investigate the evolution of the system in a hierarchy of space and time scales and to describe the emergence and spatial distribution of selectively advantageous mutants. The basic tool is a class of set-valued processes which provides a dual representation of the system of interacting Fleming-Viot processes. (Joint work with Andreas Greven.)