The Reversibility of Interacting Fleming-Viot Processes

by
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Abstract

Fleming-Viot process is a mathematical model in population genetics. It is a probability-measure-valued process describing the relative frequencies of allelic types in a large population undergoing mutation, selection and genetic drift. The interacting Fleming-Viot process describes the evolution of a collection of Fleming-Viot processes in which those Fleming-Viot processes interact with each other through migration.

Reversibility is an interesting problem in theoretical population genetics. In this talk we are going to show that the interacting Fleming-Viot process, as a Markov process, is not reversible if both the migration and the mutation are non-trivial.

This talk is based on joint work with Shui Feng, Byron Schmuland and Jean Vaillancourt.