

1090-60-339

Jasmine Foo* (jyfoo@umn.edu), 206 Church St SE, University of Minnesota, School of Mathematics, Minnesota, MN 55455. *Accumulation and spread of mutations in a spatially structured population.*

I will discuss a stochastic model (based on biased voter dynamics) of mutation accumulation and spread in a spatially-structured population. This situation arises in a variety of ecological and biological problems, including the process of cancer initiation from healthy tissue. We investigate the temporal dynamics and spatial patterns of mutation accumulation, and how they depend on system parameters such as mutation rate, population size, and selective fitness advantage of mutations. This study will be facilitated by building a mesoscopic model based on our underlying particle system model of the population. This is joint work with R. Durrett and K. Leder. (Received March 04, 2013)