

1116-92-952

Jan Rychtar* (rychtar@uncg.edu), Department of Mathematics and Statistics, The University of North Carolina at Greensbor, Greensboro, NC 27402. *Evolutionary dynamics in finite structured populations.*

Evolution in finite populations is often modeled using the classical Moran process. Over the last ten years this methodology has been extended to structured populations using evolutionary graph theory. An important question in any such population, is whether a rare mutant has a higher or lower chance of fixating (the fixation probability) than the Moran probability, i.e. that from the original Moran model, which represents an unstructured population. As evolutionary graph theory has developed, different ways of considering the interactions between individuals through a graph and an associated matrix of weights have been considered, as have a number of important dynamics. In this talk we present the development on evolutionary graph theory in light of these extensions. We will give general criteria for when an evolutionary graph satisfies the Moran probability for the set of six common evolutionary dynamics. (Received September 15, 2015)