1096-92-1240 **Marc A Harper*** (marcharper@ucla.edu). *The Inherent Randomness of Evolving Populations.*
Entropy rates are measures of the variation dependent on both short-run and long-run behavior, and allow the relationships between mutation, selection, and population size in biological models to be examined. The entropy rates of the Wright-Fisher process, the Moran process, and generalizations are computed and used to compare these processes and their dependence on standard evolutionary parameters. Analytic results are possible in many cases and strict upper bounds for the entropy rate are given for the Moran process (independent of population size) and for the Wright-Fisher process (bounded for fixed population size). A generational Moran process is also presented for comparison to the Wright-Fisher Process. Results include analytic results and computational extensions. (Received September 13, 2013)