

1145-37-2096      **Jesse Drendel\*** ([drendel@math.colostate.edu](mailto:drendel@math.colostate.edu)). *Toric dynamical systems in population genetics.*

Toric dynamical systems make tractable models of recombination, mutation, and meiosis/fertilization, even with many loci and position effects. The longstanding global attractor conjecture, proved in 2016, says that solutions to a toric dynamical system approach a smooth connected manifold solving log-linear equations. This manifold is the linkage equilibrium of recombination models and the Hardy-Weinberg equilibrium of meiosis/fertilization models. There is an entropy-like function that increases with time for non-equilibrium solutions. The non-toric dynamics of epistatic selection can lead to linkage disequilibrium through cusp bifurcation and Hopf bifurcation of the attractor. (Received September 24, 2018)