

**Department of Mathematical Sciences
Colloquium**

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**DYNAMICAL STRUCTURE OF EVOLUTIONARY
POPULATION MODELS**

Evolution due to competition and natural selection can be modeled by Lotka-Volterra type population models with parameters that describe phenotypically mediated interactions between organisms.

If the time scale of mutational changes is much greater than the time scale of competition, the two kinds of dynamics separate. In this case, the evolutionary dynamics can be illuminated by the dynamical structure of the underlying Lotka-Volterra model. The results address the question of whether the process of a single species splitting into two (or more) daughter species can be modeled using symmetry breaking bifurcations.

**Friday, February 5, 2010 at 3 pm in Bell Hall 143
The University of Texas at El Paso**

Refreshments will be served in front of the colloquium room,
15 minutes before the start of the colloquium.