



UNIVERSITY OF CALIFORNIA
RIVERSIDE

DEPARTMENT OF MATHEMATICS
COLLOQUIUM

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“POLYNOMIAL DYNAMICAL SYSTEMS AND
THE GLOBAL ATTRACTOR CONJECTURE”

Polynomial dynamical systems are very common in applications. For example, population dynamics models for the spread of infectious diseases or the dynamics of species in an ecosystem are often polynomial dynamical systems. On the other hand, there are many important unsolved problems about these systems: for example, Hilbert's 16th problem about limit cycles, and problems about chaotic dynamics. We will describe the Global Attractor Conjecture, which says that a large class of polynomial dynamical systems has solutions that converge to a fixed point, and in particular cannot exhibit cycles or chaotic dynamics. We will discuss an approach for proving this conjecture, as well as connections with the Boltzmann equation and implications for models of population dynamics.

WEDNESDAY, APRIL 5TH, 2017
SURGE 284
TEA TIME 3:40 P.M.
TALK BEGINS 4:10 P.M.