

CALIFORNIA STATE UNIVERSITY, LONG BEACH

THE MATHEMATICS COLLOQUIUM

presents

Dr. Kellie Evans

California State University, Northridge

speaking on

Continuum limits and universality in a family of cellular automata

Friday, September 10, 2004

12:00PM-1:00PM

LA5-267

Abstract: The Game of Life (Life) is a two-state, two-dimensional, nearest neighbor cellular automaton (CA) that John Horton Conway proved is universal. The Larger than Life (LtL) family of CAs generalizes Life to large neighborhoods and general birth and survival thresholds. A specific threshold-range scaling of Life to LtL yields a family of large neighborhood “Life-like” CAs. In this talk, a mix of rigorous and experimental results, questions, and conjectures about LtL’s Life-like CAs - specifically, the continuum limits of certain viable structures as well as the universality of these rules - will be discussed. Numerous examples will be given and real-time “movies” of experimental results will be shown.