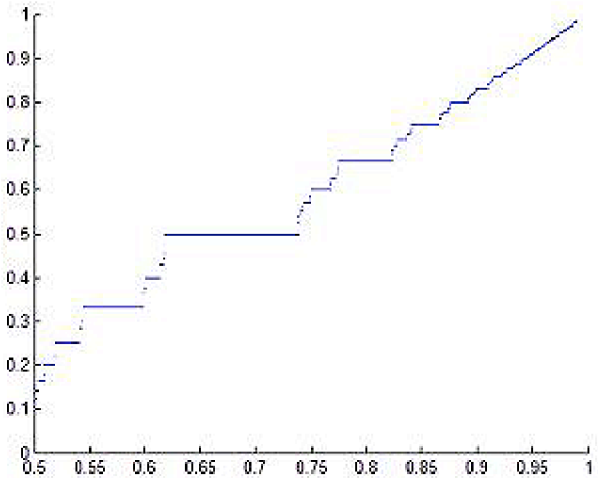
The Oliver Club

www.math.cornell.edu/~oliver/

Richard Rand, Cornell University

Introduction to Systems of Phase-Only Oscillators with Application to Cardiac Dynamics

Phase-only oscillators offer the simplest differential equation model for oscillators which exhibit a limit cycle. Systems of coupled phase-only oscillators can exhibit one or more "phase-locked" motions in which all oscillators go at the same frequency, even though their uncoupled frequencies are different. We examine the bifurcation structure of phase-locked motions in systems of two, three, and more phase-only oscillators, and show how a system of three phase-only oscillators can shed light on the dynamical behavior of the heartbeat generator.



Thursday, March 12, 2009
at 4:25 PM in 251 Malott Hall

Refreshments will be served at 3:55 PM in the Mathematics Department lounge (532 Malott Hall).