SDSU The Colloquium

….ends the year with a bang….with

Martin Bohner

University of Missouri at Rolla

speaking on

Logistic differential, difference, and dynamic equations

Thursday, May 3, 2007
3:30pm in GMCS 308

Abstract: We give a brief introduction to the theory of dynamic equations on time scales. Then we proceed to present and verify the Cushing-Henson conjectures on time scales. The central part of these conjectures asserts that based on a model using the dynamic Beverton-Holt equation, a periodic environment is deleterious for the population. The proof technique is as follows: First, the Beverton-Holt equation is identified as a logistic dynamic equation. The usual substitution transforms this equation into a linear equation. Then the proof is completed using a recently established dynamic version of the generalized Jensen inequality. If time permits, we also will consider the case of harvesting with constant effort and will maximize the seasonal sustainable yield to find the optimal harvesting policy and the optimal population level. The main objects in this talk are logistic differential equations, logistic difference equations, and their unified counterparts, logistic dynamic equations on time scales.

This talk's on the topic of time,
writ with del y or even y'
and how creatures survive
or perhaps even thrive
in surroundings with cycling climes.