

MATHEMATICS DEPARTMENT
North Carolina State University

DIFFERENTIAL EQUATIONS SEMINAR

Wednesday, September 7, 2005
3:00 p.m. 330 Harrelson Hall

John Franke

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“Attenuant cycles to chaos in periodic Leslie models”

In discrete-time age-structured population models, a periodic environment is not always deleterious. This paper shows that it is possible to have the average of the age-class populations over an attracting class (in a periodic environment) not less than the average of the carrying capacities (in corresponding constant environments). In the age-structured model of this paper, a periodic environment does not increase the average total biomass (no resonance). However, a periodic environment is disadvantageous for a population whenever there is no synchrony between the number of age classes and the period of the environment. As in periodically forced models without age structure, this age-structured model with periodic forcing can support multiple attractors with complicated structures.

Graduate students are invited to attend.

For questions, comments, and offers to talk, contact Steve Schecter, schecter@math.ncsu.edu.
Please visit the DE Seminar web page at www.math.ncsu.edu/DE.