1077-35-926 **Suzanne Lenhart*** (lenhart@math.utk.edu), U of Tennessee, Math Dept., Knoxville, TN 37996.
Optimal control of PDE population models involving resources.

We study optimal control of an elliptic partial differential equation modeling a population. The goal is to maximize the net benefit in the conservation of a singles species with a fixed amount of resources. Our control represents the intrinsic growth rate of the species and measures the availability of the resources. Analysis and numerical results will be presented. Joint work with W. Ding, H. Finotti, Y. Lou and Q. Ye. (Received September 14, 2011)