

# Colloquium

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**Friday, July 19, 2013  
HH-3017, 4:30p.m.**

*Global dynamics and optimal harvesting of two competing species with interval biological parameters*

## **Abstract:**

In this talk, we deal with the problem of harvesting two competing species with imprecise biological parameters, both of these species obey logistic law of growth. Because of the errors of collecting dates and stochastic environmental factors, we consider population growth rate and competitive coefficients with interval-valued function which is more effective and interesting since we can get different behaviours of the model using functional form of an interval parameter. The local and global asymptotic stabilities for the competitive system are discussed, the possibility of existing binomial equilibrium is examined, the optimal harvesting policy is studied with the help of Pontryagin's maximum principle. Finally, some numerical examples are taken to illustrate the analytical results and the system is depicted through graphical illustrations