1109-39-234 **Chuanxi Qian*** (qian@math.msstate.edu), Department of Mathematics and Statistics, Mississippi State University, Mississippi State, MS 39762. *Global Attractivity of a Nonlinear Difference Equation of Higher Order and Applications.*

In this talk, we discuss the global attractivity of the following nonlinear difference equation of higher order

$$x_{n+1} = (1 - t_n)x_n + t_n f(x_{n-k}),\ n = 0, 1, \cdots$$

where f is a continuous mapping from an interval I to I, $\{t_n\}$ is an arbitrary sequence in $[0, 1]$ and k is a nonnegative integer. Applications to several difference equation models derived from a variety of biological and physical phenomena are also presented. (Received February 02, 2015)