

STATISTICS COLLOQUIUM

MONDAY, OCTOBER 23, 2006

TALK: 4:00 PM — SCIENCE CENTER B-10

RECEPTION: 5:15 PM — SCIENCE CENTER, 7TH FLOOR

“Exploring and Analyzing Nonlinearity and Nonadditivity”

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ABSTRACT

Many systems are inherently nonlinear and nonadditive. For example, ecological processes are generally nonlinear due to finite-resource limitations, and environmental conditions may affect an ecological system differently during different phases of the dynamics of the process, resulting in nonadditivity. Generalized Additive Model (GAM) provides a useful framework for parsimoniously studying nonlinear additive processes. In this talk, I shall survey some generalizations of the GAM, including Threshold GAM that can account for nonadditivity. Real ecological data will be used to illustrate the new methodologies.