

The University of Chicago
Department of Statistics

Seminar

Peihua Qiu

School of Statistics, University of Minnesota

**“Nonparametric Jump Regression Analysis
and Image Processing”**

Monday, November 5, 2001 at 4:00 pm
133 Eckhart Hall, 5734 S. University Avenue

ABSTRACT

For a long time, the regression function is assumed to be continuous in nonparametric regression analysis. Motivated by many applications including edge detection and edge-preserving image reconstruction in image processing, estimation of nonparametric jump regression function is under rapid development recently. In this talk, I will introduce some recent methodologies developed by myself on (1) jump detection in regression curves; (2) jump detection in regression surfaces; and (3) jump-preserving regression curves/surfaces estimation. Most of these methods are based on local smoothing techniques (e.g., local polynomial kernel smoothing and local least squares estimation).
