

DEPARTMENT OF MATHEMATICS AND STATISTICS
AND
CENTER FOR COMPUTATIONAL SCIENCES
MISSISSIPPI STATE UNIVERSITY

COLLOQUIUM

Semiparametric Estimation Methods for Panel Count Data Using Monotone Polynomial Splines

MINGGEN LU

Department of Biostatistics
University of Iowa

Thursday, April 19, 2007 at 4:00 pm

Allen 14

Abstract: We study semiparametric likelihood-based methods for panel count data using monotone polynomial splines with proportional mean model $E[\mathbb{N}(t)|Z] = \Lambda_0(t) \exp(\beta_0^T Z)$. The generalized Gradient Projection algorithm is used to compute the estimators of both $\Lambda_0(t)$ and β_0 . We show that the proposed spline likelihood-based estimators of $\Lambda_0(t)$ are consistent. The normality of estimators of β_0 is also established. Simulation studies with moderate samples show that the spline estimators of $\Lambda_0(t)$ are more efficient both statistically and computationally than their alternatives proposed in Wellner and Zhang (2005). A real example from a bladder tumor clinical trial is used to illustrate the methods.

There will be a reception for Dr. Lu at 3:30 in Allen 467.

Contact Jeff Jonkman, jonkman@math.msstate.edu or (662) 325 7143.