

COLLOQUIUM

Department of Statistics
University of South Carolina

Estimation in Generalized Linear Mixed Models: Comparison of Maximum Likelihood with Iterative Bias Correction

Kerrie Nelson*
Department of Statistics
University of Washington, Seattle

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Refreshments: 3:00-3:30 LC 213

Abstract

While generalized linear mixed models have become a common form of statistical modelling in many situations involving correlated or longitudinal data, methods currently available are either very computer intensive or often inconsistent. One such method is an iterative bias correction method developed originally by Kuk (1995), which takes biased starting estimates of the regression coefficients and variance components and iteratively corrects the bias to result in consistent estimates. I have improved the method to make it computationally faster and more user-friendly.

In addition, little has been done to date to investigate the performance of the various fitting procedures used in estimating the regression coefficients and variance components, including exact and approximate maximum likelihood and iterative bias correction methods. In this talk I will present the properties of these methods with regard to the effects of sample size and variability present in a model for autocorrelated count data. Preliminary results suggest that the iterative bias correction method is less biased than maximum likelihood in small to moderately large samples.

*Kerrie Nelson is a candidate for a faculty position in the Department of Statistics, University of South Carolina - Columbia.