

CCSU
DEPARTMENT OF MATHEMATICAL SCIENCES

COLLOQUIUM

Friday, March 9
2:00 – 3:00 PM
Maria Sanford, Room 101

A GENERALIZED SEMIPARAMETRIC MIXED MODEL FOR AIDS CLINICAL TRIAL DATA

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Abstract

Lederman et al performed an AIDS clinical trial consisting of 48 patients with the goal of determining the effects of zidovudine, lamivudine, and ritonavir on immune reconstitution. We propose a generalized semiparametric mixed model to analyze this data and to evaluate the success of this antiretroviral regimen. Our model also allows us to characterize HIV dynamics and the relationship between HIV viral load with CD4 and CD8 cell counts. Compared to previous approaches for estimation in generalized mixed effects models with nested random effects, we show an improved time complexity and an accuracy that is comparable to Adaptive Gaussian Quadrature.

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