



The University of Chicago  
Department of Statistics  
Seminars for Fourth Year PhD Students

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**“Looking for Risk Variants Using Conditional TDT”**

**TUESDAY, November 29, 2005 at 10:00 AM**  
**110 Eckhart Hall, 5734 S. University Avenue**

**ABSTRACT**

Association studies aim to find the genetic markers that contribute to susceptibility to a particular disease. Mapping genes for complex diseases has turned out to be very difficult. One of the challenges comes from the existence of the multiple risk variants in the same region and the complicated Linkage Disequilibrium(LD) patterns. One common design for the association studies is using trios(one affected child and parents), and the Transmission/Disequilibrium Test(TDT) is commonly used.

For this type of studies we develop a conditional TDT for haplotype data. It can be used to test whether any set of markers will explain all the association in the region or not. Then we will extend our method to the genotype data. In this case we use likelihood calculation to deal with the uncertainty in the haplotype phase. The procedure we propose will result in a large number of tests, and so I will also talk about how we deal with the multiple testing problem.