

**University of California, Irvine
Statistics Seminar**

***Family-Based Association Tests in the Presence of
Informative Missingness***

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4-5 PM
2011 Bren Hall
(Bldg #314 on campus map)

In this talk I will discuss two related problems in family-based association tests. One important question is whether missingness of genotype data depends on the underlying true genotypes, as informative missingness introduces systematic bias in family-based genetic studies. Using the genotypic constraints imposed by the family structure of case-parents trios, I examined the missing mechanism and found that genotype-specific missingness is the norm rather than the exception. Another significant challenge is how to incorporate uncertainty in genotype data into family-based association tests, as genotyping uncertainty is inherent in both directly genotyped or sequenced DNA variations and imputed data *in silico*. I addressed this challenge by using calls with high accuracy and modeling genotype-specific call rates. In addition to simulations, I demonstrate the advantages of the new methods by applying them to a genome-wide case-parents association study.

For directions please refer to <http://www.ics.uci.edu/about/visit/>
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