



THE UNIVERSITY OF CHICAGO

Department of Statistics

SCIENTIFIC AND STATISTICAL COMPUTING SEMINAR

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A Hidden Markov Model Based Approach to Better Describe Genetic Variation in Complex Traits

THURSDAY, February 25, 2015 at 4:30 PM
133 Eckhart Hall, 5734 S. University Avenue

ABSTRACT

A problem in modern genetics is that in spite of very high resolution data on the genome only a fraction of the apparent genetic effect on traits has been detected. One possible explanation is the inefficient use of the data to extract relevant information. This results in analytical models that do not match the underlying effects well and poor inferences. I will talk about a hidden Markov model based approach to more effectively uncover when different individuals are identical in given regions of the genome. In contrast to similar, earlier approaches that required low resolution data, we effectively solve the problem of non-independence in the observations. I will also address how this information can be used in conjunction with linear mixed models to better describe the genetic effects on a trait.

Organizers:

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