

DEPARTMENT OF STATISTICS AND BIOSTATISTICS



Ryan Martin

Department of Mathematics, Statistics, and Computer
Science
University of Illinois - Chicago

*A framework for prior-free probabilistic
inference*

December 9, 2015

3:20 – 4:20pm

Light refreshments will be served

**110 Frelinghuysen Road
Hill Center, Room 552**

Abstract: Statistical methodology has made extraordinary advances in recent years but, arguably, the foundations of statistics still are not yet fully developed. In fact, basic questions such as "what is statistical inference?" remain unanswered. In this talk, I will present a definition of statistical inference, introduce a key validity criterion, and relate these ideas to what has been called the "most important unsolved problem in statistics". After giving some background, I will introduce the new inferential model (IM) framework for prior-free probabilistic inference and argue that it solves that important unsolved problem. Some examples will be presented to demonstrate the potential of IMs and I will conclude with a discussion of some important open problems.

Bio: Dr. Ryan Martin has a PhD in Statistics from Purdue University, under the supervision of Professor J.K. Ghosh, and is currently an Associate Professor in the Department of Mathematics, Statistics, and Computer Science. His research interests include Bayes and empirical Bayes analysis and variations thereof, foundations of statistics, high-dimensional inference, mixing distribution estimation, and other assorted nonparametric problems. His work is currently supported by the National Science Foundation, the US Army Research Offices, and the Society of Actuaries.

