Title: Workshop: Bayesian Parameter Estimation / Bayesian Process Modeling

Instructor: Jeffrey Rouder

Abstract:

Models of psychological processes are often nonlinear in that they are more complex than just the sum of a signal and noise. Some propose latent states and are modeled as processing trees, others propose deadlines and races, and still others propose evidence accumulation. This workshop focuses on Bayesian analysis of such models including specification, computation, assessment, and comparison. The key advantage of Bayesian analysis is computational convenient—with the advances in MCMC techniques, models that may be intractable in frequentist analysis may nonetheless be tractable in Bayesian analysis. We will work through a few "roll-your own" examples, a few JAGS examples, and a few stan examples. Students should already have some familiarity with some of the processing models mentioned here, R (or python), and a rudimentary introduction to Bayesian analysis.

Assignment: Active participation

Credits: 2 workshop days