

UCLA

BIOSTATISTICS SEMINAR

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Practical Bayesian Inference with Hamiltonian Monte Carlo

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3:30pm - 4:30pm, CHS 33-105A

Refreshments served at 3:00 PM in room 51-254 CHS

ABSTRACT: Practical implementations of Bayesian inference are often limited to approximation methods that only slowly explore the posterior distribution. By taking advantage of the curvature of the posterior, however, Hamiltonian Monte Carlo (HMC) efficiently explores even the most highly contorted distributions. In this talk I will review the foundations of and recent developments within HMC, concluding with a discussion of Stan, a powerful inference engine that utilizes HMC, automatic differentiation, and adaptive methods to minimize user input.