



# THE UNIVERSITY OF CHICAGO

Departments of Computer Science, Mathematics, Statistics, and the Computation Institute  
**SCIENTIFIC AND STATISTICAL COMPUTING SEMINAR**

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## Maximum Likelihood Estimation for Dynamical Systems

**THURSDAY, April 24, 2014, at 4:30 PM**

Eckhart 133, 5734 S. University Avenue

## ABSTRACT

Consider a setting in which one observes time-series data generated by a deterministic dynamical system with noise, and the problem is to infer the generating system from the data. In this talk, I will discuss recent joint work with S. Mukherjee, A. Nobel, and N. Pillai, in which we show that maximum likelihood estimation (MLE) provides a consistent inference procedure for some classes of systems. In particular, we show that MLE is consistent for shifts of finite type with Gibbs measures and Axiom A systems with SRB measures under suitable hypotheses. No prior knowledge of dynamical systems will be assumed.

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