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.

Organizers:
Lek-Heng Lim, Department of Statistics, lekheng@galton.uchicago.edu,
Ridgway Scott, Departments of Computer Science and Mathematics, ridg@cs.uchicago.edu,
Jonathan Weare, Department of Statistics and The James Franck Institute, weare@uchicago.edu.
SSC Seminar URL: http://www.stat.uchicago.edu/seminars/SSC_seminars.shtml

If you wish to subscribe to our email list, please visit the following website:
https://lists.uchicago.edu/web/arc/statseminars.