#### MICHIGAN STATE UNIVERSITY

Department of Statistics and Probability

# COLLOQUIUM

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### Inference for stochastic processes via estimating functions : Recent review

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#### Abstract

Various estimation methods in time series and stochastic processes are reviewed in a unified framework of estimating functions. In particular, maximum likelihood and quasi-likelihood are discussed in the context of asymptotic optimality within certain estimating functions. Both ergodic and non-ergodic processes are considered, and recent developments are presented. To illustrate the main results, diverse examples are shown including GARCH processes, bifurcating autoregression (BAR), explosive autoregression, conditionally linear processes, and branching Markov processes.

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