

STATISTICS COLLOQUIUM

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TALK: 3:30 PM — SCIENCE CENTER RM. 309A

“Inference on parameters for some dynamic models using sequential Monte Carlo”

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ABSTRACT

I am interested in the problem of making inference on non-linear and non-Gaussian state space models, such as some types of continuous time stochastic volatility models. One approach to this is to use sequential Monte Carlo or particle filters to perform on-line learning of unobserved states (replacing the Kalman filter, which can only deal with linear and Gaussian systems). However, on their own such particle filters do not allow for the estimation of time invariant parameters which index these models. In this talk I will provide an overview of some recent work on parameter estimation problem, which will be tackled using a particle filter inside a MCMC algorithm. Some of the work discussed is joint with Arnaud Doucet.