Masterclass in Bayesian Nonparametrics for Finance and Economics

Bayesian Analysis and Modeling Research Group
University of Melbourne

bit.ly/unimelbBayes2015

Thursday, 4 June 2015

Seminar Room 605, Level 6, FBE Building
111 Barry Street, Carlton, VIC 3053

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BMO Financial Group Chair in Capital Markets
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This course will introduce Bayesian nonparametric methods for empirical modeling in economics and finance. The aim is to provide tools to incorporate these flexible modeling approaches into standard time-series models. Several applications will focus on models of volatility and asset pricing from finance. Background papers will be provided and detailed examples will be discussed in class.

Program

9:30–11:00 **Session 1: Introduction to Bayesian Inference and Posterior Simulation**

> An introduction to the key concepts of Bayesian inference and posterior simulation using Markov chain Monte Carlo with examples.

11:00–11:15 **Coffee Break**

11:15–12:45 **Session 2: Finite and Infinite Mixture Models**

> A discussion of finite mixture models followed by an introduction to the Dirichlet process prior, its representations and its use in infinite mixture models.

12:45–14:00 **Lunch**

14:00–15:30 **Session 3: Bayesian Inference for Semiparametric Volatility Models**

> A discussion of approaches to incorporate flexible modeling of the innovation distribution into conventional volatility models. Posterior sampling approaches for volatility parameters and Dirichlet process mixture parameters are covered.

15:30–15:45 **Tea Break**

15:45–17:45 **Session 4: Dependent Infinite Mixture Models**

> The final session will discuss extensions to the Dirichlet process mixture model to allow the unknown distribution to change over time or be a function of covariates.

The masterclass is open to anyone interested in Bayesian econometrics. It is complemented by the Melbourne Bayesian Econometrics Workshop on Wednesday, 3 June 2015.

Attendance to both the workshop and the masterclass is free, although registration is required. Register by 22 May 2015 at: bit.ly/register-unimelbBayes2015

Read more about the BAM RG and their activities at: fbe.unimelb.edu.au/economics/bam.