BISP7

Seventh Workshop on

BAYESIAN INFERENCE IN STOCHASTIC PROCESSES

Universidad Carlos III de Madrid, Getafe, Spain

September, 1-3, 2011

Conference Programme

Thursday 1st September 2011.

12:00 – 14:30 **Registration**

14:30 – 16:00 **Session 1: Reliability and Epidemics**

Fabrizio Ruggeri - Modelling bugs introduction during software testing.
Antónia Amaral Turkman - Optimal Bayesian semiparametric alarm system for epidemiological data.

16:00 – 16:30 **Coffee**

16:30 – 17:30 **Session 2: Space time processes**

Thais Fonseca - On flexible modelling of spatiotemporal processes.
Ioanna Manolopoulou - Semi-parametric Bayesian modelling of inhomogeneous tactic fields in single-cell motility.

18:15 – 21:00 **Welcome cocktail + Poster session**

Daniel Peña (Rector of the Universidad Carlos III) will give a brief welcome talk.

Friday 2nd September 2011.

09:30 – 11:00 **Session 3: Markov models**

Sergio Bacallado - Bayesian analysis of variable-order reversible Markov chains, with applications to molecular dynamics.
Vladimir Minin – A Bayesian approach to testing the independent origin hypothesis.
Rafael Argiento – Bayesian analysis of alternating renewal processes with time-varying covariates.

11:00 – 11:30 **Coffee**

11:30 – 12:30 **Session 4: Continuous time processes**

Trond Reitan - Layered continuous time processes in biology.
Flávio Goncalves - Exact Bayesian inference for jump-diffusion processes with stochastic jump rate.

13:00 – 14:30 **Lunch break**

14:30 – 16:00 **Session 5: Spatio temporal models**

Marco Ferreira: Dynamic Multiscale Spatio-Temporal Models for Gaussian Areal Data.
Helio Mígon: Bayesian Analysis for Heteroscedastic Regression

16:00 – 16:30 **Coffee**

16:30 – 18:10 **Session 6: Contributed talks**

Brett Houlding - Bayesian estimation of the number of unknown species: incorporating a model for the discovery process.
Chris Sherlock - Bayesian inference for stochastic kinetic models of biological systems using the linear noise approximation.
Isadora Antoniana Villalobos - Bayesian Consistency for Markov Processes.
Joe Wheatley - Layer-counting in ice cores: reconstructing the time scale of multivariate signals
Dawn Woodard - Hierarchical Adaptive Regression Kernels for Regression with Functional Predictors

Saturday 3rd September 2011.

09:30 – 11:10 **Session 7: Contributed talks**

Toros Caglar - Bayesian Analysis of Markov Modulated Discrete Time Queues.

Matteo Ruggiero - Filtering the Fleming-Viot process with applications to Bayesian nonparametric inference in continuous time.

Jan Palczewski - Exact MCMC Inference for Markov Switching Diffusion Models.

Pierre Jacob - SMC^2: A Sequential Monte Carlo Algorithm with Particle Markov Chain Monte Carlo Updates.

Alexandre Santos - Dynamic Bayesian Smooth Transition Autoregressive (DBSTAR) model

11:10 – 11:40 **Coffee**

11:40 – 12:40 **Session 8: Complex processes**

Joaquín Miguéz - Particle Approximation of the Filtering Density and Its Derivates in General State Space Models

Fabrizio Leisen - Conditionally identically distributed sequences and Bayesian non parametrics.

12:40 – 14:30 **Lunch break**

14:30 – 16:00 **Session 9: Closing session.**

Mark Steel - Stick-breaking autoregressive processes

Paul Fearnhead - Inference for multivariate diffusion processes avoiding time-discretisation error

19:15 – **Guided visit to *Hapsburg Madrid* and conference dinner.**