

# BISP9

## 9<sup>th</sup> Workshop on Bayesian Inference in Stochastic Processes

June 14 - 16, 2015, Istanbul



46 researchers from 24 countries (5 continents) participated in the workshop.



## Organizing Committee

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**Fabrizio Ruggeri**      **Co-Chair**  
*CNR IMATI*

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**M. Atilla Öner**      **Co-Chair**  
*Yeditepe University*

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**Süleyman Özekici**  
*Koç University*

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## Academic Programme Committee

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**M. Atilla Öner**  
*Yeditepe University*

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**Sonia Petrone**  
*University Bocconi*

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**Fabrizio Ruggeri**      **Chair**  
*CNR IMATI*

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**Refik Soyer**  
*George Washington University*

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**Mike Wiper**  
*Univ. Carlos III de Madrid*

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## Workshop Venue



[The Point Hotel - Taksim](#)

# PROGRAMME

## JUNE 15

08:30 Registration

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08:55 Fabrizio Ruggeri - Welcome

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**Session 1 - Chair: Gürsoy**

09:00 Dynamic covariance estimation using sparse factor stochastic volatility models; **Frühwirth-Schnatter, Kastner, Lopes**

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09:30 Bayesian non-parametric methods for estimating the intensity of Hawkes process; **Rousseau, Donnet, Rivoirard**

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10:00 Sparse graphs using exchangeable random measures; **Caron, Fox**

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**10:20 Break**

**Session 2 - Chair: Golightly**

10:50 Bayesian inference for stochastic models with jumps; **Alexopoulos, Dellaportas, Papaspiliopoulos**

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11:10 Bayesian estimation of an exchangeable increments process; **Anzarut, Mena**

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11:30 Bayesian inference for stochastic differential equations; **Fuchs**

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11:50 Simulation and inference for one-dimensional diffusions with discontinuous drift; **Taylor, Papaspiliopoulos, Roberts**

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12:10 A Bayesian approach to implied probability density function estimation; **ter Horst, Casarin, Leisen, Molina**

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**12:30 Lunch**

**Session 3 - Chair: Boys**

14:00 Ruin probabilities for Bayesian exchangeable claims processes; **Coen, Mena**

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14:20 Bayesian non-parametric inference for partially-observed inhomogeneous Poisson processes; **Kypraios, Knock**

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14:40 A marginal sampler for sigma-stable Poisson-Kingman models; **Lomeli, Favaro, Teh**

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15:00 Change-point detection on dependent data: a random-partition approach; **Martinez, Mena**

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15:20 A birth-death process for feature allocation; **Palla, Knowles, Ghahramani**

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15:40 Filtering hidden Markov measures; **Ruggiero, Papaspiliopoulos, Spano**

16:00 **Break**

**Session 4 - Chair: Soyer**

16:30 Hypothesis testing for finite and infinite populations; **Bose**

16:50 Medical overpayment estimation models; **Ekin, Musal**

17:10 Dynamic Bayesian network approach to support the management of complex marine ecosystems; **Mengersen, Caley**

17:30 Analysis of the autoregressive model from the Bayesian point of view using Lindley's approximation; **Papadopoulos, Perilioğlu**

17:50 Bayesian non-parametric estimation of the conditional physical measure and its use for the investigation of the pricing kernel monotonicity; **Sala**

18:10 Sex, lies and self-reported counts: general birth-death processes to model self-reported count of sexual behavior; **Suchard, Crawford, Weiss**

18:30 **FREE**

21:00 **Dinner at Point Hotel**

# JUNE 16

## Session 5 - Chair: Wilson

09:00 A particle filtering approach to the forecasting of field failures of domestic appliances; **Pievatolo, Ruggeri**

09:30 Bayesian inference on doubly-stochastic Markov processes; **Özekici, Soyer, Landon**

10:00 Modeling crack growth in fatigue experiments; **Hermann, Heeke**

## 10:20 Break

## Session 6 - Chair: Mengersen

10:50 Particle filters in high dimensions; **Beskos, Crisan, Jasra, Kamatani, Zhou**

11:10 Dynamic covariance modeling based on Gaussian processes; **Dellaportas, Plataniotis, Titsias**

11:30 Sequential Monte Carlo methods for high dimensional inverse problems; **Kantas**

11:50 Fast Bayesian inference using low discrepancy sequences; **Joshi, Brown, Joe**

12:10 Fast Bayesian additive regression; **Lopes, Polson**

12:30 Bayesian inference in homogeneous Poisson processes using massive healthcare data and massive parallelization; **Shaddox, Suchard**

## 12:50 Lunch

## Session 7 - Chair: Lopes

14:20 Sequential Bayesian inference for static parameters in dynamic state space models; **Bhattacharya, Wilson**

14:40 Normalizing empirically underidentified linear state-space models; **Blais**

15:00 An approximate closed form Bayesian propagation procedure to accommodate non-normal dynamic processes; **Gargoum**

15:20 Sequential parameter estimation with iterative functional approximation; **Mai, Wilson**

15:40 Using Storm for scalable sequential statistical inference; **Roetzer, Wilson, Bhattacharya, Mai, Cogan, Sanchez, Aslett, O'Riordian**

## 16:00 Break

## Session 8 Chair: Ruggeri

16:30 Particle learning for Bayesian non-parametric Markov switching stochastic volatility model; **Virbickaite, Lopes, Ausin, Galeano**

17:00 Bayesian approaches for brain activation and connectivity in multi-subject studies; **Prado**

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17:30 Supporting risk management for aviation safety at state level; **Rios Insua**

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18:00 **Free**

**Departure for Bosphorus Dinner Cruise**

19:00



23:00 **Return to Hotel**

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BISP participants presenting papers on Bayesian Nonparametrics are warmly invited to submit their work to a **Statistics and Computing** special issue on Bayesian Nonparametrics. Details are at <https://sites.google.com/site/bnpspecialissue/>

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### **Invited Speakers**

Sylvia Frühwirth-Schnatter, Vienna Univ. of Economics and Business, Austria

David Rios Insua, ICMAT-CSIC, Madrid, Spain

Süleyman Özekici, Koç Univ., Turkey

Antonio Pievatolo, CNR-IMATI, Italy

Judith Rousseau, Université Paris Dauphine, France

Raquel Prado, Univ of California, Santa Cruz, USA

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