

**TURIN-BATH PHD WORKSHOP
APPLIED PROBABILITY AND MATHEMATICAL STATISTICS**

COLLEGIO CARLO ALBERTO, TURIN, 19TH-21ST JUNE 2023

PROGRAMME

Monday 19th of June

9.15 - 9.30 - Welcome

——[Morning session]——

Ramsés Mena (UNAM):

An introduction to Bayesian non-parametrics (Lecture)9.30 - 11.30 (**part 1 + part 2**)11.30 - 12.00 - **Coffee Break**

12.00 - 12.30 - Matteo Giordano (University of Torino & CCA):

Bayesian non-parametric inference in PDE models

12.35 - 12.50 - Melina Del Angel (University of Bath):

*Trend locally stationary wavelet processes for physical activity data analysis*12.50 - 14.30 - **Lunch break & free discussion**

——[Afternoon session]——

Kari Heine (University of Bath):

Sequential Monte Carlo - introduction and modern applications (Lecture)14.30 - 15.15 (**part 1**)

15.15 - 15.25 (break + Q/A)

15.25 - 15.55 (**part 2**)

16.00 - 16.30 - Marco Dalla Pria (University of Torino):

*Inference in Petrov's Diffusion*16.30 - 17.00 - **Coffee Break**

17.00 - 17.30 - Josh Inoue (University of Bath):

Spatio-temporal change-point detection using vector autoregressive models

17.35 - 18.05 - Luis Mario Chaparro Jáquez (University of Leeds):

Challenges in numerical methods for SDEs with irregular coefficients

18.05 - 18.45 - Free discussion

Conference dinner at *Esperia Rowing Club* (h. 19.30)

Tuesday 20th of June

——[Morning session]——

Emma Horton (University of Melbourne):
Introduction to Kalman filtering (Lecture)

9.50 - 10.35 (**part 1**)

10.35 - 10.45 (break + Q/A)

10.45 - 11.15 (**part 2**)

11.15 - 11.30 - **(Short) Coffee Break**

11.30 - 12.00 - Chiara Boetti (University of Bath):

Marginal distributions for conditional coupled Wright-Fisher diffusions

12.05 - 12.35 - Andrea Bovo (University of Turin and CCA):

Optimal Strategies in Stopper vs. Singular-Controller Games with Free Boundaries

12.40 - 14.00 - **Lunch break & free discussion**

——[Afternoon session]——

Alex Cox (University of Bath):

Stochastic control of measure-valued processes (Lecture)

14.00 - 14.45 (**part 1**)

14.45 - 14.55 (break + Q/A)

14.55 - 15.25 (**part 2**)

15.30 - 16.00 - Mehar Motala (University of Bath):

Williams' path decomposition for real self-similar Markov processes in \mathbb{R}^d

16.00 - 16.30 - **Coffee Break**

16.30 - 17.00 - Matthew Pawley (University of Bath):

Sparse robust principal component analysis for multivariate extreme value theory

17.05 - 17.35 - Patric Dolmeta (Bocconi University):

Scalable Thompson sampling for structured multi-armed Bayesian bandits

17.40 - 18.10 - Marcel Stożir (University of Bath):

The data-driven newsvendor problem

Aperitivo at *Caffè Garibaldi* (h. 18.30)

Wednesday 21st of June

——[Morning session]——

Stefano Favaro (University of Torino & CCA):

*Exchangeable random partitions
and Bayesian nonparametric estimation of the unseen* (Lecture)

9.30 - 10.15 (**part 1**)

10.15 - 10.25 (break + Q/A)

10.25 - 10.55 (**part 2**)

11.00 - 11.30 - **Coffee Break**

11.30 - 12.00 - Maria Chiara Bovier (University of Turin):

Stochastic modeling of anomalous water transport

12.05 - 12.35 - Sonny Medina Jimenez (University of Bath):

Excursions from hyperplanes for the α -stable process

12.40 - 14.00 - **Lunch break & free discussion**

——[Afternoon session]——

14.00 - 14.30 - Carmen van-de-l'Isle (University of Bath):

The Symbiotic Contact process on trees

14.35 - 14.50 - Alex Rudge (University of Bath):

Predicting psoriatic arthritis using a Bayesian network

14.55 - 15.25 - Emanuele Lucrezia (University of Turin):

Some exact results on Linldey process

15.30 - 16.00 - Christopher Dean (University of Bath):

Chase-escape on the configuration model

16.35 - Closing remarks

— Logistics and directions —

Collegio Carlo Alberto is in Piazza Vincenzo Arbarello 8.

Coffee breaks and lunches will be served at Collegio Carlo Alberto.

Caffè Garibaldi is just around the corner from Collegio (this is the venue for the aperitivo on Tuesday).

Esperia Rowing Club (Circolo Esperia) is in Corso Moncalieri, 2, just across the river from Piazza Vittorio. Below is a map to help you get there. It is 30 minutes on foot, walking down some of the nicest streets in central Turin. By public transport you should take the tram number 13 from Via Cernaia (the name of the stop is Siccardi) and get off at the stop Gran Madre; this will take approx. 20 mins.

