Hausdorff School
“MCMC: Recent developments and new connections”
September 14 to 25, 2020
organized by
Nawaf Bou-Rabee and Andreas Eberle

- Monday, September 14
  15:00 - 16:30  Tutorials on MCMC methods and mathematical tools I
  17:00 - 18:30  Tutorials on MCMC methods and mathematical tools II
  20:00 - 21:00  Short presentations by participants

- Tuesday, September 15
  15:00 - 16:30  Tutorials on MCMC methods and mathematical tools III
  17:00 - 18:00  Short presentations by participants
  20:00 - 21:00  Short presentations by participants

- Wednesday, September 16
  15:00 - 16:30  Tutorials on MCMC methods and mathematical tools IV
  17:00 - 18:00  Daniel Rudolf
                 *Spectral gap of slice sampling*
  20:00 - 21:00  Eric Moulines
                 *Variance reduction for MCMC algorithms*
  21:00 - 22:00  Ioannis Kontoyannis
                 *Variable-dimension MCMC samplers for variable-memory Markov models*

- Thursday, September 17
  15:00 - 16:30  Tutorials on MCMC methods and mathematical tools V
  17:00 - 18:00  Manon Michel
                 *Using symmetries as an efficiency compass in MCMC*
  20:00 - 21:00  Alain Durmus
                 *Quantitative convergence of Unadjusted Langevin Monte Carlo and application to stochastic approximation*
21:00 - 22:00  Joris Bierkens
Spectral theory and asymptotic variance of piecewise deterministic samplers

• Friday, September 18

15:00 - 16:30  Tutorials on MCMC methods and mathematical tools VI
17:00 - 18:00  Jianfeng Lu
Quantitative convergence analysis of hypocoercive sampling dynamics
20:00 - 21:00  Michela Ottobre
Uniform in time approximations of stochastic dynamics

• Monday, September 21

15:00 - 16:15  Arnaud Doucet
Differentiable Particle Filtering
17:00 - 18:15  Arnaud Doucet
Controlled Sequential Monte Carlo
20:00 - 21:15  Aaron Smith
Methods for Bounding MCMC Error: Recent Advances and Comparisons

• Tuesday, September 22

15:00 - 16:15  Jesus María Sanz Serna
Numerical integrators for the Hamiltonian Monte Carlo method
17:00 - 18:15  Arnaud Doucet
Unbiased Markov chain Monte Carlo
20:00 - 21:15  Aaron Smith
Methods for Bounding MCMC Error: Recent Advances and Comparisons

• Wednesday, September 23

15:00 - 16:15  Francis Bach
Optimization for machine learning
17:00 - 18:15  Tony Lelièvre
Sampling problems in computational statistical physics
20:00 - 21:15  Jesus María Sanz Serna
Numerical integrators for the Hamiltonian Monte Carlo method

• Thursday, September 24
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All lectures take place via Zoom, all times are Central European Summer Time (CEST).