



UNIVERSITÀ  
DEGLI STUDI  
DI PADOVA



PHD COURSE  
IN STATISTICS

# Specialist Course | Cycle XXXIV

June, 2020 | On-line

## *Bayesian Data Analysis and Computation*

**Brunero Liseo**

*Sapienza, Università di Roma*

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June 15	9.30 – 12.30	Prior distributions for Bayesian Inference: Objective vs Subjective
June 16	9.30 – 12.30	Monte Carlo, posterior simulation and Markov Chain Monte Carlo methods
June 17	14.30 – 17.30	Bayesian model selection and model checking
June 18	9.30 – 12.30	MCMC in practice (Linear, Generalized linear and other models)
June 19	9.30 – 12.30	Hierarchical Bayesian Models and Bayesian Nonparametric Regression through Gaussian Processes

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# BAYESIAN DATA ANALYSIS AND COMPUTATION

Brunero Liseo | Sapienza, Università di Roma

## Programme

Monday June 15<sup>th</sup>

**Prior distributions for Bayesian Inference: Objective vs. Subjective**

Ref. G Consonni, D Fouskakis, B Liseo, I Ntzoufras, *Prior distributions for objective Bayesian analysis*, *Bayesian Analysis* 13 (2), 627-679

Tuesday June 16<sup>th</sup>

**Monte Carlo, posterior simulation and Markov Chain Monte Carlo methods.**

Ref. <https://www.slideshare.net/xianblog/introduction-to-mcmc-methods>

Ref: <https://warwick.ac.uk/fac/sci/statistics/staff/academic-research/johansen/teaching/mcm-2007.pdf>

Wednesday June 17<sup>th</sup>

**Bayesian model selection and model checking**

Ref. Slides and other material provided by the instructor

Thursday June 18<sup>th</sup>

**MCMC in practice (Linear, Generalized linear and other models)**

Ref. Slides and other material provided by the instructor

Friday June 18<sup>th</sup>

**Hierarchical Bayesian Models and (if time allows ... ) Bayesian Nonparametric Regression through Gaussian Processes.**

Ref. Slides and other material provided by the instructor