

Bayesian Statistics I

May – June 2022

Prof. Bernardo Nipoti

Duration: 18 hours

Syllabus:

- Exchangeability and de Finetti's theorem
- The Bayesian framework
- Conjugate prior distributions
- Bayesian point estimation
- Test and credible intervals
- The normal model
- The multivariate normal model
- Introduction to hierarchical modelling

Main textbook:

- Hoff, P.D., 2009. *A first course in Bayesian statistical methods*(Vol. 580). New York: Springer.

Other books:

- Robert, C., 2007. *The Bayesian choice: from decision-theoretic foundations to computational implementation*. Springer Science & Business Media.
- Gelman, A., Carlin, J.B., Stern, H.S., Dunson, D.B., Vehtari, A. and Rubin, D.B., 2013. *Bayesian data analysis*. CRC press. ([free pdf version](#))

Additional references will be given during the course.