Bocconi University
PhD in Statistics & Computer Science

40036 STATISTICAL THEORY I
Instructors: Omiros Papaspiliopoulos and Botond Szabo

Part A: Multiple testing, empirical Bayes, thresholding and selection
- Keywords: basic multiple testing, empirical Bayes approaches, sequence model, thresholding and shirinkage

Part B: nonparametric regression and density estimation
- Keywords: sequence model, the white noise model, bias-variance tradeoff, application to regression and density estimation, minimax lower bounds, optimality

Part C: kernel methods
- Keywords: Gaussian processes, support vector machines, reproducing kernel hilbert space, applications to testing independence

Part D: Contraction pt 1
- Keywords: asymptotics of MLE, Cramer-Rao bounds, Bernstein-von-Mises, Bayesian contraction rates, contraction for Gaussian process regression