

# INFN School of Statistics 2015



**Monday, May 25, 2015 - Friday, May 29, 2015**

**Hotel Continental Terme, Ischia**

## Scientific Program

Scientific Programme

Probability theory

Introduction to probability theory

Bayesian and frequentist approaches to probability

Random variables, distributions and main properties

Statistical inference

Parameter estimates, properties of estimators

Maximum likelihood method

Pearson and Neyman chi-squares

Confidence intervals and upper limits

Hypothesis testing

Goodness of fit

Frequentist and Bayesian upper limits

Multivariate discriminators

Overview of multivariate discrimination methods

Artificial neural networks

Boosted decision trees

Statistical software tools

Overview of the main statistical tools

RooFit, RooStats

Usage examples and code demonstrations

Lecturers

Roger Barlow (Univ. of Huddersfield)

Helge Voss (Max-Planck-Gesellschaft)

Glen Cowan (Royal Holloway, London)

Jan Conrad (Stockholm University)

Mario Pelliccioni (INFN Torino)