

# INFN School of Statistics 2015

Ischia (Napoli, Italy)  
May 25<sup>th</sup> – 29<sup>th</sup> 2015



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## Organizing Committee

### Scientific Programme

Tommaso Dorigo (INFN Padova)

Riccardo Faccini (Univ. La Sapienza and INFN Roma)

Luca Lista (INFN Napoli)

Giovanni Punzi (INFN Pisa)

### Local organization

Giovanni De Lellis (Univ. Federico II and INFN Napoli)

Guglielmo De Nardo (Univ. Federico II and INFN Napoli)

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## Lecturers

Roger Barlow (Univ. of Huddersfield)

Helge Voss (Max-Planck-Gesellschaft)

Glen Cowan (Royal Holloway, London)

Jan Conrad (Stockholm University)

Mario Pelliccioni (INFN Torino)

## 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

Deadline for application: March 29<sup>th</sup> 2015:  
<http://agenda.infn.it/event/infn-stat-2015>



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