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## Foreword

Dear reader,

On behalf of the four Scientific Statistical Societies—the SEIO, Sociedad de Estadística e Investigación Operativa (Spanish Society of Statistics and Operations Research); SFdS, Société Française de Statistique (French Statistical Society); SIS, Società Italiana di Statistica (Italian Statistical Society); and the SPE, Sociedade Portuguesa de Estatística (Portuguese Statistical Society)—we would like to inform you that this is a new book series of Springer entitled *Studies in Theoretical and Applied Statistics*, with two lines of books published in the series: *Advanced Studies and Selected Papers of the Statistical Societies*.

The first line of books offers constant up-to-date information on the most recent developments and methods in the fields of theoretical statistics, applied statistics, and demography. Books in this series are solicited in constant cooperation between the statistical societies and need to show a high-level authorship formed by a team preferably from different groups so as to integrate different research perspectives.

The second line of books presents a fully peer-reviewed selection of papers on specific relevant topics organized by the editors, also on the occasion of conferences, to show their research directions and developments in important topics, quickly and informally, but with a high level of quality. The explicit aim is to summarize and communicate current knowledge in an accessible way. This line of books will not include conference proceedings and will strive to become a premier communication medium in the scientific statistical community by receiving an Impact Factor, as have other book series such as *Lecture Notes in Mathematics*.

The volumes of selected papers from the statistical societies will cover a broad range of theoretical, methodological as well as application-oriented articles, surveys and discussions. A major goal is to show the intensive interplay between various, seemingly unrelated domains and to foster the cooperation between scientists in different fields by offering well-founded and innovative solutions to urgent practice-related problems.

On behalf of the founding statistical societies I wish to thank Springer, Heidelberg and in particular Dr. Martina Bihn for the help and constant cooperation in the organization of this new and innovative book series.

Rome, Italy

Maurizio Vichi

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## Preface

This volume contains a selection of the contributions presented in the 47th Scientific Meeting of the Italian Statistical Society, held at the University of Cagliari, Italy, June 2014.

The book represents a small but interesting sample of 19 out of 221 papers discussed in the meeting on a variety of methodological and applied statistical topics. Clustering, collaboration networks analysis, environmental analysis, logistic regression, mediation analysis, meta-analysis, outliers in time-series and regression, pseudolikelihood, sample design, weighted regression, are themes included in the book.

We hope that the overview papers, mainly presented by Italian authors, will help the reader to understand the state of art of the current international research.

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Cagliari, Italy

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Topics on Methodological and Applied Statistical  
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