

Preface

This volume contains selected and peer-reviewed papers presented during the 7th International Workshop on Simulation, held in Rimini, May 21–25, 2013. This international conference is devoted to statistical techniques in stochastic simulation, data collection and analysis of scientific experiments and studies representing broad areas of interest. Since 1994, all the previous workshops took place in St. Petersburg (Russia). In 2013, for the first time, the conference took place in the Rimini Campus of the University of Bologna, in Rimini (Italy). The 7th International Workshop on Simulation was sponsored by the Unit of Rimini of the Department of Statistical Sciences of the University of Bologna in collaboration with the Department of Management and Engineering of the University of Padova, the Department of Statistical Modelling of Saint Petersburg State University and INFORMS Simulation Society. The scientific program of the meeting included 186 papers presented by a large number of scientists and experts from several countries and scientific institutes. The scientific contributions were related to several topics related, among the others, to the following issues: new methodologies for clinical trials for small population groups, modelling techniques in biostatistics and reliability, optimal fixed and random experimental sizes, experimental designs constructed by computers, simulation-based optimal design, design in computer and simulation experiments, mixture of distributions for longitudinal data, randomization, asymptotic permutation tests in heteroscedastic designs, inference for response-adaptive design, response adaptive randomization, optimal design and simulations in experimental design, queueing systems modelling, stochastic modelling in various applications, random walks and branching processes, ordered random variables and related topics, nonstandard statistical models and their application, special simulation problems, sequential nonparametric methods, Monte Carlo methods for nonlinear kinetics equations, Monte Carlo methods for vector kinetics equations, Monte Carlo methods in optical probing, numerical simulation of random fields with applications, structural change detection and analysis of complex data, simulations and computations for parametric goodness-of-fit tests in reliability and survival analysis, stochastic modelling in clinical trials, design of experiments and computing, developments in design of experiments, spatial

minimax and discrimination designs, complexity in statistical modelling, simulation based Bayesian estimation of latent variable models, advances in estimation of complex latent variable models, copula methods and complex dependence, computer intensive methods and simulations for the analysis of longitudinal data, topics in multilevel models, simulation issues for modelling ordinal data, simulation tools and methods in hospital management, design of experiments: algebra, geometry and simulation, computer intensive techniques for time series analysis, some interesting and diverse applications. We wish to thank all the authors, the chair and the discussants of the sessions, the Department of Statistical Sciences of Bologna University, the Department of Management and Engineering of Padova University, the Department of Statistical Modelling of Saint Petersburg State University, the INFORMS Simulation Society and the Italia Statistical Society, which scientifically sponsored the conference, and Comune di Rimini, Provincia di Rimini, Regione Emilia-Romagna, which sponsored the conference. We also wish to thank the Rimini Campus of the University of Bologna, for the hospitality, the Organizing Committee and the Scientific Committee and all the persons who contributed to the organization of the conference, in particular Stefano Bonnini (editorial assistant for this volume) and Mariagiulia Matteucci (for the organizing work made in Rimini).

Rimini, Italy
St. Petersburg, Russia
Padova, Italy

Paola Monari
V.B. Melas
Luigi Salmaso

Topics in Statistical Simulation

Research Papers from the 7th International Workshop
on Statistical Simulation

Melas, V.B.; Mignani, S.; Monari, P.; Salmaso, L. (Eds.)

2014, XVIII, 539 p. 85 illus., 34 illus. in color., Hardcover

ISBN: 978-1-4939-2103-4