

# Preface

The MAF2010 Conference, organized by University of Salerno in Ravello (Salerno, Italy), was developed on the basis of cooperation between mathematicians and statisticians working in insurance and finance fields.

The idea arises from the belief that the interdisciplinary approach can improve research on these topics, and the proof of this is that interest in this guideline has evolved and been re-enforced.

The Conference aims at providing state of the art research in development, implementation and real world applications of statistical and mathematical models in actuarial and finance sciences, as well as for discussion of problems of national and international interest.

These considerations imply the strengthening of the involved methods and techniques towards the purpose, shared by an increasing part of the scientific community, of the integration between mathematics and statistics applied in finance and insurance fields.

The Conference was open to both academic and non-academic communities from universities, insurance companies and banks, and it was specifically designed to contribute in fostering the cooperation between practitioners and theoreticians in the field.

About 170 researchers attended the Conference and a total of 25 contributed sessions and 9 organized sessions, containing more than 130 communications, were accepted for the presentation.

Four prestigious keynote lecturers increased the scientific value of the meeting:

- *Nonparametric methods in survival analysis* by Prof. Narayanaswamy Balakrishnan (McMaster University, Canada)
- *Some Recent Developments in Multiplicative Error Models* by Prof. Giampiero Gallo (University of Florence, Italy)
- *Too Interconnected to Fail: Financial Contagion and Systemic Risk in Network Model of Credit Default Swaps and Credit Enhancement Obligations of US Banks* by Prof. Sheri Markose (University of Essex, U.K.)
- *Some Results for Skip-Free Random Walks* by Prof. Sheldon M. Ross (University of California, Berkeley, U.S.A.).

The collection published here gathers some of the papers presented at the conference MAF2010 and successively worked out to this aim. They cover a wide variety of subjects:

Mathematical Models for Insurance: Insurance Portfolio Risk Analysis, Solvency, Longevity Risk, Actuarial models, Management in Insurance Business, Stochastic models in Insurance.

Statistical Methods for Finance: Analysis of High Frequency Data, Data Mining, Nonparametric methods for the analysis of financial time series, Forecasting from Dynamic Phenomena, Artificial Neural Network, Multivariate Methods for the Analysis of Financial Markets.

Mathematical Tools in Finance: Stock market Risk and Selection, Mathematical Models for Derivatives, Stochastic Models for Finance, Stochastic Optimization.

The papers follow in alphabetic order from the first author.

The scientific value of the papers is due to the authors and, in the name of the scientific and organizing committee of the conference MAF2010, we truly thank them all. In particular we want to point out the precious cooperation of the referees: their work has been decisive in the improvement of the quality of this book.

Moreover we thank the Faculty of Economics, the Faculty of Political Sciences and the Department of Economics and Statistics of the University of Salerno for the opportunity they gave us to go ahead with this idea<sup>1</sup>.

We would like to express our gratitude to the members of the Scientific and Organizing Committee and to all the people who contributed to the success of the event.

We are grateful for the kind effort in particular of the sponsors: Italian Association for Mathematics applied to Economics and Social Sciences (AMASES), Italian Statistical Society (SIS), Comune di Fisciano, Comune di Mercato San Severino, Comune di Ravello, Assessorato alle Politiche Ambientali of Provincia di Salerno for making the meeting more comfortable and pleasant. We would like as well to express special acknowledgements to Springer Editor, for its support in the initiative.

Finally, we truly thank the Department of Applied Mathematics and the Department of Statistics of the University of Venice for the enthusiastic sharing and the cooperation in this initiative and for the involvement in organizing and hosting the next edition of the Conference, to be held in 2012 in Venice.

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