

# Studies in Classification, Data Analysis, and Knowledge Organization

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# Data Analysis and Classification

Proceedings of the 6th Conference  
of the Classification and Data Analysis Group  
of the Società Italiana di Statistica

 Springer

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# Preface

This volume contains revised versions of selected papers presented at the biennial meeting of the Classification and Data Analysis Group (CLADAG) of the Italian Statistical Society, which was held in Macerata, September 12–14, 2007. Carlo Lauro chaired the Scientific Programme Committee and Francesco Palumbo chaired the Local Organizing Committee.

The scientific programme scheduled 150 oral presentations and one poster session. Sessions were organised in five plenary sessions, 10 invited paper specialised sessions and 24 solicited paper sessions. Contributed papers and posters were 54 and 12, respectively.

Five eminent scholars, who have given important impact in the Classification and Data Analysis fields, were invited as keynote speakers, they are *H. Bozdogan*, *S.R. Maseara*, *G. McLachlan*, *A. Montanari*, *A. Rizzi*.

Invited Paper Specialised Sessions focused on the following topics:

- Knowledge extraction from temporal data models
- Statistical models with errors-in-covariates
- Multivariate analysis for microarray data
- Cluster analysis of complex data
- Educational processes assessment by means of latent variables models
- Classification of complex data
- Multidimensional scaling
- Statistical models for public policies
- Classification models for enterprise risk management
- Model-based clustering

It is worth noting that two of the ten specialised sessions were organised by the French (*Classification of complex data*) and Japanese (*Multidimensional scaling*) classification societies. The SPC is grateful to professors Okada (Japan) and Zighed (France), who took charge of the Japanese and French specialised session organisation, respectively. The SPC is grateful to the Italian statisticians who actively cooperated in the organisation of the specialised and solicited sessions: they were mainly responsible for the success of the conference.

On the occasion of the ClaDAG conference in Macerata, the SPC decided to have two sessions dedicated to young researchers who had finished their PhD programme during the year before the conference.

Thus, the conference provided a large number of scientists and experts from home and abroad with an attractive forum for discussion and mutual exchange of knowledge. Plenary and specialised sessions topics were agreed, aiming at fitting the mission of ClaDAG within the fields of Classification, Data Analysis and Multivariate Statistics.

All papers published in the present volume have been reviewed by the most qualified scholars from many countries, for each specific topic. The review process was quite long but very accurate to meet the publisher's standard of quality and the prestige of the series.

The more methodologically oriented papers focus on developments in clustering and discrimination, multidimensional data analysis, data mining. Many papers also provide significant contributions in a wide range of fields of application. This suggested the presentation of the 51 selected papers in nine parts, one more section consists of the keynote lectures. Section names are listed below:

1. Keynote lectures
2. Cluster analysis
3. Multidimensional scaling
4. Multivariate analysis and applications
5. Classification and classification trees
6. Statistical models
7. Latent variables
8. Knowledge extraction from temporal data
9. Statistical methods for financial and economics data
10. Missing values

We wish to express our gratitude to the other members of the Scientific Programme Committee Andrea Cerioli (Università degli Studi di Parma) Paolo Giudici (Università degli Studi di Pavia) Antonio Giusti (Università degli Studi di Firenze) Pietro Mantovan (Università degli Studi "Cà Foscari" di Venezia) Angelo Marcello Mineo (Università degli Studi di Palermo) Domenico Piccolo (Università degli Studi di Napoli Federico II) Marilena Pillati (Università degli Studi di Bologna) Roberto Rocci (Università degli Studi di Roma "Tor Vergata") Sergio Zani (Università degli Studi di Parma).

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Finally, we would like to thank Dr. Martina Bihn of Springer-Verlag, Heidelberg, for her support and dedication to the production of this volume.

Macerata  
Naples  
Barcelona  
June 2009

Francesco Palumbo  
Carlo N. Lauro  
Michael J. Greenacre

## List of Referees

*We are indebted with our colleagues who kindly accepted to revise one or more papers. Their work has been essential to the quality of the present volume.*

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