S.Co. 2003

Modelli Complessi e Metodi Computazionali Intensivi per la Stima e la Previsione

Treviso, 4-6 settembre 2003

Programma

Dipartimento di Statistica

Università Ca' Foscari Venezia

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Modelli Complessi e Metodi Computazionali Intensivi per la Stima e la Previsione

Treviso, 4-6 settembre 2003
Sede Universitaria S. Leonardo

sito web: `http://www.dst.unive.it/sco2003`

COMITATO SCIENTIFICO

- Pietro Mantovan (Università Ca' Foscari Venezia, Coordinatore)
- Silvano Bordignon, Università di Padova
- Vittorio B. Frosini, Università Cattolica del S. Cuore, Milano
- Corrado Provasi, Università di Padova
- Nicola Torelli, Università di Trieste
- Romano Vedaldi, Università Ca' Foscari Venezia
- Maurizio Vichi, Università La Sapienza Roma

COMITATO ORGANIZZATORE

- Romano Vedaldi, Università Ca' Foscari Venezia (Coordinatore)
- Claudio Agostinelli, Università Ca' Foscari Venezia
- Silvia Bozza, Università Ca' Foscari di Venezia
- Carlo Gaetan, Università di Padova
- Francesca Parpinel, Università Ca' Foscari Venezia
- Andrea Pastore, Università Ca' Foscari Venezia
- Claudio Pizzi, Università Ca' Foscari Venezia
- Stefano Tonellato, Università Ca' Foscari Venezia

SEGRETERIA ORGANIZZATIVA

Dipartimento di Statistica
Università Ca' Foscari
S. Polo, 2347
30125 Venezia

ORGANIZZAZIONE DELLE SESSIONI

RELAZIONI INVITATE

- 60’ per il relatore

SESSIONI ORGANIZZATE E SESSIONI DI CONTRIBUTI LIBERI

- 5’ per il presidente
- 15’ per ciascun relatore
- 5’ al discussant per ciascuna relazione
- 5’ per la discussione generale

GIOVEDÌ 4 SETTEMBRE 2003

Orario	Aula Magna	Aula F	Aula B
8.30	**Registrazione**		
9.30-10.00	**Apertura del convegno**		
10.00-11.00	Invited lecture: **Finding Needles in Haystacks: Finding Unusual Patterns in Large Data Sets**, *B.D. Ripley* chair: *V.B. Frosini*		
11.00-11.30	**Coffee break**		
11.30-13.00	Invited session: **Hierarchical Models for Data Analysis** chair: *N. Torelli* disc.: *C. Lagazio*	Contributed session: **Time Series Analysis** chair: *G. Zornitta* disc.: *F. Lisi*	Contributed session: **Bayesian Methods** chair: *P. Muliere* disc.: *M. Barbieri*
13.00-15.00	**Pausa**		
15.00-16.30	Invited session: **Bayesian Networks and Graphical Models** chair: *G. Consonni* disc.: *A. Roverato*	Contributed session: **Models for High Frequency Data** chair: *M. Corduas* disc.: *M. Caporin*	Contributed session: **Non Parametric Inference and Statistical Algorithms** chair: *D. Cocchi* disc.: *L. Fattorini*
16.30-17.00	**Coffee break**		
17.00-18.30	Invited session: **Extreme Values Analysis: Models and Methods** chair: *S. Bordignon* disc.: *S. Coles*	Contributed session: **Statistics for Spatial Data** chair: *C.N. Lauro* disc.: *S. Tonellato*	Contributed session: **Forensic Statistics and Graphical Modelling** chair: *J. Mortera* disc.: *C. Tarantola*

VENERDÌ 5 SETTEMBRE 2003

Orario	Aula Magna	Aula B
9.30-11.00	Invited session: **Non Linear Time Series Models and Applications** chair: *C. Vitale* disc.: *G.M. Gallo*	Contributed session: **Environmental Statistics** chair: *E. Todini* disc.: *R. Pastres*
11.00-11.30	**Coffee break**	
11.30-13.00	Invited session: **Mixture Models** chair: *M. Vichi* disc.: *S. Ingrassia*	Invited session: **Computational Methods in Economics and Finance** chair: *C. Provasi* disc.: *M. Grigoletto*
13.00-15.00	**Pause**	
15.00-16.00	Invited Lecture: **Real-time Flood Forecasting Operational Experience and Recent Advances** *E. Todini* chair: *P. Mantovan*	
16.30-18.00	Invited session: **MCMC Algorithms and Numerical Methods** chair: *S. Petrone* disc.: *A. Mira, S. Petrone*	Contributed session: **Statistical Applications to Financial Data** chair: *G. Masarotto* disc.: *M. Billio, P. Pellizzari*

SABATO 6 SETTEMBRE 2003

Orario	**Aula Magna**	**Aula B**
9.30-11.00	Invited session: **Environmental Data Analysis: Monitoring and Prediction** chair: *P. Mantovan* disc.: *A. Pastore*	Contributed session: **Non Parametric Inference** chair: *F. Pesarin* disc.: *M. Romanazzi*
11.00-11.30	**Coffee break**	
11.30-13.00	Invited session: **Environmental and Epidemiological Risk Analysis and Monitoring: Models and Computational Methods** chair: *A. Biggeri* disc.: *M. Gasparini*	Contributed session: **Survey Sampling and Applied Statistics** chair: *R. Vedaldi* disc.: *G. Diana*
13.00	**Chiusura del convegno**	

INVITED LECTURE:

FINDING NEEDLES IN HAYSTACKS: FINDING UNUSUAL PATTERNS IN LARGE DATA SETS

Brian D. Ripley

Giovedì 4 settembre, ore 9.00-10.00, Aula Magna

Chair: *Vittorio B. Frosini*

INVITED LECTURE:

REAL-TIME FLOOD FORECASTING OPERATIONAL EXPERIENCE AND RECENT ADVANCES

Ezio Todini

Venerdì 5 settembre, ore 15.00-16.00, Aula Magna

Chair: *Pietro Mantovan*

INVITED SESSION:

HYERARCHICAL MODELS FOR DATA ANALYSIS

Giovedì 4 settembre 2003, ore 11.30-13.00, Aula Magna

Chair: *Nicola Torelli*
Discussant: *Corrado Lagazio*

Some Aspects of Misspecification in Mixed-Effects Models
Ruggero Bellio, Laura Rizzi, Nicola Sartori

The Accuracy of Estimates in Discrete Response Multilevel Models: New Simulation Results
Omar Paccagnella

On Parameters Estimation Procedures in Multilevel Models
Nadia Solaro, Pier Alda Ferrari

Risk Surface Mapping through Multivariate Geographical Dependences by Hierarchical Bayesian Models
Matilde Trevisani

CONTRIBUTED SESSION:

TIME SERIES ANALYSIS

Giovedì 4 settembre 2003, ore 11.30-13.00, Aula F

Chair: *G. Zornitta*
Discussant: *F. Lisi*

Block Dynamic Conditional Correlation Multivariate GARCH Models
Monica Billio, Massimiliano Caporin, Michele Gobbo

A Common Reference Subspace for ARMA Models Exploration
Giuseppe Giordano, Cristina Davino

New Algorithms for Dating the Business Cycle
Tommaso Proietti

CONTRIBUTED SESSION:
BAYESIAN METHODS

Giovedì 4 settembre 2003, ore 11.30-13.00, Aula B

Chair: *Pietro Muliere*
Discussant: *Maria Maddalena Barbieri*

Bayesian Inference for Mixtures of Stable Distributions
Roberto Casarin

Bayesian Analysis of Linked Stress Release Models
Renata Rotondi, Elisa Varini

Nonparametric Bayesian Estimation of Probability Density Functions
Raffaello Seri, Renata Rotondi

INVITED SESSION:
BAYESIAN NETWORKS AND GRAPHICAL MODELS

Giovedì 4 settembre 2003, ore 15.00-16.30, Aula Magna

Chair: *Guido Consonni*
Discussant: *Alberto Roverato*

Some Notes on Dynamic Decision Graph
Leonardo Bottolo, Claudia Tarantola, Paola Vicard

Bayesian Networks as Classifiers Applied to Consumer Credit Scoring
David Cavallini, Fabio Corradi

Open Problems and New Perspectives for Imputation Using Bayesian Networks
Marco Di Zio, Mauro Scanu, Paola Vicard

A Bayesian Approach to Model Interdependent Event Histories by Graphical Models
Emanuela Dreassi, Anna Gottard

CONTRIBUTED SESSION:
MODELS FOR HIGH FREQUENCY DATA

Giovedì 4 settembre 2003, ore 15.00-16.30, Aula F

Chair: *Marcella Corduas*
Discussant: *Massimiliano Caporin*

Overnight Innovations and Volatility in the Stock Exchange Market: an Analysis with Ultra-High Frequency Data
Christian T. Brownlees, Giampiero M. Gallo

Forecasting Implied Volatility by Estimating a Stochastic Volatility Model
Marzia Freo

Nonlinear Filtering Using Reversible Jump Markov Chain Monte Carlo in a Model for High Frequency Data
Marco Minozzo, Silvia Centanni

CONTRIBUTED SESSION:
NON PARAMETRIC INFERENCE AND STATISTICAL ALGORITHMS

Giovedì 4 settembre 2003, ore 15.00-16.30, Aula B

Chair: *Daniela Cocchi*
Discussant: *Lorenzo Fattorini*

An Error-In-Variables Model for the Stress-Strain Curve
Gabriele Brondino, Grazia Vicario

Statistical Properties of Generalized Discrepancies and Related Quantities
Christine Choirat, Raffaello Seri

Non Parametric Multi Focus Analysis
Livio Finos, Stefano Bonnino, Livio Corain, Luigi Salmaso, Fortunato Pesarin

Bootstrapping Local Polynomial Regression
Michele La Rocca, Maria Lucia Parrella

INVITED SESSION:
EXTREME VALUES ANALYSIS: MODELS AND METHODS

Giovedì 4 settembre 2003, ore 17.00-18.30, Aula Magna

Chair: *Silvano Bordignon*
Discussant: *Stuart Coles*

Semi-Parametric Modelling for Costs of Health Care Technologies by Extreme Value Theory
Caterina Conigliani, Andrea Tancredi

Dynamic Modelling of Non-Stationary Extremes
Carlo Gaetan, Matteo Grigoletto

Assessing Market Risk with Extreme Value Distributions
Fabrizio Laurini

Cross Validation Methods in Value-At-Risk Estimation Using Extreme Value Techniques
Francesco Pauli

CONTRIBUTED SESSION:
STATISTICS FOR SPATIAL DATA

Giovedì 4 settembre 2003, ore 17.00-18.30, Aula F

Chair: *Carlo N. Lauro*
Discussant: *Stefano Tonellato*

The Cochran-Armitage Trend Test Under Spatial Autocorrelation
Andrea Cerioli

Exploratory Functional Data Analysis of Brain Line Transects
Simone Di Zio, Luigi Ippoliti

Fitting Spatial Autocorrelated Data
Rosaria Ignaccolo, Nunziata Ribecco

Spatial Composite Estimator for Small Areas
Alessandra Petrucci, Nicola Salvati

CONTRIBUTED SESSION:
FORENSIC STATISTICS AND GRAPHICAL MODELLING

Giovedì 4 settembre 2003, ore 17.00-18.30, Aula B

Chair: *Julia Mortera*
Discussant: *Claudia Tarantola*

Reasoning Under Uncertainty in Forensic Fire Cause Analysis: an Approach Using Bayesian Networks
Alex Biedermann, Franco Taroni, Claudio Semadeni, Anthony Davison

Handling the Effect of Nonresponse in Graphical Models for Longitudinal Data
Riccardo Borgoni, Ann Berrington, Peter W.F. Smith

Estimating Mutation Rates from Paternity Data
Paola Vicard, A. Philip Dawid

INVITED SESSION:
NON LINEAR TIME SERIES MODELS AND APPLICATIONS

Venerdì 5 settembre 2003, ore 9.30-11.00, Aula Magna

Chair: *Cosimo Vitale*
Discussant: *Giampiero M. Gallo*

The Exact Multi-Step ahead Predictor of Threshold Autoregressive Moving Average Models
Alessandra Amendola, Marcella Niglio, Cosimo Vitale

Variance (Non-)Causality: a Bivariate GARCH-Type Model
Massimiliano Caporin

Bootstrap Prediction Intervals with Neural Networks in Nonlinear Time Series
Francesco Giordano, Michele La Rocca, Cira Perna

Minimum Distance Estimation of GARCH Models
Giuseppe Storti

CONTRIBUTED SESSION:
ENVIRONMENTAL STATISTICS

Venerdì 5 settembre 2003, ore 9.30-11.00, Aula B

Chair: *Ezio Todini*
Discussant: *Roberto Pastres*

A Bayesian Semiparametric Approach to the Estimation of the Covariance Structure of Space-Time Data
Silvia Bozza

Modeling Heterogeneity in a Water Quality Index
Michele Scagliarini, Daniela Cocchi

Use of a Fuzzy Neural Network for Hydrological Long-Term Forecasting
Davide Zanchettin, Mario Tomasino

INVITED SESSION:
MIXTURE MODELS

Venerdì 5 settembre 2003, ore 11.30-13.00, Aula Magna

Chair: *Maurizio Vichi*
Discussant: *Salvatore Ingrassia*

Correlated Random Effect Models for Longitudinal Count Data with Base-Line Information
Marco Alfò

Evaluation of Uncertainty in NPML Estimation for Desease Mapping
Corrado Lagazio, Annibale Biggeri, Emanuela Dreassi, Dankmar Böhnibng

Alternative Approaches for Bayesian Binomial Mixtures: a Computational Comparative Analysis
Brunero Liseo, Giovanni Petris, Luca Tardella

A Mixture Model for Classification and Factorial Reduction
Roberto Rocci, Maurizio Vichi

INVITED SESSION:
COMPUTATIONAL METHODS IN ECONOMICS AND FINANCE
Venerdì 5 settembre 2003, ore 11.30-13.00, Aula B

Chair: *Corrado Provasi*
Discussant: *Matteo Grigoletto*

Bounded Influence Estimation of Regression Models in the Presence of a Shape Parameter
Luca Greco, Laura Ventura

Indirect Inference for $\alpha-$ Stable Distributions
Marco J. Lombardi, Giorgio Calzolari, Giampiero M. Gallo

Multivariate Input Modelling with the Family of Koehler-Symanowski Distributions
Paola Palmitesta, Corrado Provasi

On the Problem of TAR Selection
Gabriella Schoier

INVITED SESSION:
MCMC ALGORITHMS AND NUMERICAL METHODS
Venerdì 5 settembre 2003, ore 16.00-17.30, Aula Magna

Chair: *Sonia Petrone*
Discussant: *Antonietta Mira, Sonia Petrone*

An Investigation on the Delayed Rejection Strategy in the Capture-Recapture Context
Francesco Bartolucci, Antonietta Mira, Luisa Scaccia

A Note on the Simulation of Lévy Processes with a View towards Applications
Ilenia Epifani, Antonio Lijoi, Igor Prünster

Regeneration Techniques for MCMC
Giovanni Petris, Luca Tardella

Bayesian Estimation of the Spectral Density of Stationary Gaussian Random Fields
Stefano Tonellato

Contributed Session:
Statistical applications to financial data

Giovedì 4 settembre 2003, ore 16.00-17.30, Aula B

Chair: *Guido Masarotto*
Discussant: *Monica Billio, Paolo Pellizzari*

A Fractional Cointegration Analysis with the Sieve Bootstrap of some Exchange Rate Time Series
Margherita Gerolimetto, Isabella Procidano

Monte Carlo Pricing of American Options Using Nonparametric Regression
Claudio Pizzi, Paolo Pellizzari

Euro/Dollar Exchange Rates: A Multi-country Structural Monthly Econometric Model for Forecasting
Domenico Sartore, Lucia Trevisan, Michele Trova, Francesca Volo

Invited Session:
Environmental data analysis: monitoring and prediction

Sabato 6 settembre 2003, ore 9.30-11.00, Aula Magna

Chair: *Pietro Mantovan*
Discussant: *Andrea Pastore*

ARPAV: Production, Analysis and Evaluation of Environmental Data and Information
Renzo Biancotto, Maria Rosa

Application of Recursive Estimation Algorithms to Real-Time Analysis of Time Series of Water Quality Parameters in the Lagoon of Venice
Stefano Ciavatta, Roberto Pastres, Zhulu Lin, Bruce Beck, Christian Badetti, Giorgio Ferrari

Harmonic Markov Switching Autoregressive Models for Bayesian Analysis of Air Pollution
Roberta Paroli, Luigi Spezia

CONTRIBUTED SESSION:

NON PARAMETRIC INFERENCE

Sabato 6 settembre 2003, ore 9.30-11.00, Aula B

Chair: *Fortunato Pesarin*
Discussant: *Mario Romanazzi*

Locally Superoptimal Projection Density Estimation
Jean-Baptiste Aubin

On the Speed of Convergence of Up-and-Down Experiments
Paola Bortot, Alessandra Giovagnoli

Nonparametric Estimation for Accelerated Life Testing Under Imperfect Repair
Giancarlo Diana, Marco Giordan

Estimation and Tests in Semiparametric Two-Sample Density Ratio Models through $\phi-$divergence
Amor Keziou, Samuela Leoni

INVITED SESSION:

ENVIRONMENTAL AND EPIDEMIOLOGICAL RISK ANALYSIS AND MONITORING: MODELS AND COMPUTATIONAL METHODS

Sabato 6 settembre 2003, ore 11.30-13.00, Aula Magna

Chair: *Annibale Biggeri*
Discussant: *Mauro Gasparini*

Bayesian Meta-Analysis of Short Term Effects of Air Pollution on Health
Michela Baccini, Annibale Biggeri

Transfer Function Modelling Strategy for Combining Evidence in Air Pollution and Daily Mortality
Monica Chiogna, Carlo Gaetan

Categorical/Categorized Data in Environmetrics
Gianfranco Lovison

Multiple Imputation of Missing Values in a Dose-Response Analysis of Cancer Mortality in Relation to Estimated Absorbed Dose of Dioxin
Nicola Sartori, Alberto Salvan, Karl Thomaseth

CONTRIBUTED SESSION:

SURVEY SAMPLING AND APPLIED STATISTICS

Sabato 6 settembre 2003, ore 11.30-13.00, Aula B

Chair: *Romano Vedaldi*
Discussant: *Giancarlo Diana*

The Reconstruction of the Number of Italian Buildings Permits in 1999
Fabio Bacchini, Roberto Iannaccone, Edoardo Otranto

An Information-Based Approach for Estimating Demand Systems with Nonnegativity Constraints
Rosa Bernardini Papalia

Small Area Estimation for the Labour Force Survey in the Municipality of Florence
Andrea Giommi, Emilia Rocco

Two-Phase Centre Sampling for Estimating Elusive Population Size
Monica Pratesi, Emilia Rocco