

7th Conference on Statistical Computation and Complex Systems



Padova, September 19–21, 2011

Joint with

UNIVERSITÀ
DEGLI STUDI
DI PADOVA
DIPARTIMENTO
DI SCIENZE
STATISTICHE



Università
Ca' Foscari
Venezia

Patronage and support



UNIVERSITÀ
DEGLI STUDI
DI PADOVA

Patronage



Scientific Program Committee

The 7th SCo Conference Scientific Program Committee is composed by:

Corrado	Provasi	(Chair)	University of Padova
Silvano	Bordignon		University of Padova
Lorenzo	Fattorini		University of Siena
Francesco	Lisi		University of Padova
Pietro	Mantovan		Ca' Foscari University, Venezia
Andrea	Pastore		Ca' Foscari University, Venezia
Sonia	Petrone		Bocconi University, Milano
Piercesare	Secchi		Politecnico di Milano
Nicola	Torelli		University of Trieste
Maurizio	Vichi		La Sapienza University, Roma

Local Organizing Committee

The 7th SCo Conference Local Organizing Committee is composed by:

Francesco	Lisi	(President)	University of Padova
Matteo	Grigoletto		University of Padova
Andrea	Pastore		Ca' Foscari University, Venezia
Nicola	Sartori		University of Padova
Stefano	Tonellato		Ca' Foscari University, Venezia
Laura	Ventura		University of Padova

Organizing Secretariat

Patrizia Piacentini
 Department of Statistical Sciences
 University of Padova
 via C. Battisti 241
 35121 Padua
 phone +39 049 8274167
 fax +39 049 8274170
 e-mail segrorg@stat.unipd.it

General Information

- Secretariat phone during the conference: 049 8273309
- An internet point will be available for participants near the secretariat desk in the Basilica room
- Lunches and coffee breaks will be served in the Basilica room, at the first floor of Palazzo Bo
- Participants are kindly requested to wear always the badge
- Organization of sessions
 - Plenary Sessions: 50 minute presentations, followed by a 10 minute floor discussion
 - Specialized Sessions: 30 minute presentations, followed by a 30 minute discussion
 - Contributed Papers Sessions: 20 minute presentations, each followed by a 10 minute open floor discussion

C O N F E R E N C E P R O G R A M

Conference schedule

	Monday, Sept 19	Tuesday, Sept 20	Wednesday, Sept 21
09:00 - 11:00		Contributed Paper Sessions: C4 C5 C6	Specialized Sessions: S7 S8 S9
10:30 - 11:30	Registration and Opening		
11:00 - 11:30		Coffee Break	Coffee Break
11:30 - 12:30	Plenary Session: P1 <i>Pier Luigi Conti</i> <i>La Sapienza University, Roma</i>	Plenary Session: P2 <i>Siem Jan Koopman</i> <i>Vrije Universiteit, Amsterdam</i>	Plenary Session: P3 <i>Igor Prüenster</i> <i>University of Torino</i>
12:30 - 14:00	Welcome Buffet: <i>Basilica</i>	Lunch Poster Session	Closure and Lunch
14:00 - 16:00	Specialized Sessions: S1 S2 S3	Specialized Sessions: S4 S5 S6	
16:00 - 16:30	Coffee Break	Coffee Break	
16:30 - 18:30	Contributed Paper Sessions: C1 C2 C3	Contributed Paper Sessions: C7 C8 C9	
20:45		Gala Dinner <i>Caffè Pedrocchi</i>	

Conference Rooms

- Archivio Antico P1, P2, P3, Opening and Closure
 Archivio Antico S1, C1, C4, S4, C7, S7
- Aula Ippolito Nievo S2, C2, C5, S5, C8, S8
- Aula L S3, C3, C6, S6, C9, S9
- All the lecture rooms are located in the Palazzo Bo, via VIII Febbraio, I-35122 Padova, tel. 049 8273300.
 The Archivio Antico and Basilica rooms are located at the first floor, the Ippolito Nievo and Aula L rooms
 at the ground floor.

Monday, September 19

<i>Time</i>	<i>Location</i>	
10:30-11:30	Archivio Antico	Opening and Participants' Registration
11:30-12:30	Archivio Antico	First Plenary Session - Pier Luigi Conti <i>Traffic modeling and statistical analysis in network tomography</i>
12:30-14:00	Basilica	Welcome Buffet
14:00-16:00	Archivio Antico	Specialized Sessions S1. <i>Computational econometrics and finance</i> S2. <i>Hierarchical models for complex biomedical data</i> S3. <i>Bayesian nonparametrics</i>
	Aula I. Nievo	
	Aula L	
16:00-16:30	Basilica	Coffee Break
16:30-18:30	Archivio Antico	Contributed Paper Sessions C1. <i>Likelihood inference</i> C2. <i>Multivariate techniques</i> C3. <i>Nonparametric and semiparametric methods</i>
	Aula I. Nievo	
	Aula L	

First Plenary Session (Archivio Antico)

TRAFFIC MODELING AND STATISTICAL ANALYSIS IN NETWORK TOMOGRAPHY

Speaker: Pier Luigi Conti, La Sapienza University, Roma

Specialized Sessions

S1 - COMPUTATIONAL ECONOMETRICS AND FINANCE - (Archivio Antico)

Federico Bandi, Roberto Reno'

Price and volatility co-jumps

Massimiliano Caporin, Eduardo Rossi and Paolo Santucci de Magistris

Conditional jumps in volatility and their economic determinants

Stefano Grassi, Paolo Santucci de Magistris

When Long Memory Meets the Kalman Filter: A Comparative Study

Organizer: Davide Raggi, University of Bologna

Discussant: Davide Raggi, University of Bologna

S2 - HIERARCHICAL MODELS FOR COMPLEX BIOMEDICAL DATA - (Aula Nievo)

Francesco Claudio Stingo, Yian A. Chen, Marina Vannucci

A bayesian graphical modeling approach to microRNA regulatory network inference

Elena Stanghellini, Anna Gottard

Semicontinuous regression models with skew distributions

Dolores Catelan, Corrado Lagazio, Annibale Biggeri

Bayesian covariate selection in spatial veterinary epidemiology

Monica Musio, Erik A. Sauleau

Modelling spatial hospital recruitment via integrated nested Laplace approximations

Organizer: Annibale Biggeri, University of Firenze

Discussant: Dario Gregori, University of Padova

S3 - BAYESIAN NONPARAMETRICS - (Aula L)

Antonio Lijoi,

Dependent random probabilities for inference on partially exchangeable survival data

Matteo Ruggiero

On a prediction problem for an infinite-dimensional hidden Markov model

Annalisa Cadonna, Alessandra Guglielmi, Fernando A. Quintana

Bayesian nonparametric AR(1)-models for multiple binary sequences

Organizer: Catia Scricciolo, Bocconi University, Milano

Discussant: Stefano Favaro, University of Torino

Contributed Paper Sessions

C1 - LIKELIHOOD INFERENCE - (Archivio Antico)

Clarissa Ferrari, Marco Minozzo

Likelihood inference in binomial factor analysis with the Monte Carlo EM algorithm

Pierpaolo De Blasi, Tore Schweder

High-order asymptotics for tail symmetry of confidence curves

Nicola Lunardon, Luca Greco, Laura Ventura

Pairwise robust estimation of multivariate location and covariance

Laura Ventura, Nicola Sartori, Walter Racugno

A class of strong matching priors for higher-order Bayesian inference

C2 - MULTIVARIATE TECHNIQUES - (Aula Nievo)

Adelchi Azzalini, Giovanna Menardi

A procedure for detecting high density connected regions in clustering methods

Michele Scagliarini

On the assessment of multivariate measurement systems

Enrico di Bella, Valentino Bado

On the use of feed-forward neural networks to discriminate between distributions

Davide Pigoli, Piercesare Secchi

Simulation and modeling of spatially correlated positive definite symmetric matrices

C3 - NONPARAMETRIC AND SEMIPARAMETRIC METHODS - (Aula L)

Monjed Hisham Samuh, Fortunato Pesarin

Permutation tests with ranked set sampling

Laura Azzimonti, Maurizio Domanin, Laura Maria Sangalli, Piercesare Secchi

Surface estimation via spatial spline models with PDE penalization

James O. Ramsay, Timothy O. Ramsay, Laura Maria Sangalli

Spatial spline regression models for data distributed over irregularly shaped regions

Yves Grouwels, Roel Braekers

Zero-inflated semi-parametric Cox regression models for left-censored survival data

TUESDAY, September 20

<i>Time</i>	<i>Location</i>	
9:00-11:00	Archivio Antico Aula I. Nievo Aula L	Contributed Paper Sessions C4. <i>Time series analysis</i> C5. <i>Analysis of complex medical data</i> C6. <i>Statistical methods for complex data</i>
11:00-11:30	Basilica	Coffee Break
11:30-12:30	Archivio Antico	Second Plenary Session - Siem Jan Koopman <i>The Analysis of Stochastic Volatility in the Presence of Daily Realised Measures</i>
12:30-14:00	Basilica	Lunch
14:00-16:00	Archivio Antico Aula I. Nievo Aula L	Specialized Sessions S4. <i>Likelihood methods for complex models</i> S5. <i>Environmental statistics</i> S6. <i>Regression and clustering</i>
16:00-16:30	Basilica	Coffee Break
16:30-18:30	Archivio Antico Aula I. Nievo Aula L	Contributed Paper Sessions C7. <i>Bayesian methods</i> C8. <i>Mixed models</i> C9. <i>Statistical methods for business and economics</i>

Second Plenary Session - (Archivio Antico)

THE ANALYSIS OF STOCHASTIC VOLATILITY IN THE PRESENCE OF DAILY REALISED MEASURES

Speaker: Siem Jan Koopman , *Vrije Universiteit Amsterdam*

Contributed Paper Sessions

C4 - TIME SERIES ANALYSIS - (Archivio Antico)

Tommaso Di Fonzo, Marco Marini

A Newton's method for benchmarking time series

Claudio Pizzi, Francesca Parpinel

PSO estimation of asymmetric threshold models

Luigi Grossi, Angelica Gianfreda

Volatility characterization and forecasting with intra-daily information

Mauro Bernardi, Lea Petrella

Forecasting Italian hourly electricity demand with multiple seasonal patterns

C5 - ANALYSIS OF COMPLEX MEDICAL DATA - (Aula Nievo)

Massimo Bilancia, Nando Redavid

Statistical methods for early prediction of malignant cardiac arrhythmias onset

Francesca Ieva, Anna Maria Paganoni, Davide Pigoli, Valeria Vitelli

ECG signal reconstruction, Landmark registration and functional classification

Derya Karagoz, Nihal Ata

Robustness of percentile estimators in survival analysis

Stefano Baraldo, Francesca Ieva, Luca Mainardi, Anna Maria Paganoni

Adaptive design of experiment for the estimation of apparent diffusion coefficients in MRI

C6 - STATISTICAL METHODS FOR COMPLEX DATA - (Aula L)

Samuela Leoni-Aubin, Jean-Baptiste Aubin

A longest run test for homoscedasticity in univariate regression model

Livio Finos, Fortunato Pesarin

On zero-inflated permutation testing and some related problems

Jean-Baptiste Aubin, Samuela Leoni-Aubin

A new depth function based on the length of the longest run

Piercesare Secchi, Aymeric Stamm, Simone Vantini,

A generalization of Hotelling's theorem for large p small n data

Specialized Sessions

S4 - LIKELIHOOD METHODS FOR COMPLEX MODELS - (Archivio Antico)

Giovanni Fonseca, Federica Giummolè, Paolo Vidoni

Bootstrap calibrated predictive distributions for time series

Annamaria Guolo

Pseudo-likelihood inference for measurement error models with emphasis on misclassification problems

Manuela Cattelan, Cristiano Varin

A Thurstonian model for ranking scientific journals

Organizer: Nicola Sartori, University of Padova

Discussant: Ruggero Bellio, University of Udine

S5 - ENVIRONMENTAL STATISTICS - (Aula Nieveo)

Enrico Fabrizi, Fedele Greco, Carlo Trivisano

The generalised inverse gaussian distribution as a prior for disease mapping models

Francesco Finazzi, Michela Cameletti

GPU algorithms for the estimation of environmental models based on large dataset

Michela Cameletti, Stefania Ghigo, Rosaria Ignaccolo

Error-in-variables spatio-temporal model for PM10 mapping

Organizer: Stefano Tonellato, Ca' Foscari University, Venezia

Discussant: Andrea Pastore, Ca' Foscari University, Venezia

S6 - REGRESSION AND CLUSTERING - (Aula L)

Francesca Martella, Donatella Vicari, Maurizio Vichi

Multivariate regression model based on a partition of predictors

Francesco Lagona, Marco Picone

Unsupervised classification of multivariate data with circular components and missing values

Silvia Bianconcini, Silvia Cagnone

Likelihood inference in latent variable models for ordinal data based on different approximation methods

Organizer: Maurizio Vichi, La Sapienza University, Roma

Discussant: Giovanna Menardi, University of Padova

Contributed Paper Sessions

C7 - BAYESIAN METHODS - (Archivio Antico)

Antonio Canale, David B. Dunson

Nonparametric Bayes modeling of count processes

Davide Risso, Gabriele Sales, Chiara Romualdi, Monica Chiogna

A hierarchical Bayesian model for RNA-Seq data

Annalisa Cerquetti

Conditional alpha diversity for exchangeable Gibbs partitions driven by the stable subordinator

Natallia Makarava, Matthias Holschneider

Bayesian estimation of self-similarity exponent

C8 - MIXED MODELS - (Aula Nievo)

Dario Basso, Livio Finos

A permutation method for testing between effects in linear mixed models

Nicola Soriani, Ruggero Bellio

A Laplace approximation approach for p2 network regression models with crossed random effects

Laura Azzimonti, Francesca Ieva, Anna Maria Paganoni

A new unsupervised classification technique through nonlinear non parametric mixed effects models

Ruggero Bellio, Francesco Pauli, Laura Rizzi

Breast cancer surgery profiling by generalized additive mixed models

C9 - STATISTICAL METHODS FOR BUSINESS AND ECONOMICS - (Aula L)

Francesca Bassi

Analysing markets within the latent class approach: an application to the pharma sector

Luca Grassetti, Giovanni Fonseca

Analysis of an historic market dataset with large and sparse data missingness

Carmela Cappelli, Francesca Di Iorio

Theoretical regression trees for multiple structural-change models analysis

Francesca Bassi, José G. Dias

Longitudinal patterns of financial product ownership: a latent growth mixture approach

WEDNESDAY, September 21

<i>Time</i>	<i>Location</i>	
9:00-11:00	Archivio Antico Aula I. Nievo Aula L	Specialized Sessions <i>S7. Recent advances in time series analysis</i> <i>S8. Robust statistical methods</i> <i>S9. Computational methods in survey sampling</i>
11:00-11:30	Basilica	Coffee Break
11:30-12:30	Archivio Antico	Third Plenary Session - Igor Prünster <i>A Bayesian nonparametric approach to species sampling problems</i>
12:30-14:00	Basilica	Closure and Lunch

Third Plenary Session - (Archivio Antico)

A BAYESIAN NONPARAMETRIC APPROACH TO SPECIES SAMPLING PROBLEMS

Speaker: Igor Prünster, *University of Torino*

Specialized Sessions

S7 - RECENT ADVANCES IN TIME SERIES ANALYSIS - (Archivio Antico)

Giampiero M. Gallo, Edoardo Otranto,
Realized volatility and changes of regime

Matteo Pelagatti
Forecasting the residual demand function in electricity auctions

Luc Bauwens, Giuseppe Storti
Modelling vast dimensional realized covariance matrices

Organizer: Luisa Bisaglia, University of Padova
 Discussant: Margherita Gerolimetto, Ca' Foscari University, Venezia

S8 - ROBUST STATISTICAL METHODS - (Aula Nievo)

Luigi Grossi, Fabrizio Laurini, Giacomo Scandolo
Optimal portfolio allocation with CVaR: a robust approach

Marco Riani, Andrea Cerioli, Francesca Torti
Breakdown and efficiency in robust regression

Bruno Scarpa, Stefano Mazzucco
Fitting age-specific fertility rates by a skew-symmetric probability density function

Organizer: Anna Clara Monti, University of Sannio
 Discussant: Laura Ventura, University of Padova

S9 - COMPUTATIONAL METHODS IN SURVEY SAMPLING - (Aula L)

Caterina Pisani
Two-stage estimation of ungulate abundance in marenna regional park using pellet group count

Marcello D'Orazio
Statistical matching through regression trees

Piero Demetrio Falorsi, Paolo Righi
Determining the sample size in a multivariate, multi domain context in which the target variables in the population are predicted

Organizer: Nicola Torelli, University of Trieste
 Discussants: Lorenzo Fattorini, University of Siena; Nicola Torelli, University of Trieste