



UNIVERSITÀ  
DEGLI STUDI  
DI PADOVA

45<sup>th</sup> Scientific Meeting  
of the  
Italian Statistical Society



Satellite Meetings :: June 14–15, 2010

Scientific Meeting :: June 16–18, 2010

## Program Committee

The Program Committee of the 45<sup>th</sup> SIS Scientific Meeting is composed by:

Nicola	Torelli	(Chair)	University of Trieste
Corrado	Provasi		University of Padua
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Giorgio	Vittadini		University of Milano-Bicocca

## Local Committee

The 45<sup>th</sup> Scientific Meeting of the Italian Statistical Society is organized by the Department of Statistical Sciences of the University of Padua. The Local Organizing Committee is composed by:

Corrado Provasi (*President*)

Gianfranco Adimari

Luisa Bisaglia

Franco Bonarini

Matteo Grigoletto

Laura Ventura

Vincenzo Lo Moro (*SIS Treasurer*)

Francesca Bassi

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UNIVERSITÀ  
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DIPARTIMENTO  
DI SCIENZE  
STATISTICHE

## Conference Rooms Location

- The Aula Magna “Galileo Galilei”, the Ancient Archive (Archivio Antico) and lecture rooms “Ippolito Nievo”, “Ederle” and “E” are located in the Palazzo del Bo’, via VIII Febbraio, I-35122 Padua, tel. 049 8273111.
- Lecture rooms A, B, C, D, E, F, G are located in via Bassi 2, I-35131 Padua, tel. 049 8276019.
- Lecture rooms 12, 14 and 44 are located in via Bassi 1, I-35131 Padua, tel. 049 8271230.
- The Aula Magna “Vallisneri” is located just behind Classrooms A-G, in via Bassi 58, I-35131 Padua, tel. 049 8276016.

## Miscellanea

- An e-mail service will be available for participants by the Computer Room located in via Bassi 1, I-35131 Padua, tel. 049 8271230.
- Lunch and coffee breaks will be served at the nord Piovego refectory, near the Aula Magna “Vallisneri”, in viale Giuseppe Colombo 1, I-35131 Padua, tel. 049 8071530.
- Organization of sessions

	5 min	chair person
Plenary Session:	45 min	speaker
	10 min	floor discussion
Specialized Sessions	20 min	talk
	30 min	discussant and floor discussion
Contributed Paper Sessions:	16 min	talk
	25 min	floor discussion

*45<sup>th</sup> SIS Scientific Meeting. Padua, June 16–18, 2010*

## CONFERENCE PROGRAM





## Wednesday, June 16

<i>Time</i>	<i>Location</i>	
08:00-09:00	Palazzo del Bo'	Participants' Registration
09:00-10:00	Aula Magna	Opening Ceremony
10:00-11:00	Aula Magna	<b>First Plenary Session</b> - James J. Heckman <i>Structural vis-à-vis reduced form estimation of program effects</i>
11:10-11:30		Coffee Break
11:30-13:00	Archivio Antico Aula Nievo Aula Ederle Aula E	<b>Specialized Sessions</b> I - <i>A non-random sample of statistics in the U.K.</i> II - <i>Statistical methods for evaluation of educational services</i> III - <i>Statistical methods for business and industry</i> IV - <i>Nonparametric methods</i>
13:10-14:30		Consiglio Direttivo SIS
13:10-14:45	Mensa NORDP	Lunch
14:45-16:15	A Bassi B Bassi C Bassi D Bassi E Bassi F Bassi 12 Econ 14 Econ	<b>Contributed Paper Sessions</b> 01. <i>Small area estimation</i> 02. <i>Clustering methods: theory and applications</i> 03. <i>Energy statistics and changing market dynamics</i> 04. <i>Methods for constructing composite indicators</i> 05. <i>Time series analysis</i> 06. <i>Topics in modern statistical Inference</i> 07. <i>Statistical analysis of university systems</i> 08. <i>Causal inference: methods and applications</i>
16:25-16:45		Coffee Break
16:45-18:15	A Bassi B Bassi  C Bassi D Bassi	<b>Specialized Sessions</b> V - <i>Short glance on French Statistic</i> VI - <i>Regression models for longitudinal multivariate and discrete data</i> VII - <i>Statistical models for nonsampling errors</i> VIII - <i>Model selection in classification analysis (CLADAG)</i>
19:00	Centro Culturale Altinate San Gaetano	Welcome Cocktail / <b>Poster Session</b>

## First Plenary Session

### STRUCTURAL VIS-À-VIS REDUCED FORM ESTIMATION OF PROGRAM EFFECTS

Speaker: James J. Heckman  
 Chair Person: Enrico Rettore, *University of Padua*

## Specialized Sessions

### I - A NON-RANDOM SAMPLE OF STATISTICS IN THE U.K.

Alan Kimber and Ali Yousef  
**The Sensitivity of the Triple Sampling Sequential Procedure to Departures from Normality**

Michael J Campbell, Suzanne Mason and Jon Nicholl  
**Relative Risks, Odds Ratios and Cluster Randomised Trials**

Robin Mitra and Jerome P. Reiter  
**An approach to impute missing covariates in observational studies when estimating treatment effects with propensity score matching**

Organizer: Royal Statistical Society  
 Chair Person: Alan Kimber, *University of Southampton*  
 Discussant: Stuart Coles

### II - STATISTICAL METHODS FOR EVALUATION OF EDUCATIONAL SERVICES

Enrico Gori  
**Accountability Systems in Education**

Roberto Ricci  
**The Economic, Social, and Cultural Background: a continuous index for the Italian Students of the fifth grade**

Tommaso Agasisti  
**The determinants of students' achievement: a multilevel analysis of new Italian data**

Organizer: Giorgio Vittadini, *University of Milano-Bicocca*  
 Chair Person: Piero Cipollone, *INValSI*  
 Discussant: Giorgio Brunello, *University of Padua*

### III - STATISTICAL METHODS FOR BUSINESS AND INDUSTRY

Narayanaswamy Balakrishnan

**Generalized Gamma Frailty Model and Applications**

Chiara Bocci and Alessandra Petrucci

**Statistical Methods for the Analysis of Spatial Patterns: a Geoadditive Approach**

Renato Salvatore

**Technical efficiency estimators in linear mixed effects stochastic production frontier models**

Organizer: Antonio Giusti, *University of Florence*

Chair Person: Alessandro Viviani, *University of Florence*

Discussant: Ignazio Drudi, *University of Bologna*

### IV - NONPARAMETRIC METHODS

Ludwig A. Hothorn and Frank Konietzschke

**Evaluation of clinical dose finding studies using a non-parametric Shirley-type trend test for relative effects**

Roberta Siciliano, Valerio A. Tutore, Massimo Aria and Antonio D'Ambrosio

**Trees with leaves and without leaves**

Tommaso Proietti and Alessandra Luati

**Low-Pass Filter Design using Locally Weighted Polynomial Regression and Discrete Prolate Spheroidal Sequences**

Organizer: Gabriele Soffritti, *University of Bologna*

Chair Person: Simone Borra, *University of Rome II*

Discussant: Bruno Scarpa, *University of Padua*

Livio Finos, *University of Padua*

### V - SHORT GLANCE ON FRENCH STATISTIC

Luca Scrucca and Avner Bar-Hen

**A model-based dimension reduction approach to classification of gene expression data**

Farouk Mhamdi, Mériem Jaïdane-Saïdane and Jean-Michel Poggi

**Empirical Mode Decomposition for Trend Extraction. Application to Electrical Data**

Jean-Michel Marin and Christian Robert

**Recent advances in ABC (Approximate Bayesian Computation) methodology**

Organizer: Société Française de Statistique

Chair Person: Avner Bar-Hen, *Université Paris Descartes*

Discussant: Alessio Farcomeni, *Sapienza University of Rome*

## VI – REGRESSION MODELS FOR LONGITUDINAL MULTIVARIATE AND DISCRETE DATA

Vassilis Vasdekis, Silvia Cagnone and Irini Moustaki

**A comparison of a pseudo-likelihood estimation and full information maximum likelihood estimation for fitting multivariate longitudinal ordinal data**

Dimitris Rizopoulos

**Joint Modelling of Longitudinal and Time-to-Event Data: Challenges and Future Directions**

Antonello Maruotti and Roberto Rocci

**A semiparametric approach to mixed non-homogeneous hidden Markov models**

Organizer: Donatella Vicari, *Sapienza University of Rome*

Chair Person: Marco Alfò, *Sapienza University of Rome*

Discussant: Cristiano Varin, *Ca' Foscari University of Venice*

## VII – STATISTICAL MODELS FOR NONSAMPLING ERRORS

Giancarlo Diana and Pier Francesco Perri

**Selected Scrambled Response Models**

Natalie Shlomo

**Measurement Error and Statistical Disclosure Control**

Silvia Biffignandi

**Modeling non sampling errors and participation in web surveys**

Organizer: Monica Pratesi, *University of Pisa*

Chair Person: Monica Pratesi

Discussant: Daniela Cocchi, *University of Bologna*

## VIII – MODEL SELECTION IN CLASSIFICATION ANALYSIS (CLADAG)

Stefan Van Aelst and Gert Willems

**Robust Variable Selection in Discriminant Analysis**

Salvatore Ingrassia, Simona C. Minotti and Giorgio Vittadini

**Cluster Weighted Modeling with Student-t components**

Cinzia Viroli

**Classifying three-way data through Matrix-Normal Mixtures**

Organizer: Francesco Palumbo, *University of Macerata*

Chair Person: Angela Montanari, *University of Bologna*

Discussant: Marco Riani, *University of Parma*

## Contributed Paper Sessions

### 01 - SMALL AREA ESTIMATION

D. Morales, M.C. Pagliarella and R. Salvatore

**Influence analysis in small area estimation**

Fabrizi Enrico, Pratesi Monica, Salvati Nicola and Tzavidis Nikos

**Design consistent small area estimators based on M-quantile regression**

Roberto Benedetti, Danila Filippini and Federica Piersimoni

**Multiple imputation in land cover EBLUP estimates**

Giorgio E. Montanari, M. Giovanna Ranalli and Cecilia Vicarelli

**A comparison of small area estimators of counts aligned with direct higher level estimates**

Chair Person: Daniela Cocchi, *University of Bologna*

### 02 - CLUSTERING METHODS: THEORY AND APPLICATIONS

Francesco Lagona

**Model-based classification of clustered binary data with non ignorable missing values**

Luca Scrucca

**Genetic algorithms for subset selection in model-based clustering**

F. Marta L. Di Lascio and Alberto Roverato

**Partial ordering of dissimilarity measures for gene clustering**

Riccardo De Bin and Davide Risso

**A nonparametric algorithm for clustering microarray data**

Chair Person: Donatella Vicari, *Sapienza University of Rome*

### 03 - ENERGY STATISTICS AND CHANGING MARKET DYNAMICS

Renato Guseo

**Worldwide Cheap and Heavy Oil Productions: A Long Term Energy Model**

Alessandra Dalla Valle and Claudia Furlan

**Forecasting accuracy of the Generalized Bass Model versus the most widespread diffusion models in wind power system**

Angelica Gianfreda and Luigi Grossi

**Fractional integration models for Italian electricity zonal prices**

Fany Nan, Silvano Bordignon, Derek W. Bunn and Francesco Lisi

**Forecasting Electricity Spot Prices: Assessing the Performance of Linear and Nonlinear Specifications**

Chair Person: Renato Guseo, *University of Padua*

**04 - METHODS FOR CONSTRUCTING COMPOSITE INDICATORS**

Claudia Brunini and Francesca Paradisi

**A composite indicator for the measurement of infrastructures endowment - Experiences in ISTAT**

Francesco Vidoli, Claudio Mazziotta

**Spatial Composite and Disaggregate Indicators: Chow-Lin Methods and Applications**

Matteo Mazziotta and Adriano Pareto

**A Generalized Composite Index based on Non-substitutability of Individual Indicators**

Roberto Gismondi and Massimo Alfonso Russo

**Evaluation of Academic Synthetic Indicators**

Chair Person:

Piero Falorsi, *ISTAT***05 - TIME SERIES ANALYSIS**

Alessandra Amendola, Marcella Niglio and Cosimo Damiano Vitale

**Threshold Moving Average Models Invertibility**

Maria Iannario and Domenico Piccolo

**Spectral decomposition of the AR metric**

Giovanni Fonseca and Luca Grassetti

**Multidimensional time series model estimation in presence of partially missing observations**

Tommaso Di Fonzo and Marco Marini

**Benchmarking and movement preservation. Evidences from real-life and simulated series**

Chair Person:

Lupi Claudio, *University of Molise***06 - TOPICS IN MODERN STATISTICAL INFERENCE**

Cinzia Carota and Caterina Conigliani

**A note on Bayesian hypothesis testing for the scalar skew-normal distribution**

Francesco Pauli and Gianfranco Adimari

**Bayesian inference with a pairwise likelihood: an approach based on empirical likelihood**

Piercesare Secchi, Aymeric Stamm and Simone Vantini

**Large p Small n: Inference for the Mean**

Laura Ventura and Walter Racugno

**A note on the relationships between Bayesian and non-Bayesian predictive inference**

Chair Person:

Luigi Pace, *University of Udine*

**07 - STATISTICAL ANALYSIS OF UNIVERSITY SYSTEMS**

Emanuele Dequarti, Simone Gerzeli and Paolo Giudici

**Career opportunities and training satisfaction among Ph.D. graduates: Application of an index for ordinal data according to the stochastic dominance approach**

Antonella D'Agostino, Giulio Ghellini and Laura Neri

**Monitoring, Measuring and Assessing the Italian Ph.D. System**

Matilde Bini, Leonardo Grilli and Carla Rampichini

**Contextual factors of the external effectiveness of the university education: a multilevel approach**

Domenico De Stefano, Maria Prosperina Vitale and Susanna Zaccarin

**The scientific collaboration network of Italian academic statisticians**

Chair Person:

Lorenzo Bernardi, *University of Padua***08 - CAUSAL INFERENCE: METHODS AND APPLICATIONS**

F. Busillo , T. Muccigrosso , G. Pellegrini , O. Tarola and F. Terribile

**Measuring the Impact of the European Regional Policy on Economic Growth: a Regression Discontinuity Design Approach**

Giuseppe Gabrielli and Gianpiero Dalla Zuanna

**Formal and Informal Childcare in Italy and its Regions**

Andrea Mercatanti

**Semiparametric methods for causal inference: the effect of debit cards on households' spending**

Alessandra Mattei, Fabrizia Mealli and Barbara Pacini

**Exploiting multivariate outcomes in Bayesian inference for causal effects with noncompliance**

Chair Person:

Ugo Trivellato, *University of Padua*

## Thursday, June 17

<i>Time</i>	<i>Location</i>	
08:30-10:00	A Bassi B Bassi C Bassi D Bassi E Bassi F Bassi 12 Econ 14 Econ	<b>Contributed Paper Sessions</b> 09. <i>Spatial and spatio-temporal analysis: environmental and social applications</i> 10. <i>Developments in Bayesian statistics</i> 11. <i>Economic statistics</i> 12. <i>Statistical methods for the analysis of financial data</i> 13. <i>Health service research</i> 14. <i>Advances in survey methodology</i> 15. <i>Migration and foreign population</i> 16. <i>Quality and organization in National Statistical Institutes</i>
10:10-11:10	Aula Vallisneri	<b>Second Plenary Session - Geoge Casella</b> <i>Estimation in Dirichelet process random effect models</i>
11:10-11:30		Coffee Break
11:30-13:00	A Bassi B Bassi C Bassi  D Bassi E Bassi	<b>Specialized Sessions</b> IX - <i>Skewing symmetry 25 years on</i> X - <i>New developments in objective Bayesian inference</i> XI - <i>Assigning weights and hierarchies to the construction of composite indicators</i> XII - <i>Information and forecasting</i> <b>PhD Awards Special Session</b>
13:10-14:30	Aula A	Riunione del Gruppo di Lavoro Permanente <i>"Metodologie per le Indagini Campionarie"</i>
13:10-14:30	Aula B	Riunione del Gruppo di Lavoro Permanente <i>"Statistica per la Valutazione e la Qualità dei Servizi"</i>
13:10-14:30	Aula C	Riunione del Gruppo di Lavoro Permanente <i>"Analisi delle Serie Temporal"</i>
13:10-14:30	Mensa NORDP	Lunch
14:30-16:00	A Bassi B Bassi C Bassi D Bassi E Bassi F Bassi 12 Econ 14 Econ 44 Econ	<b>Contributed Paper Sessions</b> 17. <i>Modelling social phenomena*</i> 18. <i>Cost of children and human capital</i> 19. <i>Robust Methods</i> 20. <i>Applications in Bayesian statistics</i> 21. <i>Survey sampling theory</i> 22. <i>Distribution theory and statistical inference</i> 23. <i>Econometrics/financial data analysis</i> 24. <i>Experimental design and industrial statistics</i> 25. <i>Statistics and the web</i>
16:10-16:30		Coffee Break
16:30-17:30	Aula Vallisneri	<b>President's Invited Speaker - Enrico Giovannini, ISTAT</b> <i>Statistics, knowledge and policy: towards a new paradigm</i>
17:40-19:00	Aula Vallisneri	Assemblea Generale
20:45		Gala Dinner

\*14:30-16:20

## Second Plenary Session

### ESTIMATION IN DIRICHLET PROCESS RANDOM EFFECTS MODELS

Speaker: George Casella  
 Chair Person: Gabriella Salinetti, *Sapienza University of Rome*

## Specialized Sessions

### IX - SKEWING SYMMETRY 25 YEARS ON

Arthur Pewsey  
**Sinh-arcsinh Distributions**  
 Barry C. Arnold  
**Multiple and Non-linear Constraint Models**  
 Stefano Cabras and Maria Eugenia Castellanos  
**Prior predictive p-values for assessing the Goodness-of-fit of the Skew Normal model.**

Organizer: Sociedad de Estadística e Investigación Operativa  
 Chair Person: Arthur Pewsey, *University of Extremadura*  
 Discussant: Adelchi Azzalini, *University of Padua*

### X - NEW DEVELOPMENTS IN OBJECTIVE BAYESIAN INFERENCE

Jean-Michel Marin and Christian P. Robert  
**Importance sampling methods for Bayesian discrimination between embedded models**  
 Stefano Cabras  
**Default priors based on pseudo-likelihoods for the Poisson-GPD model**  
 Alessio Farcomeni and Silvia Pandolfi  
**Bayesian multivariate latent Markov models with an unknown number of regimes**

Organizer: Walter Racugno, *University of Cagliari*  
 Chair Person: Walter Racugno  
 Discussant: Maria Maddalena Barbieri, *Roma Tre University*

**XI - ASSIGNING WEIGHTS AND HIERARCHIES TO THE CONSTRUCTION OF COMPOSITE INDICATORS**

Michela Gnaldi and Maria Giovanna Ranalli

**Composite indicators of scientific research: the robustness of university rankings based on composite measures**

Roberto Ciampicacigli

**Development of evaluation model of Censis Services on the Italian university system**

Sergio Zani, Maria Adele Milioli and Isabella Morlini

**Fuzzy Composite Indicators: An Application for Measuring Customer Satisfaction**Organizer: Stella Iezzi, *University of Rome II*Chair Person: Enrica Aureli Cutillo, *Sapienza University of Roma*Discussant: Massimo Attanasio, *University of Palermo***XII - INFORMATION AND FORECASTING**

Francesco Battaglia and Mattheos K. Protopapas

**Nonlinear Nonstationary Model Building by Genetic Algorithms**

Helmut Lütkephol

**Forecasting Aggregates with Stochastic Aggregation Weights**

Francesco D'Amuri and Juri Marcucci

**"Google it!". Forecasting the US unemployment rate with a Google job search index**Organizer: Claudio Lupi, *University of Molise*Chair Person: Tommaso Proietti, *University of Rome II*Discussant: Cira Perna, *University of Salerno*

## PhD Awards Special Session

Bruno Arpino

**Causal inference for observational studies extended to a multilevel setting. The impact of fertility on poverty in Vietnam**

Stefania Gubbiotti

**Bayesian methods for sample size determination and their use in clinical trials**

Luisa Salaris

**Searching for longevity determinants: following survival of newborns in a in-land village in Sardinia (1866-2006)**

Chair Person: Cecilia Tommasini, *University of Molise*

## President's Invited Speaker

STATISTICS, KNOWLEDGE AND POLICY: TOWARDS A NEW PARADIGM

Speaker: Enrico Giovannini, *National Institute of Statistics (ISTAT), Rome*

Chair Person: Maurizio Vichi, *Sapienza University of Rome*

## Contributed Paper Sessions

### 09 - SPATIAL AND SPATIO-TEMPORAL ANALYSIS: ENVIRONMENTAL AND SOCIAL APPLICATIONS

Michela Cameletti and Rosaria Ignaccolo

**Comparing spatio-temporal hierarchical models for air quality data**

Alessandro Fassò and Francesco Finazzi

**Air quality mapping using the dynamic coregionalization model**

Giulia Roli, Rossella Miglio, Rosella Rettaroli and Alessandra Samoggia

**The longevity pattern in Emilia Romagna: a spatio-temporal analysis**

Rosario D'Agata and Venera Tomaselli

**Spatial Analysis for Electoral Data: the Spread of Territorial Parties in Italy**

Chair Person:

Alessandro Fassò, *University of Bergamo*

### 10 - DEVELOPMENTS IN BAYESIAN STATISTICS

Serena Arima, Giovanni Petris and Luca Tardella

**Alternative rare events probability estimation**

Annalisa Cerquetti

**Bayesian nonparametric analysis for a species sampling model with finitely many types**

Stefania Gubbiotti and Fulvio De Santis

**Monitoring of sequential trials using a robust Bayesian stopping rule**

Francesco Claudio Stingo, Marina Vannucci and Gerard Downey

**Wavelet-based Variable Selection for Discriminant Analysis with Markov Random Tree Priors**

Chair Person:

Walter Racugno, *University of Cagliari*

### 11 - ECONOMIC STATISTICS

Maria Rosaria Ferrante and Marzia Freo

**Adjusting the Internationalization Productivity Premium for Firms Heterogeneity by using the Quantile Regression Decomposition**

Elvio Mattioli and Giuseppe Riccardo Lamonica

**An analysis of methods to make consistent the binary matrices comparisons**

Vittorio Nicolardi

**Simultaneous I-O tables balancing at current and constant prices**

Fabio Bacchini and Annarita Mancini

**An indicator of Italian inventories: preliminary analysis**

Chair Person:

Tommaso Di Fonzo, *University of Padua*

**12 - STATISTICAL METHODS FOR THE ANALYSIS OF FINANCIAL DATA**

Massimiliano Caporin and Gabriel G. Velo  
**Modeling and Forecasting Realized Range Volatility**

Edoardo Otranto  
**A GARCH-Volatility Dependent DCC Model**

Michele Costa and Luca De Angelis  
**Latent Class Analysis for Portfolio Choice**

Raffaella Calabrese  
**Regression for Recovery Rates with both Continuous and Discrete Characteristics**

Chair Person: Francesco Lisi, *University of Padua*

**13 - HEALTH SERVICE RESEARCH**

Vincenzo Atella and Marianna Brunetti  
**Household Portfolio Choices, Health status and National Health Care Systems**

M. Angelici  
**Does Hospital ownership influence quality of care?**

Alfonso Piscitelli and Vittorio D'Alterio  
**Medical Staff Attitudes Towards Patients in Acute Pain: An Application of Categorical Principal Component Analysis**

Elena Pirani and Silvana Salvini  
**Exploring Differences in the Recourse to Health Services in Italy through Latent Class Analysis**

Chair Person: Viviana Egidi, *Sapienza University of Rome*

**14 - ADVANCES IN SURVEY METHODOLOGY**

Pier Luigi Conti, Daniela Marella and Mauro Scanu  
**Uncertainty in statistical matching under logical constraints: a nonparametric approach**

Marco Bee and Roberto Benedetti  
**Simulation of the Multivariate Generalized Hyperbolic Distribution using Adaptive Importance Sampling**

Riccardo Borgoni, Donata Marasini and Piero Quatto  
**Symmetric association measures in effect-control sampling**

Sabrina Giordano, Giovanni Latorre and Pier Francesco Perri  
**Comparing Unrelated Question Models from a Privacy Protection Perspective**

Chair Person: Monica Pratesi, *University of Pisa*

**15 - MIGRATION AND FOREIGN POPULATION**

Mario Albisinni and Federica Pintaldi

**A new classification of migration through a multidimensional approach**Oliviero Casacchia, Piero Giorgi, Cecilia Reynaud, Salvatore Strozza and Enrico Tucci  
**Italians' and Foreigners' Internal Mobility in Italy: an Application of Gravitational Models**

Cinzia Castagnaro, Cinzia Conti and Antonella Guarneri

**Foreigners in Italy: characteristics and behaviours' changes over the last ten years**

Cinzia Conti, Antonella Guarneri and Enrico Tucci

**Internal migration flows: a comparison between Italian and foreign population**Chair Person: Maria Letizia Tantarri, *University of Padua***16 - QUALITY AND ORGANIZATION IN NATIONAL STATISTICAL INSTITUTES**

Vincenzo Lo Moro

**New vision and traceability of European Official Statistics: consequences for Quality Managerial Tools**

Simona Pace, Riccardo Carbini, Concetta Pellegrini and Maria Cara

**Connecting quality and planning systems in the Italian National Statistical Office**

Concetta Ferruzzi

**Organizational support for Statistical Production in the National Statistical Institutes (NSIs)**

Antonella Baldassarini, Federica Battellini and Nadia Di Veroli

**Towards a system of supervisory and control for national accounts**Chair Person: Vincenzo Lo Moro, *ISTAT***17 - MODELLING SOCIAL PHENOMENA**

Maria Cristiana Martini and Cristiano Vanin

**A Measure of Poverty Based on the Rasch Model**

Simona Monteleone and Benedetto Torrì

**Regression models for estimating the propensity to return of the brain drain in Italy**

Bruno Arpino and Roberta Varriale

**A Monte-Carlo study to evaluate value-added models for institutions' rankings**

Rosa Giaimo, Filippa Bono and Giovanni Luca Lo Magno

**Interpreting the Decomposition of Gender Earnings Gap**

Omar Paccagnella and Roberta Varriale

**Asset ownership of the elderly across Europe: A multilevel latent class analysis to segment country and households**Chair Person: Stella Iezzi, *University of Rome II*

**18 - COST OF CHILDREN AND HUMAN CAPITAL**

Marcantonio Caltabiano and Alessandro Rosina

**An analysis of late fertility in Italy: the role of education**

Gustavo De Santis and Giambattista Salinari

**The Determinants of Income Dynamics**

Gustavo De Santis and Mauro Maltagliati

**Clusters and Equivalence Scales**

Maria Letizia Tanturri

**Determinants of childlessness among men and women: do they differ?**Chair Person: Carlo Filippucci, *University of Bologna***19 - ROBUST METHODS**

Mario Romanazzi and Claudio Agostinelli

**Depth Advances**

Giovanni C. Porzio and Giancarlo Ragozini

**Convex Hull Probability Depth: first results**

Matteo M. Pelagatti and Pranab K. Sen

**A robust version of the KPSS test based on ranks**

Tiziano Bellini

**Robust Data Envelopment Analysis**Chair Person: Francesco Palumbo, *University of Naples Federico II***20 - APPLICATIONS IN BAYESIAN STATISTICS**

Serena Broccoli and Giulia Cavrini

**A Bayesian IRT for mixed responses and skew latent variable**

Daniela Marella and Paola Vicard

**Measurement Error Modelling using Object-Oriented Bayesian Networks**

Julia Mortera, Cecilia Vergari and Paola Vicard

**Object-Oriented Bayesian Networks for firms' collusion strategies**

Bruno Scarpa

**Customer base segmentation of a telecommunication company by using Bayesian semi-parametric analysis of traffic data**Chair Person: Stefano Cabras, *University of Cagliari*

**21 - SURVEY SAMPLING THEORY**

Chang-Tai Chao, Arthur L. Dryver, and Tzu-Ching Chiang  
**Utilizing the Rao-Blackwellization Technique to Improve Ratio Estimators in Adaptive Cluster Sampling**

Giancarlo Diana and Marlies Ranieri  
**Improved estimators of a sensitive proportion through randomized response technique**

Giuseppe Cicchitelli and Giorgio E. Montanari  
**Model-assisted estimation of a spatial population mean**

Adriano Pareto and Antonio Pavone  
**Balancing and Calibration in Survey Sampling: A Simulation Study**

Chair Person: Fulvia Mecatti, *University of Milano-Bicocca*

**22 - DISTRIBUTION THEORY AND STATISTICAL INFERENCE**

Francesca Condino and Filippo Domma  
**The Beta-Dagum Distribution**

Angiola Pollastri and Giovanni Zambruno  
**The Distribution of the Ratio of Two Independent Dagum Random Variables**

Renato Coppi, Maria Brigida Ferraro and Paolo Giordani  
**A class of linear regression models for imprecise random elements**

Michela Battauz  
**Laplace approximation for measurement error correction in generalized linear (mixed) models**

Chair Person: Laura Ventura, *University of Padua*

**23 - ECONOMETRICS/FINANCIAL DATA ANALYSIS**

Luca Fanelli  
**Testing Determinacy Versus Indeterminacy and Omitted Dynamics in Linear Rational Expectations Models**

Paolo Giudici and Silvia Fugini  
**Risk tendency measures for ordinal variables**

Luca Bagnato and Antonio Punzo  
**Checking Serial Independence of Residuals from a Nonlinear Model**

Lucio De Capitani  
**Point and interval estimation for some financial performance measures**

Chair Person: Silvano Bordignon, *University of Padua*

**24 - EXPERIMENTAL DESIGN AND INDUSTRIAL STATISTICS**

Riccardo Borgoni, Luigi Radaelli, Valeria Tritto and Diego Zappa

**Optimal reduction of a monitoring grid for SiO<sub>2</sub> deposition surface over a wafer for semiconductor devices**

Roberto Fontana and Giovanni Pistone

**Algebraic generation of Orthogonal Fractional Factorial Designs**

Nuno Crato, Ana Diniz and Joao Barreiros

**Long Memory and Nonstationarity in Time Perception Models**

Pasquale Erto and Antonio Lepore

**A Note on the Plotting Position Controversy and a New Distribution-free Formula**

Chair Person:

Fortunato Pesarin, *University of Padua***25 - STATISTICS AND THE WEB**

Silvia Biffignandi, Enrico Fabrizi and Daniele Toninelli

**The Effects of Non-Response Reweighting on Estimators' Precision in a Web Survey**

Fabio Crescenzi, Daniele Frongia and Eric Sanna

**Statistics and Web: Who Needs Who?**

Remo Catenaro

**New SAS(r) Text Analytics -Maximize the value buried in your unstructured data assets**

Chair Person:

Antonio Giusti, *University of Florence*

## Friday, June 18

<i>Time</i>	<i>Location</i>	
08:30-10:00	A Bassi B Bassi C Bassi D Bassi E Bassi F Bassi 12 Econ 14 Econ	<b>Contributed Paper Sessions</b> 26. <i>Analysis of functional and symbolic data</i> 27. <i>Models for statistical inference</i> 28. <i>Health and family well-being</i> 29. <i>Inequality Measures</i> 30. <i>Advances in inequality, poverty and welfare measurement 1</i> 31. <i>Applied Bayesian hierarchical models</i> 32. <i>Data quality and errors detection in statistical surveys</i> 33. <i>Hypothesis testing</i>
10:10-11:10	Aula Vallisneri	<b>Third Plenary Session</b> - Paul Boyle <i>Space, migration and health: learning from routine data</i>
11:10-11:30		Coffee Break
11:30-13:00	A Bassi B Bassi C Bassi D Bassi	<b>Specialized Sessions</b> XIII - <i>Statistics of extremes in today's world</i> XIV - <i>New challenges in survey sampling and estimation</i> XV - <i>Financial risk modelling</i> XVI - <i>Functional analysis for high dimensional data</i>
13:10-14:30	Mensa NORDP	Lunch
14:30-16:00	A Bassi B Bassi C Bassi  D Bassi	<b>Specialized Sessions</b> XVII - <i>Copulas: Theory and applications</i> XVIII - <i>Matching techniques, censuses and administrative data</i> XIX - <i>Demographic transition and the millennium development goals: how far we are? (Aisp)</i> XX - <i>Recent developments in likelihood methods</i>
16:10-16:30		Coffee Break
16:30-18:00	A Bassi B Bassi C Bassi D Bassi E Bassi F Bassi 12 Econ 14 Econ	<b>Contributed Paper Sessions</b> 34. <i>Analysis of correlated data</i> 35. <i>Survey methodology</i> 36. <i>Life course analysis and family</i> 37. <i>Advances in inequality, poverty and welfare measurement 2</i> 38. <i>Epidemiology</i> 39. <i>Change points in time series and panel data</i> 40. <i>Measuring dependence</i> 41. <i>Statistical models for the analysis of demographic phenomena</i>
18:10	A Bassi	Closing Ceremony

## Third Plenary Session

### SPACE, MIGRATION AND HEALTH: LEARNING FROM ROUTINE DATA

Speaker: Paul Boyle  
 Chair Person: Silvana Salvini, *University of Florence*

## Specialized Sessions

### XIII - STATISTICS OF EXTREMES IN TODAY'S WORLD

Isabel Fraga-Alve, Laurens de Haan and Claudia Neves  
**How far can Man go?**

Ana Ferreira  
**Spatial Extremes and High Quantile Estimation of Aggregated Rainfall**

M. Ivette Gomes, Lígia Henriques-Rodrigues and Frederico Caeiro  
**Refined Estimation of a Light Tail: an Application to Environmental Data**

Organizer: Sociedade Portuguesa de Estatística  
 Chair Person: Maria Ivette Gomes, *Sociedade Portuguesa de Estatística*  
 Discussant: Francesco Pauli, *University of Padua*

### XIV - NEW CHALLENGES IN SURVEY SAMPLING AND ESTIMATION

Sharon Lohr  
**Dual Frame Surveys: Recent Developments and Challenges**

David Haziza  
**Resampling methods for variance estimation in the presence of missing survey data**

Emilia Rocco  
**Using auxiliary information and non parametric methods in weighting adjustments**

Organizer: Fulvia Mecatti, *University of Milano-Bicocca*  
 Chair Person: Fulvia Mecatti  
 Discussant: Maria Giovanna Ranalli, *University of Perugia*

**XV - FINANCIAL RISK MODELLING**

Massimiliano Caporin and Michael McAleer

**Comparing Multivariate GARCH Models by Problem Dimension**

Giorgia Callegaro, Monique Jeanblanc and Wolfgang Runggaldier

**Portfolio optimization in defaultable markets under incomplete information**

Matteo Grigoletto

**Modelling the dependence in multivariate financial extremes**Organizer: Corrado Provasi, *University of Padua*Chair Persons: Giorgio Calzolari, *University of Florence*  
Domenico Sartore, *Ca' Foscari University of Venice*Discussant: Gino Favero, *University of Parma*  
Roberto Casarin, *University of Brescia***XVI - FUNCTIONAL ANALYSIS FOR HIGH DIMENSIONAL DATA**

Lara Fontanella, Luigi Ippoliti and Pasquale Valentini

**A Functional Spatio-Temporal Model for Geometric Shape Analysis**

Elvira Romano, Antonio Balzanella and Rosanna Verde

**A new regionalization method for spatially dependent functional data based on local variogram models: an application on environmental data**

Matilde Dalla Rosa, Laura M. Sangalli and Simone Vantini

**Data Reduction by means of Principal Differential Analysis: an Application to the Study of the Geometrical Features of the Internal Carotid Artery**Organizer: Tonio Di Battista, *University of Chieti-Pescara*Chair Person: Piercesare Secchi, *Politecnico di Milano*Discussant: Sonia Petrone, *University of Milano-Bocconi***XVII - COPULAS: THEORY AND APPLICATIONS**

Jadran Dobric, Gabriel Frahm and Friedrich Schmid

**Dependence of Stock Returns in Bull and Bear Markets**

Hans Manner and Johan Segers

**Tails of correlation mixtures of elliptical copulas**

Julius Schnieders

**Forecasting the Value-at-Risk of Multidimensional Portfolios Using Dynamic Pair-Copulas**

Organizer: Deutsche Statistische Gesellschaft

Chair Person: Friedrich Schmid, *University of Cologne*Discussant: Fabrizio Durante, *Johannes Kepler University - Linz*

**XVIII - MATCHING TECHNIQUES, CENSUSES AND ADMINISTRATIVE DATA**

Andrea Tancredi

**Capture-recapture models with matching uncertainty**

Marcello D'Orazio, Marco Di Zio and Mauro Scanu

**Old and new approaches in statistical matching when samples are drawn with complex survey designs**

Tiziana Tuoto, Nicoletta Cibella, Marco Fortini and Monica Scannapieco

**From theory to practice: the software RELAIS as a solution for record linkage**Organizer: Orietta Luzi, *ISTAT*Chair Person: Brunero Liseo, *Sapienza University of Rome*Discussants: Adriano Paggiaro, *University of Padua*  
Gauri Datta, *University of Georgia***XIX - DEMOGRAPHIC TRANSITION AND THE MILLENNIUM DEVELOPMENT GOALS: HOW FAR WE ARE? (Aisp)**

Anna Paterno

**Child mortality and the Millennium Development Goals: characteristics, trends and determinants**

Tiziana Leone

**Are we there yet? Challenges in measuring MDG5 achievements**

Arnstein Aassve and Abbi Kedir

**Fertility and the MDG: Does Fertility Decline Lead to Lower Poverty Rates?**Organizer: Maria Castiglioni, *University of Padua*Chair Person: Patrizia Farina, *University of Milano-Bicocca*Discussant: Enrico Bisogno, *ISTAT***XX - RECENT DEVELOPMENTS IN LIKELIHOOD METHODS**

Veronika Czellar and Elvezio Ronchetti

**A New Accurate Test for Indirect Inference**

Francesco Bartolucci and Monia Lupparelli

**Pairwise likelihood inference for multilevel latent Markov models**

Moreno Bevilacqua and Carlo Gaetan

**On a pairwise likelihood method for geostatistical data**Organizer: Ruggero Bellio, *University of Udine*Chair Person: Alessandra Salvan, *University of Padua*Discussant: Donald Pierce, *Oregon Health & Science University*

## Contributed Paper Sessions

### 26 - ANALYSIS OF FUNCTIONAL AND SYMBOLIC DATA

Laura M. Sangalli, Piercesare Secchi, Simone Vantini and Valeria Vitelli

**Functional clustering and alignment**

Simone Di Zio, Luigi Ippoliti and Arcangelo Merla

**Features Extraction and Classification of Raynaud's Phenomenon by IR Images**

Davide Pigoli and Laura M. Sangalli

**Wavelet smoothing for curves in more than one dimension**

M.R. D'Esposito, F. Palumbo and G. Ragozini

**Archetypal Symbolic Objects**

Chair Person: Tonio di Battista, *University of Pescara*

### 27 - MODELS FOR STATISTICAL INFERENCE

Anna Dembinska

**Asymptotic properties of numbers of observations near order statistics**

S. M. T. K. Mirmostafaei and J. Ahmadi

**Prediction of Future Order Statistics Coming from Pareto Model**

N. Balakrishnan, Katherine F. Davies, Jerome P. Keating and R.L. Mason

**Simultaneous Closeness among Order Statistics to Population Quantiles**

Luigi Malagò and Giovanni Pistone

**A note on the border of an exponential family**

Chair Person: Giancarlo Diana, *University of Padua*

### 28 - HEALTH AND FAMILY WELL-BEING

Stefano Mazzucco and Silvia Meggiolaro

**Family resources and health behaviours in adolescence**

Emiliano Sironi and Francesco C. Billari

**Do union formation and childbearing improve subjective well-being? An application of propensity score matching to a Bulgarian panel**

V. Egidi, M.A. Salvatore, L. Gargiulo, L. Iannucci, G. Sebastiani and A. Tinto

**Dementia in the elderly. Health consequences on household members**

Giulia Cavrini, Claudia Di Priamo, Lorella Sicuro, Alessandra Battisti, Alessandro Solipaca and Giovanni de Girolamo

**Health and Functional Status in Elderly Patients Living in Residential Facilities in Italy**

Chair Person: Maria Castiglioni, *University of Padua*

**29 - INEQUALITY MEASURES**

Michele Zenga

**More on a new three-parameter distribution for non-negative variables**

Achille Vernizzi, Maria Giovanna Monti and Mauro Mussini

**A Gini and Concentration Index Decomposition with an Application to the APK Reranking Measure**

Francesca Greselin and Leo Pasquazzi and Ricardas Zitikis

**Asymptotic Theory for Zenga's New Index of Economic Inequality**

Francesca Greselin and Leo Pasquazzi

**Dagum confidence intervals for inequality measures**

Chair Person:

Corrado Provasi, *University of Padua***30 - ADVANCES IN INEQUALITY, POVERTY AND WELFARE MEASUREMENT 1**

Margherita Gerolimetto and Stefano Magrini

**Income convergence and spatial dependence**

Elena Pirani and Silvana Schifini

**On the Perception of Social Exclusion in the EU27: Concepts and Empirical Investigation**

Daria Mendola and Annalisa Busetta

**Understanding youth chronic poverty in South of Europe**

Maria Francesca Cracolici and Francesca Giambona

**Assessment of Subjective Economic Well-being in Italy**

Chair Person:

Miranda Cuffaro, *University of Palermo***31 - APPLIED BAYESIAN HIERARCHICAL MODELS**

Matilde Trevisani and Alan Gelfand

**Atom-based models for misaligned data integration and benchmarking in small area estimation**

Alessandra Guglielmi, Francesca Ieva, Anna M. Paganoni and Fabrizio Ruggeri

**A hierarchical random-effects model for survival in patients with Acute Myocardial Infarction**

Laura Grisotto, Dolores Catelan and Annibale Biggeri

**Material Deprivation and Incidence of Lung Cancer: a Census Block Analysis.**

Stefano Marchetti, Claudia Dolci, Samantha Riccadonna and Cesare Furlanello

**Bayesian Hierarchical Model for Small Area Disease Mapping: a Breast Cancer Study**

Chair Person:

Gauri Datta, *University of Georgia*

**32 - DATA QUALITY AND ERRORS DETECTION IN STATISTICAL SURVEYS**

Francesca Torti and Domenico Perrotta

**Detection of gross anomalies in datasets used for official statistics production**

Gianpiero Bianchi, Renato Bruni and Alessandra Reale

**Open Source Integer Linear Programming Solvers for Error Localization in Numerical Data**

G. Sebastiani, A. Tinto, A. Battisti and E. De Palma

**Cognitive Interviewing as a Tool for Improving Data Quality in Surveys: Experiences in ISTAT.**

Scarnò Marco and Caramanna Laura

**Two algorithms for Error Localization Problems**

Chair Person:

Marco Riani, *University of Parma*

**33 - HYPOTHESIS TESTING**

J.J. Goeman, A. Solari and T. Stijnen

**Multiple hypotheses for multiple decisions**

Marco Marozzi

**A Location-Scale Permutation Test**

Claudio G. Borroni and Paola M. Chiodini

**A new goodness-of-fit version of the GironeCifarelli test**

Paola Rebora and Stefania Galimberti

**A robust approach to one-sample tests for recurrent events**

Chair Person:

Donata Marasini, *University of Milano-Bicocca*

**34 - ANALYSIS OF CORRELATED DATA**

Marco Alfò, Jeanine J. Houwing-Duistermaat and Alessandra Spagnoli

**Mixed effect models for longitudinal responses: Leiden 85-Plus Study**

Manuela Cattelan and Cristiano Varin

**A Model for Correlated Paired Comparison Data**

Roberto Colombi

**A Skew Normal Stochastic Frontier Model for Panel Data**

Laura Azzimonti, Claudia De Lalla, Daniela Montagna, Laura M. Sangalli and Anna

Maria Paganoni

**Mixed-effects models for growth curves: an application to the study of reconstitution kinetics of lymphocyte subpopulations**

Chair Person:

Ruggero Bellio, *University of Udine*

**35 - SURVEY METHODOLOGY**

Paola M. Chiodini, Bianca M. Martelli, Giancarlo Manzi and Flavio Verrecchia  
**Between Theoretical and Applied Approach: Which Compromise for Unit Allocation in Business Surveys?**

Claudia De Vitiis and Paolo Righi  
**Sampling solutions to the problem of undercoverage in CATI household surveys due to the use of fixed telephone list**

Veronica Rondinelli and Emanuela Scavalli  
**A focus on a new approach to weighting in official sample surveys: the smoothed estimator**

Chair Person: Orietta Luzi, *ISTAT*

**36 - LIFE COURSE ANALYSIS AND FAMILY**

Daniele Vignoli  
**Human Capital and the First Child in Italy**

Letizia Mencarini, Silvana Salvini, Luca Secondi and Daniele Vignoli  
**Having Children in Italy: From Intentions to Realizations**

Giulia Rivellini and Susanna Zaccarin  
**Relational Strategies in Italian Young Family Keepers**

Silvia Meggiolaro and Fausta Ongaro  
**Late maternal age and parenting practices**

Chair Person: Alessandra De Rose, *Sapienza University of Rome*

**37 - ADVANCES IN INEQUALITY, POVERTY AND WELFARE MEASUREMENT 2**

Paolo Giordani and Giovanni Maria Giorgi  
**Poverty Measures in a Fuzzy Logic Framework**

Vijay Verma, Francesca Gagliardi and Caterina Ferretti  
**Cumulation of poverty measures to meet new policy needs**

Donatella Grassi, Nicoletta Pannuzi and Isabella Siciliani  
**New Measures Of Poverty: The Absolute And Extreme Poverities**

Caterina Giusti, Stefano Marchetti, Monica Pratesi and Nicola Salvati  
**A semiparametric Fay-Herriot model for small area estimation of welfare indicators**

Chair Person: Achille Lemmi, *University of Siena*

**38 - EPIDEMIOLOGY**

Cinzia Mortarino

**Models for diffusion of innovations and Cellular Automata: an epidemiological application to pleural mesothelioma**

Dolores Catelan and Annibale Biggeri

**Statistical Approaches for Parasitic Profiling in Veterinary Epidemiology**

Francesca Ieva, Anna Maria Paganoni and Piercesare Secchi

**Data mining the Lombardia Public Health Database: a pilot case study on hospital discharge data for Acute Myocardial Infarctions**

Stefano Baraldo, Francesca Ieva, Anna Maria Paganoni and Valeria Vitelli

**Statistical models for hazard functions: a case study of hospitalizations in health failure telemonitoring**Chair Person: Pierantonio Bellini, *University of Padua***39 - CHANGE POINTS IN TIME SERIES AND PANEL DATA**

Carmela Cappelli and Francesca Di Iorio

**Detecting contemporaneous mean co-breaking via ART**

Francesca Di Iorio and Stefano Fachin

**Testing for Cointegration with Breaks in Dependent Panels**

Giuseppe Rossi, Simone Del Sarto and Marco Marchi

**Approximate Poisson CUSUM charts for the monitoring of time series with time-varying mean**

Serguei Dachian and Ilia Negri

**On Gaussian Compound Poisson Type Limiting Likelihood Ratio Process**Chair Person: Davide Raggi, *University of Bologna***40 - MEASURING DEPENDENCE**

Anna Gottard

**Stumbling across symmetries**

M. Sofia Massa

**Numerical studies on covariance selection problems**

Silvia Angela Osmetti

**Parametric and non-parametric estimate of bivariate survival functions: the copula approach**

Paolo Giudici and Emanuela Raffinetti

**Lorenz zonoids and dependence measures: a proposal**Chair Person: Alberto Roverato, *University of Bologna*

**41 - STATISTICAL MODELS FOR THE ANALYSIS OF DEMOGRAPHIC PHENOMENA**

Federico Benassi and Raffaele Ferrara

**Regionalization with dynamically constrained agglomerative clustering and partitioning. An application on spatial segregation of foreign population in Italy at regional level**

Elisabetta Santarelli

**Economic resources and marital childbearing in Italy between 1994 and 2004**

Agnese Vitali and Bruno Arpino

**Home leaving among second generation migrants in Spain: A Cross-classified Multilevel Analysis**

Claudio Ceccarelli and Andrea Cutillo










**The wage returns from internal relocation**

Chair Person:

Stefano Mazzucco, *University of Padua*



### SIS 2010 locations

-  Lecture rooms A, B, C, D, E, F, G in via Bassi
-  Palazzo del Bo'
-  Lecture rooms 12 and 14
-  Aula Magna "Vallisneri"
-  Càritè Petrocchi
-  Nord Piovego Refectory
-  Department of Statistical Sciences
-  San Gaetano
-  Path from Palazzo del Bo' to via Bassi

