

Room Leogrande	Room A	Room De Trizio	Room B	Room C
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17	13:30 14:30	REGISTRATION				
	14:30 15:15	OPENING				
	15:15 16:15	PANEL DISCUSSION	SPEC1	SPEC2	SPEC3	SPEC4
	16:15 16:45	COFFEE BREAK				
	16:45 17:45	SOLI1	SOLI2	SOLI3	SOLI4	SOLI5
	17:45 18:30	CONT1	CONT2	CONT3	CONT4	CONT5

18	08:45 09:30	CONT6	CONT7	CONT8	CONT9	CONT10
	09:30 10:30	SOLI6	SOLI7	SOLI8	SOLI9	SOLI10
	10:30 11:00	COFFEE BREAK				
	11:00 11:45	PLEN1				
	11:45 12:45	SPEC5	SPEC6	SPEC7	SPEC8	SPEC9
	12:45 13:30	CONT11	CONT12	CONT13	CONT14	CONT15
	13:30 14:30	LIGHT LUNCH	y-SIS general meeting			
	14:30 15:15	P-PLEN1	P-PLEN2	SIS board meeting		
	15:15 16:15	SOLI11	SOLI12	SOLI13	SOLI14	SOLI15
	16:15 16:45	COFFEE BREAK				
	16:45 17:45	SOLI16	SOLI17	SOLI18	SOLI19	SOLI20
17:45 18:30	CONT16	CONT17	CONT18	CONT19	CONT20	

19	08:45 09:30	CONT21	CONT22	CONT23	CONT24	CONT25
	09:30 10:30	SOLI21	SPEC13	SPEC10	SPEC11	SPEC12
	10:30 11:00	COFFEE BREAK				
	11:00 11:45	PLEN2				
	11:45 12:45	SOLI22	SPEC14	SPEC15	SPEC16	SPEC17
	12:45 13:30	CONT26	CONT27	CONT28	CONT29	CONT30
	13:30 14:30	LIGHT LUNCH	SMA board meeting			
	14:30 15:15	P-PLEN3	P-PLEN4			
	15:15 16:15	SOLI23	SOLI24	SOLI25	SOLI26	SOLI27
	16:15 16:45	COFFEE BREAK				
	16:45 17:45	SIS PRES PLEN				
17:45 18:30	SIS GENERAL MEETING					

20	09:00 09:45	CONT31	CONT32	CONT33	CONT34	CONT35
	09:45 10:30	CONT36	CONT37	CONT38	CONT39	CONT40
	10:30 11:00	COFFEE BREAK				
	11:00 11:45	PLEN3				
	11:45 12:45	SIS AWARDS	SPEC18	SPEC19	SPEC20	SPEC21
	12:45 13:30	SIS AWARDS	CONT41	CONT42	CONT43	CONT44
	13:30 14:30	LIGHT LUNCH				
	14:30 15:30	SOLI28	SOLI29	SOLI30	SOLI31	SOLI32
	15:30 16:30	SPEC22	SOLI33	SOLI34	SOLI35	SOLI36
	16:30 17:00	COFFEE BREAK				
17:00 17:45	CONT45	CONT46	CONT47			
17:45 18:30	CONCLUDING REMARKS					

**Monday, June 17**

**13:30 - 14:30**

**Registration**

**14:30 - 15:15**

**Room Leogrande - Opening**

Stefano Bronzini, University of Bari, Rector

Corrado Crocetta, SIS, President

Paolo Mariani, SIS 2024 Program Committee, Chair

Alessio Pollice, SIS 2024 Organizing Committee, Chair

Antonio Buccoliero, Ladisa S.r.l. Ristorazione, Chairman of the Board of Directors

Leonardo Patroni Griffi, Banca Popolare di Puglia e Basilicata, President

Antonio Castorani, Fondazione Puglia, President

Luca Scandale, Puglia Promozione, General Manager

Antonio Maria Vasile, Aeroporti di Puglia, Chairman of the Board of Directors

Andrea Troisi, Troisi Ricerche, Sole Administrator

Dante Mazzitelli, Telebari, Publisher

Ciriaco Viggiano, Edicola del Sud, Director

Luciana Di Bisceglie, Camera di Commercio di Bari, President

Alessandro Proietti, Adecco, Director of Customer Experience and Innovation

**15:15 - 16:15**

**Room Leogrande – Panel discussion**

**Statistics and administration**

Alberto Zuliani, Sapienza University of Roma

Maurizio Vichi, Sapienza University of Roma

Maria Letizia D’Autilia, Italian National Institute of Statistics

Maria De Benedetto, Roma Tre University

Francesco Lagona, Roma Tre University

**Room A - SPEC1**

## **Spatio-temporal methods for environmental sustainability**

Julia Jansson, Christophe A.N. Biscio, Mehdi Moradi, Ottmar Cronie, Point Process Learning: a cross-validation-based statistical framework for point processes

Marco Mingione, Pierfrancesco Alaimo Di Loro, Temporal Nearest Neighbor Gaussian Process (tNNGP) with flexible covariance for modelling physical activity

FlorianWolf, Alessandro Carminati, Alessandra Guglielmi, Spatio-temporal clustering of PM2.5 in northern Italy using a Bayesian model

Organizer: Nicoletta D'Angelo, University of Palermo

Chair and discussant: Rosaria Ignaccolo, University of Torino

## **Room De Trizio - SPEC2**

### **Statistical approaches for analysing social data on violence against women**

Fiorenza Deriu, Emilia La Nave, Analysing language for preventing women from gender violence: NLP and Machine Learning techniques to classify Tweet messages

Tomás Goicoa, Arantxa Urdangarin, Thomas Kneib, María Dolores Ugarte, How to alleviate spatial confounding in multivariate spatial areal models: an application to crimes against women in India

Silvia Poletini, Sara Martino, Greta Panunzi, A Pogit model for underreported counts of violence against women in Italy

Organizer: Cristina Mollica, Sapienza University of Roma

Chair and discussant: Luca Tardella, Sapienza University of Roma

## **Room B - SPEC3**

### **Job mismatch and effects on the labour market**

Francesca Adele Giambona, Adham Kahlawi, Skill importance and labour market. An analysis based on Italian OJAs between 2019 and 2022

Chiara Ardito, Fabio Berton, Lia Pacelli, The effect of the end of hiring incentives on job and employment security

Giovanni De Luca, Antonella Rocca, Paolo Mazzocchi, Claudio Quintano, Young NEETs and their approach to the labour market in the post-global age

Organizer: Elena Fabrizi, University of Teramo

Chair and discussant: Roberto Leombruni, University of Turin

## **Room C - SPEC4**

### **Harmony in measurement: bridging theory and application in Psychometrics**

Andrea Bosco, Content-based and data-driven integration. Markov chain models for the inspection of response dynamics in psychological testing

Antonio Calcagni, Integrating Rasch and compositional modeling for the analysis of social survey data

Monica Casella, Raffaella Esposito, Maria Luongo, Nicola Milano, Michela Ponticorvo, Roberta Simeoli, Davide Marocco, Artificial Neural Networks in psychometrics research

Organizer: Enrico Ciavolino, University of Salento

Chair and discussant: Mario Angelelli, University of Salento

**16:15 - 16:45**

**Coffee break**

**16:45 - 17:45**

**Room Leogrande - SOLI1**

**Statistical methods for complex systems in Finance**

Raffaele Mattera, Javier Sánchez García, Measuring tail risk connectedness with spatial methods

Laura Molero González, Antonio Jesús García Amate, Juan Evangelista Trinidad Segovia, Miguel Ángel Sánchez Granero, Testing the impact of oil prices on the transport economic sector: evidence from random matrix theory

Domenico Santoro, Luca Grilli, Giacinto Angelo Sgarro, Francesco Colasanto, Giovanni Villani, MCMC approach for stock price forecasting using an Italian-BERT model

Monica W. Koczar, Francisco Jareño, Ana Escribano, Transmission of shocks between crude oil prices, sector indices, and renewable and conventional energy indices

Organizer: Roy Cerqueti, Sapienza University of Roma

Chair: Roy Cerqueti, Sapienza University of Roma

**Room A - SOLI2**

**Innovations in spatial-temporal modeling and analysis**

Nicoletta D'Angelo, Alessandro Albano, Andrea Gilardi, Giada Adelfio, Spatio-temporal modelling of fires in Sicily

Rosaria Ignaccolo, Nicola Pronello, Alex Cucco, Luigi Ippoliti, Vito Frontuto, Natalia Golini, Spatial varying graphical models for water pollutants

Francesco Lagona, Marco Mingione, Hidden semi-Markov models with copula-based emission distributions for toroidal time-series

Gianluca Mastrantonio, Giovanna Jona Lasinio, Petra Oswine Pammer, Giulia Pedrazzi, Daniela Silvia Pace, Maria Silvia Labriola, Clustering dolphin signature whistles with Dirichlet process mixtures

Organizer: Laura M. Sangalli, Polytechnic of Milano

Chair: Ilaria Prosdocimi, University of Venice

### Room De Trizio - SOLI3

#### Untangling gender imbalance: statistical perspectives

Clelia di Serio, Paolo Ferrari, Diagnosis, treatment, and prevention of disease: gender or sex sensitive? Statistical considerations

Flaminia Musella, Lorenzo Giammei, Paola Vicard, Addressing the gender pay gap: an application based on Object-Oriented Bayesian Networks to rethink gender composite indicators

Federica Nicolussi, Chiara Masci, Stratified Multilevel Graphical Models: a gender perspective in education

Claudia Tarantola, Barbara Bedowska-Sójka, Codruta Mare, Alessia Paccagnini, Belma Öztürkka, Galena Pisoni, Albulena Shala, Rezarta Perri, Hanna Kristín, Investigating gender gap in editorial boards of Finance journals: a social network perspective

Organizer: Francesco Dotto, Roma Tre University

Chair: Sabrina Giordano, University of Calabria

### Room B - SOLI4

#### Methods and models for transport and mobility analyses

Pietro Amenta, Antonio Lucadamo, Aggregating judgments in non negotiable group decisions with external information in transport systems

Réemi Coulaud, Modeling train passenger movements for onboard zone-based load

Selene Perazzini, Rodolfo Metulini, Exploring urban mobility patterns in Lombardia through advanced analysis of mobile phone data

Amalia Vanacore, Armando Ciardiello, Improving aircraft passenger (dis-)comfort prediction via time series analysis of seat pressure data

Organizer: Antonello D'Ambra, University of Campania

Chair: Antonello D'Ambra, University of Campania

### Room C - SOLI5

#### Advances in Bayesian mixture modelling

Francesco Barile, Simón Lunagómez, Bernardo Nipoti, Clustering multiple networks data with an application to the EU food trade market

Antonio Canale, Bayesian nonparametrics mixtures for principal stratification

Beatrice Franzolini, How to leverage Bayesian mixtures for dynamic clustering and classification

Clara Grazian, An application of the spatio-temporal stick-breaking process

Organizer: Alessandra Guglielmi, Polytechnic of Milano

Chair: Alessandra Guglielmi, Polytechnic of Milano

**17:45 - 18:30**

**Room Leogrande - CONT1**

### **Applied Statistics - business and management**

Elena Barzizza, Nicolò Biasetton, Luigi Salmaso, ChatGPT and conversational AI in customer satisfaction: a preliminary literature review

Vincenzo Candila, Oguzhan Cepni, Giampiero M. Gallo, Rangan Gupta, Local and global economic policy uncertainty influence on US stock market volatility

Francesco Dotto, Francesco Giuli, Margherita Scarlato, Francesco Bloise, Quantile treatment effect and GBM: an approach based on propensity score

Giulio Grossi, Emilia Rocco, On the use of simulations in the construction of composite indexes

Marta Pittavino, Giedre Lideikyte-Huber, Forecasting Geneva's donors and their charitable deductions

Chair and discussant: Andrea Marletta, Bicocca University of Milano

**Room A - CONT2**

### **Challenges and strategies for complex environmental data**

Crescenza Calculli, Diego Battagliese, Porzia Maiorano, Angela Carluccio, Gianfranco D'Onghia, A modeling approach to investigate species-environment relationship in coral areas using in-situ observations

Gioia Di Credico, A Markov-switching model for studying extreme temperatures in Friuli Venezia Giulia, Italy

Marco Francesco De Sanctis, Ilenia Di Battista, Eleonora Arnone, Cristian Castiglione, Mauro Bernardi, Alessandro Palummo, Laura Sangalli, Penalised spatial quantile regression: application to air quality data

Andrea Gilardi, Francesca Ieva, Statistical methods for evaluating the environmental sustainability of urban infrastructures

Paolo Onorati, Antonio Canale, A semi-parametric spatial-temporal dynamics for zero inflated Weibull distributions with application to extreme rainfall events

Chair and discussant: Giada Adelfio, University of Palermo

### **Room De Trizio - CONT3**

#### **Family issues and childcare**

Angela Andreella, Gaia Bertarelli, Federico Caldura, Stefano Campostrini, A two-step approach to analyze the inclusivity distribution in childcare services in Italy

Pietro Belloni, Federica Pizzolato, An age-adjusted disproportionality measure for pediatric pharmacovigilance

Elisa Benedetti, Gabriele Lombardi, Rodolfo Cotichini, Sonia Cerrai, Marco Scalse, Sabrina Molinaro, Country prevalence and problematic gambling among European adolescents

Sara Tafuro, War and the military service in post-communist bloc: which impact on marriage and divorce?

Maria Veronica Dorgali, Raffaele Guetto, Valentina Tocchioni, Alice Dominici, Daniele Vignoli, Non-intact families and children's vaccination coverage: evidence from Italy

Chair and discussant: Giancarlo Ragozzini, Federico II University of Napoli

### **Room B - CONT4**

#### **Household issues and inequality**

Alfonso Carfora, Scandurra Giuseppe, The multifaceted challenge to tackle energy poverty: outlook scenarios for EU countries

Elena Dalla Chiara, Marcello D'Orazio, Federico Perali, Is total expenditure a valid proxy for income in statistical matching? A counterfactual experiment

Antonino Di Pino Incognito, Inequality in household consumption: A counterfactual analysis model for 'left-behind' subjects

Alessandro Feraldi, Christian Dudel, Examining socioeconomic inequalities in healthy working life expectancy and the association with smoking behaviour

Alessandro Gallo, Daniele Vignoli, Housing insecurity and first births in Italy

Chair and discussant: Angela Papparuso, National Research Council

### **Room C - CONT5**

#### **Advances in Bayesian theory**

Filippo Ascolani, Matteo Ruggiero, Stefano Damato, Uncertainty reduction in a class of dependent Dirichlet processes

Filippo Ascolani, Ylenia Francesca Buttigliero, Matteo Ruggiero, Non-informative priors in Wright-Fisher smoothing

Stefano Rizzelli, Oracle priors in Bayesian inference: a frequentist view

Federica Stolf, Dependent infinite latent feature models for tree occurrence data

Daniele Tancini, Riccardo Rastelli, Francesco Bartolucci, Bayesian inference for discrete spatio-temporal hidden Markov models

Chair and discussant: Catia Scricciolo, University of Verona



**Tuesday, June 18**

**08:45 - 09:30**

**Room Leogrando - CONT6**

**Ecology, environment, and economics: methodological solutions to real problems**

Blerta Begu, Simone Panzeri, Eleonora Arnone, Michelle Carey, Laura Sangalli,  
Nonparametric space-time density estimation for point processes over irregular regions

Vytaras Brazauskas, Francesca Greselin, Ricardas Zitikis, Median-based inequality  
measures

Gabriele d'Angella, Christian Hennig, Biological species delimitation based on genetic and  
spatial dissimilarity using partial Mantel tests

Alice Giampino, Sonia Migliorati, Roberto Ascari, Microbial communities detection via a  
latent variable allocation model

Silvia Scarpa, Maria Rosaria Ferrante, Stefan Sperlich, Estimating a quantile-based income  
inequality indicator on complex sampling data

Chair and discussant: Anna Simonetto, University of Brescia

**Room A - CONT7**

**Aging, mortality and fertility**

Giacomo Lanfiuti Baldi, Andrea Nigri, Statistical modelling of population gaps in mortality:  
the Skellam distribution to model differences in death counts

Jacob Martin, Carlo Giovanni Camarda, Modeling age-space mortality dynamics in small  
areas: an application to southern Italian comuni

Marco Tosi, Fausta Ongaro, Silvia Meggiolaro, Employment trajectories and fertility in Italy

Alessandra Trimarchi, Erich Striessnig, Changes in parenthood expectancy over time under  
an age-perspective

Chair and discussant: Gianmarco Alderotti, University of Firenze

**Room De Trizio - CONT8**

**Applied statistics and data**

Matilde Bini, Lucio Masserini, Newly employed in Italy: a longitudinal analysis

Arianna Burzacchi, Lise Bellanger, Klervi Le Gall, Aymeric Stamm, Simone Vantini, Modeling  
and synthesis of GPS trajectories for privacy-preserving mobility data generation

Monica Carbonara, Sara Casacci, Low-income earners: new possibilities of study from ad-  
ministrative archives

Riccardo levoli, Lucio Palazzo, Roberto Rondinelli, Giancarlo Ragozini, A triad census-based synthetic indicator to summarise cooperation in football

Alberto Molena, Rosa Arboretti, Marta Disegna, Big data subsampling: a review

Chair and discussant: Stefania Capecchi, Federico II University of Napoli

## Room B - CONT9

### Health Statistics & Bayesian methods

Marta Cipriani, Lorenzo Di Rocco, Marco Alfò, A flexible parametric approach to synthetic patients generation in clinical trials

Marco Dalla Pria, Matteo Ruggiero, Dario Spanò, Exact sampling of two coagulated partitions

Fulvio De Santis, Stefania Gubbiotti, Francesco Mariani, The distribution of the risk function for interval estimation

Fabrizio Di Mari, Roberto Rocci, Giovanna Tagliabue, Silvia Rossi, Roberta De Angelis, Estimating cure fraction in population-based survival colon cancer data

Antonino Gagliano, Gianluca Sottile, Nicolina Sciaraffa, Claudia Coronello, Luigi Augugliaro, Integrating pseudo-time in network interaction analysis to uncover genetic pathways in thyroid cancer

Chair and discussant: Nina Deliu, Sapienza University of Roma

## Room C - CONT10

### Multidimensional analysis of social issues

Angela Andreella, Stefano Campostrini, Analyzing compression of comorbidity in Italy: a mixture model with regional random effects

Micaela Arcaio, Chibuzor Christopher Nnanatu, Anna Maria Parroco, Evaluating the geographical patterns of intimate partner violence in Nigeria, Zambia, and Zimbabwe using INLA-SPDE approach

Emiliano del Gobbo, Elisa Ignazzi, Barbara Cafarelli, Lara Fontanella, Misogynistic content detection over social networks

Giulio D'Epifanio, Indexing social unfitness

Maria Francesca Morabito, Serena Verbena, Valentina Tocchioni, Benedetta Emanuela Palladino, The benefit of social capital resources for contrasting ethnic bullying at school: A multilevel study

Chair and discussant: Giovanni Busetta, University of Messina

09:30 - 10:30

## Room Leogrande - SOLI6

### Advances in spatial analysis of economic data

Martina Aronica, Valerio Genovese, Davide Piacentino, Minimum income scheme in Italian regions. Evaluation of direct impacts and spatial spillovers

Alfredo Cartone, Gianfranco Piras, Paolo Postiglione, A machine learning algorithm for the analysis of spatially distributed data

Silvia Emili, Federica Galli, A simultaneous system of dynamic spatial stochastic frontier models

Vincenzo Nardelli, Niccolo Salvini, Giuseppe Arbia, Evaluating bias in big data using H3 spatial indexing

Organizer: Paolo Postiglione, University of Chieti-Pescara

Chair: Cristina Bernini, University of Bologna

## Room A - SOLI7

### Complex data, digital innovation, sustainability

Marco Alfò, Elena Fabrizi, Andrea Tancredi, Dynamic pathways in the labor market: unraveling transitions with semi-Markov models

Giovanni Angelini, Michele Costa, Andrea Guizzardi, Price competition and overtourism: a stochastic approach leveraging complex data

Raffaele Angelone, Andrea Marletta, Mariangela Zenga, SDGs and Agenda 2030: do Italians really know them?

Emma Bruno, Rosalia Castellano, Gennaro Punzo, Luca Salvati, Towards a digital Europe: modelling innovation in a spatially embedded context

Organizer: Francesca Giambona, University of Firenze

Chair: Francesca Giambona, University of Firenze

## Room De Trizio - SOLI8

### Advanced statistical methods for territorial sustainability

Elsa Amaddeo, Marika Arena, Angela Stefania Bergantino, Giovanni Bonaccorsi, Antonello Clemente, Valeria Maria Urbano, Assessing allocation of EU Cohesion Funds across territories: an empirical analysis of Italian municipalities

Leonardo Cefalo, Paolo Maranzano, SchoolDataIT: an R package to retrieve, harmonise and map open data regarding the Italian school system

Alessandro Fusta Moro, Jacopo Rodeschini, Alessandro Fassò, Geostatistical solutions for the harmonisation of environmental datasets

Greta Galliani, Piercesare Secchi, Francesca Ieva, Dynamic estimation of OD matrices for local transportation monitoring

Organizer: Diego Battagliese, University of Bari

Chair: Diego Battagliese, University of Bari

## Room B - SOLI9

### Advances in latent/hidden Markov models

Luca Brusa, Fulvia Pennoni, Francesco Bartolucci, Romina Peruilh Bagolini, Prediction of early warning crises by a hidden Markov model with covariates

Francesco Lagona, Marco Mingione, How much do we sleep? Segmenting heart rates by hidden semi-Markov models in continuous time

Lorena Ricciotti, Marco Picone, Antonello Maruotti, Model-based clustering for marine data time-series of counts

Alfonso Russo, Antonello Maruotti, Alessio Farcomeni, Bayesian multivariate semi-Markov-switching MIXed DATA Sampling (MIDAS) regression with unknown configuration of hidden regimes

Organizers: Antonio Punzo, Salvatore D. Tomarchio, University of Catania

Chair: Salvatore D. Tomarchio, University of Catania

## Room C - SOLI10

### Statistical modeling for education and educational services

Luca Bungaro, Mariagiulia Matteucci, Stefania Mignani, Gender and territorial gaps in the digital competences of young Italian students: the results of IEA-ICILS

Patrizia Falzetti, Michele Marsili, Roberto Ricci, Learning outcomes between centre and periphery

Lucio Palazzo, Alfonso Iodice D'Enza, Competencies assessment through an archetypal analysis approach

Pasquale Sannino, Cristina Davino, Luca De Benedictis, Rosaria Romano, Domenico Vistocco, Investigating the effect of economic, social and cultural conditions on student's performance

Organizer: Enrico Ripamonti, University of Brescia

Chair: Enrico Ripamonti, University of Brescia

## 10:30 - 11:00

### Coffee break

**11:00 - 11:45**

**Room Leogrande - PLEN1**

**Socioeconomic disparities by family background: analyzing exposure to poor air quality at schools and its impact on educational inequalities in Italy**

Fabrizio Bernardi, UNED Madrid, Risto Conte Keivabu, Max Plank Institute

Organizers: Maria Gabriella Campolo, University of Messina, Giuseppe Gabrielli, Federico II University of Napoli

Chair: Daniele Vignoli, University of Firenze

**11:45 - 12:45**

**Room Leogrande - SPEC5**

**Advanced statistical models for data science**

Alessandro Albano, Chiara Di Maria, Mariangela Sciandra, Antonella Plaia, Causal machine learning for medical texts

Yana Kostiuk, Paola Cerchiello, Arianna Agosto, Impact of the Russian invasion of Ukraine on coal markets: Evidence from an event-study approach

Rosanna Verde, Antonio Balzanella, Gianmarco Borrrata, A regression model for predicting an environmental response variable by considering distributional data

Organizer: Silvia Salini, University of Milano

Chair and discussant: Silvia Salini, University of Milano

**Room A - SPEC6**

**Re-positioning sampling statistics in the multi data-source world**

Elisabetta Carfagna, Data science, citizen science and smart official statistics

Cristiano Ferraz, Sampling challenges from the 2030 agricultural sustainable development goals

Pier Luigi Conti, Methodological perspectives in integration of data from multiple probabilistic and non-probabilistic sources

Organizer: Enrico Fabrizi, University of Piacenza

Chair and discussant: Enrico Fabrizi, University of Piacenza

**Room De Trizio - SPEC7**

**The use of data and statistical tools to support policy makers**

Carlo Natale Lauro, TBA

Giorgio Tassinari, Inefficiencies in digital advertising and the threats of artificial intelligence

Maurizio Vichi, Ultrametric Composite Indicators

Organizer: Leonardo Salvatore Alaimo, Sapienza University of Roma

Chair and discussant: Filomena Maggino, Sapienza University of Roma

## Room B - SPEC8

### Modelling, monitoring, and unconventional data for enterprises

Nikolaus Haselgruber, Ingolf Nerlich, Statistical models for health monitoring of rare events in railway tracks

Caterina Liberati, Carlo Bottai, Lisa Crosato, Josep Domenech, Marco Guerzoni, Unconventional data and Innovation: are innovative SMEs' web pages different?

Michele Scagliarini, Distribution-free time between events and amplitude control charts for drought monitoring

Organizer: Rossella Berni, University of Firenze

Chair and discussant: Christian Capezza, Federico II University of Napoli

## Room C - SPEC9

### Life course and education

Giovanni Boscaino, Vincenzo Giuseppe Genova, From Bachelor to Master degree: a first sight of STEM graduates' choices

Raffaele Guetto, Heterogeneous effects of parental separation on children's educational attainment: evidence from Italy

Isabella Sulis, Mariano Porcu, Cristian Usala, From high school to university: assessing school influence on students' career at the university

Organizer: Valentina Tocchioni, University of Firenze

Chair and discussant: Antonella D'Agostino, University of Siena

## 12:45 - 13:30

## Room Leogrando - CONT11

### Health and epidemiology

Silvia D'Elia, Stefania Massari, Marco Alfò, Claudio Gariazzo, Alessandro Gialluisi, Alessandro Marinaccio, Licia Iacoviello, Simona Costanzo, Evaluation of adjustment for unobserved confounders in occupational epidemiology studies

Susanna Gentile, Valeria Sambucini, A flexible hybrid method for sample size calculations in comparative Poisson trials

Ilia Negri, Maura Mezzetti, Giorgia Bazzurri, The efficacy of social distancing measures in controlling the spread of SARS-CoV-2: a retrospective study in Italy

Luca Scrucca, Capturing uncertainty in gaussian mixture-based entropy estimation via weighted likelihood bootstrap

Mattia Stival, Lorenzo Schiavon, Gaia Bertarelli, Stefano Campostrini, Exploring disease prevalence in Italy: a web application utilizing sample-based predictions from a Bayesian spatio-temporal model with external validation

Chair and discussant: Clelia Di Serio, "Vita e Salute" University, San Raffaele Hospital of Milano

## Room A - CONT12

### Advances in Bayesian inference

Davide Agnoletto, Tommaso Rigon, David Dunson, Bayesian inference for generalized linear models via quasi-posteriors: an application to Eurasian chaffinch abundance in Finland

Pierfrancesco Alaimo Di Loro, Dankmar Boehning, Sujit Sahu, Efficient Bayesian estimation of a spatial Poisson auto-regression with Leroux random effects

Elena Bortolato, Francesco Bertolino, Monica Musio, Laura Ventura, Approximate inference for the Bayesian discrepancy measure for precise statistical hypotheses

Silvia Columbu, Francesco Bertolino, Monica Musio, On the evidence of a new Bayesian discrepancy measure for discrete scalar parameters

Pierdomenico Dutillo, Marina Bertolini, Alfred Kume, Stefano Antonio Gattone, High volatility, high emissions? A hidden-Markov model approach

Chair and discussant: Lucia Paci, Catholic University of Milano

## Room De Trizio - CONT13

### Statistical models

Michele Bufalo, Andrea Nigri, Trimodal extension based on the flexible generalized skew-normal distribution

Daniela Collesi, Standardization process of budget administrative data, having statistic characteristics and usefulness for public finance control

Angelo Moretti, Alejandra Arias-Salazar, Natalia Rojas-Perilla, Computing multidimensional composite indicators for small areas in presence of missing variables: a data integration approach

Carlotta Pacifici, Luca Trapin, An extended dynamic Peaks over Threshold approach for tail index estimation

Gloria Polinesi, Maria Cristina Recchioni, Francesca Mariani, Informative set for fitting parameters of a piecewise density function

Chair and discussant: Maria Iannario, Federico II University of Napoli

## Room B - CONT14

### Advances in clustering and classification

Elena Ballante, Silvia Figini, Antonietta Mira, Non-parametric similarity measure based on information imbalance

Catherine Higgins, Michelle Carey, Functional clustering with imbalanced groups

Edoardo Otranto, Luca Scaffidi Domianello, A fuzzy clustering approach to detect the number of states in Markov Switching models

Matteo Ventura, Julien Jacques, Paola Zuccolotto, Clustering multivariate rating data within the CUB framework

Vanessa Verrina, Sabrina Giordano, Anna Gottard, Fairness-adaptive classification trees

Chair and discussant: Francesca Martella, Sapienza University of Roma

## Room C - CONT15

### Statistical theory for life and natural sciences

Giuseppe Bove, Daniela Marella, Measures of interrater agreement for ratings on nominal scale

Alessandra Dalla Valle, Cinzia Mortarino, A new competition model combining the Lotka-Volterra model and the Bass model in pharmacological market competition

Federico Ferraccioli, Angela Andreella, livio finos, A nonparametric test for fixed effects in crossed random effect models

Roberto Fontana, Marco Guerra, A topology-based algorithm for the isomorphism check of 2-level orthogonal arrays

Alessandro Palumbo, Analysis of complex spatio-temporal neuroimaging signals by functional Principal Component Analysis

Chair and discussant: Enrico Ripamonti, University of Brescia

13:30 - 14:30

Light lunch

Room Leogrande - y-SIS general meeting



**14:30 - 15:15**

**Room Leogrande - P-PLEN1**

**Fusion and i-fusion learning: combining inferences from diverse data sources**

Regina Liu, Rutgers University

Organizer: Enrico Ciavolino, University of Salento

Chair: Sonia Petrone, Bocconi University of Milano

**Room A - P-PLEN2**

**Statistics and Machine Learning in industry: forecasting by combining heterogeneous or multi-scale model outputs**

Jean-Michel Poggi, University of Paris-Saclay

Organizer: Maurizio Carpita, University of Brescia

Chair: Biagio Palumbo, Federico II University of Napoli

**Room De Trizio - SIS board meeting**

**15:15 - 16:15**

**Room Leogrande - SOLI11**

**Advancements in Bayesian statistical modelling**

Diego Battagliese, Brunero Liseo, Small area estimation with measurement error using penalized complexity priors

Mario Beraha, Federico Camerlenghi, Lorenzo Ghilotti, Sufficiency postulates for Generalized Indian Buffet processes

Laura D'Angelo, Bernardo Nipoti, Andrea Ongaro, Two-level clustering of patients and hospitals via thinned dependent Dirichlet process mixtures

Lorenzo Schiavon, Mattia Stival, Efficient posterior inference for spatiotemporal modelling of repeated cross-sectional data

Organizer: Raffaele Argiento, University of Bergamo

Chair: Antonio Canale, University of Padova

**Room A - SOLI12**

**Patterns and relationships in network data analysis: a functional data analysis perspective**

Nicoletta D'Angelo, Giada Adelfio, Jorge Mateu, Ottmar Cronie, Constructed functional marks for spatial point process intensity estimation

Andrea Diana, Analyzing microclimates in work environments: a network-based functional modeling approach

Nicola Pronello, Emiliano del Gobbo, Lara Fontanella, Rosaria Ignaccolo, Luigi Ippoliti, Sara Fontanella, Functional graphical models for corpus linguistics in social media

Craig Wilkie, Surajit Ray, Claire Miller, Marian Scott, Investigating river water quality using network distance based spatiotemporal flexible regression

Organizer: Elvira Romano, University of Campania

Chair: Elvira Romano, University of Campania

### Room De Trizio - SOLI13

#### Advances in latent variable models

Marco Alfò, Maria Francesca Marino, Francesca Martella, Finite mixtures of linear quantile regressions with concomitant variables: a simple solution to endogeneity in longitudinal data models

Silvia Dallari, Nicola Grandi, Angela Montanari, What are the main features of the Italian written by Italian University students?

Francesca Martella, Xiaoxe Qin, Sanjeena Dang Subedi, Cluster-weighted disjoint factor analyzers for exploring the impact of socioeconomic factors on crime rates

Silvia Pandolfi, Francesco Bartolucci, Paolo Li Donni, A constrained dynamic bivariate Poisson stochastic block model for hospital network data

Organizer: Monia Ranalli, Sapienza University of Roma

Chair: Carlo Cavicchia, Erasmus University Rotterdam

### Room B - SOLI14

#### Mathematics for clinical trials

Giacomo Aletti, Caterina May, Chiara Tommasi, On the maximum likelihood estimator of the Emax model

Sara Cecconi, Rosamarie Frieri, Maroussa Zagoraiou, Alessandro Baldi Antognini, Robustness of the Sequential Efficient Design for identifying a target subpopulation

Nina Deliu, Joseph J Williams, Sofia S Villar, Finite-sample inference in response-adaptive designs: an application to Thompson sampling

Anand Vidyashankar, Response adaptive designs driven by randomly reinforced urn: large and moderate deviations

Organizer: Andrea Ghiglietti, Bicocca University of Milano

Chair: Andrea Ghiglietti, Bicocca University of Milano

### **Room C - SOLI15**

#### **Health issues related to non-nationals and migrants**

Elisa Barbiano di Belgiojoso, Eralba Cela , Patrizia Farina, Daniela Carrillo, Stefania Maria Lorenza Rimoldi, Migration and Health: evidence and challenges in the Italian context

Thais Garcia Pereiro, Anna Paterno, Jeroen Spijker, Health status and type of couple: a first glance across European countries

Nadia Mignolli, Silvia Bruzzone, Carlo Maccheroni, Mortality of foreigners residing in Italy through the processing of Life Tables

Angela Paparusso, Alberto Arcagni, Frank Heins, Corrado Bonifazi, Poset-based analysis of mental well-being of immigrants and natives in Europe

Organizer: Roberta Pace, University of Bari

Chair: Roberta Pace, University of Bari

### **16:15 - 16:45**

#### **Coffee break**

### **16:45 - 17:45**

### **Room Leogrande - SOLI16**

#### **Optimal designs and big data**

Laura Deldossi, Chiara Tommasi, Optimal subsampling from big datasets in presence of misspecification

Samantha Leorato, Chiara Tommasi, Carlos de la Calle Arroyo, A KL-augmented design for the Hill model

Marco Novelli, William Rosenberger, Randomization tests for subgroup analysis

William Rosenberger, CARA Randomization: Optimality, Inference, Enrichment

Organizer: Rossella Berni, University of Firenze

Chair: Rossella Berni, University of Firenze

### **Room A - SOLI17**

#### **Factors affecting student choices in tertiary education**

Kristijan Breznik, Vincenzo Giuseppe Genova, Students' mobility in higher education: an ERG model approach

Michele La Rocca, Marcella Niglio, Marialuisa Restaino, Statistical models to predict educational outcomes in academic transitions and trajectories

Valeria Policastro, Angela Pacca, Giancarlo Ragozini, Exploring factors affecting student university choices in Campania region

Alessandra Trimarchi, Milan Bouchet-Valat, Changes over time in the association between parental background and children's enrolment in education

Organizer: Maria Prosperina Vitale, University of Salerno

Chair: Maria Prosperina Vitale, University of Salerno

### **Room De Trizio - SOLI18**

#### **Tourism sustainability vs. sustainable tourism: measures and indicators**

Stefano De Cantis, Ludovica Venturella, Anna Maria Parroco, Towards an indicator-based system to assess tourism carrying capacity and tourism sustainability: an overview

Carla Galluccio, Francesca Adele Giambona, Cultural heritage for a sustainable growth: a longitudinal analysis based on Italian museums

Leonardo Salvatore Alaimo, Mariantonietta Fiore, Filomena Maggino, Factors affecting food tourism companies: quantitative evidence for Italy

Emma Zavarrone, Martha Friel, A holistic view of sustainable tourism in Asia: key topics for a more balanced future

Organizer: Venera Tomaselli, University of Catania

Chair: Venera Tomaselli, University of Catania

### **Room B - SOLI19**

#### **Data and indicators for sustainability analysis**

Rosanna Cataldo, Maria Gabriella Grassia, Marina Marino, Composite indicators for sustainable tourism

Samuela L'Abbate, Antonella Massari, Paola Perchinunno, Multidimensional indicators for social sustainability: a spatial analysis in Italy

Rosaria Lombardo, Jean-François Durand, ida camminatiello, Spline identity and functional partial least-squares regression for analysing Italian poverty

Andrea Nigri, Dealing with proportions: statistical modeling for compositional data

Organizer: Filomena Maggino, Sapienza University of Roma

Chair: Leonardo Salvatore Alaimo, Sapienza University of Roma

### **Room C - SOLI20**

## **Sampling and environmental Statistics**

Tonio Di Battista, Francesca Fortuna , Stefano Antonio Gattone , Adelia Evangelista, Rarity species distribution and some related parameters estimation

Giovanna Jona Lasinio, Gianluca Mastrantonio, Daniele Ventura, Edoardo Casoli, Arnold Arnold Rakaj, Cecilia Vitiello, Crescenza Calculli, Daniele Poggio, Species distribution models with masking: the case of holothurians in a Posidonia rich area

Linda Altieri, Daniela Cocchi, Entropy-based sequential sampling for environmental data with a repulsive behaviour

Rosa Maria Di Biase, Caterina Pisani, Marzia Marcheselli, Strategies for exploiting auxiliary information and achieving spatial balance in environmental surveys

Organizer: Sara Franceschi, University of Siena

Chair: Sara Franceschi, University of Siena

**17:45 - 18:30**

**Room Leogrande - CONT16**

### **From traditional to innovative statistical methods in medicine**

Samuel Davenport, Riccardo De Santis, Jesse Hemerik, Jelle Goeman, Livio Finos, Smooth logistic mass univariate inference for MS lesion data using sign-flipping

Giulio Grossi, Veronica Ballerini, Synthetic control method for clinical trials and precision medicine

Chiara Masci, Andrea Cappozzo, Francesca Ieva, Olivia Leoni, Marco Forlani, Barbara Antonelli, Anna Maria Paganoni, Model-based clustering of nested lifetime data: profiling COVID-19 heart failure patients

Alessandra Pandolfo, Gianluca Sottile, Velia Malizia, Omar Shatarat, Valentina Lazzara, Vito Muggeo, Giovanni Viegi, Stefania La Grutta, Asthma prediction tools in preschool children: evidence from predictive performance comparison by using innovative statistical approach.

Giulia Patanè, Federica Nicolussi, Alexander Krauth, Günter Gauglitz, Bianca Maria Colosimo, Luca Dede', Alessandra Menafoglio, Ordinal discriminative dimensionality reduction of functional profiles

Chair and discussant: Anna Simonetto, University of Brescia

**Room A - CONT17**

### **Statistical methodologies applied to the social and institutional contexts**

G. Damiana Costanzo, Barbara Dattilo, Mascia Di Torrice, Michelangelo Misuraca, Maria Spano, Measuring sustainability in tourism via a multi criteria decision making approach

Cinzia Di Nuzzo, Venera Tomaselli, Gianpiero Torrisi, A new methodological approach to build a multidimensional inequality composite indicator

Najada Firza, Laura Antonucci, Dante Mazzitelli, Spatial ranking analysis on quality of services using some techniques to improved fuzzy c-means algorithm

Silvia Golia, The study of the empowerment in two African countries using the Bayesian networks

Venera Tomaselli, Giulio Giacomo Cantone, Measuring political cleavages through the decomposition of diversity

Chair and discussant: Angela Maria D'Uggento, University of Bari

## **Room De Trizio - CONT18**

### **Applied Statistics - business & social**

Lea Anna Cozzucoli, Francesco Pauli, Beyond correlation: Discovering causal effects of AI on innovation across European SMEs

Francesca Bassi, Juan Antonio Marmolejo Martín, Eco-sustainable tourism in Europe, an analysis with multilevel models

Daniele Girolimetto, Tommaso Di Fonzo, Insights into regression-based cross-temporal forecast reconciliation

Manlio Migliorati, Gianni Gilioli, Anna Simonetto, Improving interpretability using surrogate models: an ecological case study

Greta Panunzi, Jafet Belmont, Janine Illian, Sara Martino, Species distribution modeling approach for biased citizen science data

Chair and discussant: Mariangela Zenga, Bicocca University of Milano

## **Room B - CONT19**

### **New insights in textual data analysis**

Erika Banzato, Davide Riso, Monica Chiogna, Vera Djordjilović, Data transformation and its validity in a two-sample problem: an illustration based on graphical models

Matteo Farnè, Giulia Benelli, Detecting fake news from text: a stagewise methodology

Livio Finos, Andrea Sciandra, Analysis of Mastodon's Italian messages: networks, topics, LLM and machine learning

Francesco Santelli, Valeria Policastro, Alessia Forciniti, Giancarlo Ragozini, Leaders and parties: how do they speak online?

Andrea Simonetti, Rodolfo Damiano, Language of bankruptcy: analysis of word sequences and word contexts

Chair and discussant: Antonio Calcagni, University of Padova

## Room C - CONT20

### Functional data in health and environmental sciences

Enea Bongiorno, Kwo Lik Lax CHan, Aldo Goia, Confidence interval for the complexity index of functional data

Regina Castrovilli, Fabrizio Durante, Daniela Gallo, Gianfausto Salvadori, Regionalization methods for Compound Extremes based on the Wasserstein distance

Giuseppe Loffredo, Elvira Romano, Fabrizio Maturo, Enhancing graphical interpretability for functional random survival forest

Lucia Mongelli, Domenico Adamo, Gianpiero Bianchi, Survey on urban environmental data: data validation

Marco Stefanucci, A new algorithm for the imputation of missing functional data

Chair and discussant: Elvira Romano, University of Campania

**Wednesday, June 19**

**08:45 - 09:30**

**Room Leogrando - CONT21**

**School, educational achievements and aspirations**

Alessio Buonomo, Stefania Capecchi, Francesca Di Iorio, Patrizia Giannantoni, Assessing literacy proficiency of students with a migratory background: the case of Lombardia region

Leonardo Cefalo, Virgilio Gómez - Rubio, Multilevel bivariate areal modelling for school data: an application with R-INLA

Eleonora Miaci, Giulia Berta, Martina Sciarabba, Nazareno Panichella, Teachers' evaluations and ethnic penalty on academic achievement in Italy

Flaminia Musella, Brunella Botte, Giada Marinensi, A tool for identifying drivers impacting students' career aspirations

Alessandra Ragni, Chiara Masci, Anna Maria Paganoni, Analysis of higher education dropouts dynamics through functional decomposition of recurrent events on time-to-event processes

Chair and discussant: Elisa Barbiano di Belgiojoso, Bicocca University of Milano

**Room A - CONT22**

**Advances in regression methods and applications**

Riccardo Borgoni, Francesco Schirripa Spagnolo, Nicola Salvati, Diego Zappa, Enrico Fabrizi, Partial M-quantile regression for predictive maintenance

Giuseppe Demuru, Monica Musio, Philip Dawid, Individual causation with additional information

Chiara Di Maria, Longitudinal mediation analysis through mixed-effect models: a causal interpretation based on separable effects

Anna Gottard, Agnese Panzera, Inverse Stereographic Gaussian DAG models

Lorenzo Tedesco, Presmoothing methodology for instrumental variable estimation of the proportional odds model under random right censoring.

Chair and discussant: Rosaria Lombardo, University of Campania

**Room De Trizio - CONT23**

**Advances in statistical modeling**

Michela Battauz, Paolo Vidoni, Likelihood-based boosting for variance components selection in linear mixed models



Lara Cavinato, Lorenzo Ferrara, Matteo Pegoraro, Paola Anna Erba, Francesca Ieva, Topological data analysis applied to radiomics (topiomics) data in recurrent prostate cancer

Marco Forti, Maria Brigida Ferraro, Paolo Giordani, L0-penalized membership in sparse fuzzy clustering

Luca Merlo, Nicola Salvati, Enrico Fabrizi, Paolo Frumento, Lea Petrella, Random effects in unconditional quantile regressions

Martina Narcisi, Gilbert W. Fellingham, Garritt Page, Evaluating Volleyball Setters using Product Partition Models

Chair and discussant: Salvatore D. Tomarchio, University of Catania

## Room B - CONT24

### Health, morbidity and mortality

Agostino Cristofalo, Silvia Cascini, Giulia Cesaroni, Eleonora Trappolini, Nera Agabiti, Anna Maria Bargagli, Educational disparities in the risk of dementia and subsequent risk of hospitalization in Lazio region

Alessandro Feraldi, Marilena Pappagallo, Cristina Giudici, Luisa Frova, Monitoring all-cause and cause-specific mortality inequalities in Italian regions

Gloria Santoro, Elena Locatelli, Flavio Tirelli, Anna Maria Agnes, Domenico D'Ugo, Roberto Persiani, Alberto Biondi, Laura Lorenzon, Meta-analytic metagenomic analysis of the microbiome in gastric cancer

Eleonora Trappolini, Giuseppina Guagnano, Maria Felice Arezzo, Addressing misclassification in the assessment of self-rated health: insights from the elderly population Italy

Anna Vesely, Giulia Roli, Michele Scagliarini, Rossella Miglio, An ensemble method for disease surveillance

Chair and discussant: Cinzia Castagnaro, Italian National Statistical Institute

## Room C - CONT25

### Statistical theory and methods

Stefano Antonio Gattone, Roberto Rocci, Simultaneous clustering and dimension reduction of functional data

Michele Cavazzutti, Federico Ferraccioli, Laura Sangalli, Iorio Finos, Eleonora Arnone, Efficient parametric tests in semiparametric regression with differential regularization

Federico Quetti, Elena Ballante, Silvia Figini, A Bayesian approach to clustering using the proper Bayesian bootstrap

Catia Luisa Scricciolo, Minimax rates for Wasserstein deconvolution of regular distributions with known ordinary smooth errors

Marco Tarantino, Nicoletta D'Angelo, giada adelfio, Modelling three-dimensional point patterns

Chair and discussant: Silvia Salini, University of Milano

**09:30 - 10:30**

**Room Leogrande – SOLI21**

**Inference on complex financial, neuronal and causal data**

Matteo Bonvini, Edward H. Kennedy, Oliver Dukes, Sivaraman Balakrishnan, On the possibility of doubly-robust root-n inference

Per Mykland, A general theory for estimators based on pre-averaging in high frequency data

Yubai Yuan, Babak Shahbaba, Norbert Fortin, Keiland Cooper, Qing Nie, Annie Qu, Optimal transport for latent integration with an application to heterogeneous neuronal activity data

Lan Zhang, The volatility of drift

Organizer: Regina Liu, Rutgers University

Chair: Regina Liu, Rutgers University

**Room A – SPEC13**

**Residential patterns of foreign migrants in urban contexts**

Francesca Bitonti, Daniela Ghio, Angelo Mazza, Massimo Mucciardi, An Information Theory approach to assess residential segregation: the case of Messina (Italy)

Alessio Buonomo, Federico Benassi, Rosaria Simone, Salvatore Strozza, Multiscale dimensions of residential segregation in Naples. A preliminary investigation

Maria Miriam Carella, Thais Garcia Pereiro, Anna Paterno, Socioeconomic distress and foreign presence in a Southern urban context. The case of Bari

Organizer: Federico Benassi, Federico II University of Napoli

Chair and discussant: Annalisa Busetta, University of Palermo

**Room De Trizio - SPEC10**

**Data eco-systems and the value of information**

Gianna Greca, Alessandro Zeli, The design of an energy data eco-system. An analysis of user-specific information needs and data integration processes

Francesco Pugliese, Angela Pappagallo, Massimo De Cubellis, Generation of synthetic data from Mobile Network Operators (MNO) data through generative adversarial networks (GANs)

Paolo Righi, Data ecosystems and the measurement of added value from data integration: a methodological framework

Organizer: Stefano Menghinello, Italian National Statistical Institute

Chairs and discussants: Alessandro Rinaldi, Istituto Tagliacarne, Alessio Meloni, Gartner, Fabian Mazza, Moodys

### Room B - SPEC11

#### Nonparametric causal inference

Falco J. Bargagli-Stoffi, Dafne Zorzetto, Uncovering environmental disparities in Texas: A data-driven subgroup discovery approach

Fiammetta Menchetti, Augusto Cerqua, Marco Letta, The machine learning control method for counterfactual forecasting

Dafne Zorzetto, Causal STAR BART for discrete outcome

Organizer: Veronica Ballerini, University of Firenze

Chair and discussant: Alessandra Mattei, University of Firenze

### Room C - SPEC12

#### Latest trends in clustering and classifications of complex data

Alessandro Casa, Thomas Brendan Murphy, Michael Fop, Sparse partial membership models with applications in food science

Volodymyr Melnykov, Shuchismita Sarkar, Modeling heterogeneity in dynamic weighted multilayer networks

Valentina Veronesi, Marianthi Markatou, Study of clustering algorithms for mixed-type data in presence of errors and correlation

Organizer: Marta Nai Ruscone, University of Genova

Chair and discussant: Marta Nai Ruscone, University of Genova

### 10:30 - 11:00

#### Coffee Break

### 11:00 - 11:45

### Room Leogrande - PLEN2

#### Conjugacy and approximation properties of skew-symmetric distributions in statistical inference

Daniele Durante, Bocconi University of Milano

Organizer: Giorgia Zaccaria, Bicocca University of Milano

Chair: Brunero Liseo, Sapienza University of Roma

**11:45 - 12:45**

**Room Leogrande – SOLI22**

**Well-being, inequality and poverty**

Ilaria Benedetti, Federico Crescenzi, Tiziana Laureti, Luca Secondi, Integrating fuzzy approach to measuring food poverty at sub-national level in Italy: an analysis using the household budget survey

Andrea Brandolini, Rolf Aaberge, Iryna Kyzyma, Threshold sensitivity of income poverty measures for EU social targets

Pier Luigi Conti, Maria Grazia Pittau, Roberto Zelli, The three I's of deprivation (TID) curves: estimation, inference, and stochastic dominance

Francesca Mariani, Mariateresa Ciommi, Maria Cristina Recchioni, Chiara Gigliarano, A new point of view in the construction of composite indicators: a simulation illustration

Organizer: Francesco Chelli, University of Marche, Chiara Gigliarano, LIUC - Cattaneo University

Chair: Francesco Chelli, University of Marche

**Room A - SPEC14**

**Bayesian statistics for real-world application: challenges and solution**

Aldo Gardini, Silvia De Nicolò, Enrico Fabrizi, Mapping well-being through a Mixture-of-Experts Fay-Herriot model

Sara Martino, Analysing time trends for cognitive impairment across the U.S.A states

Donatello Telesca, John Shamshoian, Michele Guindani, Damla Senturk, Shafali Jeste, Separability assumptions and the Bayesian analysis of region-referenced functional data

Organizer: Brunero Liseo, Sapienza University of Roma

Chair and discussant: Federico Pavone, Paris Dauphine University

**Room De Trizio - SPEC15**

**Statistics for Gender-based discrimination and stereotypes**

Maria Giuseppina Muratore, Claudia Villante, Lucilla Scarnicchia, The narrative of gender and the profound impact of language weight

Andrea Priulla, Massimo Attanasio, Gender disparities in the transition to Master's level in Italian universities

Daniele Vignoli, Giammarco Alderotti, Cecilia Tomassini, The gendered effect of partners' health on silver splits in Europe

Organizer: Paola Vicard, Roma Tre University

Chair and discussant: Paola Vicard, Roma Tre University

## Room B - SPEC16

### Advanced statistical methods for environmental sustainability

Alfred Kume, Clustering based on Hungarian algorithm for manifold data

Donato Riccio, Fabrizio Maturo, Elvira Romano, Supervised classification of functional data via ensembles of different functional representations

Elvira Romano, Andrea Diana, Anna De Magistris, Conformal based uncertainty bands for predictions in functional ordinary kriging

Organizers: Francesca Fortuna, Roma Tre University, Tonio Di Battista, University of Chieti-Pescara

Chair and discussant: Alessia Naccarato, Roma Tre University

## Room C - SPEC17

### New methods for university assessment in teaching and research

Ida Camminatiello, Mario Pezzillo Iacono, Rosaria Lombardo, A model for the evaluation of the Italian university system

Wolfgang Glanzel, Juan Gorraiz, Cinzia Daraio, A new framework for the proper use of bibliometric indicators in research evaluation – An evidence-based opinion paper

Angela Maria D'Uggento, Nunziata Ribecco, Vito Ricci, Ernesto Toma, Evaluation of the quality of university research from a regional perspective using a synthetic indicator

Organizer: Filomena Maggino, Sapienza University of Roma

Chair and discussant: Leonardo Salvatore Alaimo, Sapienza University of Roma

12:45 - 13:30

## Room Leogrande - CONT26

### Data Science models and applications

Salvatore Battaglia, Marta Fiocco, Hein Putter, Extending the vertical model: an alternative approach to competing risks with clustered data

Luisa Bisaglia, Parvaneh Rafieisangari, Advances in intermittent demand forecasting

Riccardo Ceccaroni, Pierpaolo Brutti, PixHomology: a new algorithm for computing persistent homology for pixel data

Fedele Greco, Lucia Guastadisegni, Carlo Trivisano, An R-Shiny App for statistical matching

Roberto Leombruni, Consuelo Nava, Marina Zanatta, The challenge of microdata dissemination. A methodology for a Public Use File version of the WHIP database

Chair and discussant: Rosanna Verde, University of Campania

## Room A - CONT27

### **Bayesian approaches for complex data: from spectrometric data to biomedical and network analysis**

Rossella Carone, Simone Ciardulli, Nicola Francescon, Matteo Freddi, Elisa Garlanda, Alessandro Casa, Alessia Pini, Jacopo Gardella, Bayesian models for registration of functional data

Alessandro Colombi, Alessia Pini, Lucia Paci, Learning block structures in Gaussian graphical models for spectrometric data analysis

Noemi Corsini, Michael Fop, A Bayesian overlapping stochastic block model for clustering biographical networks

Silvia Montagna, Amir Khorrami Chokami, Surya T. Tokdar, Detecting circadian gene expressions via Bayesian analysis: an application to the Arabidopsis Thaliana dataset

Cecilia Viscardi, Alessio Lachi, Michela Baccini, Bayesian inference for compartmental models with intractable likelihood function

Chair and discussant: Alberto Cassese, University of Firenze

## Room De Trizio - CONT28

### **Advanced methods for time series analysis and regression modelling**

Mirko Armillotta, Paolo Gorgi, On the estimation of INAR models with Pseudo-Variance Quasi-Maximum Likelihood

Pietro Donelli, Harold A. Hernández-Roig, M. Carmen Aguilera-Morillo, Eleonora Arnone, Letizia Clementi, Rosa E. Lillo, Alessandro Palumbo, Laura Sangalli, Regularized functional partial least squares regression of neuroimaging data

Dario Frisardi, Adaptive Elastic-net estimation for ergodic diffusion processes

Aldo Gardini, Fedele Greco, Carlo Trivisano, Investigating auxiliary mixture sampling for Poisson regression models

Matteo Gianella, Alessandra Guglielmi, Model-based clustering of spatial time series through the BayesMix library

Chair and discussant: Carlo Cavicchia, Erasmus University Rotterdam

## Room B - CONT29

### New Ideas in spatial statistics

Luca Aiello, Sirio Legramanti, Lucia Paci, A spatial product partition model for PM10 data

Eleonora Arnone, Matteo Tomasetto, Laura Sangalli, Estimating spatial anisotropy in semiparametric regression with differential regularization

Francesco Finazzi, Luca Aiello, Lucia Paci, A Bayesian cure model for earthquake parameter estimation using crowdsourced smartphone data

Michela Frigeri, Leonardo Marchesin, Matteo Coppellotti, Alessandra Guglielmi, Bayesian binomial regression model for ozone levels in northern Italy

Luca Presicce, Sudipto Banerjee, Bayesian meta-learning approach for feasible large spatial analysis

Chair and discussant: Michela Cameletti, University of Bergamo

## Room C - CONT30

### Finance

Leonardo Becarelli, Luca Trapin, Financial institution confidence index with Natural Language Processing

Alessandro Bitetto, Paola Cerchiello, How sustainability affects trading for Initial Coin Offering

Francesca Condino, A direct estimate of Lorenz curve and inequality measures in European countries

Beatrice Foroni, Lea Petrella, Luca Merlo, Hidden Markov graphical models with generalized hyperbolic distributions: a financial analysis on commodities and green energy indexes

Demetrio Lacava, Paolo Santucci de Magistris, Forecasting illiquidity tail risk and its economic determinants

Chair and discussant: Maria Iannario, Federico II, University of Napoli

## 13:30 - 14:30

### Light lunch

## Room Leogrande - SMA board meeting

## 14:30 - 15:15

## Room Leogrande - P-PLEN3

## **Realistically complex spatio-temporal modelling - responsibilities, challenges and fallacies**

Janine Illian, University of Glasgow

Organizer: Mariangela Sciandra, University of Palermo

Chair: Francesco Lagona, Roma Tre University

### **Room A - P-PLEN4**

## **Statistical learning in healthcare: towards a new paradigm of research**

Francesca Ieva, Polytechnic of Milano

Organizer: Giorgia Zaccaria, Bicocca University of Milano

Chair: Cinzia Viroli, University of Bologna

**15:15 - 16:15**

### **Room Leogrande - SOLI23**

## **The diverse dimensions of population ageing**

Marco Cozzani, Maria Elisabetta Coccia, Emilia Giusti, Sara Landini, Valentina Tocchioni, Daniele Vignoli, No socio-economic differences in MAR treatment success: evidence from Careggi hospital, Italy

Rocco Mazza, Thais Garcia Pereiro, Anna Paterno, Ageing and migration in Italy: a Partial Least Squares path model analysis of demographic behaviours

Corrado Polli, Valentina Ferri, Rita Porcelli, Skill obsolescence and lifelong learning in the ageing workforce: the effect on job satisfaction

Lucia Zanotto, Roberto Impicciatore, Life trajectories after 50 years of age. A sequence analysis approach

Organizer: Eleonora Trappolini, Sapienza University of Roma

Chair: Eleonora Trappolini, Sapienza University of Roma

### **Room A - SOLI24**

## **Advances in Bayesian computations**

Martina Amongero, Pierpaolo De Blasi, A Gibbs sampler for community detection in assortative Stochastic Block Model

Nicolas Bianco, Mauro Bernardi, Daniele Bianchi, Approximate Bayesian inference for dynamic variable selection



Valentina Ghidini, Hierarchical Dirichlet-multinomial model for clustering in multiplex networks

Francesco Pozza, An application of skew-symmetric approximations of posterior distributions to logistic regression

Organizer: Filippo Ascolani, Duke University

Chair: Filippo Ascolani, Duke University

### **Room De Trizio - SOLI25**

#### **Advances in clustering for complex data**

Andrea Cappozzo, Learning from multiple annotators: an ensemble model based classification approach

Carlo Cavicchia, Thomas Brink, Mixed data convex clustering

Salvatore D. Tomarchio, Antonio Punzo, Johannes T. Ferreira, Andriette Bekker, Revisiting the Dirichlet distribution for model-based clustering

Edoardo Redivo, Cinzia Viroli, Maurizio Brizzi, Clustering complex data via mixtures of quantile-based factor analyzers

Organizer: Ilaria Bombelli, Sapienza University of Roma

Chair: Ilaria Bombelli, Sapienza University of Roma

### **Room B - SOLI26**

#### **Advances in compositional data analysis and visualization**

Gianna Monti, Matteo Pelagatti, Detecting association in microbiome compositional data: a novel approach

Francesco Porro, Fabio Rapallo, Sara Sommariva, Dimensionality reduction of compositional data with structural zeros: a case study

Jordi Saperas Riera, Glòria Mateu Figueras, Josep Antoni Martín Fernández, Balance selection for low dimension: the time-use case

Violetta Simonacci, Nickolay Trendafilov, Valentin Todorov, Sparse RRR model for compositional data

Organizers: Caterina Gozzi, University of Firenze, Violetta Simonacci, Federico II University of Napoli

Chair: Caterina Gozzi, University of Firenze

### **Room C - SOLI27**

#### **Experimental approaches in Social Sciences**

Giovanni Busetta, Fabio Fiorillo, Labor market discrimination and economic outcomes in European regions: an in-depth exploration

Giovanni Busetta, Irma Baraku, Discrimination in the labor market: An analysis of European countries to determine effective policy measures

Raffaele Guetto, Giammarco Alderotti, Daniele Vignoli, Can policy reforms enhance fertility? An ex-ante evaluation through factorial survey experiments

Louis Lippens, Humans vs GPTs: evaluating bias and validity in hiring decisions

Organizer: Antonino Di Pino Incognito, University of Messina

Chair: Giancarlo Ragozini, Federico II University of Napoli

**16:15 - 16:45**

**Coffee break**

**16:45 - 17:45**

**Room Leogrande - SIS Presidential Plenary Session**

Stefano Bronzini, University of Bari, Rector

Francesco Mola, University of Cagliari, Rector

Francesco Billari, Bocconi University of Milano, Rector

Antonio Uricchio, Italian National Agency for the Evaluation of Universities and Research Institutes, President

Elbano De Nuccio, Consiglio Nazionale dei Dottori Commercialisti e degli Esperti Contabili, President

Andrea Provini, AUSED, President, Bracco, Global CIO

**17:45 - 18:30**

**Room Leogrande - SIS General Meeting**

**Thursday, June 20**

**09:00 - 09:45**

**Room Leogrande - CONT31**

**Small areas and statistical tools**

Leo Azzolini, Daniela Bellani, Giulia Rivellini, Parents or peers? Generational socialisation and attitudes towards migrants across European societies

Danilo Bolano, Daniela Ghio, Alessandro Di Nallo, Francesco Billari, Population change across Italian municipalities: urbanisation and the role of connectivity

Patrizio Lodetti, Victoria San Juan Bernuy, COVID-19 and uncertainty in Italy. Exposure to high mortality and fertility, the case study on the city of Bergamo

Giorgio Piccitto, Domingo Scisci, Sonia Stefanizzi, Unlocking urban insights: leveraging open data for governance and research

Gianfranco Piscopo, Gabriella Schoier, Massimiliano Giacalone, Maria Longobardi, Tourism sustainability: a statistical study in Friuli Venezia Giulia municipalities

Chair and discussant: Angelo Mazza, University of Catania

**Room A - CONT32**

**Applications in social context**

Fabio Centofanti, Mia Hubert, Biagio Palumbo, Peter J. Rousseeuw, RODESSA for robust multivariate singular spectrum analysis

Anna Maria Parroco, Giulia Bagnasco, Morena Cucinella, Santina Pampillonia, Micaela Arcaio, "Stay tuned!": validating a questionnaire on perceptions of university students in staying informed with current events

Maria Miriam Carella, Roberta Misuraca, Anna Paterno, Inequalities among older people: exploring differences in deprivation patterns

Camilla Salvatore, Jan Karem Höhne, Explaining item-nonresponse in open questions with requests for voice responses

Emiliano Seri, Ilaria Bombelli, Stella Iezzi, A new approach for text bi-clustering

Chair and discussant: Claudia Marin, University of Bari

**Room De Trizio - CONT33**

**Statistical methods and applications**

Patrizia Collesi, Antonio Pitrone, The Italian Statistics Olympiads

Pierpaolo D'Urso, Lorenzo Federico, Vincenzina Vitale, Livia De Giovanni, Network and attribute-based clustering of tennis players and tournaments

Guillaume Koechlin, Filippo Bovera, Piercesare Secchi, Deconvolution of the electrical load curve using blind source separation

Luca Romagnoli, Luigi Ippoliti, Luigi Di Carlo, Cesare Brizio, Leveraging pre-trained CNNs feature extractors for classifying genus *Oliva* Bruguière, 1789

Andrea Sciandra, Arjuna Tuzzi, Competing sets of predictors in an authorship attribution task: most frequent words, large language models and correspondence analysis

Chair and discussant: Andrea Marletta, Bicocca University of Milano

### Room B - CONT34

#### **Advances in data collection and analysis: complex data structures and non-probability sampling**

Massimo Aria, Corrado Cuccurullo, Luca D'Aniello, Michelangelo Misuraca, Maria Spano, TALL: A new Shiny app for text analysis

Christian Capezza, Giovanna Capizzi, Fabio Centofanti, Antonio Lepore, Biagio Palumbo, An EWMA control chart for multivariate functional data

Marco Di Marzio, Stefania Fensore, Agnese Panzera, Chiara Passamonti, Lower bias circular density estimation with contaminated data

Daniela Marella, Pier Luigi Conti, Uncertainty in sampling designs for non-probability samples

Anna Simonetto, Eugenio Brentari, Alfonso Piscitelli, Modelling framework to evaluate the phenological development of vine and potential impact of frost: the case of Prosecco DOC

Chair and discussant: Simona Pacillo, University of Sannio

### Room C - CONT35

#### **Statistical methods for complex data**

Enea G. Bongiorno, Kwo Lik Chan, Aldo Goia, Studying a mixture of functional data having different complexity

Kwo Lik Lax Chan, Bernard W. Silverman, A bootstrap approach to account for model selection in Multiple Systems Estimation

Dalila Failli, Maria Francesca Marino, Francesca Martella, Mixtures of generalized latent trait analyzers for biclustering multivariate data

Ivan Sciascia, Andrea Crosino, Andrea Genre, Clustering models for confocal microscopy

Vittorio Zampinetti, Harald Melin, Jens Lagergren, Unveiling clonal evolution history through variational inference over tree-structured HMM from single-cell DNA sequencing cancer data

Chair and discussant: Antonio Lucadamo, University of Sannio

**09:45 - 10:30**

**Room Leogrande - CONT36**

**Well-being and sustainability**

Martina Bodo, Angela Paparusso, Elena Ambrosetti, Life satisfaction and institutional and interpersonal trust: a comparative analysis of Italian and foreign citizens

Michele Costa, Flavio Delbono, Exploring sustainability amidst global challenges: a focus on cooperative enterprises

Claudia Furlan, Silvia Meggiolaro, Internet activities and life satisfaction among older people in Italy

Consuelo Nava, Tiziana Ciano, Massimiliano Ferrara, Combining price indexes and fuzzy clustering to measure satisfaction in niche tourism destinations

Fabrizio Paolomaria, Raffaele Guetto, Daniele Vignoli, Patrizio Lodetti, Press coverage of the economy: construction of coverage and sentiment indices

Chair and discussant: Daniela Ghio, University of Catania

**Room A - CONT37**

**Applied Statistics - social sciences & psychometric**

Aldo Clemente, Eleonora Arnone, Laura Sangalli, A multi-domain model with partial differential regularization: an application to neuroimaging data

Federica Cugnata, Chiara Brombin, Roberto Buccione, Clelia Di Serio, Exploring data sharing behaviour using both theory and data-driven methods

Giuseppe Mignemi, Yunxiao Chen, Irini Moustaki, Statistical Analysis of Peer Grading: A Latent Variable Approach

Angelo Mimmo, Daniele Toninelli, Machine learning and air pollution: an empirical application for northern Italy

Vito Santarcangelo, Saverio Gianluca Crisafulli, Giuseppe Oddo, Gianfranco Piscopo, Massimiliano Giacalone, IoT and AI for the analysis of emotional intelligence

Chair and discussant: Cosima Valentino, University of Salento

**Room De Trizio - CONT38**

**Advances in data analysis: clustering and regression models**

Roberto Ascari, Agnese Maria Di Brisco, Sonia Migliorati, A new distribution for overdispersed count data

Elena Ballante, Antonietta Mira, Silvia Figini, A fully rank-based hierarchical clustering approach using information imbalance

Maria Felice Arezzo, Giuseppina Guagnano, Domenico Vitale, A two-part Beta regression model with measurement error

Paolo Giordani, Susanna Levantesi, Andrea Nigri, Donatella Vicari, Hierarchical clustering for three-way data

Amir Khorrami Chokami, Silvia Montagna, Joint complete records occurrence over Farlie-Gumbel-Morgenstern sequences

Chair and discussant: Marta Nai Ruscone, University of Genova

### Room B - CONT39

#### Advances in Bayesian modelling

Rosario Barone, Alessio Farcomeni, Latent class multi-state quantile regression

Massimo Bilancia, Andrea Nigri, Stochastic variational inference for structured Bayesian hierarchical models

Jordy Bollon, Simone Tiberi, A Bayesian two-layer latent variable model for protein inference

Maria F. Pintado, Matteo Iacopini, Luca Rossini, Alexander Y. Shestopaloff, Bayesian partially reduced-rank regression

Bruno Ursino, Manuela Antonelli, Beatrice Cantoni, Ilenia Epifani, Francesco Trovò, Bayesian latent factor model for multi-target inference

Chair and discussant: Cristina Mollica, Sapienza University of Roma

### Room C - CONT40

#### Advanced statistical methods to analyze complex data

Ilaria Bombelli, Alessio Guandalini, Giorgia Sacco, Assessing variables importance when clustering Enterprises

Marco Borriero, Luigi Augugliaro, Veronica Vinciotti, Salvatore Latora, Completion of partially observed multivariate functional data

Domenico De Stefano, Amin Gino Fabbrucci Barbagli, Francesco Santelli, Susanna Zaccarin, Relation Hypervents Models for co-authorship networks: the case of the Italian academic statisticians

Agostino Gnasso, Massimo Aria, Carmela Iorio, Marjolein Fokkema, Explainable decision tree ensembles

Leonardo Scarso, Marco Novelli, Francesco Saverio Violante, Exploring new perspectives on the Ukrainian-Russian conflict using text mining techniques: an updated analysis

Chair and discussant: Alessandro Casa, University of Bergamo

**10:30 - 11:00**

**Coffee Break**

**11:00 - 11:45**

**Room Leogrande - PLEN3**

**Statistical models for complex problems with applications to science**

Marina Vannucci, Rice University

Organizer: Raffaele Argiento, University of Bergamo

Chair: Donatello Telesca, University of California Los Angeles.

**11:45 - 12:45**

**Room Leogrande – SIS awards**

Lectio Magistralis: Linda Laura Sabbadini, Women20, Chair

Award for Young Scholars for Contributions to Statistical Disciplines: Francesca Ieva, Polytechnic of Milano

Award for Young Scholars for Contributions to Statistical Disciplines, Honorable Mention: Maddalena Cavicchioli, University of Modena and Reggio Emilia

Award for the best Ph.D. thesis in Statistics: Nicholas Bianco, University of Padova

Award for the Best Ph.D. Thesis in Statistics, Honorable Mention: Paolo Onorati, Sapienza University of Roma

Award for the Best Ph.D. Thesis in Applied Statistics: Federica Galli, University of Bologna

Award for the Best Ph.D. Thesis in Applied Statistics, Honorable Mention: Camilla Salvatore, Bicocca University of Milano

Award for the Best Ph.D. Thesis in Demography: Francesca Bitonti, University of Catania

Young SIS Best PhD Contribution Award

Young SIS Best Young Contribution Award

Agostino Tarsitano Memorial Prize for the Best Master's Thesis in Statistical Disciplines:  
Laura Ferrini, Catholic University of Milano, Matteo Giannella, Polytechnic of Milano, Chiara Romano, Sapienza University of Roma

### Room A - SPEC18

#### Advances on the analysis of preference data

José Luis García-Lapresta, Miguel Martínez-Panero, A positional analysis of ranking procedures

Marta Nai Ruscone, Antonio D'Ambrosio, Non-metric unfolding via copula

Rosaria Simone, Analyzing differences in ranking distributions

Organizer: Alessandro Albano, University of Palermo

Chair and discussant: Alessandro Albano, University of Palermo

### Room De Trizio – SPEC19

#### Multidimensional analysis and measurement of poverty: the case of educational poverty

Maria Giovanna Ranalli, Gaia Bertarelli, Small area estimation of educational poverty using item response theory models

Caterina Giusti, Francesco Schirripa Spagnolo, Estimating multidimensional educational poverty in Italy using a quantile approach

Elisabetta Segre, Miria Savioli, Valeria Quondamstefano, New challenges for measuring multidimensional educational poverty in official statistics

Organizer: Nicola Salvati, University of Pisa

Chair and discussant: Monica Pratesi, University of Pisa, Italian National Statistical Institute

### Room B - SPEC20

#### Weakly-supervised learning: theory and applications

Simona Balzano, Mario Guarracino, Depth-based semi-supervised learning

Teresa Bortolotti, Alessandra Menafoglio, Simone Vantini, Real-time anomaly detection of spatial processes via functional conformal-prediction bands

Andrea Sottosanti, Sara Agavni, Castiglioni, Davide Risso, From datadriven to expert-guided: combining unsupervised and semi-supervised clustering in spatial transcriptomics

Organizer: Giovanni Porzio, University of Cassino

Chair and discussant: Andrea Cappozzo, Polytechnic of Milano

### Room C - SPEC21



## **Statistical analysis of economic complexity**

Elena Fabrizi, Antonella Rocca, From backgrounds to breakthroughs: understanding socio-economic influences on NEET persistence

Cristina Martelli, Adham Kahlawi, Maria Flora Salvatori, Graphs as unifying logical structures in the construction of information system for complex domains

Furio Urso, Antonino Abbruzzo, Marcello Chiodi, Maria Francesca Cracolici, Clickstream data analysis and web user profiling via Mixture Hidden Markov Models

Organizer: Caterina Marini, University of Bari

Chair and discussant: Gennaro Punzo, Parthenope University of Napoli

**12:45 - 13:30**

### **Room Leogrande – SIS awards**

Continuation

### **Room A - CONT41**

#### **Spatial statistics & non-parametric methods**

Rosa Arboretti, Elena Barzizza, Nicolò Biasetton, Comparing methods for testing equality of means in one-way designs: a case study

Zelda Brutti, Marzia Freo, Laura Serlenga, Greening obligations, avoidance behavior, and farms' environmental and economic performance: insights from FADN

Margherita Gerolimetto, Luisa Bisaglia, Combining bootstrap methods: a Monte Carlo experiment

Riccardo Ievoli, Lucio Palazzo, On the use of the bootstrap to check for Poissonity in INAR models

Feroz Khan, Agnese Rapposelli, Feasibility of offshore wind farm deployment in Italy

Pier Luigi Conti, Livia De Giovanni, A Kruskal-Wallis type test for multi-treatment effect

Chair and discussant: Michele Gallo, L'Orientale University of Napoli

### **Room De Trizio - CONT42**

#### **Models and applications in health statistics**

Michele Bellomo, Nicola Gianotti, Camilla Muccini, Hamid Hasson, Diana Canetti, Silvia Nozza, Monica Guffanti, Emanuela Messina, Vincenzo Spagnuolo, Riccardo Lolatto, Sara Diotallevi, Antonella Castagna, Laura Galli, Generalized Additive Mixed Models in medicine: a case study on LDL cholesterol in people living with HIV under different antiretroviral regimens

Chiara Chiavenna, Danilo Bolano, Alessia Melegaro, Sequence analysis for vaccination data

Alessia Forciniti, Francesco Santelli, The revolution of AI in healthcare between diagnosis and treatment

Konstantina Gourgoura, Elena Stanghellini, Marco Doretti, Addressing self-selection in Long Covid studies: a methodological framework

Costanza Tortù, Chiara Seghieri, Francesca Ferré, The ripple effect: how pre-surgery information shapes patient satisfaction in breast cancer surgery

Chair and discussant: Marco Novelli, University of Bologna

### Room B - CONT43

#### Advances in statistical methodology: from model selection to causal inference

Maddalena Cavicchioli, Ahmed Ghezal, Imane Zemmouri, Bispectral analysis of Markov switching bilinear models

Riccardo Ceccato, Elena Barzizza, Nicolò Biasetton, Marta Disegna, A multi-aspect permutation test for selecting the optimum number of clusters

Riccardo De Santis, Jelle J. Goeman, Hein Putter, Ivio Finos, Sign-flip test for the Cox regression model

Leonardo Genesin, Giovanna Menardi, Adriano Paggiaro, Marco Bertoni, Unobserved heterogeneity and identification of causal effects using mixture models

Simona Pacillo, Luca Greco, George Luta, Trimmed symmetric linear regression

Chair and discussant: Jana Cibulková, Prague University

### Room C - CONT44

#### Applied statistics and methods

Silvia Bacci, Emanuela Dreassi, Leonardo Grilli, Carla Rampichini, Variable selection in multilevel models via knockoffs: the case of INVALSI national tests

Chiara Barbi, Alessandra Menafoglio, Piercesare Secchi, Object-oriented analysis of spatial complex data in stream-network domains

Fabio Demaria, Maddalena Cavicchioli, Digitalization, work-related risk factors and well-being: Importance and interactions from tree-based methods

Simone Panzeri, Aldo Clemente, Eleonora Arnone, Laura Sangalli, A nonparametric approach to model event-data on linear networks

Alfonso Peluso, Agata Maria Madia Carucci, Antonella Bianchino, Network analysis: an application to PDO products

Chair and discussant: Alberto Arcagni, Sapienza University of Roma

**13:30 - 14:30**

**Light lunch**

**14:30 - 15:30**

**Room Leogrande - SOLI28**

**Complex environmental data**

Chiara Di Maria, Vito Michele Rosario Muggeo, Semiparametric modelling of environmental data via generalised sigmoidal curves

Luigi Ippoliti, Pasquale Valentini, Carlo Zaccardi, Deep learning to address spatial confounding

Luca Patelli, Michela Cameletti, Natalia Golini, Rosaria Ignaccolo, When space matters, how can we explain Random Forest?

Mehwish Zaman, Isadora Antoniano-Villalobos, Ilaria Prosdocimi, Flexible models for coherent estimation of rainfall extremes

Organizer: Francesco Lagona, Roma Tre University

Chair: Laura M. Sangalli, Polytechnic of Milano

**Room A - SOLI29**

**Bringing machine and statistical learning to survey methodology**

Beatriz Cobo Rodríguez, María del Mar Rueda García, Ramón Ferri García, Jorge Luis Rueda Sánchez, Review of software for nonprobability surveys

Esther Eustache, Mehdi Dagdoug, David Haziza, High-dimensional variance estimation in survey sampling

Francesco Schirripa Spagnolo, Nicola Salvati, Enrico Fabrizi, Partial Fay-Herriot model for small area estimation

Roberta Varriale, Silvia Loriga, Francesco Isidori, A machine learning approach for multi-source data on flexible employment

Organizer: Gaia Bertarelli, University of Venezia

Chair: Gaia Bertarelli, University of Venezia

**Room De Trizio – SOLI30**

**Statistical methodology, Biomedicine & AI: interactions and challenges**

Claudia Angelini, Daniela De Canditiis, Italia De Feis, Antonella Iuliano, AFTNet: a novel network-penalized Weibull AFT regression algorithm and its applications to cancer survival

Daniela Corbetta, Livio Finos, Davide Risso, Conformal inference for cell type prediction with graph-structured constraints

Fulvio De Santis, Stefania Gubbiotti, Francesco Mariani, Recent results on the random probability of success of an experiment

Mauro Gasparini, Cecilia Campanile, Giacomo Pratesi, Stefano Piacentini, IRT with multiple attempts

Organizer: Clelia Di Serio, "Vita e Salute" University, San Raffaele Hospital of Milano

Chair: Clelia Di Serio, "Vita e Salute" University, San Raffaele Hospital of Milano

### Room B - SOLI31

#### **Non-profit sector and new statistical sources: current situation and future perspective**

Damiano Angotzi, Lucrezia Macigno, Giacomo Giusti, Giuseppe Notarstefano, Francesco Salate Santone, Giuseppe Terzo, A territorial proximity measurement of non-profit activity: Evidence from the Third Sector Single National Register (RUNTS) data

Alessio Bumbea, Matteo Straccamore, Alessandro Bellina, Giuseppe Espa, Andrea Mazzitelli, Andrea Tacchella, Diversification in Non-profit services: a statistical analysis through economic fitness and complexity approaches

Paolo Righi, Marco Fortini, Massimo Lori, Coverage Analysis for the Statistical Register of Non-profit Institutions

Sabrina Stoppiello, Stefania Della Queva, Manuela Nicosia, Official statistics on Non-profit sector in Italy: the Permanent Census design and new perspective for data analysis

Organizer: Alessandro Rinaldi, Tagliacarne Institute

Chair: Alessandro Rinaldi, Tagliacarne Institute

### Room C - SOLI32

#### **Bayesian methods for the health sciences**

Veronica Ballerini, Fabrizia Mealli, Alessandra Mattei, Principal stratum strategy for safety evaluation under principal ignorability

Felipe Barrientos, Garritt Page, Lifeng Lin, Nonparametric Bayesian approach to treatment ranking in network meta-analysis with application to comparisons of antidepressants

Giulia Capitoli, Vanna Denti, Cecilia Balocchi, Francesco Denti, Bayesian biclustering on a renal cell carcinoma tissue section

Elena Sabbioni, Enrico Bibbona, Gianluca Mastrantonio, Guido Sanguinetti, Extending Bayesian modelling of RNA velocity

Organizers: Alberto Cassese, Francesco Stingo, University of Firenze

Chair: Alberto Cassese, University of Firenze

**15:30 - 16:30**

**Room Leogrande – SPEC22**

**Statistical modeling for environmental quality and biodiversity**

Antonella Congedi, Sandra De Iaco, A dynamic spatial indicator of the surface water quality

Giuseppina Giungato, Sabrina Maggio, Space-time analysis of particle pollution and its effect on biodiversity

Iman Masoumi, Sandra De Iaco, Sabrina Maggio, Exploring land use and land cover changes in Apulia, Italy: random forest approach utilizing remote sensing data

Organizers: Claudia Cappello, Monica Palma, University of Salento

Chair and discussant: Pasquale Sarnacchiaro, Federico II University of Napoli

**Room A - SOLI33**

**Recent advances in clustering and classification**

Jana Cibulkova, Hana Řezanková, Zdeněk Šulc, Jaroslav Horníček, Similarity measures for datasets with binary variables and their application in agglomerative cluster analysis

Antonio Lucadamo, Luca Greco, Claudio Agostinelli, Constrained and parsimonious mixture models for multivariate circular data

Francesca Marta Lilja Di Lascio, Fabrizio Durante, Aurora Gatto, Copula-based hierarchical clustering for complete dependence

Yana Melnykov, Yingying Zhang, Rong Zheng, Finite mixture modeling for studying spatio-temporal patterns of tornadoes in USA

Organizer: Marta Nai Ruscone, University of Genova

Chair: Marta Nai Ruscone, University of Genova

**Room De Trizio - SOLI34**

**Emerging trends in statistical methods for future studies**

Yuri Calleo, Simone Di Zio, Francesco Pilla, Statistical modelling of spatial consensus adopting Real-Time Spatial Delphi and Generative Adversarial Networks for the development of future scenarios

Yuri Calleo, Simone Di Zio, Leonardo Salvatore Alaimo, Measuring the State of the Future in the European Union countries: comparing different methods

Roberta Di Lorenzo, Marina Marino, Maria Gabriella Grassia, Rocco Mazza, The futures of European Union countries: an analysis with European state of future index (ESOFI)

Manuela Scioni, Mario Bolzan, Marco Marozzi, Futures studies and artificial intelligence: first results of an experimental collaborative approach

Organizer: Simone Di Zio, University of Chieti-Pescara

Chair: Angela Maria D'Uggento, University of Bari

## Room B - SOLI35

### Measuring economic insecurity and resilience

Antonella D'Agostino, Maria Navarro, Laura Neri, Angeles Sanchez, Household's economic insecurity in Italy and Spain: a multidimensional approach

Alessandro Gallo, Anthony Lepinteur, Nicholas Rohde, Economic insecurity and political instability in the UK

Gemma Riera Mallol, The impact of temporary employment adjustment schemes on economic resilience

Barry Watson, An inclusive mind during uncertain times? The implications of economic insecurity amid the 2020 US federal election

Organizers: Silvia Pacei, Maria Rosaria Ferrante, University of Bologna

Chair: Silvia Pacei, University of Bologna

## Room C - SOLI36

### Statistical models applied to healthcare

Gabriele Maggioni, Andrea Marletta, Mariangela Zenga, The dynamic trajectory in assistential healthcare jobs from 2016 to 2021

Nicola Bartolomeo, Maria Miriam Carella, Letizia Lorusso, Roberta Pace, Paolo Trerotoli, A model for assessing access to pregnancy termination: effect of geographical distance and socio-economic deprivation

Barbara Giordani, Erica Eugeni, Giorgia Duranti, Elisa Guglielmi, Alessandra Burgio, Giovanni Baglio, Models for assessing hospital care: the experience of the Italian National Outcome Programme

Angela Maria D'Uggento, Claudia Marin, Health emergencies and procedural innovations: defining an indicator of digitalisation in the healthcare sector

Organizer: Margaret Antonicelli, Sapienza University of Roma

Chair: Francesco Domenico D'Ovidio, University of Bari

## 16:30 - 17:00

### Coffee break

17:00 - 17:45

## Room Leogrande - CONT45

### Migrants' patterns and behaviours in Europe

Cecilia Fortunato, Hans Dietrich, Elena Ambrosetti, Secondary migration intentions of refugees living in Germany

Guillermo Orfao, Jesus García-Gómez, Alberto Del Rey, Emilio Parrado, Has immigration contributed to population growth in Spain? A regional comparative analysis

Camilla Pangallo, Cinzia Conti, Fabio Massimo Rottino, Oliviero Casacchia, The integration paths of refugees and asylum seekers in Italy

Michela Camilla Pellicani, Monica Carbonara, Antonella Rotondo, Roberto Antonello Palumbo, Massimo Iaquinta, Antonella Bianchino, Reurbanize small towns by international migration: a possible trade off

Giorgio Piccitto, Migrants, their children, and labor market achievement: an analysis of the ethnic penalty across migrant generations in Western Europe

Chair and discussant: Angelo Mazza, University of Catania

## Room A - CONT46

### Statistical insights into gender, health, and educational equity

Laura Benedan, Carlotta Galeone, Mariangela Zenga, Unveiling the patient experience: a Delphi method based questionnaire for evaluating the quality of life in adults with Epidermolysis Bullosa

Laura Bondi, Beatrice Franzolini, Marco Palma, A longitudinal study of the gender gap in school grades via flexible Bayesian Beta regression

Brombin, Clelia Di Serio, Paola Vicard, Improving digital wellbeing in young adult users: a Bayesian networks approach

Anna Crisci, Luana Serino, Pasquale Sarnacchiaro, Francesco Campanella, Goodness of fit measures for Generalized Estimating Equations. An empirical evidence on relationships between gender diversity and corporate performance

Andrea Priulla, Eleonora Miaci, Nazareno Panichella, Social inequality and student mobility from Southern Italian regions

Chair and discussant: Leonardo Salvatore Alaimo, Sapienza University of Roma

## Room De Trizio - CONT47

### Modelling solutions for real-world challenges

Mariaelena Bottazzi Schenone, Elena Grimaccia, A Latent Curve Model to estimate the evolution of urban air pollution

Aamir Javed, Agnese Rapposelli, Transition towards environmental sustainability: Evaluating the effectiveness of green investment, environmental policy, and financial development on the load capacity factor in G-7 nations

Mauro Mussini, Changes in seasonal concentration of tourist flows: The role of tourism market segments

Lorena Ricciotti, The PublicWorksFinanceIT R Package: retrieve and visualize public works data

Chair and discussant: Massimo Bilancia, University of Bari

**17:45 - 18:30**

**Room Leogrande – Concluding remarks**