SIS2017

Statistical Conference
Statistics and Data Science: new challenges, new generations

Florence 28-30 June

Scientific Program Committee

Rosanna Verde *(chair), Università della Campania "Luigi Vanvitelli"*
Emanuele Baldacci, *Eurostat*
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Alessandra Petrucci, *Università di Firenze*
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Bruno Scarpa, *Università di Padova*
Cinzia Viroli, *Università di Bologna*

Local Organizing Committee

Alessandra Petrucci *(chair), Università di Firenze*
Maria Felice Arezzo, *Sapienza Università di Roma*
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Emilia Rocco, *Università di Firenze*
Maria Cecilia Verri, *Università di Firenze*

Dear colleagues,
on behalf of the Scientific Program Committee and of the Local Organizing Committee, we welcome you to Florence and to the Scientific Conference "Statistics and Data Science: new challenges, new generations" of the Italian Statistical Society (SIS2017).

The Conference aims to focus on the role of Statistics in the Data Science domain, in the perspective of new skills of the young statisticians for improving their competitiveness in the Era of the Big, Open and complex data. Therefore, the Conference topics catch the interest of all the domain of statistics.

The Conference is scheduled in: 4 plenary sessions, 19 specialized sessions, 11 solicited sessions, 6 foreign society sessions, 2 roundtable sessions, 17 contributed sessions and 15 poster presentations.

The Scientific Program Committee and the Local Organizing Committee, the University of Florence and many volunteers have contributed substantially to the organization of this conference. We acknowledge their work and the support of the Italian Statistical Society. We wish you a productive and stimulating conference and a pleasant stay at the University of Florence.

Rosanna Verde
chair of the Scientific Program Committee
Alessandra Petrucci
*chair of the Local Organizing Committee*

The Venue
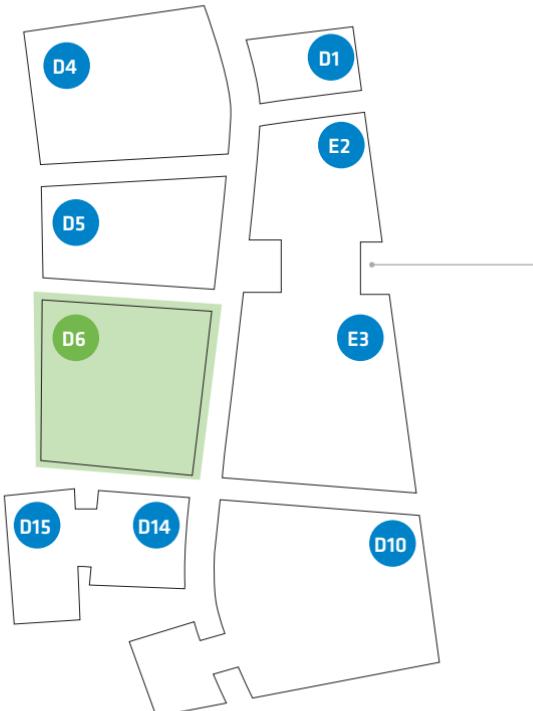
The main venue of the Conference (registration desk, plenary and parallel sessions, general assembly) will be located in the rooms of the **building D6** of **Novoli, Campus of social sciences** of the University of Florence, **Via delle Pandette 9**.

The Campus of social sciences can be reached by bus from the Florence Train Central Station (Santa Maria Novella).

The bus lines from the Central Station that get you close to the conference site are **n. 22 and 23**. You can check the transportation company web page (www.ataf.net) for directions and timetables.
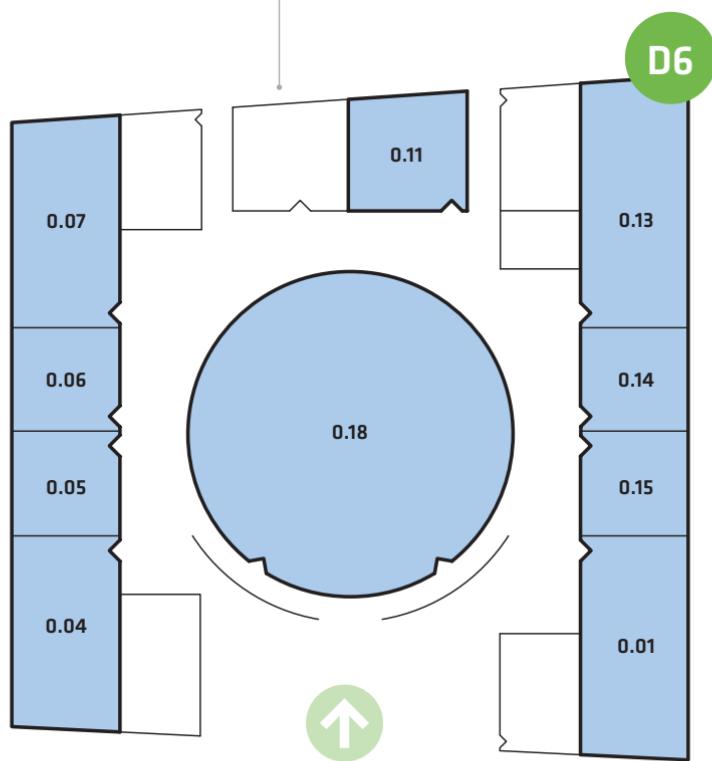
Bus n. 22 (direction: Novoli Via Valdinievole). Get off at the bus stop Ragghianti, then pass through the Novoli commercial area (500 m).

Bus n. 23 (direction: Nuovo Pignone). Get off at the bus stop Del Prete Terzolle, cross the road and turn left on Via Pionieri dell'Aviazione (150 m) then take Via delle Pandette.

BUILDING D6

D6

0.07

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0.06

0.18

0.14

0.05

0.15

0.04

0.01

WEDNESDAY JUNE, 28

9.30 | 10.00, room 0.18
Welcome Address

10.00 | 11.15, room 0.18
PLENARY SESSION

11.15 | 12.30, room 0.04
SOL. 1 - Social indicators and Big Data

11.15 | 12.30, room 0.06
SOL. 2 - Social research and data science: methods and applications

11.15 | 12.30, room 0.07
SOL. 3 - Financial data modelling

11.15 | 12.30, room 0.13
SOL. 4 - The use of scanner data for multipurpose consumer price statistics

11.15 | 12.30, room 0.14
SOL. 5 - Neuroscience statistics

11.15 | 12.30, room 0.01
SOL. 6 - New data collection: a tool for mobility and migration

12:30 | 13.30, room 0.18
Premiazione del Concorso di idee PlayStat. La Statistica che diverte

13:30 | 14.30
LUNCH

14.30 | 15.30, room 0.18
POSTER SPEED-TALK SESSION

14.30 | 15.30, room 0.04
CON. 1 - Statistical modelling in healthcare

14.30 | 15.30, room 0.07
CON. 2 - Composite and economic indicators

14.30 | 15.30, room 0.13
CON. 3 - Machine and statistical learning

14.30 | 15.30, room 0.14
CON. 4 - Statistical inference and testing procedures

14.30 | 15.30, room 0.01
CON. 5 - General latent variable modelling

15.30 | 17.00, room 0.04
SPE. 1 - Computational methods for high-dimensional and complex data sets

15.30 | 17.00, room 0.07
SPE. 2 - The population register and the integration with the household surveys

15.30 | 17.00, room 0.13
SPE. 3 - Big data analytics in banking and finance

15.30 | 17.00, room 0.01
SPE. 4 - GRASPA: Analysis of complex spatial data

15.30 | 17.00, room 0.18
SFdS - Société Française de Statistique - Group Data Mining et Apprentissage

17.00 | 17.30, foyer
COFFEE BREAK

17.30 | 19.00, room 0.04
SPE. 5 - Big Data and official statistics

17.30 | 19.00, room 0.07
SPE. 6 - "Millennials" mobility patterns

17.30 | 19.00, room 0.13
SPE. 7 - Use of administrative databases for performance assessment in social contexts

17.30 | 19.00, room 0.01
SPE. 8 - Shape, symbolic and object data

17.30 | 19.00, room 0.18
ENBIS - European Network for
Business and Industrial Statistics

20.00, Palazzo Nonfinito
during the Welcome Party
POSTER EXHIBITION SESSION

THURSDAY JUNE, 29

9.00 | 10.30, room 0.04
SPE. 9 - Economic change and labour
market

9.00 | 10.30, room 0.07
SPE. 10 – Big Data comes to school:
Implications for learning, assessment
and research

9.00 | 10.30, room 0.13
SPE. 11 - SIS-Bayes: High-performance
algorithms in Bayesian statistics

9.00 | 10.30, room 0.01
SPE. 12 - Tensor-based methods for
data science

9.00 | 10.30, room 0.18
IASC - International Association for
Statistical Computing

10.30 | 11.15, room 0.18
PLENARY SESSION

11.15 | 11.45, foyer
COFFEE BREAK

11.45 | 13.00, room 0.18
ROUNDTABLE SESSION - Let's talk
about Data Science

13.00 | 14.00
LUNCH

14.00 | 15.30, room 0.04
SPE. 13 - Functional data with complex
dependencies

14.00 | 15.30, room 0.07
SPE. 14 - S2G Combining big data with
sample surveys

14.00 | 15.30, room 0.13
SPE. 15 - Data science for marketing
and business

14.00 | 15.30, room 0.01
SPE. 16 - CLADAG: Clustering of high-
dimensional data

14.00 | 15.30, room 0.18
ADSA - African Data Science
Association - Machine learning for
predictive data analytic

15.30 | 16.15, room 0.18
PLENARY SESSION

16.15 | 16.45, foyer
COFFEE BREAK

16.45 | 17.45, room 0.04
CON. 6 - Knowledge extraction and
pattern recognition from new data
sources

16.45 | 17.45, room 0.06
CON. 7 - Statistics for social sciences

16.45 | 17.45, room 0.07
CON. 8 - Statistical methods for socio-
economic analysis

16.45 | 17.45, room 0.13
CON. 9 - Advances in semi- and non-
parametric modelling

16.45 | 17.45, room 0.14
CON. 10 - Graphical models and
Bayesian analysis

16.45 | 17.45, room 0.01
CON. 11 - Educational statistics and
measurement

17.45 | 19.15, room 0.18
SIS GENERAL ASSEMBLY

FRIDAY JUNE, 30

9.00 | 10.15, room 0.04
SOL. 7 - Statistical learning for complex data

9.00 | 10.15, room 0.06
SOL. 8 - Massive datasets in astrostatistics: theory & methods

9.00 | 10.15, room 0.07
SOL. 9 - Large dimensional dynamic factor models

9.00 | 10.15, room 0.13
SOL. 10 - Data science for network data

9.00 | 10.15, room 0.01
SOL. 11 - Advanced space-time models and functional analysis for seismic monitoring

9.00 | 10.15, room 0.18
EuADS - Classification and clustering in the era of data science

10.15 | 11.00, room 0.18
PLENARY SESSION

11.00 | 11.30, foyer
COFFEE BREAK

11.30 | 12.30, room 0.04
CON. 12 - Text mining, opinion and sentiment analysis

11.30 | 12.30, room 0.06
CON. 13 - Statistics for economics and quantitative risk management for banking and finance

11.30 | 12.30, room 0.07
CON. 14 - Statistical modelling and analysis for complex data problems

11.30 | 12.30, room 0.13
CON. 15 - Estimation and inference for complex models

11.30 | 12.30, room 0.14
CON. 16 - Statistical analysis and modelling of functional data

11.30 | 12.30, room 0.01
CON. 17 - Statistical analysis in the social sciences

12.30 | 13.15, room 0.18
SDS ASSEMBLY

13.15 | 14.15
LUNCH

14.15 | 15.45, room 0.04
SPE. 17 - Nowcasting@work

14.15 | 15.45, room 0.13
SPE. 18 - AISP: Grabbing elusive populations and demographic behaviors by social media data

14.15 | 15.45, room 0.01
SPE. 19 - Methods and applications for the treatment of Big Data in strategic fields

14.15 | 15.45, room 0.18
FenStatS - Best practices in statistics. A European approach

15.45 | 16.45, room 0.18
ROUNDTABLE SESSION - Data and information communication in the emerging digital landscape

16.45, room 0.18
CLOSING

Social Events

The **Welcome Party** will be held at **Palazzo Nonfinito**, Via del Proconsolo 12, in the city centre, starting at 20.00 on Wednesday 28th. Participants must bring their conference badge and ticket (included in the conference kit) in order to attend the Welcome Party.

How to reach Palazzo Nonfinito
From the *Campus of social sciences,* reach the bus stop *Del Prete-Guidoni*. Take bus n. 23 (direction: *Nave a Rovezzano*), and get off at *Piazza San Marco* in the city centre. Turn right on Via Giorgio la Pira, continue straight on Via Ricasoli (500 m.), turn left and take Piazza del Duomo, then continue on via del Proconsolo. It takes approximately 10 minutes walking.

The **Social Dinner** will be held at the **Orto Botanico "Giardino dei Semplici" of the University of Florence**, Via P.A. Micheli 3, in the centre of Florence, starting at 21.00 on Thursday 29th. The cost of the social dinner is 35€ (not included in the conference fees), and tickets can be obtained from the registration desk. Payment until 12.00 of Thursday 29th.

How to reach Orto Botanico
From the *Campus of social sciences,* reach the bus stop *Del Prete-Guidoni*. Take bus n. 23 (direction: *Nave a Rovezzano*), and get off at *Piazza San Marco* in the city centre. Take Via Giorgio la Pira, and after 250 metres turn right and take Via Pier Antonio Micheli. It takes approximately 5 minutes walking.

Organization of sessions

Plenary sessions	35' talks, 10' floor discussion
Specialized sessions (SPE)	20' talks, 30' discussion
Solicited sessions (SOL)	15' talks, 10' discussion
Contributed sessions (CON)	10-12' talks, 10' discussion
Poster speed-talk session	3' poster presentation

Info

SIS2017 APP
The APP SIS2017 for Android can be downloaded from Play Store. Using the APP you can also create a customized program.

Coffee breaks and lunches
Coffee breaks will take place in the foyer of the Conference venue, D6 building of *Campus of social sciences*. A lunch ticket useable at the University Canteen for each Conference day is included in the Conference kit. Several bars and cafeterias are present around the Conference venue.

Internet WiFi
EDUROAM Internet connection is available: don't forget to bring your EDUROAM credentials. If you have not an EDUROAM account, you can ask to the registration desk for a temporary UniFi account. Please bring a copy of your ID document in order to facilitate the account registration.

Proceedings
The e-book of the Conference proceedings is available on the Firenze University Press website www.fupress.com

Book exposition
During the Conference you can visit the book exposition of Pearson and Springer Editors, and you can buy or order books and manuals at discounted rates.

Taxi
If you need Taxis you can call it by Radiotaxi (phone):
+39 055 4242
+39 055 4390
+39 055 4798

You can also download the APP: www.apptaxi.it/firenze/

Visiting Florence
You can find useful information for visiting Florence on the Official Florence Tourism website (www.firenzeturismo.it/en/) or on the Visit Florence website (www.visitflorence.com/it/).

WEDNESDAY JUNE, 28

9.30 | 10.00, room 0.18

Welcome Address

10.00 | 11.15, room 0.18

PLENARY SESSION

chair
Monica Pratesi

Official Statistics 4.0 – Learning from history for the challenges of the future
Walter J. Radermacher

Emerging challenges in official statistics: new sources, methods and skills
Giorgio Alleva

11.15 | 12.30, room 0.04

SOL. 1 - Social indicators and Big Data

chair
Enrico Giovannini

Measuring wellbeing by extracting social indicators from Big Data
Renza Campagni, Lorenzo Gabrielli, Fosca Giannotti, Riccardo Guidotti, Filomena Maggino, Dino Pedreschi

New methodological challenges for the era of Big Data
Maurizio Vichi

Measure trust in the age of Big Data: The TRUSTLAB project at OECD
Fabrice Murtin

Big Data and social statistics: the challenge of data quality
Enrico Di Bella

11.15 | 12.30, room 0.06

SOL. 2 - Social research and data science: methods and applications

chair
Gabriella Maria Grassia

A polarity-based strategy for ranking social media reviews
Simona Balbi, Michelangelo Misuraca, Germana Scepi

Internet of things and internet of emotions: what you can do with Big Data without the survey?
Furio Camillo, Valentina Adorno

Cultural and social meanings of the wedding day. The role of the web communities
Rosanna Cataldo, Maria Gabriella Grassia, Marina Marino, Rocco Mazza, Carlo Natale Lauro

Big data for hate speech: new paradigms
Emma Zavarrone, Alessia Forciniti, Guido Ferilli

SOL. 3 - Financial data modelling

chair
Giampiero M. Gallo

News, volatility and price jumps
Massimiliano Caporin, Francesco Poli

Estimating and testing autoregressive gamma volatility models for option pricing
Davide Raggi, Sergio Pastorello

Models for jumps in trading volume
Eduardo Rossi, Paolo Santucci de Magistris

A stochastic volatility framework with analytical filtering
Giacomo Bormetti, Roberto Casarin, Fulvio Corsi, Giulia Livieri

SOL. 4 - The use of scanner data for multipurpose consumer price statistics

chair
Gianni Marliani

Estimating Italian inflation using scanner data: results and perspectives
Alessandro Brunetti, Stefania Fatello, Federico Polidoro

Sampling schemes using scanner data for the consumer price index
Claudia De Vitiis, Alessio Guandalini, Francesca Inglese, Marco Dionisio Terribili

Using scanner and CPI data to estimate Italian sub-national PPPs
Tiziana Laureti, Carlo Ferrante, Barbara Dramis

IT solutions for analyzing large-scale statistical datasets: scanner data for CPI
Annunziata Fiore, Antonella Simone, Antonino Virgillito

SOL. 5 - Neuroscience statistics

chair
Simone Vantini

Modelling motor learning using heteroskedastic functional principal components analysis
Daniel Backenroth, Jeff Goldsmith, Michelle D. Harran, Juan C. Cortes, John W. Krakauer, Tomoko Kitago

Brain microstructure imaging from neurosurgery to psychiatry
Maxime Taquet

Microstructure informed white matter tractography: challenges and development
Gabriel Girard

Assessment of brain white matter integrity: perspectives from functional data analysis
Alessia Pini, Aymeric Stamm, Simone Vantini

11.15 | 12.30, room 0.01

SOL. 6 - New data collection: a tool for mobility and migration

chair
Roberto Impicciatore

Sociometer: a new tool for demography
Lorenzo Gabrielli

Public attitudes to immigration in Italy. Evidence from Twitter data
Roberto Impicciatore, Stefano Iacus

Mobility diversity and socio-economic development
Luca Pappalardo

Hate speech and prejudice against immigrants in social media
Marcello Bogetti, Cristina Bosco, Massimo Follis, Viviana Patti

12:30 | 13.30, room 0.18

Premiazione del Concorso di idee *PlayStat. La Statistica che diverte*

13:30 | 14.30

LUNCH

14.30 | 15.30, room 0.18

POSTER SPEED-TALK SESSION

chair
Lucia Paci, Laura M. Sangalli

Epidemiological profile of human rabies in Morocco
Nada Bennani Mechita, Majdouline Obtel, Karim Idrissi Sbai, Rabiaa Lyoussi, Houda Moumni, Abderrahmane Maaroufi, Mustapha Mrabet, Rachid Razine

How to exploit Big Data from social networks: a subjective well-being indicator via Twitter
Stefano Maria Iacus, Giuseppe Porro, Silvia Salini, Elena Siletti

Impact of therapeutic education on quality life of diabetic patients
Chaib Asmae, Karima Halim, Mohammed El Amine Ragala, Btissame Zarrouq, Badiaa Lyoussi

Detecting group differences in multivariate categorical data
Massimiliano Russo

Tobacco attributable fraction of lung cancer morbidity: an overview of used methods and estimation for Morocco
Majdouline Obtel, Badiaa Lyoussi, Nabil Tachfouti, Mamunur Rahman Malik, Chakib Nejjari

Exploratory factor analysis of ordinal variables: a copula approach
Marta Nai Ruscone

Topological summaries for time-varying data
Tullia Padellini, Pierpaolo Brutti

A G.E.D. method for market risk evaluation using a modified Gaussian copula
Massimiliano Giacalone, Demetrio Panarello

Workers' skills and wage inequality: a time-space comparison across European Mediterranean countries
Gaetano Musella, Gennaro Punzo

A risk index to evaluate the criticality of a product defectiveness
Silvia Facchinetti, Silvia Angela Osmetti

An R package for cluster-weighted models
Angelo Mazza, Antonio Punzo, Salvatore Ingrassia

Inference with the Unscented Kalman Filter and optimization of sigma points
Michela Eugenia Pasetto, Umberto Noè, Alessandra Luati, Dirk Husmeier

Contribution to extract meaningful patterns from semantic trajectories
Sana Chakri, Said Raghay, Salah El Hadaj

A latent space model for multidimensional networks
Silvia D'Angelo, Marco Alfò, Thomas Brendan Murphy

Epigenome-wide association study and stochastic epigenetic mutation analysis in hepatocellular carcinoma
Davide Gentilini, Giovanni Vitale,

Anna Maria Di Blasio, Luisa Bernardinelli

CON. 1 - Statistical modelling in healthcare

Optimal ethical balance for phase III trials planning
Lucio De Capitani, Daniele De Martini

Network analysis of comorbidity patterns in heart failure patients using administrative data
Francesca Ieva

Surveillance of congenital malformations in Region Calabria
Andrea Giuseppe De Biase, Salvatore Lopresti

Research on the risk factors accountable for the occurrence of degenerative complications of type 2 diabetes in Morocco: prospective study
Badiaa Lyoussi, Zineb Selihi, Mohamed Berraho, Karima El Rhazi, Youness El Achhab, Adiba El Marrakchi, Chakib Nejjari

CON. 2 - Composite and economic indicators

New fuzzy composite indicators for dyslexia
Isabella Morlini, Maristella Scorza

A comparison between seasonality indices deployed in evaluating unimodal and bimodal patterns
Giovanni Luca Lo Magno, Mauro Ferrante, Stefano De Cantis

Industrial production index and the web: an explorative cointegration analysis
Lisa Crosato, Caterina Liberati, Paolo Mariani, Biancamaria Zavanella

Composite indicators for ordinal data: the impact of uncertainty
Stefania Capecchi, Rosaria Simone

14.30 | 15.30, room 0.13

CON. 3 - Machine and statistical learning

Interactive machine learning prediction for budget allocation in digital marketing scenarios
Ermelinda Della Valle, Elena Scardovi, Andrea Iacobucci, Edoardo Tignone

Identifying meta communities on large networks
Carlo Drago

Growing happiness: a Model Based Tree
Carmela Cappelli, Rosaria Simone, Francesca Di Iorio

User query enrichment for personalized access to data through ontologies using matrix completion method
Oumayma Banouar, Said Raghay

Measuring migration with machine learning
Fabian Stephany

14.30 | 15.30, room 0.14

CON. 4 - Statistical inference and testing procedures

A sequential test for the CPK index
Michele Scagliarini

Comparison of conditional tests on Poisson data
Francesca Romana Crucinio, Roberto Fontana

Differential interval-wise testing for the inferential analysis of tongue profiles
Alessia Pini, Lorenzo Spreafico, Simone Vantini, Alessandro Vietti

Change of variables theorem to fit bimodal distributions
Camilla Ferretti, Piero Ganugi, Francesco Zammori

Hotelling meets Hilbert: inference on the mean in functional Hilbert spaces
Alessia Pini, Aymeric Stamm, Simone Vantini

14.30 | 15.30, room 0.01

CON. 5 - General latent variable modelling

Characterising Italian municipalities according to the annual report

of the prevention-of-corruption supervisor: a Latent Class approach
Michela Gnaldi, Simone Del Sarto

A latent Markov model approach for measuring national gender inequality
Gaia Bertarelli, Franca Crippa, Fulvia Mecatti

An ordinal latent Markov model for the evaluation of health care services
Giorgio Eduardo Montanari, Marco Doretti, Francesco Bartolucci

Log-mean linear models for causal inference
Monia Lupparelli, Alessandra Mattei

Dynamic random coefficient based drop-out models for longitudinal responses
Maria Francesca Marino, Marco Alfò

15.30- | 17.00, room 0.04

SPE. 1 - Computational methods for high-dimensional and complex data sets

chair
Luigi Augugliaro
discussant
Laura M. Sangalli

Does data structure reflect monuments structure? Symbolic data analysis on Florence Brunelleschi Dome
Bruno Bertaccini, Giulia Biagi,

Antonio Giusti, Laura Grassini

Robust statistical methods for identifying gene signature of metastasis from primary head and neck squamous cell carcinomas
Antonino Abbruzzo

Network inference in genomics
Ernst C. Wit

15.30 | 17.00, room 0.07

SPE. 2 - The population register and the integration with the household surveys

chair
Fabrizio Solari
discussant
Stefano Falorsi

Towards the register-based statistical system: a new valuable source for population studies
Angela Chieppa, Raffaele Ferrara, Gerardo Gallo, Valeria Tomeo

Constructing socio-demographic indicators for National Statistical Institutes using mobile phone data: estimating literacy rates in Senegal
Timo Schmid, Fabian Bruckschen, Nicola Salvati, Till Zbiranski

Census and social surveys integrated system
Michele D'Alò, Stefano Falorsi, Andrea Fasulo, Fabrizio Solari

SPE. 3 - Big data analytics in banking and finance

chair
Alessandro Viviani

discussant
Giampiero M. Gallo

Scoring models for P2P lending platforms: an evaluation of predictive performance
Paolo Giudici, Branka Hadji Misheva

Measuring contagion risk in international banking
Alessandro Spelta, Paolo Giudici, Stefan Avdjiev

Assessing news contagion in finance
Giancarlo Nicola, Paola Cerchiello

SPE. 4 - GRASPA: Analysis of complex spatial data

chair
Maria Franco-Villoria

discussant
Alessio Pollice

Nonparametric classification for directional data
Marco Di Marzio, Stefania Fensore, Agnese Panzera, Charles C. Taylor

Efficient smoothing for worldwide geostatistical data
Fedele Greco, Massimo Ventrucci

Space and circular time log Gaussian Cox processes with application to crime event data
Alan E. Gelfand, Shinichiro Shirota

SFdS - Société Française de Statistique - Group Data Mining et Apprentissage

chair
Basarab Matei

Smart view selection in multi-view clustering
Jeremie Sublime

Clustering of histogram data: a topological learning approach
Guénaël Cabanes, Younès Bennani, Rosanna Verde, Antonio Irpino

Prediction of firm's creditworthiness risk using feature selection and support vector machine
Ikram Chairi, Amina El Gennouni, Sarah Zouinina, Abdelouahid Lyhyaoui

COFFEE BREAK

SPE. 5 - Big data and official statistics

chair
Piero Demetrio Falorsi

discussant
Emanuele Baldacci

Quality issues when using Big Data in official statistics
Paolo Righi, Giulio Barcaroli, Natalia Golini

The ESSnet Big Data: experimental results
Peter Struijs, Anke Consten, Piet Daas, Marc Debusschere, Maiki Ilves, Boro Nikic, Anna Nowicka, David Salgado, Monica Scannapieco, Nigel Swier

Mining mobile phone data to detect urban areas
Maarten Vanhoof, Stephanie Combes, Marie-Pierre de Bellefon

SPE. 6 - "Millennials" mobility patterns

chair
Mariano Porcu

discussant
Antonella D'Agostino

The propensity to leave the country of origin of young Europeans
Paolo Balduzzi, Alessandro Rosina, Emiliano Sironi

Does a PhD really pay off? Returns to higher education from a gender perspective
Stephanie Steinmetz, Emer Smyth

From high school to second level degree: a multi-state model to analyze the Southern University mobility in Italy
Marco Enea, Massimo Attanasio

SPE. 7 - Use of administrative databases for performance assessment in social contexts

chair
Anna Maria Paganoni

discussant
Francesca Ieva

The Trieste Observatory of cardiovascular disease: an experience of administrative and clinical data integration at a regional level
Giulia Barbati, Francesca Ieva, Francesca Gasperoni, Annamaria Iorio, Gianfranco Sinagra, Andrea Di Lenarda

School principals leadership styles and students achievement: empirical results from a three-step Latent Class Analysis
Tommaso Agasisti, Alex J. Bowers, Mara Soncin

Real World Data and Real World Evidence: challenges and proposals
Giovanni Corrao

SPE. 8 - Shape, symbolic and object data

chair
Daniela Cocchi

discussant
Antonio Irpino

Introduction to Symbolic Data
Analysis and application to post
clustering for comparing and
improving clustering methods by
the symbolic data table that they
induce
Edwin Diday

Clustering landmark-based shapes
using information geometry tools
*Stefano Antonio Gattone, Angela De
Sanctis*

Random domain decomposition for
kriging non stationary object data
*Giorgia Gaetani, Alessandra
Menafoglio, Piercesare Secchi*

17.30 | 19.00, room 0.18

ENBIS - European Network
for Business and Industrial
Statistics

chair
Grazia Vicario

Structured Approaches for High-
Dimensional Predictive Modeling
Marco Seabra dos Reis

Consulting, knowledge transfer and
impact from statistics in practice
Shirley Yvonne Coleman

On the use of predictive methods
for ship fuel consumption analysis
from massive on-board operational
data
*Marco Seabra dos Reis, Biagio
Palumbo, Antonio Lepore, Ricardo*

Rendall, Christian Capezza
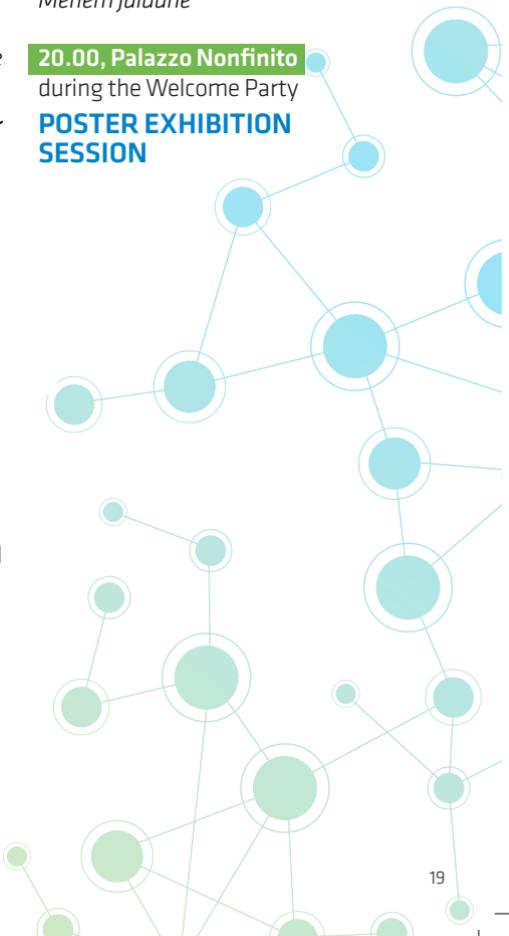
Random forest-based approach for
physiological functional variable
selection for driver's stress level
classification
*Neska El Haouij, Jean-Michel Poggi,
Raja Ghozi, Sylvie Sevestre Ghalila,
Mériem Jaïdane*

20.00, Palazzo Nonfinito
during the Welcome Party

POSTER EXHIBITION
SESSION

19

9.00 | 10.30, room 0.04

SPE. 9 - Economic change and labour market

chair
Rosalia Castellano

discussant
Luigi Grossi

Structural changes in the employment composition and wage inequality: a comparison across European countries

Gennaro Punzo, Mariateresa Ciommi

Labour market dynamics and recent economic changes: the case of Italy
Chiara Gigliarano, Francesco Maria Chelli

Impact of the 2008 and 2012 financial crises on the unemployment rate in Italy: an interrupted time series approach
Lucio Masserini, Matilde Bini

9.00 | 10.30, room 0.07

SPE. 10 – Big Data comes to school: Implications for learning, assessment and research

chair
Stefania Mignani

discussant
Nicola Torelli

INVALSI big data for school system improvement
Michele Cardone, Patrizia Falzetti

Profiles of students on account of complex problem solving (CPS) strategies exploited via log-data
Michela Gnaldi, Silvia Bacci, Samuel Greiff, Thiemo Kunze

Emergent jobs & big data: between myth and reality
Emma Zavarrone

9.00 | 10.30, room 0.13

SPE. 11 - SIS-Bayes: High-performance algorithms in Bayesian statistics

chair
Luca Tardella

discussant
Cristina Mollica

Bayesian Tensor Regression Models
Monica Billio, Roberto Casarin, Matteo Iacopini

Approximate Bayesian inference for discretely observed continuous-time multistate models
Andrea Tancredi

Adaptive MCMC for multiple change point analysis with applications to large datasets
Alan Benson, Nial Friel

9.00 | 10.30, room 0.01

SPE. 12 - Tensor-based methods for data science

chair
Paolo Giordani

discussant
Roberto Rocci

A fast algorithm for the canonical polyadic decomposition of large tensors
Rémi André, Xavier Luciani, Eric Moreau

Three-way Correspondence Analysis for ordinal-nominal variables
Rosaria Lombardo, Eric J. Beh

A Bayesian oblique factor model with extension to tensor data
Michael Jauch, Paolo Giordani, David B. Dunson

9.00 | 10.30, room 0.18

IASC - International Association for Statistical Computing

chair
Francesco Palumbo

Clustering of networks with textual edges
Charles Bouveyron

Automatic variable and components weighting systems for Fuzzy cmeans of distributional data
Antonio Irpino, Francisco de A. T. De Carvalho, Rosanna Verde

Statistical categorization through archetypal analysis
Francesco Palumbo, Giancarlo Ragozini

10.30 | 11.15, room 0.18

PLENARY SESSION

chair
Tonio Di Battista

Object Data Driven Discovery
Ian Dryden

11.15 | 11.45, foyer

COFFEE BREAK

11.45 | 13.00, room 0.18

ROUNDTABLE SESSION - Let's talk about Data Science

Moderator
Natale Carlo Lauro

Participants
Paolo Giudici, Michele La Rocca, Stefania Mignani, Nicola Torelli

13.00 | 14.00

LUNCH

14.00 | 15.30, room 0.04

SPE. 13 - Functional data with complex dependencies

chair
Rosalba Ignaccolo

discussant
Enea Bongiorno

Quantile regression for functional data
Maria Franco Villoria, Marian Scott

A local regression technique for spatially dependent functional data: an heteroskedastic GWR model
Elvira Romano, Jorge Mateu

Quasi-maximum likelihood estimators for functional spatial autoregressive models
Mohamed-Salem Ahmed, Laurence Broze, Sophie Dabo-Niang, Zied Gharbi

SPE. 14 - S2G Combining big data with sample surveys

chair
Elisabetta Carfagna
discussant
Fulvia Mecatti

Improving small area estimates of households' share of food consumption expenditure in Italy by means of Twitter data
Stefano Marchetti, Monica Pratesi, Caterina Giusti

On the use of Google Trend data as covariates in nowcasting: sampling and modelling issues
Maria Simona Andreano, Roberto Benedetti, Paolo Postiglione, Giovanni Savio

Multi-data sources and surveys perspectives: approaches and problems
Silvia Biffignandi

SPE. 15 - Data science for marketing and business

chair
Mauro Bernardi
discussant
Mariangela Guidolin

Industrial applications of Bayesian structural time series
Steven L. Scott

A generalized exponential time series regression model for electricity prices
Tommaso Proietti, Niels Haldrup, Oskar Knapik

Modelling of complex network data for targeted marketing
Sally Paganin

SPE. 16 - CLADAG: Clustering of high-dimensional data

chair
Carla Rampichini
discussant
Antonio Punzo

Hidden Markov models: dimensionality reduction, atypical observations and algorithms
Antonello Maruotti, Jan Bulla

Model-based clustering with sparse covariance matrices
Michael Fop, Brendan Murphy, Luca Scrucca

Model-based co-clustering of functional data
Charles Bouveyron

ADSA - African Data Science Association - Machine learning for predictive data analytic

chair
Said Raghay

Blind Source Separation
Abdelghani Ghazdali

A survey of Bayesian methods for machine learning
Ali Mohammad-Djafari

Sparsity and a dictionary learning in image restoration
Souad Mohaoui, Said Raghay

PLENARY SESSION

chair
Arjuna Tuzzi

Big Textual Data: lessons and challenges for statistics
Fionn Murtagh

COFFEE BREAK

CON. 6 - Knowledge extraction and pattern recognition from new data sources

Using GPS data to understand urban mobility patterns: an application to the Florence metropolitan area
Chiara Bocci, Daniele Fadda, Lorenzo Gabrielli, Mirco Nanni, Leonardo Piccini

Measuring tourism from demand side
Stefano De Cantis, Mauro Ferrante, Anna Maria Parroco

Space-time clustering for identifying population patterns from smartphone data
Francesco Finazzi, Lucia Paci

Space-time analysis of movements in basketball using sensor data
Rodolfo Metulini, Marica Marisera, Paola Zuccolotto

Measuring regional knowledge diffusion via Wikipedia
Fabian Stephany, Fabian Braesemann

CON. 7 - Statistics for social sciences

How green advertising can impact on gender different approach towards sustainability
Margaret Antonicelli, Vito Flavio Covella

Are numbers too large for kids? Possible answer in probable stories
Monica Bailot, Rina Camporese, Silvia Da Valle, Sara Letardi, Susi Osti

Assessing selectivity in the estimation of the causal effects of retirement on the labour division in the Italian couples
Maria Gabriella Campolo, Antonino Di Pino

The distribution of Net Promoter Score in socio-economic surveys
Stefania Capecchi, Domenico Piccolo

IPUMS Data for describing family and household structures in the world
Fausta Ongaro, Maria Silvana Salvini

CON. 8 - Statistical methods for socio-economic analysis

Comparison of contingency tables under quasi-symmetry
Fabio Rapallo

A proposal of a discretization method applicable to Rasch measures
Silvia Golia

Relative privacy risks and learning from anonymized data
Michele Boreale, Fabio Corradi

A spatial decomposition of the change in urban poverty concentration
Francesco Andreoli, Mauro Mussini

The evaluation of the inequality between population subgroups
Michele Costa

CON. 9 - Advances in semi- and non-parametric modelling

A Bayesian semi-parametric model for terrorist networks
Emanuele Aliverti

Non-parametric shared frailty model for classification of survival data
Francesca Gasperoni, Francesca Ieva, Anna Maria Paganoni, Chris Jackson, Linda Sharples

Non-parametric micro statistical matching techniques: some developments
Riccardo D'Alberto, Meri Raggi

Characterizing the extent of rater agreement via a non-parametric benchmarking procedure
Amalia Vanacore, Maria Sole Pellegrino

Signal detection in high energy physics via a semisupervised nonparametric approach
Alessandro Casa, Giovanna Menardi

CON. 10 - Graphical models and Bayesian analysis

Bayesian mixture models for the detection of high-energy astronomical sources
Andrea Sottosanti, Denis Bastieri, Alessandra R. Brazzale

Graphical approximation of best linear unbiased estimators

for extreme value distribution parameters
Antonio Lepore

Tree-based non-linear graphical models
Anna Gottard

Exponential family graphical models and penalizations
Federico Ferraccioli, Livio Finos

Bayesian quantile regression using the skew exponential power distribution
Mauro Bernardi, Marco Bottone, Lea Petrella

16.45 | 17.45, room 0.01
CON. 11 - Educational statistics and measurement

Inequalities in access to job-related learning among workers in Italy: evidence from Adult Education Survey (AES)
Paolo Emilio Cardone

Poverty measures to analyse the educational inequality in the OECD Countries
Tommaso Agasisti, Sergio Longobardi, Felice Russo

Gross annual salary of a new graduate: is it a question of profile?
Paolo Mariani, Andrea Marletta, Mariangela Zenga

New insights on students' evaluation of teaching in Italy
Francesca Bassi, Leonardo Grilli, Omar Paccagnella, Carla Rampichini, Roberta Varriale
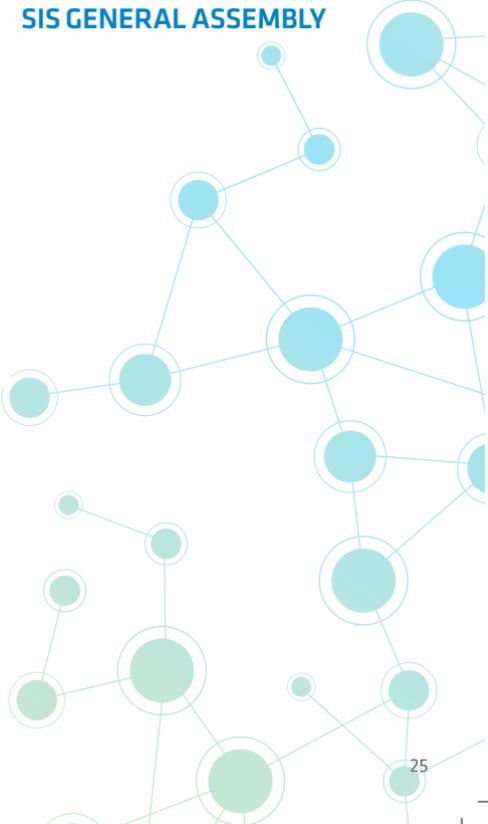
A flexible analysis of PISA 2015 data across countries, by means of multilevel trees and boosting
Chiara Masci, Geraint Johnes

17.45 | 19.15, room 0.18
SIS GENERAL ASSEMBLY

FRIDAY JUNE, 30

9.00 | 10.15, room 0.04

SOL. 7 - Statistical learning for complex data

chair
RobertoTagliaferri

Deep Learning in image analysis and bioinformatics
Pietro Liò

Stratified data: a permutation approach for hypotheses testing
Rosa Arboretti, Eleonora Carrozzo, Luigi Salmaso

On the noisy high-dimensional gene expression data analysis
Angela Serra, Pietro Coretto, Roberto Tagliaferri

Three-way compositional data: a multi-stage trilinear decomposition algorithm
Michele Gallo, Violetta Simonacci, Maria Anna Di Palma

9.00 | 10.15, room 0.06

SOL. 8 - Massive datasets in astrostatistics: theory & methods

chair
Domenico Marinucci

Statistical issues in cosmological data analysis
Domenico Marinucci

The raising of astrostatistics
Stefano Andreon

Multiple testing of local maxima for detection of peaks on the (celestial) sphere
Dan Cheng, Valentina Cammarota, Yabebal Fantaye, Domenico Marinucci, Armin Schwartzman

3D-Radial needless over the Unit Ball
Claudio Durastanti

9.00 | 10.15, room 0.07

SOL. 9 - Large dimensional dynamic factor models

chair
Massimiliano Caporin

Bayesian factor-augmented dynamic quantile vector autoregression
Mauro Bernardi

Sparse indirect inference
Paola Stolfi, Mauro Bernardi, Lea Petrella

Bayesian Non--Negative regularised regresssion
Michele Costola

Bayesian nonparametric sparse Vector autoregressive models
Monica Billio, Roberto Casarin, Luca Rossini

SOL. 10 - Data science for network data

chair
Susanna Zaccarin

Statistical analysis for partially observed multilayered networks
Johan Koskinen, Chiara Broccatelli, Peng Wang, Garry Robins

Marginal modelling of multilateral relational events
Francesco Bartolucci, Stefano Peluso, Antonietta Mira

Variable selection for (realistic) stochastic blockmodels
Mirko Signorelli

On the use of DISTATIS to handle multiplex networks
Giuseppe Giordano, Giancarlo Ragozini, Maria Prosperina Vitale

SOL. 11 - Advanced space-time models and functional analysis for seismic monitoring

chair
Giada Adelfio

On a failure process driven by a self-correcting model in seismic hazard assessment
Renata Rotondi, Elisa Varini

Detection of spatio-temporal local structure on seismic data
Marianna Siino, Francisco J.

Rodríguez-Cortés, Jorge Mateu, Giada Adelfio

Monitoring the spatial correlation among functional data streams through Morans Index
Antonio Balzanella, Stefano Antonio Gattone, Tonio Di Battista, Elvira Romano, Rosanna Verde

Some notes on earthquake frequency-magnitude distribution
Ilaria Spassiani

EuADS - Classification and clustering in the era of data science

chair
Nicola Torelli

Parameter-free clustering of similarity-based data based on peak detection
Parisa Rastin, Basarab Matei

Ensemble classification
Berthold Lausen

Clustering and dimensionality reduction for Big Data
Maurizio Vichi

PLENARY SESSION

chair
Massimo Livi Bacci

Big Data and population processes: a revolution?
Francesco C. Billari

COFFEE BREAK

11.30 | 12.30, room 0.04

CON. 12 - Text mining, opinion and sentiment analysis

Crowd and minorities: Is it possible to listen to both? Monitoring rare sentiment and opinion categories about Expo Milano 2015
Marika Arena, Anna Calissano, Simone Vantini

Twitter as a statistical data source: an attempt of profiling Italian users' background characteristics
Alessandra Righi, Mauro Mario Gentile

Sentiment analysis for micro-blogging using LSTM recurrent neural networks
Sara Hbali, Youssef Hbali, Mohamed Sadgal, Abdelaziz El Fazziki

An innovative approach for opinion mining: the Plutchick analysis
Massimiliano Giacalone, Antonio Ruoto, Davide Liga, Maria Pilato, Vito Santarcangelo

Social emotional data analysis. The map of Europe
Felicia Pelagalli, Francesca Greco, Enrico De Santis

11.30 | 12.30, room 0.06

CON. 13 - Statistics for economics and quantitative risk management for banking and finance

Determination of basis risk multiplier of a borrower default using survival analysis
Alexander Agapitov, Irina Lackaman, Zoya Maksmenko

Dynamic profiling of banking customers: a pseudo-panel study
Caterina Liberati, Lisa Crosato, Paolo Mariani, Biancamaria Zavanella

Statistical methods in assessing the equality of income distribution, case study of Poland
Viktoriya Voytsekhovska, Olivier Butzbach

Using administrative data for statistical modelling: an application to tax evasion
Maria Felice Arezzo, Giuseppina Guagnano

Testing beta-pricing models using large cross-sections
Valentina Raponi, Cesare Robotti, Paolo Zaffaroni

11.30 | 12.30, room 0.07

CON. 14 - Statistical modelling and analysis for complex data problems

A clustering algorithm for multivariate big data with correlated components
Giacomo Aletti, Alessandra Micheletti

How to read sustainability reporting through variation's analysis based on GPI: a comparative econometric approach
Margaret Antonicelli, Vito Flavio Covella

Copula-based segmentation of environmental time series with linear and circular components
Francesco Lagona

Bootstrap group penalty for high-dimensional regression models
Valentina Mameli, Debora Slanzi, Irene Poli

Causal analysis of cell transformation assays
Federico Mattia Stefanini

11.30 | 12.30, room 0.13
CON. 15 - Estimation and inference for complex models

A Multiscale Approach to Manifold Estimation
Alessandro Lanteri, Mauro Maggioni

Asymptotically efficient estimation in measurement error models
Catia Scricciolo

Estimation and Inference of Skew Stable distributions using the

multivariate method of simulated quantiles
Paola Stolfi, Mauro Bernardi, Lea Petrella

Accounting for measurement error in small area models: a study on generosity
Silvia Polettini, Serena Arima

Pairwise likelihood inference for parameter-driven models
Xanthi Pedeli, Cristiano Varin

11.30 | 12.30, room 0.14
CON. 16 - Statistical analysis and modelling of functional data

Functional biclustering: new biclustering methods for functional data
Jacopo Di Iorio, Simone Vantini

Monitoring ship performance via multi-way partial least-squares analysis of functional data
Antonio Lepore, Biagio Palumbo, Christian Capezza

Functional principal component analysis of quantile curves
Mariantonietta Ruggieri, Francesca Di Salvo, Antonella Plaia

Knowledge mapping by a functional data analysis of scientific articles databases
Matilde Trevisani, Arjuna Tuzzi

CON. 17 - Statistical analysis in the social sciences

Indicators for the representativeness of survey response as well as convenience samples
Emilia Rocco

Employment study methodologies of Italian graduates through the data linkage of administrative archives and sample surveys
Claudio Ceccarelli, Silvia Montagna, Francesca Petrarca

Eurostat's methodological network: Skills mapping for a collaborative statistical office
Agne Bikauskaite, Dario Buono

Key-indicators for maternity hospitals and newborn readmission in Sicily
Mauro Ferrante, Giovanna Fantaci, Anna Maria Parroco, Anna Maria Milito, Salvatore Scondotto

A sampling design for the evaluation of earthquake vulnerability of the residential buildings in Florence
Emilia Rocco, Bruno Bertaccini, Giulia Biagi, Andrea Giommi

12.30 | 13.15, room 0.18

SDS ASSEMBLY

13.15 | 14.15

LUNCH

14.15 | 15.45, room 0.04

SPE. 17 - Nowcasting@work

chair
Dario Buono

discussant
Emanuele Baldacci

Big Data Econometrics: Nowcasting and early Estimates
George Kapetanios, Massimiliano Marcellino

The new Euromind: an advanced monthly indicator of economic activity for the Euro Area
Gian Luigi Mazzi, Tommaso Proietti

Surfing on quarterly flash estimates
Fabio Bacchini

14.15 | 15.45, room 0.13

SPE. 18 - AISP: Grabbing elusive populations and demographic behaviors by social media data

chair
Daniele Vignoli

discussant
Arjuna Tuzzi

Using Twitter data for population estimates
Dilek Yildiz, Jo Munson, Agnese Vitali, Ramine Tinati, Jennifer Holland

Happy parents' tweets
Letizia Mencarini, Viviana Patti, Mirko Lai, Emilio Sulis

Social sensing and official statistics: call data records and social media sentiment analysis
Emilio Sulis

14.15 | 15.45, room 0.01

SPE. 19 - Methods and applications for the treatment of Big Data in strategic fields

chair
Flora Amato

discussant
Antonio Balzanella

Methods and applications for the treatment of Big Data in strategic fields
Antonino Mazzeo, Flora Amato

Big Data will transform mobile payments?
Gianluca Pepe

Model learning for distributed social network analysis
Dario Carotenuto

14.15 | 15.45, room 0.18

FenStatS - Best practices in statistics. A European approach

chair
Luigi Pieri

Presentation of FenStatS
Maurizio Vichi

La situazione dell'accreditamento a livello nazionale e lo sviluppo del titolo europeo
Luigi Pieri

Testimonials and experiences:
Raffaele Miele; Ronald L. Wassertein

15.45 | 16.45, room 0.18

ROUNDTABLE SESSION - Data and information communication in the emerging digital landscape

Moderator
Felicia Pelagalli

Participants
Emanuele Baldacci, Marco Castelnuovo, Federico Ferrazza

16.45, room 0.18

CLOSING