CONFERENCE PROGRAM

Wednesday, May 25th, 2022

Building: *Palazzo Murena* in *Piazza dell'Università 1*

14:00 – 18:30 **Registration** **Room 5**

15:00 – 15:45 **Conference Opening** **Room Dessau**

15:50– 17:00 **Keynote Session** **Room Dessau**
Chair: Francesca Pierri *TEAMS LINK*

Chrys Caroni (**National Technical University of Athens, Greece**)

The "cure fraction" and other aspects of lifetime data: Analysing students' completion of a degree programme and the risk of failure to graduate

17:10 – 18:30 **Session OS-01** **Room Dessau**

Statistical Robust Analysis and applications in variable selection, classification and insurance modelling

Organizer/Chair: Hongsheng Dai *TEAMS LINK*

D. Li **(OL)**
Feature Screening and Selection for Ultra-high-dimensional Additive Quantile Regression

J. Hu **(OL)**
Optimal Reinsurance with Multiple Risks under Dependence Uncertainty

H. Dai **(OL)**
Sequential Estimation for Mixture of Regression Models

F. Giordano, S. Milito, **M. Restaino** **(P)**
Feature selection for competing risks model in high and ultra-high dimensions: the case of business failure prediction

17:10 – 18:30 **Session OS-02** **Room 7**

Risk analysis in public health in collaboration with the Italian Society of Medical Statistics and Clinical Epidemiology - SISMEC

Organizer/Chair: Rosaria Gesuita and Beatrice Gasperini *TEAMS LINK*

K. Di Biagio, M. Baldini, J. Dolcini, P. Serafini, E. Prospero **(P)**
Effect of socio-demographic, environmental and individual factors on Sars-Cov-2 spreading dynamics: endemic-epidemic spatio-temporal point process model

P. Trerotoli, N. Bartolomeo **(P)**
Environment and disease distribution: from description to analysis of relation

S. Villani **(P)**
Statistical approaches to assess the impact of pollution in different public health scenarios

A. Zambon, E. Patrizio, G. Bellelli **(P)**
Use of frailty index in epidemiology and public health

19:00 – 22:00 **Welcome Reception** ***Chiostro* (*Cloister*)**

Thursday, May 26th, 2022

Building: *Department of Economics* in *Via Giovanni Pascoli, 20*

08:00 – 12:00 & 14:00 – 16:00	**Registration**	**Main Entrance**

08:40 – 10:40	**Session OS-03**	**Room 4**

Statistical Approaches Towards Sustainability

Organizer/Chair: Maria do Rosário Ramos *TEAMS LINK*

M. Costa, F. C. Pereira, A. M. Gonçalves (P)
Adjustment of state space models in view the improvement of forecasts of meteorological variables

C. Cordeiro, S. Cristina, F.-U.-N. Bajwa (P)
A statistical boost to assess water quality

E. Carolino, J. Matos, M. do Rosário Ramos (P)
Projection of the number of amputations in diabetics: An aid for the planning of sustainable health services

M. Neves, C. Cordeiro, D. Prata Gomes (P)
Extreme value theory in time series analysis to estimate risk measures

M. Monteiro, M. Costa (P)
Longterm air temperature series in Europe: a comparative analysis of multiple change point detection approaches

08:40 – 10:40	**Session OS-04**	**Room 5**

Statistical Modelling and Risk Analysis

Organizer/Chair: Teresa Oliveira and Amílcar Oliveira *TEAMS LINK*

A. Ashofteh (OL)
Data Science Training for Finance and Risk Analysis: A Pedagogical Approach with Integrating Online Platforms

A. Seijas-Macias, A. Oliveira, T. A. Oliveira (OL)
Computing the distribution of two uncorrelated normally distributed variables

J. Basilio (OL)
Scenario-Based Risk Aggregation Modeling with Copulas and Mixture distributions

N. Brites (OL)
Estimation of moments and density of first passage times by lower and upper risk thresholds

J. Pereira, F. Abreu, L. Mendes, T. Oliveira (OL)
Assessment of Allostatic Load and Periodontal Disease relationship using a Fuzzy Machine Learning method

A. M. Gonçalves, F. C. Pereira, M. Costa (OL)
State-space modeling for improving short-term forecast of meteorological time series: a comparative study

10:40 - 11:10	**Coffee break**	**Foyer Room 4 & 5**

11:10 – 12:10 **Session OS-05** **Room 4**

Exploring challenges in analyzing medical data across different study designs and settings, sponsored by the International Biometrical Society - Italian Region

Organizer/Chair: Valeria Edefonti *TEAMS LINK*

G. Lorenzoni, **E. Petracci,** E. Scarpi, I. Baldi, D. Gregori, O. Nanni (P)
Use of Sequential Multiple Assignment Randomized Trials (SMARTs) in oncology: a systematic review

R. De Vito, I. N. Grabski, B. Engelhardt (P)
Differential methylation regions associated with teen depression and early puberty

G. Di Credico, V. Edefonti, E. Marcello, S. Pelucchi, F.Pauli (P)
Semiparametric approaches to investigate the functional form of a nonlinear relationship in FRAP data

11:10 – 12:10 **Session OS-06** **Room 5**

Statistical Modelling for Risk Evaluation in social and economic sciences

Organizer/Chair: Francesco Santelli *TEAMS LINK*

I. Primerano, F. Santelli, **C. Usala,** G. Ragozini (P)
Exploiting students' inter-degree relocations to assess Italian universities' attractiveness

M. Restaino, G. Giordano, **K. Breznik** (OL)
A bibliometric analysis on credit risk and business failure: foundations and global trends

I. Primerano, M. Restaino (OL)
Exploring the relational patterns among Italian Firms

12:10 – 13:10 **Session CS-01** **Room 4**

Risk analysis and assessment in health care applications

Organizer/Chair: Paolo Trerotoli *TEAMS LINK*

M. Iommi, A. Faragalli, A. Fontanarosa, L. Ferrante, M. Bonifazi, L. L. Latini, E. Skrami, F. Carle, R. Gesuita (P)
Analysis of acute exacerbation and mortality in idiopathic pulmonary fibrosis using secondary sources

A. Faragalli, M. Iommi, A. Fontanarosa, E. Skrami, L. Ferrante, M. Bonifazi, L. L. Latini, F. Carle, R. Gesuita (P)
Adherence and tolerance of Idiopathic Pulmonary Fibrosis treatment in real world

D. Petti, A. Eletti, G. Marra, R. Radice (P)
Copula Link-Based Additive Models for Bivariate Time-to-Event Outcomes with General Censoring Scheme

12:10 – 13:10 **Session CS-02** **Room 5**

Modelling in Risk Analysis

Organizer/Chair: Christos Kitsos *TEAMS LINK*

M. Tepegjozova, C. Czado (P)
Bivariate vine copula based quantile regression

G. Leduc (P)
Edgeworth series expansion for option prices

N. Limnios (OL)
Mean Hitting Time Approximation for Rare Events

13:30-14:30 **Lunch** **110 Bar**

14:30 – 15:40 **Keynote Session** **Room 4**
Chair: Marialuisa Restaino *TEAMS LINK*

Paolo Giudici and Emanuela Raffinetti (**Department of Economics and management, University of Pavia, Italy**)

Artificial Intelligence: principles and risk

15:40 – 17:00 **Session OS-07** **Room 4**

Modeling risks of neoplasia: Chance, environment and genes

Organizer/Chair: Marek Kimmel *TEAMS LINK*

M. Kimmel (P)
Modeling risk of lung cancer: Coordination of molecular events and growth characteristics of tumors

A. Koval, K. Dinh, M. Kimmel (P)
Estimation of timing of past events in cancer, based on DNA sequencing data

A. Wilk, E. Kozłowska, D. Borys, A. d'Amico, I. Dębosz-Suwińska, R. Suwinski, K. Fujarewicz, A. Świerniak (P)
Integration of clinical and radiomic features for prediction of metastases risk in lung cancer

K. Dinh, I. Vazquez-Garcia, S. Tavare (OL)
Modeling and simulation of cancer evolution in single cells

15:40 – 17:00 **Session OS-08** **Room 5**

Statistics in Modelling

Organizer/Chair: Milan Stehlik *TEAMS LINK*

C. P. Kitsos (P)
Risk Analysis in Practice and Theory

M. Stehlik (P)
On fractal based cancer risk assessment

J. K. Filus, L. Z. Flus (P)
On k-Markovian Stochastic Models

P. Economou, A. Batsidis, G. Tzavelas, S. Malefaki, P. Alexopoulos (OL)
Berkson's paradox, biased sampling and weighted distributions

15:40 – 17:00 **Session OS-09** **Room Salzano**

Extreme Value Analysis in Weather Events and the Environment

Organizer/Chair: Sneh Gulati *TEAMS LINK*

W. Xu, **H. J. Wang**, D. Li (OL)
Extreme quantile estimation based on the tail single-index model

J. Obeysekera, J. Salas (OL)
Hydrologic designs for extremes under nonstationarity

F. George, S. Gulati, G. Kibria (OL)
An Analysis of Trends in the Occurrence of Extreme Hurricane Events in the Atlantic

G. Stupfler, A. Daouia, S. Padoan (OL)
Optimal pooling and distributed inference for the tail index and extreme quantiles

17:00 - 17:20 **Coffee break** **Foyer Room 4 & 5**

17:20 – 18:40 **Session OS-10** **Room 4**

Statistical and Data Science Developments for Risk Assessment in Urban Areas

Organizer/Chair: Rodolfo Metulini and Maurizio Carpita *TEAMS LINK*

G. P. Clemente, F. Della Corte, **D. Zappa** (OL)
Road accident risk using complex networks: the impact of traffic

R. Metulini, M. Carpita (OL)
A statistical approach for flood risk assessment using mobile phone traffic flows' data

S. Perazzini, G. S. Gnecco, F. Pammolli (OL)
Natural risk assessment of Italian municipalities for residential insurance

B. Razdar, R. Metulini, M. Carpita, G. P. M. Vassena, R. Ranzi (OL)
Flood risk management using mobile phone data and hydrological modeling in a heavily urbanized area in Lombardy

17:20 – 18:40 **Session OS-11** **Room 5**

Statistical Modeling and Inference

Organizer/Chair: Luis M. Grilo *TEAMS LINK*

C. Santos, C. Dias, C. Nunes, J. T. Mexia (OL)
Operations with iso-structured models with commutative orthogonal block structure: an introductory approach

C. Dias, C. Santos, J. T. Mexia (OL)
A new approach for analyzing multi-environment trials (MET)

A. Borges, M. Carvalho (OL)
Modeling hospital patients no-show: An analysis of cluster dependence

L. M. Grilo, M. Lopes, V. Lima, A. Correia, A. Martins (OL)
Modeling psychosocial risks of workers using PLSc-SEM estimator

17:20 – 18:40 **Session OS-12** **Room Salzano**

New Perspective in Financial Risk Management

Organizer/Chair: Giovanni De Luca *TEAMS LINK*

G. Bonaccolto, M. Caporin (OL)
Reordering of the Dynamic Principal Components and Implications for Portfolio Analysis

M. L. Bianchi, G. L. Tassinari (OL)
Extracting implied volatilities from bank bonds

F. Cipollini, G. M. Gallo, A. Palandri (OL)
An investigation into the incidence of time-varying quantiles in well-diversified portfolios

20:00 **Social Dinner** **Restaurant del Sole Living Cafè**

Friday, May 27th, 2022

Building: *Department of Economics* in *Via Giovanni Pascoli, 20*

08:00 – 11:00	**Registration**	**Main Entrance**

08:40 – 10:40	**Session OS-13**	**Room 4**

High-frequency data in economics and finance

Organizer/Chair: Alessandra Amendola — *TEAMS LINK*

M. Marchese, **F. Di Iorio,** R. Payne, M. Tamvakis (P)
A mixed-frequency combination approach to forecast covariance matrices of asset returns

M. M. Gail, D. Herold, J. T. Schaefer, G. Goetz (P)
A Structural Analysis of the Competitive Landscape of Brick-And-Mortar Pharmacies

P.-A. Klotz (P)
Leadership Communication and COVID-19 Vaccination Hesitancy

L. Scaffidi Domianello, E. Otranto (OL)
Long and Short run dynamics in Realized Covariance Matrices: a Robust MIDAS Approach

J. Pan, E. Lazar, S. Wang (OL)
On the estimation of Value-at-Risk and Expected Shortfall at extreme levels

A. F. Forgione, C. Migliardo, C. Algeri (OL)
The effect of networking on bad loans: evidence from mutual banks

08:40 – 10:40	**Session CS-03**	**Room 5**

Risk Analysis in new disease development

Chair: Teresa Oliveira — *TEAMS LINK*

M. Kurpas, M. Kimmel (P)
Mutation Patterns in SARS-CoV-2 Alpha, Beta and Delta Variants of Concern Indicate Non-neutral Evolution

T. Yamada, H. Mori, T. Saunders, T. Nakamura (OL)
On pitfalls in statistical analysis for assessing workplace-specific risk of severe Covid-19

M. De Martino, M. Peghin, A. Palese, M. Isola, C. Tascini (OL)
Identification of risk factors for Post-Covid-19 Syndrome using Elastic Net logistic regression

S. Bacci, R. Fabbricatore, M. Iannario (OL)
Assessment of perceived risk for Covid-19

Barbara Kimmel, Jane Anderson (OL)
Experience of Stroke Survivors During the COVID-19 Pandemic (ESS-COV): a Phenomenological Investigation

M. V. Vinattieri, M. Bonetti (P)
Accounting for family risk in models for disease development

10:40-11:10	**Coffee break**	**Foyer Room 4 & 5**

11:10 – 12:10 **Session OS-14** **Room 4**

Topics in Financial Econometrics

Organizer/Chair: Vincenzo Candila *TEAMS LINK*

A. Palandri (P)
The HD(1) process: properties and application to unit root testing in interest rates

V. Candila, L. Petrella (P)
Testing the significance of the MIDAS variable in mixed-frequency volatility models through a bootstrap approach

B. Foroni, L. Merlo, L. Petrella (OL)
Time-varying graphical models for financial markets: a quantile approach

11:10 – 12:10 **Session CS-04** **Room 5**

Statistical and Machine learning models for risk detection

Organizer/Chair: Chrys Caroni *TEAMS LINK*

C. Huber (P)
From Prediction of an event to Interpretation of Risk Factors for Neural Networks

I. Barranco-Chamorro (P)
A New Metric to Deal with Off-Diagonal Elements in Confusion Matrices

F. Pierri (P)
Variable selection for modelling bankruptcy risk

12:10 – 13:20 **Keynote Session** **Room 4**
Chair: Stefania Galimberti *TEAMS LINK*

Daniel Farewell (**School of Medicine, Cardiff University, United Kingdom**)

Regression by composition

13:30-14:30 **Lunch** **110 Bar**

14:30-15:30 **Session OS-15** **Room 4**

Advanced Statistical Models for Risk Evaluation

Organizer/Chair: Silvia Osmetti e Silvia Facchinetti *TEAMS LINK*

L. Dalla Valle, A. Kreuzer, C. Czado (P)
Environmental Risk: A Bayesian Non-linear State Space Copula Model to Predict Air Pollution in Beijing

L. Zanin, L. Prosperi (OL)
A modelling framework for projections of equity portfolio returns under climate transition scenarios

M. Iannario, **C. Tarantola,** I. Ntzoufras (OL)
A Regularized Ordinal Regression approach for estimation and cluster identification in perceived risk data analysis

14:30-15:30 **Session CS-05** **Room 5**

Model and Methods in Risk Analysis

Chair: Amílcar Oliveira *TEAMS LINK*

V. D. Biatat (OL)
On the integration of deterministic opinions into mortality projection models

G. P. Sellitto, T. Pavleska, H. Aranha, M. Masi (OL)
Taxonomy-based Risk Analysis with a Digital Twin

M. I. Gomes, F. Figueiredo, L. H.-Rodrigues (OL)
Alternative reliable ways to manage risks of extreme events

14:30-15:30 **Session OS-16** **Room Salzano**

Recent advances in systemic risk assessment

Organizer/Chair: Francesco Porro and Anna Maria Fiori *TEAMS LINK*

R. Grassi (P)
Systemic risk assessment through higher order clustering coefficient

O. Kolokolova, M. Bowe Bowe, L. Yu (OL)
The Volcker Rule and the hedge fund liquidity circle

N. Nolde, C. Zhou, M. Zhou (OL)
An extreme value approach to CoVaR estimation

15:30-17:10 **Session OS-17** **Room 4**

Risk and opportunities in financial innovation

Organizer/Chair: Gianna Figá Talamanca *TEAMS LINK*

L. V. Ballestra (P)
Extrapolation procedures to enhance the accuracy of numerical methods for derivative pricing

A. Cretarola, G. Figà-Talamanca, M. Patacca (P)
Sentiment-based regimes for stock price volatility

M. L. Guerra, L. Sorini (OL)
A sentiment analysis through Fuzzy transfrom to manage risks in tourism

G. Figà-Talamanca, **M. Patacca** (OL)
Investor sentiment as driver of financial stock market

M. Garbelli, L. Di Persio, A. Zalinescu (OL)
BSDEs with jumps and time delayed generators: financial applications within the path-dependent Kolmogorov setting

15:30-17:10 Session CS-06 Room 5

Risk Analysis in Applied Science

Chair: Rosaria Gesuita *TEAMS LINK*

Ö. Sahin, K. Bax, C. Czado, S. Paterlini (P)
Environmental, Social, Governance scores and the Missing pillar - Why does missing information matter?

J. Jurečková, J. Vecer (P)
Estimation of Conditional Value at Risk under Measurement Errors

H. Alnasser, C. Czado (P)
An Application of D-vine Regression for the Identification of Risky Flights in Runway Overrun

A. Zanette, A. Molent, L. Goudenege (P)
Moving average options: Machine Learning and Gauss-Hermite quadrature for a double non-Markovian problem

F. Severino, S. Thierry (OL)
Robo-advisors: A big data challenge

15:30-17:10 Session OS-18 Room Salzano

Computational Mathematics and Statistics in Risk Analysis

Organizer/Chair: Filomena Teodoro *TEAMS LINK*

M. F. Teodoro (P)
Modeling the Forest Fire Occurrence in Some Regions of Portugal

Á. Rosa, **A. Carrasco**, M. A. P. Andrade and M. Filomena Teodoro (OL)
Evaluating the impact of the use of the Model of excelence reference model by Brazilian electricity distributors

C. Simão, M. F. Teodoro (OL)
Studying Portuguese Pediatric Hypertension

M. P. Andrade, M. S. Marques, M. F. Teodoro (OL)
Build Efficient Response Techniques to catastrophes

17:10 – 17:30 Closing Room 4