ITISE-2023

PROGRAM

11th-14th JULY, 2023
Gran Canaria (SPAIN)

ITISE-2023 Program

Tuesday, July 11th, 2023	
18:30-20:00	**REGISTRATION DESK** ***(start at 18:30h but it is open during all the conference)***
18:30-20:00	**Upload the presentations to the room's computer (in case you haven't sent them by email).**

NOTES:

- All **Sessions A** will be held in Hotel Lopesan Villa del Conde Resort. They are **face-to-face sessions**, and they will also be shared on-line by Zoom. The **plenary lectures** are in **Session A.**
- All **Sessions B** and **Sessions C** will be held on-line (virtual) using Zoom.
- **Oral** Presentation: **15 minutes** (including the questions). Short Presentation: **12 minutes** (including the questions). Depending on whether there are absent speakers, times may be adjusted.
- **Poster** authors are requested to place their posters on the panels before the start of the poster session (e.g. morning posters can be placed before 10 o'clock, before the coffee break, and afternoon posters before 16:00. They can be placed on any of the panels). The morning posters should be removed at 14:30 and the afternoon posters at 19:45. It is recommended to use **A0 size** and large fonts.

Session A: Located in the last floor of the main building

Wednesday, July 12, 2023			
8:30	**REGISTRATION DESK** ***(start at 8:30h but it is open during all the conference)***		
	All **Sessions A: Oral** **face-to-face sessions**. All **Sessions B and C:** Oral (will be held on-line by Zoom)		
9:00-10:15	**Session A.1: Financial Forecasting and Risk Analysis (Part. I)**	**Session B.1: Advanced Econometric Methods for Economic Analysis and Finance**	**Session C.1: Data Preprocessing Methods in Time Series**
10:15- 11:00	**Session A.2: Deep Learning Methods in Time Series**	**Session B.2: Real Macroeconomic Monitoring and Forecasting**	
11:00-11:40	**COFFEE BREAK**		
11:00-14:30	**Session A.3: POSTER SESSION (A)**		
11:40-12:55	**Session A.4: Dimension Reduction Techniques**	**Session B.3: Energy Forecasting**	**Session C.2: Econometric Models and Forecasting** Short Presentation
13:00-14:00	**Session A.P1: Opening & Plenary Lecture.** **Prof. Daniel Peña Sánchez De Rivera** **University Carlos III, Madrid (Spain)**		
14:00-16:00	**REST BREAK**		
16:00-19:45	**Session A.5: POSTER SESSION (B)**		
16:00-17:30	**Session A.6: Energy Forecasting**	**Session B.4: Econometric Models**	**Session C.3: Time Series Analysis with Computational Intelligence**
17:40-19:55	**Session A.7: Applications in: Energy, Finance, Networks, Meteorology, Health, etc** Short Presentation	**Session B.5: Time Series Analysis with Computational Intelligence** Short Presentation	**Session C.4: Applications in: Energy, Finance, Networks, etc (Part I)** Short Presentation

<table>
<tr><th colspan="4">Thursday, July 13th, 2023</th></tr>
<tr><td rowspan="2">8:45</td><td colspan="3">REGISTRATION DESK
(start at 8:45h but it is opened during all the conference)</td></tr>
<tr><td colspan="3">All Sessions A: Oral <u>face-to-face sessions</u>.
All Sessions B and C: Oral (will be held on-line by Zoom)</td></tr>
<tr><td>9:00-9:45</td><td>Session A.8: Forecasting Financial Markets</td><td rowspan="2">Session B.6: Econometric Forecasting</td><td rowspan="2">Session C.5: Applications in: Energy, Finance, Networks, Meteorology, Health, etc (Part II)</td></tr>
<tr><td>9:45- 10:45</td><td>Session A.9: Time Series Analysis with Computational Intelligence (Part I)</td></tr>
<tr><td>10:45-11:15</td><td colspan="3">COFFEE BREAK</td></tr>
<tr><td>11:00-14:30</td><td colspan="3">Session A.10: POSTER SESSION (C)</td></tr>
<tr><td>11:15-12:00</td><td>Session A.11: Time Series Analysis with Computational Intelligence (Part II)</td><td>Session B.7: Health Forecasting</td><td>Session C.6: Forecasting Performance Evaluation</td></tr>
<tr><td>12:00-13:00</td><td>Session A.12: Econometric Models</td><td>Session B.8: Advances in Time Series Analysis and Forecasts in Engineering Sciences</td><td>Session C.7: Artificial Intelligence and Sustainability</td></tr>
<tr><td>13:00-14:00</td><td colspan="3">Session A.P2: Plenary Lecture.
Prof. Martin Wagner
University of Klagenfurt, Chief Economic Advisor at the Bank of Slovenia</td></tr>
<tr><td>14:00-16:00</td><td colspan="3">REST BREAK</td></tr>
<tr><td>16:00-17:00</td><td>Session A.13: Advances in Time Series Analysis and Forecasts in Engineering Sciences</td><td>Session B.9: Forecasting performance evaluation</td><td>Session C.8: : Health Forecasting</td></tr>
<tr><td>17:05-19:30</td><td>Session A.14: New Advances in Time Series Analysis and Forecasting (Part I)
Short Presentation</td><td>Session B.10: Applications in: Energy, Finance, Transportation, Networks, etc
Short Presentation</td><td>Session C.9: New Advances in Time Series Analysis and Forecasting (Part II)
Short Presentation</td></tr>
<tr><td>20:30</td><td colspan="3">GALA DINNER
Hotel Lopesan Baobab 5*
(15 minutes walking from Hotel Lopesan Villa del Conde Resort)</td></tr>
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Friday, July 14th, 2023		
8:45	**REGISTRATION DESK** ***(start at 8:45h but it is opened during all the conference)***	
	All **Sessions A: Oral** **face-to-face sessions**. All **Sessions B:** Oral (will be held on-line by Zoom)	
9:00-10:15	**Session A.15: Advanced Econometric Methods for Economic Analysis and Finance**	**Session B.11: Forecasting Financial Markets**
10:15- 11:00	**Session A.16: Financial Forecasting and Risk Analysis (Part. II)**	**Session B.12: New Advances in Time Series Analysis and Forecasting**
11:00-11:30	**COFFEE BREAK**	
11:30-12:45	**Session A.17: Real Macroeconomic Monitoring and Forecasting**	**Session B.13: Deep Learning Methods in Time Series**
12:45-13:30	**Session A.18: New Advances in Time Series Analysis and Forecasting (Part II)**	
13:30-14:30	**Session A.P3: Plenary Lecture.** **Prof. Eamonn Keogh** **Distinguished Professor, Department of Computer Science and Engineering** **University of California Riverside**	

ITISE 2023 PROGRAM

Wednesday, July 12, 2023

(9:00-10:15) Session A.1: Financial Forecasting and Risk Analysis (Part. I)

Chairman: Dr. Benita Zulch and Dr. Magdalena Szyszko

Detecting superexponential behaviour in financial asset price returns with applications to trading strategies **(Ref: *2668*)**

Christopher Lynch and Ben Mestel

Forecasting Day-ahead Expected Shortfall on the EUR/USD Exchange Rate: The (I)relevance of Implied Volatility **(Ref: *1364*)**

Tomáš Plíhal, Štefan Lyócsa and Tomáš Výrost

Risk-adjusted Returns of Croatian Largest Manufacturers and Their Determinants **(Ref: *2992*)**

Tomislava Pavic Kramaric, Maja Pervan, Ivica Pervan and Ivan Pavic

Usage of portfolio replication in non-life insurance **(Ref: *4189*)**

Petr Vejmělka and Tomáš Cipra

Functional Profile Methods for Structured Missing Not at Random Data **(Ref: *6517*)**

Matus Maciak, Ivan Mizera and Michal Pesta

(10:15-11:00) Session A.2: Deep Learning Methods in Time Series

Chairman: Dr. Sarah Diefenbach and Dr. Eros Gian Alessandro Pasero

Non-Invasive Arterial Blood Pressure Estimation from ECG and PPG Signals using a Conv1D - BiLSTM Neural Network **(Ref: *5166*)**

Federico Delrio, Vincenzo Randazzo, Giansalvo Cirrincione and Eros Pasero

A deep learning model for generalised surface water flooding across multiple return periods **(Ref: *5558*)**

Syed Kabir, David Wood and Simon Waller

A Deep Learning model based on Multi-Head Attention for long-term forecasting of solar activity **(Ref: *8377*)**

Giovanna Jerse, Valentina Alberti, Adriana Marcucci, Isacco Zinna and Mauro Messerotti

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(11:00-14:30) Session A.3: POSTER SESSION (A)

Chairman: Dr. Ignacio Rojas

Air Quality Early Warning System for Delhi: wintertime meteorology and particulate matter (PM2.5 and PM10) **(Ref: *1124*)**

Prafull Yadav, Aditya Sengupta, Sachin Ghude and Gaurav Govardhan

Defining Sports Performance by Using Automated Machine-Learning System **(Ref: *1543*)**

Kalle Saastamoinen, Tuomas Alanen, Pasi Leskinen, Kai Pihlainen and Joona Jehkonen

Sim-to-Real Transfer in Deep Learning for Agitation Evaluation of Biogas Power Plants **(Ref: *1590*)**

Andreas Heller, Peter Glösekötter, Sven Annas, Lukas Buntkiel and Sebastian Reinecke

An evaluation of the past and future expected wind climate in the Mediterranean and the Black Seas **(Ref: *2058*)**

Eugen Rusu

Could data frequency imply better forecast performance for stock markets? A case study for G7 economies **(Ref: *2421*)**

Diana Mendes, Nuno Ferreira and Vivaldo Mendes

Assessment of minimum water level in Lake Volvi based on morphological and hydrological features **(Ref: *2459*)**

Charalampos Doulgeris and Rafaela Nikolaidou

Forecasted Self: AI-Based Careerbot - Service Helping Students in Job Market Dynamics **(Ref: *2566*)**

Asko Mononen, Ari Alamäki, Janne Kauttonen, Aarne Klemetti, Anu Passi-Rauste and Harri Ketamo

A combination of visible and infrared sky camera for improving cloud detection and forecasting **(Ref: *2829*)**

Joaquín Alonso-Montesinos

Nexus between Economic Growth and Health Indicators: Evidence from Pakistan **(Ref:** ***3597***)

Nadeem Malik and Reema Gulzar

Noise in GPS-DORIS co-located station position time series **(Ref:** ***3867***)

Sofiane Khelifa

Dust forecast during FIFA world cup Qatar 2022 **(Ref:** ***4272***)

Rajmal Jat, Prafull P. Yadav, Gaurav Govardhan, Krishna Kumar Kanikicharla and Sachin D. Ghude

Predictive Accuracy of Logit Regression for Data-Scarce Developing Markets: A Nigeria & South Africa Study **(Ref:** ***4445***)

Jonathan Oladeji, Benita Zulch and Joseph Yacim

Productivity loss related to premature cancer mortality in Brazil in three decades (2001-2030) **(Ref:** ***4479***)

Marianna De Camargo Cancela, Jonas Eduardo Monteiro dos Santos, Leonardo Borges Lopes de Souza, Luís Felipe Leite Martins, Dyego Souza, Anton Barchuk, Paul Hanly, Linda Sharp, Alison Pearce and Isabelle Soerjomataram

Simulation of the Queue Situation of Patients in the Health Center **(Ref:** ***4830***)

Kalle Saastamoinen, Antti Rissanen, Juho Suni, Juho Hyttinen, Petteri Paakkunainen and Aaro Liakka

Improving the Accuracy of Firm Failure Forecasting Using Non-Financial Variables: The Case of Croatian SME **(Ref:** ***5887***)

Tamara Kuvek, Ivica Pervan and Maja Pervan

Shock transmissions between crude oil prices, renewable energy stocks and sectoral indices **(Ref:** ***8567***)

Ana Escribano, Francisco Jareño and Monika Koczar

(11:40-12:55) Session A.4: Dimension Reduction Techniques

Chairman: Dr. Liliana Rusu

Garch-type Factor Model **(Ref:** ***2950***)

Chi Tim Ng

Reduced Order Modeling with Skew-Radial Basis Functions for Time Series Prediction **(Ref:** ***629***)

Manuchehr Aminian and Michael Kirby

Data-driven spatio-temporal modelling and optimal sensor placement for digital twin set-up. **(Ref:** ***6854***)
Mandar Tabib, Adil Rasheed, Kristoffer Skare and Endre Bruaset

Modelling High-dimensional Time Series with Nonlinear and Nonstationary Phenomena for Landslide Early Warning and Forecasting **(Ref:** ***7299***)
Hangfei Zheng, Guoqi Qian and Antoinette Tordesillas

Model Structure Determination for Sparse ARDL Models under High Dimensional Design Matrices **(Ref:** ***8785***)
Livio Fenga

(13:00-14:00) Opening Ceremony. Plenary Talk: Prof. Daniel Peña Sanchez De Rivera

Professor at Universidad Carlos III de Madrid.

Title of the presentation: Finding the Number of Clusters in Time Series

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(16:00-19:45) Session A.5: POSTER SESSION (B)

Chairman: Dr. Ignacio Rojas

Improving predictive accuracy in the context of dynamic modeling of non-stationary time series with outliers **(Ref:** ***1412***)
F. Catarina Pereira, A. Manuela Gonçalves and Marco Costa

Adjustment of Gauss-Helmert Models with Gaussian Errors and Data Gaps **(Ref:** ***1424***)
Prof. Boris Kargoll, Dr. Mohammad Omidalizarandi and Pd Dr. Hamza Alkhatib

The prediction of body composition with extracted features from a chest-worn personal monitoring device **(Ref:** ***3501***)
Seung Min Lee, Soon Bin Kwon and Hyung-Jin Yoon

Integrating weather and satellite data to model the effect of drought extremes on wheat response using time series analysis **(Ref:** ***5193***)
Tom Vanwalleghem and Vanesa Garcia

GPU-APUMPEDI: A Parallel Algorithm for Computing Approximate Pan Matrix Profiles of Time Series **(Ref: *5513*)**

Jing Zhang, Daniel Nikovski and Takaaki Nakamura

Global forecasting models: Normalization methods for heterogeneous time series panel data **(Ref: *5904*)**

Oskar Triebe, Leonie Freisinger and Christoph Bergmeir

Forecasting transitions in digital society: From social norms to AI applications **(Ref: *5966*)**

Daniel Ullrich and Sarah Diefenbach

Forecasting inflation in turbulent environment. The case of Poland and Ukraine **(Ref: *5978*)**

Magdalena Szyszko, Aleksandra Rutkowska and Olena Motuzka

Application of artificial intelligence methods for predicting the compressive strength of green concretes with rice husk ash **(Ref: *6117*)**

Miljan Kovačević, Silva Lozančić, Marijana Hadzima-Nyarko, Ivanka Netinger Grubeša and Dorin Radu

Club classification of foreclosures rates in Spain **(Ref: *6155*)**

Rafael González-Val and Miriam Marcén

Time-Frequency varying estimation of Okun Law a wavelets-based approach **(Ref: *7004*)**

Roman Mestre

Measuring the impact of climate transition risk in the systemic risk: a multivariate quantile-located ES approach **(Ref: *7008*)**

Laura Garcia-Jorcano and Lidia Sanchis-Marco

Projections of the climate change impact on the sea state conditions of the Black Sea **(Ref: *7414*)**

Liliana Rusu

Nonstationary Frequency Analysis of Extreme Rainfall in the Taihu Lake Basin, China **(Ref: *7603*)**

Yuting Jin, Shuguang Liu, Zhengzheng Zhou, Qi Zhuang and Guihui Zhong

Categorical Data Encoding Techniques for Recursive Multi-Step Prediction of Vessel Trajectory **(Ref: *7920*)**

Robertas Jurkus, Julius Venskus and Povilas Treigys

Impact of oil and energy prices on inflation and inflation expectations: comparison of COVID-19 and war periods **(Ref: *7952*)**

Agata Kliber and Magdalena Szyszko

Time series forecasting by combining LSTM RNN and ARIMA **(Ref: *7966*)**

Akvilina Akstinait and Roberto Henriques

(16:00-17:30) Session A.6: Energy Forecasting

Chairman: Dr. Camel Tanougast

Exploring Uncertainty Intervals and Characteristics in Time Series Prediction: Incorporating Data Uncertainty and Interpretability **(Ref: *4496*)**

Direnc Pekaslan, Christian Wagner and Jonathan M. Garibaldi

The time-frequency nexus between energy supply, debt and growth for OECD European Countries **(Ref: *295*)**

Roman Mestre and Mohamed Awada

Probability Density-Based Energy-Saving Recommendations for Household Refrigerating Appliances **(Ref: *3017*)**

Francisco Rodríguez-Cuenca, Eugenio Francisco Sánchez-Úbeda, José Portela, Antonio Muñoz, Victor Guizien, Andrea Veiga Santiago and Alicia Mateo González

Analysis of long-term effects of the restrictions on trade with Russia using the TEMOA-Europe energy system optimization model **(Ref: *6562*)**

Daniele Lerede, Gianvito Colucci, Valeria Di Cosmo, Matteo Nicoli and Laura Savoldi

Medium Term Horizon Time Photovoltaic Power Generation Prediction for an Island Zone **(Ref: *6750*)**

Harry Ramenah, Camel Tanougast, Nidhal Rezg and Abdel Khoodaruth

Trading on short-term path forecasts of intraday electricity prices **(Ref: *8009*)**

Tomasz Serafin, Grzegorz Marcjasz and Rafał Weron

(17:40-19:55) Session A.7: Applications in: Energy, Finance, Networks, Meteorology, Health, etc (Short Presentation)

Chairman: Dr. Ignacio Rojas

An intraday portfolio performance analysis of cryptocurrencies as diversifiers for Forex investors **(Ref: *9126*)**

Carlos Esparcia and Raquel López

Banking sector development and economic growth in developing countries. Does the change in the shadow economy matter? A Nonlinear Panel ARDL **(Ref: *1368*)**

Khalil Mhadhbi

Using Risk Terrain Modeling for the risk assessment of explosive ATM attacks **(Ref: *2177*)**

Katharina Schwarz and Kai Seidensticker

Online Adaptive Bagging for Multivariate Time Series Forecasting **(Ref: *783*)**

Amal Saadallah and Hanna Mykula

Goal-Oriented Transformer to Predict Context-aware Trajectories in Urban Scenarios **(Ref: *1972*)**

Álvaro Quintanar, Rubén Izquierdo, Ignacio Parra and David Fernández-Llorca

A Comparison between successive Estimate of TVAR(1) and TVAR(2) and the Estimate of a TVAR(3) Process **(Ref: *7064*)**

Johannes Korte, Jan Martin Brockmann and Wolf-Dieter Schuh

Opportunistic Scheduling-based forecasting Strategies for Efficient Resource Utilization in New Telecommunication Networks **(Ref: *8684*)**

Mohamed Ouwais Kabaou, Nesrine Zoghlami, Fatma Baabou and Hassen Hamouda

Analyzing Mobility Patterns of Complex Chronic Patients Using Wearable Activity Trackers: A Machine Learning Approach **(Ref: *1825*)**

Alejandro Polo Molina, Eugenio Francisco Sánchez Úbeda, José Portela González, Rafael Palacios Hielscher, Carlos Rodríguez-Morcillo García, Antonio Muñoz San Roque, Celia Álvarez Romero and Carlos Hernández Quiles

Growth curves modelling and its application **(Ref: *9416*)**

Ana García Burgos, Beatriz Gonzáles Alzaga, María José Jiménez Asensio, Marina Lacasaña Navarro, Nuria Rico Castro and Desirée Romero Molina

EEG-Based Neural Synchrony Predicts Evaluative En-gagement with Music Videos **(Ref: *2997*)**

Nikki Leeuwis and Tom van Bommel

Score-Driven Model for Dynamic Rankings: Methodology, Implementation, and Applications **(Ref: *3922*)**
Vladimír Holý

Yearly Residential Electricity Forecasting Model based on Fuzzy Regression Time Series in Indonesia **(Ref: *9311*)**
Riswan Efendi

Thursday, July 13th, 2023

(9:00-9:45) Session A.8: Forecasting Financial Markets

Chairman: Dr. Petr Hajek

Hierarchical Fuzzy Rule-Based Forecasting of Stock Prices using News Sentiment and Topic Detection **(Ref:** ***1041***)

Petr Hajek

Stock Embeddings: Representation Learning for Financial Time Series **(Ref:** ***4502***)

Rian Dolphin, Barry Smyth and Ruihai Dong

A Measure of Bivariate Long Memories in Stock Returns **(Ref:** ***4812***)

Charles Mutigwe

(9:45-10:45) Session A.9: Time Series Analysis with Computational Intelligence (Part I)

Chairman: Dr. Ebrahim Ghaderpour and Kalle Saastamoinen

Recurrent Forecasting in Singular Spectrum Decomposition **(Ref:** ***3701***)

Maryam Movahedifar, Hossein Hassani and Mahdi Kalantari

Efficient Forecasting of Large Scale Hierarchical Time Series via Multilevel Clustering **(Ref:** ***1325***)

Xing Han, Tongzheng Ren, Jing Hu, Joydeep Ghosh and Nhat Ho

Online Pentanes Concentration Prediction System based on Machine Learning Techniques **(Ref:** ***4550***)

Diana Manjarres, Erik Maqueda and Itziar Landa

Intrinsic Explainable Self-Enforcing Networks using the ICON-D2-Ensemble Prediction System for Runway Configurations **(Ref:** ***5909***)

Dirk Zinkhan, Anneliesa Greisbach, Björn Zurmaar, Christina Klüver and Jürgen Klüver

(11:00-14:30) Session A.10: POSTER SESSION (C)

Chairman: Dr. Ignacio Rojas

Study on the probability of occurrence of wind energy generation given the wind speed: An Analysis Via Theo-ry of Copulas **(Ref:** ***290***)
Tuany Esthefany Barcellos de Carvalho Silva Tuany, Reinaldo Castro Souza Reinaldo and Marco Aurélio Sanfins Marco Aurélio

Learning Local Patterns of Time Series for Anomaly Detection **(Ref:** ***615***)
Kento Kotera, Akihiro Yamaguchi and Ken Ueno

Applying Data Mining and Machine Learning Techniques to Predict Powerlifting Results **(Ref:** ***2175***)
Jorge Medina Romero, Antonio Mora García, Juan Francisco Valenzuela Valdés and Pedro Castillo Valdivieso

Gaussian kernel estimator and bootstrap confidence intervals for correlation between time series sampled on different time points **(Ref:** ***5798***)
Mario Trottini, Isabel Vigo, Juan A. Vargas, David García-García and Jose Fernandez

Assessment of wave energy availability in the Romanian nearshore of the Black Sea **(Ref:** ***7975***)
Sorin Ciortan

Time series analysis in hydrogeological conceptual model upgrading **(Ref:** ***8352***)
Paola Gattinoni

Prediction of birch and ragweed pollination season in northeastern part of Croatia in a changing climate **(Ref:** ***8354***)
Edita Stefanic, Alka Turalija and Marin Lukacevic

Probabilistic Forecasting with Innovations: a deep-learning approach to nonparametric forecasting **(Ref:** ***8367***)
Lang Tong, Qing Zhao, Xinyi Wang and Men-Jen Lee

Wind Energy Turbines Assessment Regarding to the Wind and Price Instability **(Ref:** ***8369***)
Doron Greenberg, Michael Byalsky and Asher Yahalom

Energy transition in the U.S. commercial real estate: a diffusion comparison with the industrial sector. **(Ref:** ***8415***)
Andrea Savio

Revisiting The Dating of Financial Bubbles Via False Discovery Rate **(Ref:** ***8479***)
Gianmarco Vacca, Giulia Genoni and Piero Quatto

ICTs and Economic Growth: The case of South Africa (1990 to 2021) **(Ref:** ***8953***)
Simion Matsvai, Amon Taruvinga and Willie Chinyamurindi

Forecasting Short-Term Dredging Needs with Machine Learning Models at Southwest Pass (**Ref:** ***9310***)

Magdalena Asborno, Jacob Broders, Kenneth Mitchell, Michael Hartman and Lauren Dunkin

Multifractal organization of EEG signals in Multiple Sclerosis (**Ref:** ***9419***)

Marcin Wątorek, Wojciech Tomczyk, Magda Gawłowska, Jeremi Ochab and Paweł Oświęcimka

Structure Determination for Sparse ARDL Models under High Dimensional Design Matrices (**Ref:** ***9493***)

Livio Fenga

Impact of migration processes on GDP (**Ref:** ***9502***)

Olena Rayevnyeva, Kostyantyn Stryzhychenko and Silvia Matúšová

Forecasting and Explaining Infant and Youth Mortality in Portugal (**Ref:** ***9618***)

Rodrigo Ventura, Filipe Santos, Ricardo Magalhães, Cátia Salgado, Matilde Rosa, João Sousa and Susana Vieira

Competition in the Slovak Mobile Telephony Industry: Effects of new entry (**Ref:** ***9648***)

Jakub Čihák

Update of the strain rates of the Galera and Baza faults from GPS position time series in the period 2009 - 2020 (**Ref:** ***9729***)

Antonio J. Gil-Cruz, María Jesús Borque-Arancón, Manuel Avilés, Jesús Galindo-Zaldívar, Pedro Alfaro, Francisco J. García-Tortosa, Alberto Sánchez-Alzola, Iván Martín-Rojas, Iván Medina-Cascales, Patricia Ruano, Víctor Tendero, Asier Madarieta-Txurruka and Mayte Pedrosa

Application of machine learning in modeling the relationship between catchment attributes and in-stream water quality (**Ref:** ***9913***)

Miljan Kovačević, Silva Lozančić, Marijana Hadzima-Nyarko, Bahman Jabbarian Amiri, Dorin Radu and Emmanuel Karlo Nyarko

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(11:15-12:00) Session A.11: Time Series Analysis with Computational Intelligence (Part II)

Chairman: Dr. Tom Vanwalleghem

Moving Object Path Prediction in Traffic Scenes Using Contextual Information (**Ref:** ***6760***)

Jaime Boanerjes Fernandez Roblero, Suzanne Little and Noel E. O'Connor

Precipitation Time Series Analysis and Forecasting for Italian Regions (**Ref:** ***7068***)

Ebrahim Ghaderpour, Hanieh Dadkhah, Hamed Dabiri, Francesca Bozzano, Gabriele Scarascia Mugnozza and Paolo Mazzanti

Downscaling Fusion Model for CMIP5 Rainfall Projection under RCP Scenarios: the Case of Trentino-Alto Adige (**Ref:** ***8470***)

Amir Aieb, Antonio Liotta and Ismahen Kadri

(12:00-13:00) Session A.12: Econometric Models

Chairman: Dr. Marta Tolentino García-Abadillo and Dr. Mª Del Valle Fernández

A note on testing for threshold non-linearity in presence of heteroskedasticity in time series (**Ref:** ***4538***)

Greta Goracci and Simone Giannerini

Trends and cycles during the COVID-19 pandemic period (**Ref:** ***5029***)

Jose R Maria and Paulo Júlio

Analysis of diversification in investment portfolios Return and Risk for different time horizons (**Ref:** ***9544***)

Marta Tolentino, María del Valle Fernández, Sergio Fanega and María de La O González

Examining the Dynamic Connectedness Between Crude Oil Price Shocks and US Sector Indices (**Ref:** ***7655***)

M. Caridad Sevillano, Francisco Jareño, Raquel López and Carlos Esparcia

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(13:00-14:00) Plenary Talk: Prof. Martin Wagner

University of Klagenfurt

Chief Economic Advisor at the Bank of Slovenia.

Title of the presentation: Sources and Channels of Nonlinearities and Instabilities of the Phillips Curve: Results for the Euro Area and Its Member States

Karsten Reichold, Martin Wagner, Milan Damjanovic, Marija Drenkovska

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(16:00-17:00) Session A.13: Advances in Time Series Analysis and Forecasts in Engineering Sciences

Chairman: Dr. Ullrich Daniel and Dr. Joao Sousa

Automating the work of the planners in reaching a consensus forecast in the sales operations planning (SOP) process **(Ref: *102*)**
Gabriel David Pinto and Roei Aviram

Sensor virtualization for anomaly detection of turbo-machinery sensors - An industrial application **(Ref: *1045*)**
Sachin Shetty, Valentina Gori and Giacomo Veneri

Forecasting for circular operations: Net-demand characterisation and forecast accuracy measurement **(Ref: *2984*)**
Thanos Goltsos

Prediction of dropping out of academic studies after the first semester of the first year **(Ref: *156*)**
Ron Weitzman and Gabriel David Pinto

(17:05-19:30) Session A.14: New Advances in Time Series Analysis and Forecasting (Short Presentation)

Chairman: Dr. Ivor Cribben and Dr. Saeed Heravi

Forecasting System for Inbound Logistics Material Flows at an International Automotive Company **(Ref: *903*)**
John Anderson Torres Mosquera, Carlos Julio Vidal Holguín, Alexander Kressner and Edwin Loaiza Acuna

The relationship between work engagement and demographic characteristics in the automotive industry **(Ref: *1048*)**
Pieter Smit, Cecile Schultz and Lize Van Hoek

Extreme Characteristics of Stochastic Non-Stationary Duffing Oscillators **(Ref: *3634*)**
Samuel Edwards, Matthew Collette and Armin Troesch

Ecological Forecasting **(Ref: *3791*)**
Yiqi Luo

Increasing the Performance and Plausibility of Machine Learning via Data Analysis Techniques **(Ref: *3843*)**
Silas Aaron Selzer, Fabian Bauer and Peter Bretschneider

Statistical haplotypes based on Functional Sequence Data Analysis for Genome-Wide Association Studies **(Ref: *8133*)**
Pei-Yun Sun and Guoqi Qian

A Semi-parametric Transition model For Lifetime Drift of Discrete Electrical Parameters in Semiconductor Devices using Accelerated Stress Test Data **(Ref: *9119*)**
Lukas Sommeregger and Horst Lewitschnig

Forecasting Industrial Production Using the State Dependent Models **(Ref: *9604*)**
Saeed Heravi and Bo Guan

Novel high dimensional time series methods **(Ref: *1610*)**
Ivor Cribben

Detection of instabilities in time dependent functional profiles **(Ref: *9349*)**
Matus Maciak and Sebastiano Vitali

Optimising the determinants of liquidity risk: UAE's Emirates Islamic Bank **(Ref: *6051*)**
Dr. Elias Abu Al-Haija and Aruna M

Friday, July 14th, 2023

(9:00-10:15) Session A.15: Advanced Econometric Methods for Economic Analysis and Finance

Chairman: Dr. Jean-Philippe Boucher

Novel estimators of the Ornstein-Uhlenbeck process using high-frequency data (**Ref:** ***4932***)
Petra Tomanová, Vladimír Holý and Michal Černý

Uncertainty in Systemic Risks Rankings: Bayesian and Frequentist Analysis (**Ref:** ***835***)
Elena Goldman

A Generalized Bonus-Malus Scales Model for Insureds of Different Sizes (**Ref:** ***2709***)
Jean-Philippe Boucher

Improved prediction of Norwegian consumption by adjusting for temporary fluctuations in dividend income (**Ref:** ***2890***)
Håvard Hungnes

Interest Rate Sensitivity of the largest European Pharmaceutical Companies. An Extension of The Fama and French Five-Factor Model (**Ref:** ***6154***)
Maria De La O Gonzalez Perez and Francisco JareÑo CebriÁn

(10:15-11:00) Session A.16: Financial Forecasting and Risk Analysis (Part. II)

Chairman: Dr. Michal Cerny

Macroeconomic Adverse Selection in Machine Learning Models of Credit Risk (**Ref:** ***4977***)
Joseph Breeden and Yevgeniya Leonova

Time Series Forecasting Case Study on Risk-based Asset Integrity Management for Low Voltage Failures of Power Distribution Systems (**Ref:** ***7254***)
Sakura Attanayake and R.M. Chandima Ratnayake

Fuzzy combining forecasts instead of lag length selection in predicting price move direction (**Ref:** ***8807***)
Aleksandra Rutkowska and Jakub Morkowski

(11:30-12:45) Session A.17: Real Macroeconomic Monitoring and Forecasting

Chairman: Dr. Giovanni De Luca

Exploring Hidden Patterns in Macroeconomic Data Series with the Fast Iterative Filtering Algorithm (**Ref:** ***1210***)
Audrey De Dominicis, Paolo Canofari, Antonio Cicone, Giovanni Piersanti and Mirko Piersanti

(A)symmetric pass-through from oil and natural gas prices to consumer price indices in European countries: some recent empirical evidence (**Ref:** ***3011***)
Ekaterini Tsouma and Yannis Panagopoulos

Assessing the Accuracy of Directional Forecasts (**Ref:** ***7500***)
Constantin Burgi

Uncertainty and Business Cycle: an empirical analysis for Uruguay (**Ref:** ***7595***)
Joaquín Torres, Bibiana Lanzilotta, Gabriela Mordecki and Pablo Tapie

(12:45-13:30) Session A.18: New Advances in Time Series Analysis and Forecasting (Part II)

Chairman: Dr. Hector Pomares

Analysis of Fermi-LAT blazar lightcurves in the time domain using Singular Spectrum Analysis (**Ref:** ***7505***)
Alba Rico Rodríguez, Alberto Domínguez, Pablo Peñil, Sara Buson, Marco Ajello, Margherita De Toma and Sagar Adhikari

Probabilistic forecast reconciliation: cross-temporal framework (**Ref:** ***4664***)
Daniele Girolimetto, George Athanasopoulos, Tommaso Di Fonzo and Rob J Hyndman

Bayesian Robust Multivariate Time Series Analysis in Nonlinear Regression Models with Vector Autoregressive and t-distributed Errors (**Ref:** ***8107***)
Alexander Dorndorf, Prof. Boris Kargoll, Prof. Jens-Anfré Paffenholz and Pd Dr. Hamza Alkhatib

(13:30-14:30) Plenary Talk: Prof. Eamonn Keogh

Distinguished Professor, Department of Computer Science and Engineering University of California Riverside

Title of the presentation: Irrational Exuberance: Has Deep Learning Contributed Anything to Time Series problems?

VIRTUAL SESSION ITISE - 2023

SESSIONS B and C

Wednesday, July 12, 2023

(9:00-10:15) Session B.1: Advanced Econometric Methods for Economic Analysis and Finance

Chairman: Dr. Charalampos Agiropoulos

Importancia del sector agrícola en la economía ecuatoriana. **(Ref: *2590*)**

Victor Xavier Quinde Rosales, Rina Mercedes Bucaram Leverone and Luis Enrique Mejia Cervantes

Unconventional Monetary Policy in India: Impact on Financial Markets **(Ref: *3377*)**

Pami Dua and Divya Tuteja

On time-dependent cointegration with two examples **(Ref: *6012*)**

Guy Mélard

Energy sector and stock market nexus: a dynamic PCA and wavelet-based mixed approach **(Ref: *8519*)**

Marco Tedeschi and Paolo Canofari

(9:00-11:00) Session C.1: Data Preprocessing Methods in Time Series

Chairman: Dr. Alberto Guillen

Integrating seasonal adjustment approaches of official surveys on labour supply and demand **(Ref: *738*)**

Cinzia Graziani, Annalisa Lucarelli, Maurizio Lucarelli, Emilia Matera and Andrea Spizzichino

Role of Environmental Factors in Forming Birth Time Series **(Ref: *3148*)**

Arzu Sardarli, Frank Trovato and Andrei Volodin

Forecasting of signals by forecasting linear recurrence relations **(Ref: *3535*)**

Nina Golyandina and Egor Shapoval

Geodynamic Modeling in Central America Based on GNSS Time Series Analysis. Special Case: The Nicoya Earthquake (Costa Rica, 2012) **(Ref: *4779*)**

Paola Barba Ceballos, Nely Pérez-Méndez, Javier Ramirez, Belén Rosado, Vanessa Jiménez Morales and Manuel Berrocoso

Analysis of GNSS time series recorded on South Shetland Island and Antarctic Peninsula during the geodynamic activity in 2019 of the underwater volcano ORCA (Brandfield Sea Rift, Antarctica). **(Ref: *8056*)**

Belén Rosado, Paola Barba Ceballos, Javier Ramirez, Enrique Carmona, Rosa Martín León, Vanessa Jiménez Morales, Jorge Gárate, Amos de Gil and Manuel Berrocoso

A New Asymmetric GARCH Model: Testing, Estimation and an Application to Falling and Rising Markets **(Ref: *8080*)**

Abdulnasser Hatemi-J

Tropospheric and Ionoferic Modeling Using GNSS Time Series In Volcanic Eruptions (La Palma, 2021) **(Ref: *9354*)**

Paola Barba Ceballos, Javier Ramírez Zelaya, Vanessa Jiménez Morales, Belén Rosado Moscoso and Manuel Berrocoso Domínguez

Treatment and analysis of multiparametric time series from a seismogeodetic system for monitoring tectonic activity in the Gulf of Cádiz. **(Ref: *9691*)**

Javier Ramírez-Zelaya, Vanessa Jiménez Morales, Paola Barba, Belén Rosado, Jorge Garate and Manuel Berrocoso

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(10:15-11:15) Session B.2: Real Macroeconomic Monitoring and Forecasting

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Chairman: Dr. Agustin Indaco

Impact of Recent Crises on Inter-linkages across International Currencies **(Ref: *1534*)**

Shipra Bhatia and Dr Divya Tuteja

It can't get no worse: Using Twitter data to improve GDP estimates for developing countries **(Ref: *2204*)**

Agustin Indaco

Data Mining Application for Empowering Demoethical Model **(Ref: *5794*)**

Rinat Zhanbayev, Anna V Shutaleva, Muhhamad Irfan and Daniil G Maksimov

Changes in growth volatility in MERCOSUR countries: is there evidence of decoupling of the Uruguayan economy? **(Ref: *6165*)**

Bibiana Lanzilotta, Gonzalo Zunino and Rafael Mosteiro

(11:40-12:55) Session B.3: Energy Forecasting

Chairman: Dr. Eduardo Caro and Dr. Neta Rabin

Combination of Probabilistic Predictions for Wind Energy Production (**Ref:** ***4095***)
Shadi Nouhitehrani, Jesús Juan and Eduardo Caro

Meteorology Effects over the Spanish Insular Electricity Consumption (**Ref:** ***4324***)
Eduardo Caro Huertas and Jesús Juan Ruiz

Approximation of Weymouth Equation using Mathematical Programs with Complementarity Constraints for Natural Gas Transportation (**Ref:** ***8945***)
Cristian Blanco-Martínez, David Augusto Cardenas-Peña, Mauricio Holguín-Londoño, Andrés Marino Álvarez-Meza and Alvaro Angel Orozco-Gutiérrez

Multi-Output Variational Gaussian Process for Daily Forecasting of Hydrological Resources (**Ref:** ***9671***)
Julián Pastrana, David Cárdenas, Mauricio Holguín, Germán Castellanos and Álvaro Orozco

A forecasting model for the prediction of system imbalance in the Greek power system (**Ref:** ***2049***)
Konstantinos Plakas, Nikos Andriopoulos, Alexios Birbas, Ioannis Moraitis and Alex Papalexopoulos

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(11:40-15:00) Session C.2: Econometric Models and Forecasting (Short Presentation)

Chairman: Dr. Francesco Montaruli

Estimation and Prediction of Slowly Time-Varying Parameters in GARCH models: A Non-parametric Approach (**Ref:** ***909***)
Jorge Muñoz Mendoza, Guillermo Ferreira Cabezas, Jorge Arratia Llancao, Francisco Rodríguez Cortés, Miguel Flores Sánchez and Jorge Mateu

The effect analysis of price elasticity on the forcast of agricultural determinants using the Nerlove model (**Ref:** ***2485***)
Okou Guei Cyrille, Kole Keita, N'Dri Yao Aubin and Kouakou K. Auguste

Conceptual Model of Satisfaction with Municipal Hygiene Case Study: City of Rijeka (**Ref:** ***2918***)
Drago Pupavac, Marija Ivaniš and Renee Škulić

Forecasting oil price with Bayesian dynamic finite mixture models **(Ref: *3012*)**
Krzysztof Drachal

Combine to compete: improving fiscal forecast accuracy over time **(Ref: *3073*)**
Peter Claeys

Profiting from the Russian-Ukrainian War - Social Responsible Investment in the Context of Geoeconomics and Geopolitical Risk **(Ref: *3400*)**
Lucia Morales and Daniel Rajmil

Using the Cramér-von Mises test statistic to examine the effectiveness of cryptocurrencies **(Ref: *6636*)**
Aktham Maghyereh and Mohammad Al Shboul

Effect of Real Exchange Rate on Per Capita Real Gross Domestic Product in Pakistan: A Time Series Analysis **(Ref: *7079*)**
Sakina Bibi and Khadija Shams

Classical Hurst Exponent Vs. Dynamic Hurst : A Study of The Impact on Subprime and Covid-19 Crises on the Efficient African Stock Exchanges **(Ref: *7230*)**
Oumou Kalsoum Diallo and Pierre Mendy

Dynamic Modeling and Forecasting: A Robust Approach based on the Rules Governing the Dynamic Behavior **(Ref: *7804*)**
Muhammad Ashfaq Ahmed and Nasreen Nawaz

Are traditional cointegration models intrinsically misspecified? The Case of Equipment Investment in the U.S. **(Ref: *1022*)**
Mustafa İsmihan, Mustafa Can Küçüker and Fatma Muazzez Utku İsmihan

Stock, Exchange and Commodity Markets Linkages: Implication for Risk Diversification and Portfolio Management **(Ref: *8110*)**
Jorge Muñoz Mendoza, Carmen Veloso Ramos, Carlos Delgado Fuentealba, Edinson Cornejo Saavedra, Sandra Sepúlveda Yelpo and Diego Gómez Melo

Nowcasting Regional Economic Activity in Italy During the Pandemics **(Ref: *8268*)**
Francesco Montaruli and Valter Di Giacinto

Connectedness in the Global Banking Market Network: Implications for Risk Management and Financial Policy **(Ref: *8115*)**
Jorge Muñoz Mendoza, Carmen Veloso Ramos, Carlos Delgado Fuentealba, Iván Araya Gómez, Sandra Sepúlveda Yelpo and Edinson Cornejo Saavedra

The impact of national minimum wage policy on inflation and unemployment in South Africa: A segmented regression analysis **(Ref: *9731*)**

Marvellous Ngundu, Zitsile Khumalo and Santos Bila

(16:00-17:45) Session B.4: Econometric Models

Chairman: Dr. Alberto Guillen

Forecasting Tangency Portfolios and Investing in the Minimum Euclidean Distance Portfolio to Maximize Out-of-Sample Sharpe Ratios **(Ref: *4210*)**

Nolan Alexander and William Scherer

Generalization in the resolution of the VAR model in the dynamics of systems of simultaneous equations in differences **(Ref: *5185*)**

Gerardo Covarrubias and Xuedong Liu

Sustainable Development of Renewable Energy Consumption in G7 and ASEAN-5 Countries: Panel Fixed Effect Econometric Modelling **(Ref: *6277*)**

Aye Aye Khin, Kui Ming Tiong, Whee Yen Wong and Sijess Hong

GDP, employment, and wages in Colombia. The challenge of creating more and better jobs **(Ref: *7827*)**

Pablo Adrian Garlati-Bertoldi

Importance of the agricultural sector in the Ecuadorian economy **(Ref: *7970*)**

Victor Xavier Quinde Rosales, Rina Mercedes Bucaram Leverone and Luis Enrique Mejia Cervantes

Sustainable Investments and Investor-Surplus During Crisis **(Ref: *8195*)**

Xiang Lin and Ranjula Bali Swain

The Dutch Disease in Angola: An Empirical Analysis **(Ref: *9674*)**

Zsuzsanna Biedermann, Tamás Barczikay and László Szalai

(16:00-17:45) Session C.3: Time Series Analysis with Computational Intelligence

Chairman: Dr. Arzu Sardarli

Childcare Price Trajectories in the United States from 2008 to2018: Evidence from the National Database of Childcare Prices **(Ref: *1683*)**

Giorleny Altamirano Rayo and Liana Christin Landívar

Offshore Wind Power Forecasting Based on WPD and optimized deep learning methods **(Ref: *3505*)**

Shahram Hanifi, Saeid Lotfian, Hossein Zare-Behtash and Andrea Cammarano

An Auto Encoder and Generative Adversarial Network Model for Time Series Data Classification **(Ref: *3755*)**

Junpeng Bao, Zihang Liu, Junqing Wang and Yanhua Li

Machine Learning Approach to analyze the relation of Financial Performance and Sports Performance in Football Clubs **(Ref: *4209*)**

Gianmarco Candura, Emilia Fares, Giovanni Masala and Filippo Petroni

(17:40-20:40) Session B.5: Time Series Analysis with Computational Intelligence (Short Presentation)

Chairman: Dr. Javier Oliver Muncharaz

A Machine Learning Approach For Bitcoin Forecasting **(Ref: *420*)**

Stefano Sossi-Rojas, Gissel Velarde and Damian Zieba

Machine Learning for Multivariate Time Series with the R Package mlmts **(Ref: *808*)**

Ángel López-Oriona

Evaluation of Heuristics for Taken's Theorem Hyper-Parameters Optimization in Regression Tasks **(Ref: *2032*)**

Rodrigo Hernández-Mazariegos, Jesus Ortiz-Bejar and Jose Ortiz-Bejar

A Simulation Package in VBA to Support Finance Students for Constructing Optimal Portfolios **(Ref: *2580*)**

Abdulnasser Hatemi-J and Alan Mustafa

How closely do Australian banks interconnected? **(Ref: *2767*)**

Gia Huynh, Fennee Chong and Bharanidharan Shanmugam

Hints of Earlier and Other Creation: Unsupervised Machine Learning in Financial Time-Series Analysis **(Ref: *2965*)**

James Chen and Charalampos Agiropoulos

BERT for Solar Irradiance Time Series Imputation **(Ref: *3116*)**

Llinet Benavides Cesar, Miguel Ángel Manso Callejo and Calimanut-Ionut Cira

Optimizing the Spatial-Temporal Extent of Environmental Factors in Forecasting El Niño and La Niña Using Recurrent Neural Network **(Ref: *3396*)**

Jahnavi Jonnalagadda and Mahdi Hashemi

Quality Aware Conditional Generative Adversarial Networks for Precipitation Nowcasting **(Ref: *3500*)**

Jahnavi Jonnalagadda and Mahdi Hashemi

Multivariable NARX based Neural Networks Models for Short-term Water Level Forecasting **(Ref: *3744*)**

Jackson Renteria-Mena, Douglas Plaza and Eduardo Giraldo

Slope Entropy Characterisation: Adding another interval parameter to the original method **(Ref: *6374*)**

Mahdy Kouka and David Cuesta-Frau

(17:40-20:40) Session C.4: Applications in: Energy, Finance, Networks, etc (Part I)

Chairman: Dr. Hector Pomares

A General Interest Policy-oriented Reading of the GDPR to Fill its Data Sharing Gaps for Research **(Ref: *322*)**

Giulia Schneider and Giovanni Comandè

Analysis of earthquake dynamics by methods of fractal geometry **(Ref: *1042*)**

Danila Komlev and Valeria Shikheeva

Green Deal Goals versus Financial Performance: the Case of Euro Stoxx 50 Companies **(Ref: *2119*)**

Raminta Vaitiekuniene

Demographic forecasting as a driver to rethink urban sustainability in the African context. **(Ref: *3418*)**

Dr. Carlo Alberini

The Inner Struggles of Transitioning to Democracy and Democratic Consolidation in Sudan **(Ref: *3720*)**

Andrew Tchie

Review and potentials of tourist management in the fourth industrial revolution **(Ref: *4313*)**

Enrique García-García, Diqian Ren, Sergio Gallego-García and Manuel García-García

Hierarchical Multiple Regression and Principal Component Analysis for Investigating the Driver Behavior in Kuwait toward Willingness to Give Way to Emergency Medical Service (EMS) Vehicles **(Ref: *5326*)**
Sharaf Alkheder

Between Crises and Opportunities: Identifying Patterns in the Flow of Passengers and Tourists in Brazil Between 1993 and 2021 **(Ref: *5876*)**
Socrates Jacobo Moquete Guzmán and Roque Pinto

Intelligent models for friction failures forecasting using acoustic time series: challenges, current status and future prospective **(Ref: *5936*)**
Sergey Shevchik, Vigneashwara Solairajapandiyan, Toni Ivas, Giulio Masinelli, Kilian Wasmer and Patrik Hoffmann

Short-term Polar Motion Forecast Based on the Holt-Winters Additive Algorithm and Angular Momenta of Global Surficial Geophysical Fluids **(Ref: *6251*)**
Jiesi Luo, Zihan Pan and Wei Chen

Impact of Dynamic Closure Gates on storm surge levels in Barnegat Bay, NJ during Hurricane Sandy. **(Ref: *6440*)**
Gregory Slusarczyk, Mary A. Cialone and Robert Hampson

Thursday, July 13th, 2023

(9:00-11:00) Session B.6: Econometric Forecasting

Chairman: Dr. Martín Solís

A CNN-BiLSTM architecture for macroeconomic time series forecasting **(Ref: *329*)**
Alessio Staffini

Econometric modeling of the impact of the COVID19 pandemic on the volatility of the financial markets **(Ref: *5035*)**
Abdessamad Ouchen

Assessing the Effect of Co-production on Education Quality **(Ref: *7489*)**
Hanane Azemzi and El Houssaine Erraoui

Times Series Regression Modelling: replication, estimation and aggregation through maximum entropy **(Ref: *7770*)**
Jorge Duarte, Maria Costa and Pedro Macedo

A proposal of Transfer Learning for monthly macro-economic time series forecast. **(Ref: *8688*)**
Martín Solís and Luis-Alexander Calvo-Valverde

Foreing Exchange forecasting models: ARIMA and LSTM comparison **(Ref: *8802*)**
Fernando García, Francisco Guijarro, Javier Oliver and Rima Tamošiūnienė

Modeling of leishmaniasis infection dynamics: A comparative time series analysis with VAR, VECM, Generalized Linear and Markov Switching models **(Ref: *9422*)**
Fadoua Badaoui, Souad Bouhout, Amine Amar and Kenza Khomsi

Performance of Negatively Screened Sustainable Investments during the COVID-19 **(Ref: *5852*)**
Xiang Lin and Ranjula Bali Swain

(9:00-11:00) Session C.5: Applications in: Energy, Finance, Networks, Meteorology, Health, etc (Part II)

Chairman: Dr. Shanthi Saubhagya

Statistical Analysis and Modeling the Dissipation of Volatile Organic Compounds from Industrial Emissions **(Ref: *3363*)**
Sebastian-Barbu Barbes, Alina Bărbulescu and Lucica Barbes

Predicting Safety- Critical Events in Traffic Flow Based on Time-Series **(Ref: *2003*)**
Jamal Raiyn and Amgad Seif

Metaheuristic-based forecasting approach for planning and dimensioning 5G and beyond Telecommunication Networks **(Ref: *6062*)**
Mohamed Ouwais Kabaou, Nesrine Zoghlami and Mohamed Fayech

Analyzing the Business Cycle Properties and Its Relationship with Electricity Consumption and Temperatures in Mexico **(Ref: *6770*)**
Vicente German-Soto and Ruth Bordallo Favela

The Influence of Solar Activity on Snow Cover over the Qinghai–Tibet Plateau and Its Mechanism Analysis **(Ref: *7250*)**
Yan Song, Zhicai Li, Yaqing Zhou, Xunqiang Bi, Tiangui Xiao and Ziniu Xiao

Bayesian forecasting algebraic algorithm for forecasting non-Gaussian air contaminated material after an accident. **(Ref: *7413*)**
Ali Gargoum

On the statistical characteristics of dry and rainfall events in northern Tunisia **(Ref: *8322*)**
Majid Mathlouthi and Fethi Lebdi

Threatening and threatened: How forecasting distribution of species under changing climate helps in biodiversity conservation **(Ref: *8605*)**
Achyut Kumar Banerjee and Yelin Huang

Modeling of the Dynamic Impacts of the Financial Market, Economic and Trade Policy Uncertainties on Import Demand **(Ref: *9606*)**
Miao Miao, Jiang Yushi and Dinkneh Gebre Borojo

A review of the potentialities of statistical and mathematical approaches **(Ref: *9608*)**
Sergio Gallego-García

(11:20-12:10) Session B.7: Health Forecasting

Chairman: Dr. Wiwik Anggraeni

Social Network Analysis and Polyamory **(Ref: *2082*)**
Janet Bennion

Calculating Effectiveness of Covid-19 Non-Pharmaceutical Interventions by Interrupted Time Series Analysis with Clustering-based Counterfactual Country **(Ref: *4130*)**

Fatemeh Navazi, Yufei Yuan and Norm Archer

Forecasting the Case Number of Infectious Diseases using Type-2 Fuzzy Logic for Diphtheria Case Study **(Ref: *9451*)**

Wiwik Anggraeni, Maria Firdausiah and Muhammad Ilham Perdana

(11:20-12:10) Session C.6: Forecasting Performance Evaluation

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Chairman: Dr. Fernando Rojas and Dr. Fennee Chong

Analysis of the Application of Different Forecasting Methods for Time Series in the Context of the Aeronautical Industry **(Ref: *2880*)**

Antônio Augusto Rodrigues de Camargo and Mauri Aparecido de Oliveira

But... What Is The Poverty Rate Today? Testing Poverty Nowcasting Methods in Latin America and the Caribbean **(Ref: *6167*)**

German Caruso, Leonardo Lucchetti, Eduardo Malasquez, Thiago Scot and Andres Castaneda

Probabilistic Forecasts for Solar Irradiance using WRF-Solar Ensemble Prediction System **(Ref: *9282*)**

Saurabh Verma and Charu Singh

(12:10-14:00) Session B.8: Advances in Time Series Analysis and Forecasts in Engineering Sciences

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Chairman: Dr. Alina Barbulescu

Genetic Algorithm approach of modeling the structural global stiffness **(Ref: *386*)**

Radu Panaitescu, Stefan Mocanu, Anca-Ruxandra Sasu and Oana Tonciu

Modeling the Road Accesibility in a Flood-Prone Area, in Romania **(Ref: *3114*)**

Cristian Popescu and Alina Barbulescu

Marine Biota and Microplastics Ingestion: a Statistical Approach **(Ref: *5105*)**

Andreea Mădălina Ciucă, Elena Stoica and Lucica Barbes

Assessing the climate change on the Tuzla-Nuntasi Basin, Romania **(Ref: *6152*)**

Gabriel Dobrica, Carmen Maftei and Alina Barbulescu

Statistical Analysis and Modeling of Pollutants Series in the Region of Brasov, Romania **(Ref:** ***3871***)

Maftei Carmen and Alina Barbulescu

Assessing the water quality effluent from a treatment plant **(Ref:** ***4715***)

Alina Barbulescu, Lucica Barbes and Cristian Stefan Dumitriu

(12:10-14:00) Session C.7: Artificial Intelligence and Sustainability

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Chairman: Dr. Ebrahim Ghaderpour

Extreme insurance claims prediction model based on Extreme Learning Machine **(Ref:** ***213***)

Yassine Kouach, Abderrahim El Attar and Mostafa El Hachloufi

Using Machine Learning Models to Predict Groundwater Potentiality in a Large Mountainous Region under Semi-Arid Climate **(Ref:** ***2350***)

Mohammed Hssaisoune, Mustapha Namous, Tarik Tagma, Hasna Eloudi and Lhoussaine Bouchaou

Development of methodology for the Evaluation of Solar Energy through hybrid models for the energy sector **(Ref:** ***3723***)

Georgina Lizeth González, Jesus Cerezo and Guillermo Santamaria

Aviation technology evolution and roadmap of Hong Kong **(Ref:** ***5526***)

Pengyu Zhu, Ning Chen, Swathi Akella and Jeffrey Chow

(16:00-17:00) Session B.9: Forecasting performance evaluation

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Chairman: Dr. Ignacio Rojas

Formation of a Forecast of Time Series of Data for the Purposes of Anomaly Detection Using a Digital Signal Processing Unit Connected in Series and an Artificial Neural Network - a Predictive Autoencoder **(Ref:** ***4411***)

Anastasiya Pletenkova and Andrey Ragozin

Inventory improvement in tyre retail through demand forecasting **(Ref:** ***4525***)

Magda Monteiro, Diana Neves and Maria José Felício

On Forecasting of Carbon Allowance Futures Prices and Parametrisation of two-factor model **(Ref:** ***5381***)

Jun Han, Nino Kordzakhia, Pavel Shevchenko, Stefan Trueck and Karol Binkowski

Forecasting the tails of financial indexes distributions **(Ref: *9270*)**
Massimiliano Frezza

(16:00-17:00) Session C.8: : Health Forecasting

Chairman: Dr. Abdourrahmane ATTO and Dr. Juan R. Trapero

Artificial Intelligence-based forecasting models for COVID-19 disease **(Ref: *464*)**
Safa Bahri, Nesrine Zoghlami and Moetez Kdayem

Forecasts of the mortality risk of COVID-19 using the Markov-switching autoregressive model: A case study of Nigeria **(Ref: *6682*)**
Idowu Ayodeji

Evaluation of models for predicting the occurrence of visceral leishmaniasis in 09 Brazilian states, 2001 to 2017: an ecological time series study **(Ref: *8574*)**
Marcos Venicius Malveira de Lima and Gabriel Zorello Laporta

(17:05-20:15) Session B.10: Applications in: Energy, Finance, Transportation, Networks, etc (Short Presentation)

Chairman: Dr. Fernando Rojas

Investigate FIBA World Cup 2019: Evidence using Advanced Statistical Analysis and Quantitative tools **(Ref: *949*)**
Christos Katris

Comparison of Privatization in the Republic of Croatia and Selected Former Communist Countries **(Ref: *1459*)**
Helena Nikolic and Jan Horacek

Automated Approach for Generating and Evaluating Traffic Incident Response Plans **(Ref: *2014*)**
Adel Almohammad and Panos Georgakis

Applications of Tobit Censored Exponential Smoothing to inventory management **(Ref: *3312*)**
Juan R. Trapero, Diego Pedregal and Enrique Holgado

Quadratic Mixed Integer Programming for deleting outliers in time series models **(Ref: *4420*)**
Vassiliki Karioti

Gaining flexibility by rethinking offshore outsourcing for managing complexity and disruption **(Ref: *4773*)**

Michela Pellicelli

Long Lead ENSO Forecast using Adaptive Graph Convolutional Recurrent Neural Network **(Ref: *6625*)**

Jahnavi Jonnalagadda and Mahdi Hashemi

Measuring extremal clustering in time series **(Ref: *7215*)**

Marta Ferreira

Does competition contribute to stability? - empirical evidence from the European Union banking sector **(Ref: *7259*)**

Candida Ferreira

Impact of the Covid Pandemic on Global Ecotourism : A Critical Analysis **(Ref: *8577*)**

Kanupriya Kanupriya and Kanupriya Kanupriya

The optimal share of solar energy in an energy island **(Ref: *8698*)**

Ofira Ayalon, Tsur Moshe and Yaniv Reingewertz

An Application of Ensemble Spatiotemporal Data Mining Techniques for Rainfall Forecasting **(Ref: *8707*)**

Shanthi Saubhagya, Chandima Tilakaratne, Musa Mammadov and Pemantha Lakraj

Clustering of time series based on forecasting performance of global models **(Ref: *8929*)**

Ángel López-Oriona

Methods and Scenario Analysis into Regional Area Participatory Planning of Sustainable Development. The "Roses Valley" Sothern Morocco, a Case Study **(Ref: *9062*)**

Tiziana Vitolo, Antonio Bertini and Immacolata Caruso

Leveraging Temporal Patterns in Forecasting **(Ref: *6527*)**

Thomas Schincariol, Thomas Chadefaux and Hannah Frank

(17:05-20:15) Session C.9: New Advances in Time Series Analysis and Forecasting (Part II) (Short Presentation)

Chairman: Dr. Nicolas Beldiceanu

Contribution of Indirect Taxes on Goods to Economic Growth of Pakistan (1972-2018) **(Ref: *481*)**

Wajahat Rehman and Raza Ali Khan

Improving Data Assimilation for Satellite Data in Hydrodynamic Modeling **(Ref:** ***2387***)
Taha Aawar

Automata Based Multivariate Time Series Analysis for Anomaly Detection over Sliding Time Windows **(Ref:** ***3787***)
Arnold Hien, Nicolas Beldiceanu, Claude-Guy Quimper and Marıa-Isabel Restrepo

Urban Heat Island Intensity Prediction in the Context of Heat Waves: An Evaluation of Model Performance **(Ref:** ***4024***)
Aner Martinez-Soto and Alexander Zipf

Can LSTM outperform volatility-econometric models? **(Ref:** ***5311***)
German Rodikov and Nino Antulov-Fantulin

Sentiment analysis based on multifractal methods **(Ref:** ***1531***)
Mariia Chuprina and Valeriya Shikheyeva

Friday, July 14th, 2023

(8:45-10:15) Session B.11: Forecasting Financial Markets

Chairman: Dr. Amine Amar and Dr. Aleksandra Wójcicka-Wójtowicz

Comparative analysis of recommendations issued by stockbrokers and oriented fuzzy numbers in case of DAX companies **(Ref:** ***4131*****)**

Aleksandra Wójcicka-Wójtowicz and Anna Łyczkowska-Hanćkowiak

Financial Time Series Models - Comprehensive Review of Deep Learning Approaches and Practical Recommendations **(Ref:** ***5498*****)**

Mateusz Buczynski, Marcin Chlebus, Katarzyna Kopczewska and Marcin Zajenkowski

Forecasting Pakistan's GDP Growth with Leading Indicators: A MIDAS Approach **(Ref:** ***6543*****)**

Tanweer Islam and Sidra Tahir

Enhancement of consumption forecasting by customers' behavioral predictability segregation **(Ref:** ***8226*****)**

Maria Koshkareva and Anton Kovantsev

Hyperautomation in Supershop using Machine Learning **(Ref:** ***8733*****)**

Shuvro Ahmed, Joy Karmoker, Md. Mahamudur Rahman, Rajesh Mojumder, Shadman Fatin, Dr. Md. Golam Rabiul Alam and Tanzim Reza

Modeling contagion of financial markets: A GARCH-EVT Copula approach **(Ref:** ***9798*****)**

Gueï Cyrille Okou and Amine Amar

(10:15- 11:45) Session B.12: New Advances in Time Series Analysis and Forecasting

Chairman: Dr. Yuvraj Sunecher and Dr.Christos Katris

A Novel Unconstrained Geometric BINAR(1) Model. **(Ref:** ***3892*****)**

Yuvraj Sunecher and Naushad Mamode Khan

Adaptive Mahalanobis kernel for gaussian kernel adaptive filters **(Ref:** ***4467*****)**

Juan David Hernández-Sánchez, David Augusto Cárdenas-Peña and Álvaro Ángel Orozco-Gutiérrez

Musical aptitude screening: a Brazilian experience un-der construction **(Ref: *5135*)**
Fabiana Oliveira Koga, Rosemeire de Araújo Rangni and Rafael Pereira

Supervised Classification of Spatio-Temporal Change Detection Maps **(Ref: *3582*)**
Maia de Souza Ugarte, Matthieu Gallet, Abdourrahmane Atto and Aluísio de Souza Pinheiro

Adaptive bandwidth based on maximum variance of information potential for Gaussian kernel adaptive filters **(Ref: *8310*)**
Juan David Hernández-Sánchez, Álvaro Ángel Orozco Gutiérrez and David Augusto Cárdenas-Peña

Addressing the multiple dimensions of poverty: Dimensionality Reduction with t-Distributed Stochastic Neighbor Embedding (tSNE) Algorithm **(Ref: *8677*)**
Amine Amar

(12:00-12:55) Session B.13: Deep Learning Methods in Time Series

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Chairman: Dr. Grzegorz Dudek

Influencers, Twitter and Bitcoin's volatility: an analysis based on transfer entropy and deep learning **(Ref: *1302*)**
Diana Mendes, Jana Lage, Fernando Batista, Vivaldo Mendes and Nuno Ferreira

Dynamic Tikhonov State Forecasting based on Large-Scale Deep Neural Networks Constraints **(Ref: *1995*)**
Cristhian Daniel Molina-Machado, Juan David Martinez-Vargas and Eduardo Giraldo

Combining Forecasts of Time Series with Complex Seasonality using LSTM-based Meta-Learning **(Ref: *4046*)**
Grzegorz Dudek