

Conference program

The 16th
International Conference
on
Applied Statistics
ICAS 2023





**Bucharest University of Economic Studies
Department of Statistics and Econometrics**



The 16th International Conference on Applied Statistics

ICAS 2023

November 17-18, 2023

**“Ion Gh. Rosca” ASE Training Center
Predeal, Romania**





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Mirela PANAIT, Petroleum-Gas University of Ploiesti & Institute of National Economy, Romanian Academy, Romania
Daniel Traian PELE, Department of Statistics & Econometrics, BUES
Carmen PINTILESCU, Alexandru Ioan Cuza University, Iași
Monica ROMAN, Department of Statistics & Econometrics, BUES
Emilia ȚIȚAN, Director of the Doctoral School of Cybernetics and Statistics, BUES
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ICAS 2023 Conference Keynote Speakers



ROY CERQUETI (PhD) is Full Professor of Statistics at Sapienza University of Rome, Italy and Director of the Doctoral School in Social and Economic Sciences. He is also Research Affiliate of the GRANEM, a Research Center hosted by the University of Angers, France. Previously, he was part time Professor at the London South Bank University, UK. He is a member of the scientific committee of the PhD program "Quantitative Methods for Economic Policy" at the University of Macerata. He was also a review Panel expert in the COST Action Proposal Submission, Evaluation, Selection and Approval procedure (appointment by the Italian Minister of University - Office of the National Coordinator of COST projects) from 2017 to 2019.

Mr. Cerqueti has published more than 150 scientific articles, most of them in highly-ranked international journals. He regularly participates in international conferences as an invited speaker. He has several editorial assignments and regularly performs referral services for many journals and scientific institutions. His current research focuses on financial modelling, data science, complexity, quantitative methods for economics and finance.

DANIELA ȘTEFĂNESCU (PhD) is the Director for European Affairs and International Cooperation at the National Institute of Statistics in Bucharest. She holds a PhD in Statistics and has extensive academic experience in teaching Statistics, being also an Associate professor at the Bucharest University of Economic Studies. She played a pivotal role in integrating Romanian statistics into the European Statistical System and co-chaired the "Statistics" working group during the Romanian Presidency of the EU Council. Currently, she serves as the national coordinator for Romania's accession to the OECD in the statistical field.



She has been involved in various international projects, such as conducting a global assessment of the Ukrainian statistical system and analyzing the Moldavian statistics in line with the Code of Practice principles. She also worked as a medium-term TAIEX expert in Northern Cyprus to establish the legislative framework for the statistical bureau and enhance its functionality.

Mrs. Ștefănescu represents the Romanian Government as a statistical expert in the Republic of Moldova and she assisted various countries, including Estonia, Ireland, Iceland, and Liechtenstein, in aligning their statistical systems with the Code of Practice. Furthermore, she conducted missions in Serbia, Kosovo, and Bosnia and Herzegovina as an expert on dissemination matters and served as a UN observer for Population and Housing Census.



ANDREI RĂDULESCU (PhD) is the Director of Macroeconomic Analysis at Banca Transilvania and a Senior Researcher at the Institute of World Economy, Romanian Academy.

He holds a Ph.D. in Economics. His areas of expertise include macroeconomic analysis and forecasting, as well as global economics, with a focus on the United States, China, the Eurozone, as well as Romania and Moldova.

Mrs. Rădulescu has delivered presentations on macro-financial topics at conferences in 40 countries and is an active presence in the Romanian media.



Overview of the Conference Programme

Conference venue: "Ion Gh. Roșca" Training Center, Predeal, Romania

Day 1 – Friday, 17 th of November			
9:30 – 10:00	Room: AMPHITEATRE Registration		
Plenary Session	Room: AMPHITEATRE		
10:00 – 10 :30	Opening session Prof. Nicolae ISTUDOR, Rector of Bucharest University of Economic Studies Prof. Erika MARIN, Director, Department of Statistics Prof. Claudiu HERȚELIU, Vice-dean, Faculty of Cybernetics, Statistics and Economic Informatics		
10:30 – 11:15	Keynote lecture: THE RESILIENCE OF COMPLEX NETWORKS: METHODS AND APPLICATIONS Roy CERQUETI, Sapienza University of Rome, ITALY		
11:15 – 12:00	Keynote lecture: THE COOPERATION BETWEEN OFFICIAL STATISTICS AND ACADEMIC STATISTICS Daniela ȘTEFĂNESCU, National Institute of Statistics, ROMANIA		
12:00 – 13:30	Lunch		
Parallel sessions	Room AMPHITEATRE	Room SEMINAR 4, 1ST FLOOR	Room SEMINAR 5 1ST FLOOR
13:30 – 15:00	Session 1 <i>Algorithms and Artificial Intelligence in Digital Age</i>	Session 2 <i>Regional economics and applied spatial data analysis</i>	Session 3 <i>Econo-physics and complex systems</i>
15:00 – 15:30	Coffee Break		
15.30 – 17:00	Session 4 <i>Data mining</i>	Session 5 <i>Statistical Modelling in Macroeconomics</i>	Session 6 <i>Recent Migration Analysis using Statistical Modelling</i>
17:00-18:00	Keynote lecture: RECENT MACROECONOMIC DEVELOPMENTS AND MEDIUM-TERM PERSPECTIVES: FROM THE GLOBAL TO THE NATIONAL ECONOMY Andrei RĂDULESCU, Banca Transilvania and Romanian Academy		
19:00	Conference Dinner		



Day 2 – Saturday, 18 th of November			
Parallel sessions	Room AMPHITEATRE	Room SEMINAR 4, 1 ST FLOOR	Room SEMINAR 5 1 ST FLOOR
9:30 – 11:00	Session 7 <i>Statistical Modelling of Financial Markets</i>	Session 8 <i>Statistical Applications in the Energy Sector</i>	Session 9 <i>Demography and Human Capital</i>
11:00 – 12:00	Room AMPHITEATRE Round table: BENEFITS AND CHALLENGES IN USING THE ARTIFICIAL INTELLIGENCE IN RESEARCH AND TEACHING Moderator: Erika MARIN Panelists: Claudiu VINȚE, Department of Economic Cybernetics and Informatics, Bucharest University of Economic Studies Miruna MAZURENCU-MARINESCU-PELE, Department of Statistics, Bucharest University of Economic Studies		
12:00 – 12:15	Closing ICAS 2023		
12:15 – 13:30	Lunch		



Full Programme of the Parallel sessions

Friday, 17th of November

ICAS 2023

13:30 – 15:00

Parallel session 1

Algorithms and Artificial Intelligence in Digital Age

Chairs: Carmen PINTILESCU (Univ. A.I.Cuza, Iași)

Valerio FICCADENTI

Room

AMPHITEATRE

- 1. Markov Chain Monte Carlo for generating ranked textual data**
Valerio Ficcadenti, Roy Cerqueti, Marcel Ausloos, Gurjeet Dhese
London South Bank University, UK
- 2. Assessing the performance of deep learning models applied for financial series,**
Bogdan Andrei Donu, Carmen Pintilescu
Alexandru Ioan Cuza University of Iasi, Romania
- 3. Clustering the AI Landscape: Navigating Global Insights from Leading AI Indexes**
Flavia Bogoevici, Adriana AnaMaria Davidescu, Eduard Manta
Bucharest University of Economic Studies, Romania (online)
- 4. The impact of service robot automation on turnover in the EU accommodation and food service sector**
Lia Cornelia Culda, Marian Pompiliu Cristescu, Raluca Andreea Nerișanu
Lucian Blaga University of Sibiu, Romania
- 5. Methods of optimizing production and storage problems using optimal control techniques**
Liviu Popescu, Ramona Dimitrov
University of Craiova, Romania
- 6. A genetic approach to making financial performance predictions**
Adrian Costea, Bucharest
University of Economic Studies, Romania (online)
- 7. Statistics and economic resilience: data analysis in uncertain times**
Cristian Eugen Luchian, Claudiu Herteliu, Iuliana Luchian
Bucharest University of Economic Studies, Romania



13:30 – 15:00

Parallel session 2

Regional economics and applied spatial data analysis

**Chairs: Ștefana BELBE (Babes-Bolyai University, Cluj-Napoca)
Erika MARIN (BUES)**

Room

**SEMINAR 4,
1ST FLOOR**

1. The connectivity map of Bucharest using GIS data

Alin-Cristian Maricuț, Giani-Ionel Gradinaru, Erika Marin
The Bucharest University of Economic Studies

2. Analyzing Net Migration in Romania at NUTS 3 Level Using a Gravity Model

Elena-Maria Prada, Smaranda Cimpoeru, Oana Eugenia
Bucharest University of Economic Studies (online)

3. Exploring the Spatial Clustering and Spillover Effects of COVID-19 Vaccination Uptake in Romania: An Analysis at Municipality Level

Codruța Mare, Ștefana Belbe, Norbert Petrovici
Babes-Bolyai University, Cluj-Napoca, Romania

4. Analysis of Romania's foreign trade, in the context of accession to the Schengen Area

Erika Marin, Emilia Gogu, Irina-Maria Dragan
Bucharest University of Economic Studies

5. Is the European convergence real?

George Adrian Lungu, Diana Stanculescu, Mihai Roman
Bucharest University of Economic Studies

6. The customers satisfaction and the relation to the number of trips in the case of the airline companies

George Dinu
Bucharest University of Economic Studies



13:30 – 15:00

Parallel session 3

Econo-physics and complex systems

Chairs: Szabolcs KELEMEN (Babes-Bolyai University, Cluj-Napoca)

Claudiu HERȚELIU (BUES)

Room

SEMINAR 5,

1ST FLOOR

- 1. Investigating random, 50/50 symmetric weighted, competitive and cooperative fully connected networks: the random matrix approach.**
Gurjeet Dhesi, Bilal Shakeel, Marcel Ausloos
The Bucharest University of Economic Studies
- 2. A joint procedure for ranking and clustering the networked European research projects**
Roy Cerqueti, Raffaele Mattera, Antonio Iovannella
Sapienza University of Rome
- 3. Stock Market VoV Forecast Based on Cross-Sectional Intrinsic Entropy's Volatility Estimates**
Claudiu Vințu, Marcel Ausloos, Bogdan Iftimie
The Bucharest University of Economic Studies
- 4. Estimating the Gini coefficient from incomplete data**
Szabolcs Kelemen, Máté Józsa, Zoltán Néda
Department of Physics, Babes-Bolyai University, Cluj-Napoca, Romania
- 5. A brief review of the LGGR model and its possible applications**
Szabolcs Kelemen, István Gere, Néda Zoltán
Babes-Bolyai University, Cluj-Napoca, Romania
- 6. Lottery inspired dynamics, data and simulation**
István Gere, Szabolcs Kelemen, Máté Józsa, Zoltán Néda
Babes-Bolyai University, Cluj-Napoca, Romania



15:30 – 17:00

Parallel session 4

Data mining

**Room
AMPHITRE**

**Chairs: Marian Pompiliu CRISTESCU (Lucian Blaga
University of Sibiu)
Ashraf LABIB (University of Portsmouth)**

- 1. Geographical Concentration of Economic Activities and Inequality: A Krugman Index and Gini Index Analysis with ArcGIS Mapping**
Horatiu-Gabriel Tibrea-Marcu
The Bucharest University of Economic Studies
- 2. No Harm in Learning – A balanced High Reliability Organisation (HRO) approach in healthcare**
Ashraf Labib, Caroline Mitchell, Darren Van Laar, Caroline Strevens
University of Portsmouth, UK
- 3. The impact of country risk on FDI in European countries**
Simona-Andreea Apostu
The Bucharest University of Economic Studies, Institute of National Economy
- 4. Enhancing Organizational Performance through the Fuzzy DEMATEL Method: A Comprehensive Approach**
Dana Nicula, Sorina Constantinescu
The Bucharest University of Economic Studies (online)
- 5. Leveraging user interaction data to enhance e-commerce decision-making and personalization**
Mara Dumitru Alexandru, Marian Pompiliu Cristescu, Raluca Andreea Nerisanu
Lucian Blaga University of Sibiu, Romania
- 6. The impact of digitalization on greenhouse gas emissions in the European Union. The mediating effect of renewable energy consumption**
Gina Cristina Dimian, Mihaela Maftעי, Erika Marin, Stelian Mircea Olaru
The Bucharest University of Economic Studies



15:30 – 17:00

Parallel session 5

Statistical Modelling in Macroeconomics

Chairs: Sebastian CEPTUREANU (BUES)

Ciprian TURTUREAN (UAIC, Iași)

Room

SEMINAR 4,

1ST FLOOR

- 1. Examining Okun's law amidst structural changes: the case of EU**
Ciprian Turturean, Elena-Daniela Viorică, Liviu George Maha, Claudiu Gabriel Țigănaș
Alexandru Ioan Cuza University of Iasi
- 2. Dynamic of macroeconomic causality in CEE countries**
Viorica Chirila, Ciprian Chirila
Alexandru Ioan Cuza University of Iasi
- 3. Unemployment insights: a machine learning exploration of key factors**
Cristina Boboc, Alexandra Rosca, Ana-Maria Ciuhu, Valentina Vasile
The Bucharest University of Economic Studies (online)
- 4. Individual learning ambidexterity and individual job performance. The moderating role of job autonomy**
Sebastian Ion Ceptureanu, Eduard Gabriel Ceptureanu
The Bucharest University of Economic Studies
- 5. Global Openness and National Touristic Attractivity Assessed Through Accommodation and Recreation Pricing Strategies**
Lavinia Stefania Totan, Irina Daniela Cismasu, Raluca Corina Dawed
The Bucharest University of Economic Studies (online)
- 6. Assessing the impact of the minimum wage on the Romanian labor market**
Maria Denisa Vasilescu, Madalina Ecaterina Popescu, Amalia Cristescu
The Bucharest University of Economic Studies
- 7. Correlation between inflation and unemployment in the economy of the Republic of Moldova**
Elena Cara, Ion Pârțachi
Academy of Economic Sciences of Moldova (online)



15:30 – 17:00

Parallel session 6

Recent Migration Analysis using Statistical Modelling

Chairs: Monica ROMAN (BUES)

Cristina BOBOC (BUES)

Room

SEMINAR 5,

1ST FLOOR

1. Climate migration drivers

Liviu-Stelian Begu, Andreea Oana Begu
Bucharest University of Economic Studies

2. The impact of remittances on aggregate consumption in CEEC countries

Florin Mihalcioiu, Adrian Oțoiu, Mihaela Covrig,
Automobile Dacia (online)

3. Insights into the Migration of Romanian Doctors: Clustering Socio-Demographic and Professional Characteristics

Mihaela Matei, Mihaela Iordache, Monica Roman
The Bucharest University of Economic Studies (online)

4. The influence of study programs abroad on the level of education and opportunities, respectively the employability of young people

Cristina Boboc, Simona Ghita, Andreea Eugenia Nicula, Andreea Simona Saseanu,
The Bucharest University of Economic Studies, Institute of National Economy

5. Global Connections: Examining the Role of Remittances in Economic development

Mihaela Iordache, Mihaela Matei, Emilia Țițan
The Bucharest University of Economic Studies (online)



SATURDAY, 18th of November

ICAS 2023

9:30 – 11:00

Parallel session 7

Statistical Modelling of Financial Markets

Chairs: Daniel Traian PELE (BUES)

Giacomo DI TOLLO (University of Sannio)

Room

AMPHITEATRE

- 1. Assessing Credit Risk Management Indicators Compliance in the Recent Financial Performance of Commercial Banks (in Ghana and Nigeria) through Variance Inflation Factor, Breusch-Pagan test and Wooldridge tests**
Eniola Aneduga, Paulette Clippe*, Marcel Ausloos
University of Leicester, UK
**invited special guest presentation*
- 2. Asset allocation with portfolio immunization strategies based on community detection**
Giacomo di Tollo, Gianni Filograsso
University of Sannio, Benevento, Italy
- 3. A novel precision shrinkage estimator for portfolio selection**
Raffaele Mattera
Sapienza University of Rome, Italy
- 4. The effects of the twin-deficit hypothesis: A study case for Romania**
Alexandru Chirilus, Catalina Pricope
Bucharest University of Economic Studies
- 5. Investing in the future: how European funds for sustainable transport shape the Romanian regional economic growth?**
Ana Maria Bocaneala, Elvira Alexandra Gherasim
The Bucharest University of Economic Studies (online)
- 6. Digitalization within Procure-to-Pay**
Mihaela-Sorina Constantinescu
Bucharest University of Economic Studies (online)
- 7. Modelling Covid-19 Infodemics in Romania**
Daniel Traian Pele, Andrei Savescu, Miruna Mazurencu-Marinescu-Pele,
Bucharest University of Economic Studies



9:30 – 11:00

Parallel session 8

Statistical Applications in the Energy Sector

Chairs: Simona Andreea APOSTU (BUES)

Mirela PANAIT (Universitatea Petrol-Gaze din Ploiești)

Room

SEMINAR 4,

1ST FLOOR

- 1. Electricity consumption forecasts for Romania. Deep Learning versus Time Series models**
Miruna Elena Proșcanu (Văduva), Cosmin Adrian Proșcanu
The Bucharest University of Economic Studies
Romania School Of Advanced Studies Of The Romanian Academy (SCOSAAR)
- 2. Is the transition to renewables driving up energy prices for the end consumer? Evidence from the European Union**
Razvan Ionescu
Romania School Of Advanced Studies Of The Romanian Academy (SCOSAAR) (online)
- 3. Could energy transition impact well-being?**
Miruna Elena Proșcanu (Văduva), Cosmin Adrian Proșcanu
The Bucharest University of Economic Studies
- 4. Financial inclusion and energy transition -challenges and opportunities**
Simona Andreea Apostu, Mirela Panait, Diana Joita (Tolea), Valentina Vasile
The Bucharest University of Economic Studies
- 5. The impact of the use of green energy for transport on the urban environment**
Emilia Țițan, Giani-Ionel Gradinaru, Mihaela Mihai, Alin-Cristian Maricut,
The Bucharest University of Economic Studies, Institute of National Economy (online)
- 6. The prospects of increasing energy efficiency in the context of conjugated crises**
Stefan Virgil Iacob, Mirela Panait, Carmen Minca
Petroleum and Gas University of Ploiești, Romania (online)
- 7. Some consideration regarding energy poverty in raw materials rich countries**
Marian Catalin Voica, Daniela Iov, Cristian Teodorescu
Petroleum and Gas University of Ploiești, Romania (online)



9:30 – 11:00

Parallel session 9

Demography and Human Capital

Chairs: Constanta Mihaescu (BUES)

Mircea ASANDULUI (UAIC Iași)

Room

SEMINAR 5,

1ST FLOOR

- 1. Promoting Natality and Supporting Large Families: Policy Considerations and Implications**
Constanta Mihaescu, Ileana Niculescu-Aron, Hrisanta Mihaela Mosora, Mihaela Covrig
The Bucharest University of Economic Studies
- 2. The impact of technology on the workforce demand at the company level in Romania**
Adina - Maria Voda, David - Dumitru Tigau
The Bucharest University of Economic Studies (online)
- 3. Effects of education on intergenerational transfers in European families**
Adelina Panaite, Alexandra Cristina Sîrbu, Mircea Asandului
Alexandru Ioan Cuza University of Iasi
- 4. Work-life balance when working from home**
Maria Denisa Vasilescu, Larisa Stanila, Eva Militaru, Mihaela Maftei
The Bucharest University of Economic Studies
- 5. Working from home during Covid-19 pandemic: Evidence from Romania**
Adina - Maria Voda, Cristian Raileanu
The Bucharest University of Economic Studies (online)
- 6. Aging among ethnic and religious groups in Romania – an exploratory study**
Claudiu Herteliu
The Bucharest University of Economic Studies