



NATIONAL  
INSTITUTE  
OF  
STATISTICS



ECOLOGICAL  
UNIVERSITY  
OF  
BUCHAREST



romania2019.eu

The 7<sup>th</sup> International Conference

The Use of R in Official Statistics

uRos2019

# PROGRAMME

Bucharest, Romania

20-21 May 2019



### **SCIENTIFIC BOARD**

- Tudorel ANDREI (President, National Institute of Statistics - Romania)*  
*Matthias TEMPL (ZHAW school of engineering, Switzerland)*  
*Mark VAN DER LOO (Statistics Netherlands)*  
*Alexander KOWARIK (Statistics Austria)*  
*Bogdan OANCEA (National Institute of Statistics, University of Bucharest, Romania)*  
*Adrian DUSA (University of Bucharest, Romania)*  
*Elena DRUICA (University of Bucharest, Romania)*  
*Kazumi WADA (National Statistics Center, Japan)*  
*Marcello D'ORAZIO (FAO, Rome, Italy)*  
*Valentin TODOROV (UNIDO, Vienna Austria)*  
*Nicoleta CARAGEA (National Institute of Statistics, Ecological University of Bucharest, Romania)*  
*Ciprian ALEXANDRU (National Institute of Statistics, Ecological University of Bucharest, Romania)*  
*Alina MATEI (University of Neuchatel, Switzerland)*  
*Bernhard MEINDL (Statistics Austria, Austria)*  
*Claudiu HERTELIU (Bucharest University of Economic Studies, EMOS Board, Romania)*  
*Ana-Maria CIUHU (National Institute of Statistics & Institute for National Economy, Romania)*  
*Edwin DE JONGE (Statistics Netherlands, The Netherlands)*  
*Gergeley DARÓCZI (System1, Hungary)*  
*Kamarul Ariffin MANSOR (MARA University of Technology, Malaysia)*  
*Marius Nicolae JULA (University of Bucharest, Romania)*  
*Matyas MESZAROS (Eurostat, Luxemburg)*  
*Mihaela PAUN (University of Bucharest)*  
*Roxana ADAM (University of Bucharest & National Institute of Statistics, Romania)*

### **ORGANIZING COMMITTEE**

- Nicoleta CARAGEA, National Institute of Statistics, Romania*  
*Daniela Elena STEFANESCU, National Institute of Statistics, Romania*  
*Viorica SALAGEAN, National Institute of Statistics, Romania*  
*Bogdan Liviu PATARLAGEANU, National Institute of Statistics, Romania*  
*Vitty Cristian CHIRAN, National Institute of Statistics, Romania*  
*Mariana VASILE, National Institute of Statistics, Romania*  
*Nicoleta JALBA, National Institute of Statistics, Romania*

### **SECRETARIATE**

- Ana-Maria CIUHU, National Institute of Statistics*  
*Roxana ADAM, National Institute of Statistics*  
*Roxana GLĂVAN, National Institute of Statistics*  
*Diana POPA, National Institute of Statistics*

## PROGRAMME

Conference Room and Blue Hall, *National Institute of Statistics*, Ground Floor

### May 20, Monday

- 08<sup>30</sup> – 09<sup>30</sup>** Registration of participants
- 09<sup>30</sup> – 10<sup>00</sup>** **Welcome message**  
Tudorel ANDREI, President of National Institute of Statistics, Romania  
 Nicoleta CARAGEA, President of uRos, National Institute of Statistics/Ecological University of Bucharest, Romania
- 10<sup>00</sup> – 11<sup>00</sup>** **Keynote Speaker 1:** Julie JOSSE, Member of RFoundation and Rforwards,  
 Professor of Statistics at Ecole Polytechnique, France  
Chairman – Mark VAN DER LOO, Statistics Netherlands (CBS)  
Presentation - *Causal Inference with missing values: effect of tranexamic acid administration on mortality for traumatic brain injury*
- 11<sup>00</sup> – 11<sup>30</sup>** Coffee break
- 11<sup>30</sup> – 13<sup>00</sup>** **Parallel Tutorial Sessions (I)**
- Conference Room, Ground Floor**  
 *Statistical data cleaning for official statistics with R*  
 Mark VAN DER LOO and Edwin DE JONGE, Statistics Netherlands (CBS)
- Blue Hall, Ground Floor**  
  *Use of R package SamplingStrata for the Optimal Stratification of Sampling Frames for Multipurpose Sampling Surveys*  
Marco BALLIN and Giulio BARCAROLI, Italian National Institute of Statistics (Istat)
- 13<sup>00</sup> – 14<sup>00</sup>** Lunch Break and Group Photo
- 14<sup>00</sup> – 15<sup>30</sup>** **Parallel Tutorial Sessions (II)**
- Conference Room, Ground Floor**  
  *Modern package development in R*  
Alexander KOWARIK and Bernhard MEINDL, Statistics Austria
- Blue Hall, Ground Floor**  
  *Mapping a Table of Data with Esri Shapefiles in R*  
Mervyn Ó'LÚING, Central Statistics Office, Ireland
- 15<sup>30</sup> – 16<sup>00</sup>** Coffee break
- 16<sup>00</sup> – 17<sup>30</sup>** **Parallel Tutorial and Scientific Sessions**
- Conference Room, Ground Floor**  
  *Integration of data sources in R through statistical matching*  
Marcello D'ORAZIO - Food and Agriculture Organization of The United Nations

**Blue Hall, Ground Floor**

**Scientific Session *Methods for Official Statistics (I)***

*Chairman: Bogdan OANCEA, National Institute of Statistics, University of Bucharest, Romania*



*Implementation of the cell-key method based random noise approach in R*

Tobias ENDERLE, DESTATIS, Germany



Bernhard MEINDL, Statistics Austria, Austria



*Utility evaluation of global recoding by accuracy of discrimination model*

Natsuki SANO, Statistical Research and Training Institute Ministry of Internal Affairs and Communication, Japan



*Headless Chrome Automation with the *crri* package*

Romain LESUR, Ministère de la Justice, France



*From SPSS to R: designing a scalable R infrastructure to support health analytics in Scotland*

Terry MCLAUGHLIN, NHS National Services Scotland, Scotland

**17<sup>30</sup> – 17<sup>40</sup>** Go to Conference Room for a Project Presentation

**17<sup>40</sup> – 18<sup>00</sup>** **Conference Room, Ground Floor**

**Project Presentation**

Chairman: Bernhard Meindl, Statistics Austria



*COMUNIKOS: COMMunicating UNCertainty In Key Official Statistics*

Dario BUONO, Eurostat/GOPA

Gian Luigi MAZZI, Eurostat/GOPA

Massimiliano MARCELLINI, Eurostat/GOPA

George KAPETANIOS, Eurostat/GOPA

James MITCHELL, Eurostat/GOPA

Tiziana LAURETI, Eurostat/GOPA

Edwin DE JONGE, Eurostat/GOPA


Florabela CARAUSU, Eurostat/GOPA

Ibtissam SAHIR, Eurostat/GOPA

<b>19<sup>00</sup></b> <b>Conference Dinner</b>
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**May 21, Tuesday**


**8<sup>30</sup> – 9<sup>00</sup> Walk In**


**9<sup>00</sup> – 10<sup>00</sup> Keynote Speaker 2:** Giulio BARCAROLI, Italian National Institute of Statistics (Istat), Italy  
 Chairman: Alexander KOWARIK, Statistics Austria  
Presentation - *R at the Italian National Institute of Statistics (Istat): a twelve years story*

**10<sup>00</sup> – 10<sup>30</sup> Coffee break**

**10<sup>30</sup> – 12<sup>30</sup> Conference Room, Ground Floor**  
**Scientific Session *Data cleaning, Sampling and estimation***  
*Chairman: Mark van der Loo, Statistics Netherlands (CBS)*


 *Just BEAT it. Bethel Extended Allocation for Two-stage sampling package*  
Stefano FALORSI, Istat, Italy  
Andrea FASULO, Istat, Italy  
Alessio GUANDALINI, Istat, Italy  
Daniela PAGLIUCA, Istat, Italy  
Marco D. TERRIBILI, Istat, Italy

 *A generic shiny/js dashboard for data validation results*  
Olav ten BOSCH, Statistics Netherlands, Netherlands  
Mark van der LOO, Statistics Netherlands, Netherlands


 *Integration of Survey Data in R Based on Machine Learning*  
Mattia SPAZIANI, Istat, Italy  
Doriana FRATTAROLA, Istat, Italy  
Marcello D'ORAZIO, Istat, Italy

*Selective editing with categorical variables*


M. Rosario GONZÁLEZ-GARCÍA, S.G. for Sectorial Social Statistics, Statistics Spain (INE), Spain  
Jara POCH, S.G. for Information and Communication Technologies, Statistics Spain (INE), Spain

 David SALGADO, Dept. Methodology and Development of Statistical Production, Statistics Spain (INE), Spain  
Teresa VÁZQUEZ-GUTIÉRREZ, S.G. for Information and Communication Technologies, Statistics Spain (INE), Spain

*Trial of R training for technical supports to third countries*

 Kiyomi SHIRAKAWA, Hitotsubashi University, Japan  
Ken NAKAMATSU, Takumi Information Technology, Japan

*Data cleaning with R put into production*

 Aksel THOMSEN, Statistics Denmark, Denmark

**10<sup>30</sup> – 12<sup>30</sup> Blue Hall, Ground Floor**

**Scientific Session *R in Production: Data analysis***

*Chairman: Ana-Maria CIUHU, National Institute of Statistics, Romania*



*An R package for calculating repeat-sale price indices*

Megan KIRBY-MCGREGOR, Producer Prices Division, Statistics Canada, Canada  
Steve MARTIN, Producer Prices Division, Statistics Canada, Canada

*The Ability Of Different Imputation Methods To Capture Complex Dependencies In High Dimensions*



Humera RAZZAK, Institut für Statistik, Ludwig-Maximilians-Universität München, Germany

Christian HEUMANN, Institut für Statistik, Ludwig-Maximilians-Universität München, Germany



*Detection of Business Cycle Turning Points in the Serbian Economic Activity*

Isidora Jovandić, Statistical Office of the Republic of Serbia, Serbia  
Petar Korović, Statistical Office of the Republic of Serbia, Serbia  
Katarina Stančić, Statistical Office of the Republic of Serbia, Serbia

*Religiosity and Economic Growth*



Serban OLAH, University of Oradea, Romania  
Gabriel ROSEANU, University of Oradea, Romania

*A comparison between R, Julia and Python in building and prediction phases for high blood pressure in personalized medicine*



Antonio CLIM, The Bucharest University of Economic Studies, Romania  
Răzvan Daniel ZOTA, The Bucharest University of Economic Studies, Romania  
Bogdan OANCEA, University of Bucharest, Romania

*Remittances` impact on receiving country. Multidimensional analysis at macro and microeconomic level using R.*



Valentina VASILE, Institute of National Economy, Romanian Academy  
Elena BUNDUCHI, University of Medicine, Pharmacy, Sciences and Technology of Tirgu Mures, Romania  
Stefan DANIEL, University of Medicine, Pharmacy, Sciences and Technology of Tirgu Mures, Romania  
Calin-Adrian COMES, University of Medicine, Pharmacy, Sciences and Technology of Tirgu Mures, Romania

**12<sup>30</sup> – 13<sup>30</sup> Lunch Break**

**13<sup>30</sup> – 15<sup>00</sup> Conference Room, Ground Floor**

**Scientific Session *Methods for Official Statistics (II)***

*Chairman: Alexander KOWARIK, Statistics Austria*

*SMART: A web system for Small Area Estimation*



Stefano FALORSI, Istat, Italy  
Andrea FASULO, Istat, Italy  
F SOLARI, Istat, Italy

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*Multivariate imputation by chained equation with packages ‘mice’ and ‘mi’ to impute for missing values in semi-continuous data: methods to properly address non-response bias*

Siân LLOYD, Office for National Statistics, United Kingdom



*Generalization and robustification of a ratio model*

Kazumi WADA, National Statistics Center, Japan  
Keiichiro SAKASHITA, National Statistics Center, Japan  
Hiroe TSUBAKI, National Statistics Center, Japan



*Insights On Replicating Research Results In Remote Sensing Data Statistical Analysis Using R*

Marian NECULA, The Bucharest University of Economic Studies, Romania  
Mihaela PAUN, University of Bucharest, Faculty of Administration and Business, Romania

13<sup>30</sup> – 15<sup>00</sup>

**Blue Hall, Ground Floor**

**Scientific Session R in Production: Automation**

*Chairman: Edwin DE JONGE, Statistics Netherlands (CBS)*



*Rethinking Human Well-Being: A holistic Flourishing perspective*  
Josue ADUNA, 3S Studio, Romania



*Improvement Of The Reliability Score For Autocoding And Its Implementation In R*

Yukako TOKO, National Statistics Center, Japan  
Shinya IIJIMA, National Statistics Center, Japan  
Mika SATO-ILIC, Faculty of Engineering, Information and Systems, University, Japan



*Web Scraping Notices Of Insolvency Proceedings - Using Publicly Available Data To Enhance Survey Response Quality*

Joerg FEUERHAKE, DESTATIS, Germany



*Use Of R To Increase The Automatic Coding Rate In Census2021. Statistics Portugal Challenge*

Rui ALVES, Statistics Portugal, Portugal  
Almiro MOREIRA, Statistics Portugal, Portugal

15<sup>00</sup> – 15<sup>30</sup> **Coffee Break**

15<sup>30</sup> – 17<sup>10</sup> **Conference Room, Ground Floor**

**Scientific Session Dissemination and visualizations**

*Chairman: Ciprian ALEXANDRU, National Institute of Statistics/Ecological University of Bucharest, Romania*



*R Tools for ILOSTAT: Rilostat and SMART*

Mabelin VILLARRREAL-FUENTES, International Labour Organization (ILO), Colombia  
Ding SHUTONG, International Labour Organization (ILO), Colombia



*Semiautomatic Reports with R Markdown*

Max GRÜTTER, Statistical Office of the Canton of Zurich, Switzerland

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*rtempo - TEMPO Online data interface to R*

Marian NECULA, The Bucharest University of Economic Studies, Romania  
Ana Maria ȚÎRU, National Institute of Statistics, Romania  
Bogdan OANCEA, University of Bucharest, Romania



*Reproducible Corporate Publications using pagedown*

Romain LESUR, Ministère de la Justice, France

**15<sup>30</sup> – 17<sup>10</sup> Blue Hall, Ground Floor**

**Scientific Session *Shiny apps and Big Data***

*Chairman: Marcello D'ORAZIO - Food and Agriculture Organization of The United Nations*

*Using R and RShiny to produce official statistics on Psychiatric Inpatient Care in Scotland*



Nikos ALEXANDROU, NHS National Services Scotland, Scotland  
Ciara GRIBBEN, NHS National Services Scotland, Scotland



*Google Analytics, Shiny apps and EU/UK law*

Joseph Adams, National Records of Scotland, Scotland



*Use of R in outliers detection*

Audrius TARAILA, Statistics Lithuania, Lithuania

*Utilization of big data for improving Consumption Trend Index - Estimation of the number of person per household based on the characteristic of purchase items-*



Anri MUTOH, National Statistics Center, Japan  
Masayo YAMASHITA, National Statistics Center, Japan  
Yoshiyasu TAMURA, National Statistics Center, Japan  
Masahiro MATSUMOTO, National Statistics Center, Japan



*Real time monitoring and reporting surveys using Shiny App on Survey Solutions API with R*

Michael WILD, World Bank, USA



Nicoleta CARAGEA, Ecological University of Bucharest/National Institute of Statistics, Romania

Ciprian ALEXANDRU, Ecological University of Bucharest/National Institute of Statistics, Romania

**17<sup>10</sup> – 17<sup>20</sup> Go to Conference Room for Closing remarks**

**17<sup>20</sup> – 17<sup>45</sup> Closing Remarks**

*Contact*

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## BRIEF AGENDA

### May 20, Monday

08:30 - 09:30	Registration of participants
09:30 - 10:00	Welcome message
10:00 - 11:00	Keynote speaker 1
11:00 - 11:30	Coffee break
11:30 - 13:00	Parallel tutorial sessions I
13:00 - 14:00	Lunch break and Group photo
14:00 - 15:30	Parallel tutorial sessions II
15:30 - 16:00	Coffee break
16:00 - 17:30	Parallel Tutorial and Scientific Sessions
17:30 - 17:40	Go to Conference Room for a Project Presentation
17:40 - 18:00	Project Presentation
19:00	Official dinner

### May 21, Tuesday

08:30 - 09:00	Walk in
09:00 - 10:00	Keynote speaker 2
10:00 - 10:30	Coffee break
10:30 - 12:30	Scientific session I (parallel sessions)
12:30 - 13:30	Lunch break
13:30 - 15:00	Scientific session II (parallel sessions)
15:00 - 15:30	Coffee break
15:30 - 17:10	Scientific session III (parallel sessions)
17:10 - 17:20	Go to Conference Room for Closing remarks
17:20 - 17:45	Closing remarks

**SATELLITE EVENT –  
unconfUROS hackathon**

Conference Room of *National Institute of Statistics*, Blue Hall, Ground Floor

**May 22, Wednesday**

08:30 - 09:00	Welcoming participants
09:00	Opening, who is who?; Work starts.
12:00 - 13:00	Lunch break
19:30	End of day/Discussions

unConf implemented ideas will be promoted via conference website, GitHub and social media.

**CONFERENCE VENUE**

National Institute of Statistics, Bucharest, Romania  
Address of National Institute of Statistics:  
**No.16 Libertatii Bvd., District 5, Bucharest, Romania**



GPS: 44°25'47.5"N 26°05'37.0"E