

```
program h
  use stdlib, only : RNG, only : ran
  use statlib, only: hpg_rvs => hypergeometric
```

```
implicit none
integer :: k(2,3,4), a(2,3,4), b(2,3,4)
integer :: put, get
```

22nd

```
put = 12
call hpg_rvs(k, a, b)

! 25 draws from a sample of size 100 with
! with desired attributes
k(:, :, :) = 25; a(:, :, :) = 30; b(:, :, :) = 40

! A rank 3 array of 60 hypgeo random variate
print *, hpg_rvs(k, a, b)

! 40 draws from a sample of size (35 + 30)
! in which 35 are of the first type and 5 of the second
```

September 21–23, 2026
Koper, Slovenia

Conference Program

International Conference
APPLIED STATISTICS 2026
Conference Program

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Please send any questions/corrections regarding the programme to andrej.kastrin@mf.uni-lj.si.

September 21–23, 2026
Koper/Capodistria, Slovenia

8.30–15.00 **Registration**

9.00–9.30 **Opening**
Room 1

9.30–10.20 **Keynote**
Room 1

1. **Parametric sparse models for distributional data**
Paula Brito

10.20–10.50 **Break**

10.50–12.20 **Official Statistics**
Room 1

1. **Nowcasting the Total Market Production Index for Slovenia**
Sašo Polanec, Tjaša Bartolj, Aleša Lotrič Dolinar and Mojca Bavdaž
2. **A Modelling Approach to Estimating Average Daily Tourist Spending in Slovenia**
Primož Bogner
3. **Noise Addition as a Prospective Solution to Over-suppression**
Žan Korošec
4. **Event History Analysis of Response Behaviour: A Comparative Study Across Respondent Groups in Three Independent Socio-Demographic Surveys in Italy**
Marija Mamolo, Loredana Di Consiglio and Raffaella Succi
5. **Estimation of Monthly Unemployment Rate in Slovenia**
Zarja Fabjan
6. **FDI and Portfolio Investments in Ukraine: A Statistical Comparison of Dynamic Characteristics (1994–2026)**
Vadym Maslii

10.50–12.20 **Mathematical Statistics**
Room 2

1. **The cdf of BCF: Posterior contraction rate and Bernstein-von Mises theorem for Bayesian causal forests**
Andrej Srakar
2. **How contagious is happiness, Bayesian spatial modeling of life satisfaction with individual covariates**
Marek Brabec, Dana Hamplova, Marek Maly and Patricia Martinkova
3. **Stability and Precision of Entropy-Based Aggregation Methods in Ill-Conditioned Regression: A Simulation Study**
Ana Helena Tavares, Pedro Macedo and Maria Costa
4. **A common-shape Bayesian nonparametric model for multivariate mean and covariance change points**
Gordon Ross

5. Joint Distribution of Correlated Exponential Random Variables via a Sum-of-Products Representation

Fatemeh Khaledian, Reza Asvadi, Tad Matsumoto and Mohd Azri Bin Mohd Izhar

6. Change-Point Detection in Innovation Distributions of Circular Regression Models

Bojana Milošević and Dunja Prokić

12.20–12.30 **Break**

12.30–13.30 **Data Science 1**

Room 1

1. Validation of Adolescents' EMA Profiles through Classification of Symbolic Distributional Data

Jasminka Dobša, Simona Korenjak-Černe, Miranda Novak, Maja Buhin Pandur and Lucija Šutić Barbarić

2. Oscillation detection: Ten data-driven approaches

Ian Marsh

3. Multimodal Physiological Monitoring During a Contemplative Workshop Using Thermal Imaging and Photoplethysmography

Tannistha Maiti, Saket Kumar, Aahana Mishra and Tarry Singh

4. An Empirical Evaluation of Benford's law on Real world Datasets and the Impact of Random Data Contamination

Ajay Kumar Takiar

12.30–13.30 **Measurement and Modeling**

Room 2

1. Resolution, not frequency: a discrimination index of self-assessment and achievement in computer-based testing

Danilo Strugarevic, Nikola Gligorijevic, Vladimir Cabric, Rade Rakic and Dejan Andjelkovic

2. Measurement invariance, predictive invariance and comparability of individual measurements

Gregor Sočan

3. Detecting Asymmetric Persistence in Stationary Time Series: Reconstruction of a Modified Langevin Model from Natural Data

Zbigniew Czechowski

4. Modeling Response Time Contamination from Pausing in Web Surveys: A Distributional Approach

Luka Štrlekar and Vasja Vehovar

5. One Population, Twenty Studies: A Simulation-Based Framework for Exploring Sources of Heterogeneity in Biomedical Research

Antonina Spalińska, Wojciech Glinkowski and Bartłomiej Michalak

13.30–14.30 **Lunch**

14.30–15.20 **Invited Lecture**
Room 1

1. **Biblum in Orange: Visual-Programming Bibliometric Analysis**
Lan Umek

14.30–16.00 **Data Science 2**
Room 2

1. **Multi-Criteria and Sequential Strategies for Data-Driven Design of Experiments**
Matteo Borrotti
2. **Registry Data to Analysis-Ready Data Through Structured Initial Data Analysis**
Maja Jurtela, Lara Lusa, Tina Žagar, Nika Bric, Mojca Birk and Vesna Zadnik
3. **Machine Learning and Regression-Based Prediction of Low Birth Weight Using Maternal Nutritional Factors, Biomarkers, and Obstetric Factors: A Multicenter Hospital-Based Study in Addis Ababa, Ethiopia**
Jiregna Olani Kedida, Thierry Bossy and Dario Gregori
4. **Performance Comparison for Privacy-Preserving Federated Learning Frameworks**
Shinto Pulickal Thomas, Thierry Bossy, Dario Gregori and Corrado Lanera
5. **Beyond Calibration and Resolution: A New Decomposition of Posterior Cross-Entropy for Evaluating Likelihood Ratio Systems**
Giulia Cereda, Fabio Corradi and Cecilia Viscardi
6. **Two-Level Pairwise SVM Ensemble for Classification**
Abeer Almalki, Mark Iles, Ann Morgan, Charles Taylor and Sofya Titarenko

15.20–16.35 **Complex Networks**
Room 1

1. **An Author Impact Measure**
Vladimir Batagelj
2. **Controlling or normalizing? Blockmodeling valued networks with unequal relational capacities**
Fabio Ashtar Telaarico and Aleš Žiberna
3. **MASG-AIA: A Deterministic Validation-Gated Cyber-Cognitive Intelligence Architecture for Cross-Domain Threat Reasoning**
Akihiro Fujii and Akshat Singh
4. **The Recipe Similarity Network: A Statistical Framework for Extracting Structural Information from Culinary Databases**
Michele Bellingeri, Axel Bidon-Chanal Badia, Marta Vila Rigat, Roberto Alfieri, Massimiliano Turchetto and Davide Cassi
5. **Stochastic Modelling of Scientific Collaboration and Knowledge Production**
Luka Kronegger

16.00–16.45 **Break**

16.15–17.30 **Social Sciences and Humanities 1**
Room 1

1. **Social Support Networks of Older Adults Before, During, and After the COVID-19 Pandemic**
Marjan Cugmas and Anuška Ferligoj
2. **The Role of Firms in Wage Inequality: Evidence from Linked Employer-Employee Data for Croatia and Slovenia**
Tjaša Bartolj, Barbara Kalar, Nataša Kump, Ria Ivandić, Velibor Mačkić and Filip Novokmet
3. **Using a Delphi study to assess consensus and content validity in a Cybersecurity Competence Framework for Older Adults**
Anže Mihelič, Kaja Prislan Mihelič and Ajda Šulc
4. **Psychosocial Risks in the Workplace: A Thematic Analysis of Instagram Posts**
Vanja Erčulj and Monika Martinc
5. **Assessing the Quality of Mixed Methods Research in Intervention Studies: Model Development, Empirical Application, and Integration Patterns**
Gizela Kopač and Damjan Černe

16.45–18.00 **Social Sciences and Humanities 2**
Room 2

1. **From Online Support to Bystander Intervention: A Mixed-Methods Perspective on Intimate Partner Violence in Slovenia**
Vanja Erčulj
2. **Philosophy and Power in Smart Cities: A Systematic Literature Review**
Aishe Khalilova and Ralf-Martin Soe
3. **Monte Carlo Evaluation of Methods for Estimating Regression Coefficients Involving Latent Variables**
Katja Škoda
4. **Evaluation of Health and Wellness Centres: A micro level study from Uttar Pradesh**
Shraddha Bhatia and Vandana Dwivedi

19.00–19.45 **Piano Concert**

19.45–21.00 **Reception**

8.30–12.00 **Registration**

9.00–9.50 **Keynote**
Room 1

1. **The Firth correction – a recap and new developments**
Georg Heinze

9.50–10.20 **Break**

10.20–11.50 **Biostatistics 1**
Room 1

1. **Comparative Assessment of High-Frequency Ultrasound Imaging for Cutaneous Melanoma Using a Histopathological Reference Standard**
Kyrylo Chalyy, Roman Hryshchenko, Olga Bogomolets and Viktor Stepanenko
2. **The impact of parallelism assumption in risk prediction models for ordinal outcomes**
Hana Šinkovec
3. **Net Survival Analysis in Thymic Malignancies: Preliminary Results from a SEER Cohort**
Aqsa Ali, Gloria Brigiari, Ileana Baldi, Giulia Lorenzoni, Dario Gregori and Aslihan Şentürk Acar
4. **Challenges in Analysis of Longitudinal Observational Study: A Case of Osseointegration of Dental Implants**
Nataša Kejžar, Maša Kušar and Sebastjan Perko
5. **AUGlmmTMB: an R package for non-boundary estimation in binomial mixed effects models**
Rok Blagus and Tina Košuta
6. **From Bioinformatics Quality Control to Statistical Modelling: A Structured Initial Data Analysis Checklist for Human High-Dimensional Genotype Data**
Cosimo Grazzini, Stefania Morelli, Elena Pilli, Giulia Cereda and Lara Lusa

10.20–11.35 **Artificial Intelligence 1**
Room 2

1. **Structural vs. Operational Friction in Digital Health Access Systems: A Cross-Platform Validated Classifier**
Leonardo Castellón-Rodríguez and Pedro Palos-Sánchez
2. **Beyond Traditional Methods: Exploring Machine Learning for Imputation in Official Statistics**
Matej Divjak and Kaja Malešič
3. **Mathematical Modelling in Modern Science and Control: Impact on the Continuity of the Philosophy of Science, Major Disturbances in Engineering, and the Mystification and Masking of Knowledge**
Robert Baždarić

4. **Correlation-Aware Bayesian Aggregation of Large Language Models with Identifiability and Calibrated, Distribution-Free Uncertainty**

Irem Tanriverdi and Ceylan Yozgatligil

5. **On the Performance of Language Models in Structural Time-Series Classification**

Yağmur Türkmen, Kerem Recep Gür, Pinar Cemre Yazıcı, Pelin Erkaya, Berke Baytak, Ismail Guzel, Pinar Karagoz and Ceylan Yozgatligil

11.50–12.00 **Break**

12.00–13.30 **Biostatistics 2**

Room 1

1. **Lead time estimation in cancer screening programmes: extension of the MOCCI method**

Ema Požek and Bor Vratnar

2. **Safety assessment of CO₂ insufflation during PEG insertion: a non-inferiority study with a twist**

Nuša Cesar, Matjaž Homan and Bor Vratnar

3. **Robustness and Reproducibility of Prognostic Factors in Lung Cancer: A Multi-verse Analysis Based on SEER Data**

Gloria Brigiari, Dario Gregori, Jiregna Olani Kedida, Stefania Lando and Vescovo Mariavittoria

4. **A Data-Augmentation Framework for Lq-Penalized Linear Mixed-Effects Models**

Rok Blagus and Lan Gerdej

5. **A Comparison of Causal Inference Methods for Survival Analysis Using a Simulation Study**

Petra Brlogar and Damjan Manevski

6. **Practical limitations of using the linear regression correction of Bland Altman analysis**

Maša Kušar

12.00–13.00 **Artificial Intelligence 2**

Room 2

1. **Electrospinning-Data.org Virtual Lab: An Explainable Data Science Environment for Reproducible Electrospinning Research**

Mehrab Mahdian, Ferenc Ender and Tamas Pardy

2. **Distributional Feature Importance for Correlated Predictors**

Burcu Koca Guler and Ceylan Yozgatligil

3. **Machine Learning-Based Identification of Shallow Groundwater Potential Zones for Sustainable Groundwater Management in the Guna-Tana landscape, Ethiopia**

Walelign K. Endalew

4. **Artificial intelligence in survey research and beyond**

Irena Ograjenšek and Matej Pičulin

5. **A comparison of mixed-effects models and machine learning methods for longitudinal prediction**

Mariša Ratajec and Rok Blagus

13.30–14.40 **Lunch**

14.40–16.10 **Statistical Applications 1**

Room 1

1. **When the MLE Fails: Orthogonalization for Stable Inference in Contingency Tables with Sampling and Structural Zeros**

Emanuel Ben-David

2. **Multivariate Statistical Analysis of Survey Data for Identifying Individual Profiles**

Khadija Ait Yakoub

3. **A New MAD test for Small Sample Comparisons – An Alternative to t-test**

Ramnath Takiar

4. **Modeling interconnected air traffic networks using Matrix-Valued Time Series methods**

Soudeep Deb and Amrutha Seshagiri

5. **Would the Lady Taste the Ratios? Concentration-Based and Compositional Analysis of Tea HPLC Data**

Patrik Prša and Damijana Kastelec

14.40–16.00 **Statistical Applications 2**

Room 2

1. **A new cure rate survival model based on the compound Poisson distribution: Application to the Cancer Data**

Reza Azimi

2. **Determinants of Coastal Adaptation Preferences to Sea-Level Rise among Wadden Sea Residents in Germany and the Netherlands: A Survey-Based SEM Approach**

Annika Traue and Diana Giebel

3. **Eyes on the Road, Hands on the Wallet: The Moderating Effect of Privacy, Trust, and Regulatory Environment on Willingness to Pay for In-Cabin AI Monitoring**

Gavin Wang

4. **Zero-Shot Classification of Water Quality Conditions from Multi-Resolution Satellite Imagery Using Vision-Language Foundation Models for Environmental Monitoring**

Muhammad Zaid Qamar, Mohammed Ajaoud, Cristiano Ciccarelli and Massimiliano Lega

5. **DBGenz: Efficient Integration of Multivariate Normal and t Probabilities**

Jakob Peterlin and Nataša Kejžar

14.40–16.10 Statistical Applications 3

Room 3

1. **Testing whether a single observation belongs to each sampled class: identifying leaves using morphometrics**
Giovani Festa Paludo and Júlio Sílvio De Sousa Bueno Filho
2. **Covariate-Adaptive Randomization in a Small-Sample Clinical Trial**
Neža Nograšek and Nataša Kejžar
3. **Comparative analysis of co-occurrence-based and embedding-based word networks in biomedical literature**
Tom Rupnik Medjedovič and Andrej Kastrin
4. **Perceptual Aspects of Uncertainty Visualization**
David Nabergoj, Bernarda Petek and Erik Štrumbelj
5. **How to divide by zero? The many existing solutions in logistic regression and two proposed new ones**
Gaj Vidmar and Jakob Peterlin

16.10–16.15 Closing

Room 1

9.00–12.00 **Workshop**
Room 1

1. **The weight of evidence: Likelihood ratios in forensic statistics**
Giulia Cereda