

Scientific Program
PROBASTAT 2024
May 20 – 24, 2024
Smolenice Castle, Slovakia

12:00 13:00 **Lunch**

Monday
20.5.2024

13:30 - 14:00
Conference Opening
Chair: Viktor Witkovský and Andrej Pázman

Monday
20.5.2024

14:00 - 15:00
Keynote Lecture I
Chair: Werner G. Müller

14:00 - 15:00 **Radoslav Harman**
The challenge of optimal exact design of experiment

15:00 - 15:10 **Break**

Monday
20.5.2024

15:10 - 16:50
Session I - Optimal Experimental Design
Chair: Andrej Pázman

15:10 - 15:35 Helmut Waldl, **Werner G. Müller**, P. Camelia Trandafir
A criterion and incremental design construction for simultaneous kriging predictions

15:35 - 16:00 * **Alba Muñoz del Río**, Víctor Casero-Alonso, Mariano Amo-Salas
How to robustify an experimental design: introducing a new methodology

16:00 - 16:25 **Samuel Rosa**, Radoslav Harman
Mixed-integer linear programming for computing optimal designs

16:25 - 16:50 **Bernhard Spangl**, Norbert Kaiblinger
On determining the minimal sample size in balanced 3-way ANOVA models where no exact F-test exists

16:50 - 17:20 **Coffee Break**

* participate in Student and Young Investigator Award competition

Monday
20.5.2024

17:20 - 18:35
Session II - Functional Data
Chair: Daniel Hlubinka

17:20 - 17:45 **Ioannis Kalogridis**, Stanislav Nagy
Robust functional regression with discretely sampled predictors

17:45 - 18:10 **Stanislav Nagy**, Tomáš Mrkvička and Antonio Elías
On boxplots for functional data

18:10 - 18:35 **Ondřej Vencálek**, Daniel Hlubinka, Stanislav Nagy
Depth-based detection of outliers for functional data

19:00 **Dinner**

Tuesday
21.5.2024

09:00 - 10:00
Keynote Lecture II
Chair: Michal Pešta

9:00 - 10:00 **Ulrike Schneider**, Patrick Tardivel, Tomasz Skalski, Piotr Graczyk
A unified framework for pattern recovery in penalized estimation and its geometry

10:00 - 10:10 **Break**

Tuesday
21.5.2024

10:10 - 11:00
Session III - Statistical Inference
Chair: S. Yaser Samadi

10:10 - 10:35 **Marc Hallin**
Consistent distribution-free and affine-invariant tests for the validity of independent component models

10:35 - 11:00 Jozef Hanč, **Dominik Borovský**, Martina Hančová
Probability distributions and calculations for Hake's ratio statistics in measuring effect size

11:00 - 11:30 **Coffee Break**

Tuesday
21.5.2024

11:30 - 12:45

Session IV - Statistical Inference

Chair: Germain Van Bever

11:30 - 11:55 Šárka Hudecová, **Michal Pešta**

Hurdle semi-continuous time series

11:55 - 12:20 **Matúš Maciak**, Ivan Mizera and Michal Pešta

Functional approaches for claims reserving using standard chain ladder data

12:20 - 12:45 **Daniel Hlubinka**, Šárka Hudecová

One sample location test based on the center-outward signs and ranks

13:00 - 14:00 **Lunch**

Tuesday
21.5.2024

14:50 - 15:50

Keynote Lecture III

Chair: Marc Hallin

14:50 - 15:50 Martin Waltz, **Ostap Okhrin**

Two-sample testing in reinforcement learning

15:50 - 16:00 **Break**

Tuesday
21.5.2024

16:00 - 17:15

**Session V - Statistical Inference in
Multivariate Analysis**

Chair: Daniel Klein

16:00 - 16:25 **Katarzyna Filipiak**, Augustyn Markiewicz, Malwina Mrowińska

On estimation of block covariance matrix with linearly structured blocks with the use of quadratic subspace properties

16:25 - 16:50 * **Malwina Mrowińska**, Monika Mokrzycka

Block covariance matrix estimation with structured off-diagonal blocks

16:50 - 17:15 **Ivan Žežula**, Daniel Klein, Martin Singull

Estimators of serial covariance parameters in multivariate linear models

17:15 - 17:45 **Coffee Break**

Tuesday
21.5.2024

17:45 - 18:35

Session VI - Statistical Inference

Chair: Katerzyna Filipiak

17:45 - 18:10 * **Matej Benko**, Zuzana Hübnerová, Viktor Witkovský
Characteristic function and moment generating function of multivariate folded normal distribution

18:10 - 18:35 **Zdeňka Geršlová**, Martin Lamoš, Stanislav Katina
Dynamic graphics for high-density EEG data using R

19:00 **Dinner**

Wednesday
22.5.2024

09:00 - 10:00

Keynote Lecture IV

Chair: Marie Hušková

9:00 - 10:00 **Martin Wendler**
Change-point detection for functional time series without dimension reduction

10:00 - 10:10 **Break**

Wednesday
22.5.2024

10:10 - 11:25

Session VII - Statistical Inference & Change Point Detection

Chair: Ulrike Schneider

10:10 - 10:35 **Šárka Hudecová**, Marie Hušková and Simos G. Meintanis
Specification tests for count time series

10:35 - 11:00 **Zuzana Prášková**
Testing structural breaks in large dynamic models

11:00 - 11:25 **Marie Hušková**, Charl Pretorius
Detection of changes in panel data

11:25 - 11:50 **Coffee Break**

Wednesday
22.5.2024

11:50 - 12:30
Poster Session
Chair: Ivan Žežula

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| Poster | 1 | * Alexandra Stadler , Werner G. Müller and Andreas Futschik <i>Comparison of algorithms for exact optimal designs in the gBLUP model</i> |
| Poster | 2 | * R. Negrete , I. García-Camacha, S. Pozuelo, C. Martín E. Vázquez <i>Prediction model for hydrogel formation</i> |
| Poster | 3 | Gejza Wimmer , Viktor Witkovský <i>Calibration model as a straight-line errors-in-variables model</i> |
| Poster | 4 | * Hedvika Ranošová , Daniel Hlubinka <i>Symmetry in functional spaces via characteristic functionals</i> |
| Poster | 5 | Elena Řihová , David Řiha <i>Identification of the personal sales succeed factors in a wealthy automotive market environment with exploratory factor analysis</i> |
| Poster | 6 | * Friday I. Agu , Ján Mačutek <i>Some extensions of the Schroter distribution family</i> |
| Poster | 7 | František Rublík <i>A note on the asymptotic confidence intervals for differences of location parameters</i> |
| Poster | 8 | Martina Hančová , Jozef Hanč, Dominik Borovský <i>Systematic design methodology in optimizing simulation & computational algorithms</i> |
| Poster | 9 | Barbora Kessel , Arciolanda Macama, Francisca dos Reis, Jeanette Melin, Maria Mache Malomalo, Gunilla Priebe <i>Assessment of measurement properties of a questionnaire in R</i> |
| Poster | 10 | Viktor Witkovský <i>Testing the difference of medians using empirical characteristic functions</i> |

12:30 **Lunch**

13:45 **Social Program**

19:00 **Dinner**

Thursday
23.5.2024

09:00 - 10:00
Keynote Lecture V
Chair: Jaromír Antoch

9:00 - 10:00 **Germain Van Bever**
Additive regression with general imperfect variables

10:00 - 10:10 **Break**

Thursday
23.5.2024

10:10 - 11:25
**Session VIII - Multivariate Analysis,
Regression and Mixed Models**
Chair: Barbora Kessel

10:10 - 10:35 **S. Yaser Samadi**, Rukayya Ibrahim, Tharindu P De Alwis
Spatio-temporal high-dimensional matrix autoregressive models via tensor decomposition

10:35 - 11:00 **Zuzana Rošťáková**, Roman Rosipal
A tensor decomposition approach to EEG eye blink removal

11:00 - 11:25 **Jaromír Antoch**
Data driven modelling of vertical profiles of atmospheric radiation

11:25 - 11:55 **Coffee Break**

Thursday
23.5.2024

11:55 - 12:45
Session IX - Statistical Inference
Chair: Stanislav Nagy

11:55 - 12:20 **I. Fazekas**, B. Fazekas, L. Forian
On the convergence rate for the longest at most T -contaminated runs of heads

12:20 - 12:45 **Martin Hrba**, Matúš Maciak, Barbora Peřtová, Michal Peřta
Bootstrapping not independent and not identically distributed data

13:00 - 14:00 **Lunch**

Thursday
23.5.2024

14:50 - 15:50
Keynote Lecture VI
Chair: Ivan Mizera

14:50 - 15:50 **Wolf-Dieter Richter**
Non-classically generalized complex numbers with applications to probability distributions and their characteristic functions

15:50 - 16:00 **Break**

Thursday
23.5.2024

16:00 - 16:50
Session X - Statistical Inference
Chair: Ulrike Schneider

16:00 - 16:25 Martin Huber, Kevin Kloiber, **Lukas Laffers**
Testing identification in mediation & dynamic treatment models

16:25 - 16:50 **Ivan Mizera**
Density estimation via maximum likelihood: shape constraints and beyond

16:50 - 17:20 **Coffee Break**

Thursday
23.5.2024

17:20 - 18:35
Session XI - Applied Statistics
Chair: Matúš Maciak

17:20 - 17:45 * **Laura Hajzoková**, Pavol Bokes
Variance in gene regulatory networks: The impact of system volume on network stability

17:45 - 18:10 * **Iryna Zabaikina**, Pavol Bokes, Abhyudai Singh
Feedback on dilution in stochastic gene expression: a comparative study of single-cell and population frameworks

18:10 - 18:35 * **Markéta Janošová**, Stanislav Katina, Jozef Hanes
Estimating parameters of truncated and skew normal distribution with observations below limit of quantitation

19:00 **Dinner**

Friday

09:00 - 09:50

24.5.2024

Session XII - Optimal Experimental Design

Chair: Samuel Rosa

9:00 - 9:25

*** Pál Somogyi**, Radoslav Harman, Samuel Rosa

A randomized exchange algorithm for optimal experimental design problems with general elementary information matrices

9:25 - 9:50

Caterina May, Theodoros Ladas, Kalliopi Mylona, Davide Pigoli

Design of experiments for function-on-function linear models

9:50 - 10:10

Coffee Break

Friday

10:10 - 11:40

24.5.2024

Keynote Lecture VI

Chair: Radoslav Harman

10:10 - 11:40

Christian Genest

The rocky start of the probability calculus

11:40

Closing Ceremony

12:00

Lunch

13:00

Departure from Smolenice to Bratislava (conference bus)