

Olomoucian Days of Applied Mathematics

ODAM²⁰₁₅

Scientific program

May 20- May 22, 2015

Wednesday May 20 (9.15 – 17.00)

09.15 - 10.00 Registration

10.00 - 10.15 Opening (room 2.001)

10.15 - 11.45 Invited speakers session (room 2.001)

Chair: Viktor Witkovský

10.15 - 11.00 Piercesare Secchi (invited speaker)

Four case studies in object oriented spatial statistics

11:00 - 11:45 Radko Mesiar (invited speaker)

OWA operators and their generalizations

12.00—13.20 Lunch (Menza Šmeralova)

13.30 – 14.55 Session S1: Probability and mathematical statistics (room 5.007)

Chair: Piercesare Secchi

13.30 – 14.15 Viktor Witkovský (invited speaker)

Exact statistical inference by using numerical FFT inversion of the characteristic function

14.15 – 14.35 Petr Lachout

A discussion on families of uniformly monotone functions

14.35 – 14.55 Marian Grendár

Contingency tables and the PP algorithm

13.20 – 15.00 Session F1: Fuzzy sets and applied mathematics - invited lectures (room 5.006)

Chair: Jana Talašová

13.20 – 14.10 Slavka Bodjanova (invited speaker)

Fuzzy c-partitions: approximation and partial defuzzification

14.10 – 15.00 Flavio Bazzana (invited speaker)

Portfolio optimization models with MATLAB

14.55 – 15.20 Coffee break

15.20 – 17.00 Session S2: Regression methods (room 5.007)

Chair: Gejza Wimmer

15:20 - 15:40 Sandra Donevska

Fitting conics via linear models with constraints

15:40 - 16:00 Martina Chvosteková

Multiple use of the calibration curve

16:00 - 16:20 Miriam Malíčková

Testing flatness

16:20 - 16:40 Lenka Radová

Application of stepwise selection procedures for biomarker signature discovery

16:40 - 17:00 Andreas Alfons

A robust extension of least angle regression for groupwise variable selection

15.20 – 17.00 Session F2: Fuzzy sets and applied mathematics (room 5.006)

Chair: Ondřej Pavlačka

15.20 – 15.40 **Karel Zimmermann**

One approach to unsolvable max-separable equation systems

15.40 – 16.00 **Ondřej Pavlačka**

On the normalization of fuzzy vectors of weights

16.00 – 16.20 **Pavla Rotterová**

Decision matrices with fuzzy events

16.20 – 16.40 **Věra Jandová**

The partial goals method based on the measure of fulfillment of the goals

16.40 – 17.00 **Martin Kalina**

On a construction method for associative monotone operations

18.00 Welcome party (Arigone wine bar)

Thursday May 21 (8.30 – 17.00)

08.30 – 09.50 Session S3: Mathematical and applied statistics 1 (room 5.007)

Chair: Petr Lachout

08.30 – 08.50 Marie Leváková

Inhibitory response latency and its estimation

08.50 – 09.10 Michaela Koščová

Indices of qualitative variation used for graphical representation of categorical data

09.10 – 09.30 Pavel Pavlíček

Optical shape measurement and the measurement uncertainty

09.30 – 09.50 Robert Zůvala

Mathematical aspects of the kriging method applied on landslide in Halenkovice

08.30 – 09.50 Session F3: Fuzzy sets and applied mathematics (room 5.006)

Chair: Jan Stoklasa

08.30 – 08.50 Pasi Luukka

Combining system dynamic modeling and the Datar-Mathews – method for analyzing metal mine investments

08.50 – 09.10 Jan Stoklasa

Classification performance in diagnostics: reflecting deliberate distortions of data

09.10 – 09.30 Jana Krejčí

Obtaining multiplicative fuzzy priorities from additively reciprocal fuzzy pairwise comparison matrices

09.30 – 09.50 Otto Bittner

The fuzzification of the risk measurement

09.50 – 10.20 Coffee break

10.20 – 11.45 Session S4: Clustering and related topics 1 (room 5.007)

Chair: Peter Filzmoser

10.20 – 11.05 Paula Brito (invited speaker)

Galois connections and conceptual clustering for distributional data

11.05 – 11.25 Kristýna Vaňkátová

The role of concomitant variables in mixture regression

11.25 – 11.45 Bettina Grün

Models identifying mixtures of mixtures using Bayesian estimation

10.30 – 11.50 Session F4: Fuzzy sets and applied mathematics (room 5.006)

10.30 – 11.10 Pavel Holeček

Methods of linguistically oriented fuzzy modeling in the multiple-criteria decision-making (FuzzME software)

11.10 – 11.30 Tomáš Talášek

Linguistic approximation of outputs of mathematical models - less commonly used approaches

11.30 – 11.50 Vojtěch Sukač

A linguistic fuzzy approach to the problem of consensus reaching in multiple criteria group decision-making

12.00 – 13.20	Lunch (Menza Šmeralova)
13.30 – 14.50	Session S5: Compositional data analysis 1 (room 5.007) Chair: Matthias Templ
13.30 – 13.50	Peter Filzmoser <i>Constructing weighted balances for compositional data</i>
13.50 – 14.10	Karel Hron <i>Logratio approach to correlation between parts of compositional data</i>
14.10 – 14.30	Klára Hrůzová <i>Compositional analysis of trade flows structure</i>
14.30 – 14.50	Petra Kynčlová <i>Plotting compositional and non-compositional variables in a biplot</i>
13.10 – 14.50	Session A: Applied mathematics (room 5.006) Chair: Marian Grendár
13.10 – 13.30	Lubomír Košťál <i>Threshold effect in neuronal coding</i>
13.30 – 13.50	Immanuel Bomze <i>Ternary and other hard decision problems: how copositive optimization can help</i>
13.50 – 14.10	Róbert Špir <i>Cell lineage tree reconstruction from time series of 3D images of zebrafish embryogenesis</i>
14.10 – 14.30	Zuzana Krivá <i>Quadtree based finite volume method for diffusion equations with application on SAR imaged filtering</i>
14.30 – 14.50	Miroslav Rypka <i>New developments in selfsimilarity</i>
14.50 – 15.15	Coffee break
15.15 – 17.00	Session S6: Mathematical and applied statistics 2 (room 5.007) Chair: Paula Brito
15.15 – 16.00	Francesco Mola (invited speaker) <i>Background subtraction in image segmentation</i>
16.00 – 16.20	Matthias Templ <i>Synthetic data: modelling and generating complex close-to-reality data for public use</i>
16.20 – 16:40	Katarína Burclová <i>Simultaneous optimal design via linear programming</i>
16.40 – 17.00	Silvie Bělašková <i>Accuracy of the p-values of omnibus tests for the proportional hazards model with delayed entries</i>
17.30 – 19.00	Excursion
19.00 -	Conference dinner (Podkova restaurant)

Friday May 22 (9.00 – 11.50)

09.00 – 10.20 Session S7: Compositional data analysis 2 (room 5.007)

Chair: Andreas Alfons

09.00 – 09.20 **Kamila Fačevicová**

General approach to compositional tables analysis

09.20 – 09.40 **Alžběta Gardlo**

PARAFAC for compositional data with application to metabolomics

09.40 – 10.00 **Valentin Todorov**

R software for robust 3-way data analysis

10.00 – 10.20 **Gianna S. Monti**

Scaled-Dirichlet regression for compositional data

10.20 – 10.50 Coffee break

10.50 – 11.50 Session S8: Clustering and related topics 2 (room 5.007)

Chair: Jaromír Antoch

10.50 – 11.10 **Pavlo Mozharovskyi**

Computing Tukey depth based on linear programming

11.10 – 11.30 **Ondřej Vencálek**

Distributional neighbourhood and k depth-nearest neighbour method reborn

11.30 – 11.50 **Alessandra Menafoglio**

A geostatistical approach to clustering georeferenced density functions in Bayes spaces

11.50 Closing

12.00 – 13.30 Lunch (Menza Šmeralova)
