

# 2<sup>nd</sup> International Workshop on Data – Algorithms – Decision Making

December 9 - 12, 2006

Třešť, Czech Republic

Programme chair: Martin Janžura

Organization chair: Jiří Ivánek

*Research Centre Data – Algorithms – Decision Making*

Programme:

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*December 10, 2006. Morning*

*Session 1 – Chairman: Milan Mareš*

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|---------------|---|
| 8,30 – 9,20   | <i>Some Open Problems of Fair Division</i><br>Milan Vlach (The Kyoto College of Graduate Studies for Informatics)   |
| 9,20 – 10,10  | <i>On Divergences of Finite Measures and Some Statistical Applications</i><br>Wolfgang Stummer (University of Erlangen-Nurnberg)<br>Igor Vajda (Institute of Information Theory and Automation) |
| 10,10 – 10,30 | <i>Coffee Break</i>   |
| 10,30 – 10,55 | <i>On Bahadur Efficiency in Testing the Goodness of Fit</i><br>Igor Vajda (Institute of Information Theory and Automation)  |
| 10,55 – 11,20 | <i>Advanced Blind Source Separation Methods and their Application in EEG Data Analysis</i><br>Petr Tichavský (Institute of Information Theory and Automation)                                   |
| 11,20 – 11,45 | <i>Divergence-based Tests of Goodness-of-fit</i><br>Tomáš Hobza (Institute of Information Theory and Automation)  |
| 11,45 – 13,00 | <i>Lunch</i>  |

*December 10, 2006. Afternoon*

*Session 2 – Chairman: Martin Janžura*

- 13,00 – 13,50*                      *Recent Advances in Model-Based Clustering: Image Segmentation and Variable Selection*  
Adrian E. Raftery (University of Washington)
- 13,50 – 14,15*                      *Probabilistic Projections of HIV Prevalence Using Bayesian Melding*  
Leontine Alkema (University of Washington)  
Adrian E. Raftery (University of Washington)  
Samuel J. Clark (University of Washington)
- 14,15 – 14,40*                      *Bayesian Melding in Urban Simulations*  
Hana Ševčíková (University of Washington)
- 14,40 – 15,00*                      *Coffee Break*
- 15,00 – 15,25*                      *A Survey of Research Activities at FAV in Filtering, Detection and Control*  
Miroslav Šimandl et al. (Fac. of Applied Science, University of West Bohemia)
- 15,25 – 15,50*                      *Toolbox for Nonlinear Estimation*  
Miroslav Flidr et al. (Fac. of Applied Science, University of West Bohemia)
- 15,50 – 16,15*                      *Lissack-Fu Distance Based Pruning for Gaussian Mixtures*  
Ondřej Straka (Fac. of Applied Science, University of West Bohemia)  
Miroslav Šimandl (Fac. of Applied Science, University of West Bohemia)
- 16,15 – 16,40*                      *Experiments with Distributed Bayesian Decision-Making*  
Václav Šmídl (Institute of Information Theory and Automation)  
Josef Andrýsek (Institute of Information Theory and Automation)
- 16,40 – 17,05*                      *Toolbox for Multivariate Adaptive Controller Design*  
Miroslav Novák (Institute of Information Theory and Automation)
- 17,05 – 17,30*                      *Bayesian Decision Support for Industry: Application Themes*  
Pavel Ettler (COMPUREG Plzeň, s.r.o.)
- 18,00 – 19,00*                      *Supper*
- 19,00 – 20,00*                      *Poster Session*
- 20,00*                                  *Zasedání Rady Výzkumného centra DAR*

***Reconstruction of Attenuation Images in Ultrasound Transmission Tomography***

Radovan Jiřík et al. (Brno University of Technology)

***Calibration of a Transmission Ultrasound Computed Tomography System***

Adam Filipík et al. (Brno University of Technology)

***Comparison of Wave-Equation versus Measurement-Processing Transducer Calibration for Ultrasonic Transmission Tomography***

Jiří Začal et al. (Brno University of Technology)

***Registration of Frames in Time Series of Autofluorescent Images***

Libor Kubečka et al. (Brno University of Technology)

***Properties of Retinal Nerve Fiber Layer via Color Fundus Images***

Radim Kolář et al. (Brno University of Technology)

***Invariant Recognition Systems in Frequency Domain***

Kateřina Nováková (CTU in Prague, Fac. of Nuclear Sciences and Physical Engineering)  
Jaromír Kukal (ICT Prague, Fac. of Chemical Engineering)

***Matlab-Aimsun Interface***

Pavel Dohnal (Institute of Information Theory and Automation)

***Modelling of Perception of Non-planar Scene in a Defect Vision***

Irena Váňová (Institute of Information Theory and Automation)  
Jan Flusser (Institute of Information Theory and Automation)

***Modeling the Growth of Filamentous Specimens by Means of the Morphological Skeleton***

Jiří Sedlár (Institute of Information Theory and Automation)  
Jan Flusser (Institute of Information Theory and Automation)  
Michaela Sedlářová (Fac. of Science, Palacký University in Olomouc)

***Partially Occluded Binary Object Recognition Using Polygonal Approximation***

Jan Kamenický (Institute of Information Theory and Automation)  
Ondřej Horáček (Institute of Information Theory and Automation)  
Jan Flusser (Institute of Information Theory and Automation)

***Application of image processing in examination of plant-pathogen interactions***

Vladimír Šašek (UEB CAS CR, KOR FAPPZ ČZU)  
Barbora Korbelová (UEB CAS CR, UBM FPBT VŠCHT)  
Jakub Bican (Institute of Information Theory and Automation, MFF UK)  
Lenka Burketová (UEB CAS CR)

***The Continuous Time Modelling of Controlled Traffic Network***

Jan Zeman (Institute of Information Theory and Automation)

*December 11, 2006. Morning*

*Session 3 – Chairman: Igor Vajda*

*8,30 – 8,55*

***A Statistical Approach to Local Evaluation of a Single Texture Image***

Jiří Grim (Institute of Information Theory and Automation)  
Petr Somol (Institute of Information Theory and Automation)  
Michal Haindl (Institute of Information Theory and Automation)  
Pavel Pudil (Institute of Information Theory and Automation)

*8,55 – 9,20*

***Feature Subset Selection for Text Categorization***

Jana Novovičová (Institute of Information Theory and Automation)  
Petr Somol (Institute of Information Theory and Automation)

*9,20 – 9,45*

***Flexible-Hybrid Sequential Floating Search in Statistical Feature Selection***

Petr Somol (Institute of Information Theory and Automation)  
Jana Novovičová (Institute of Information Theory and Automation)

*9,45 – 10,10*

***Illumination Invariant Texture Retrieval***

Pavel Vácha (Institute of Information Theory and Automation)  
Michal Haindl (Institute of Information Theory and Automation)

*10,10 – 10,35*

***Coffee Break***

*10,35 – 11,00*

***BTf Modelling Using BRDF Texels***

Jiří Filip (Institute of Information Theory and Automation)  
Michal Haindl (Institute of Information Theory and Automation)

*11,00 – 11,25*

***Process Model Optimization***

Vladimír Vaněk (OASA COMPUTERS, Ltd.)  
Petr Lukasič (OASA COMPUTERS, Ltd.)

*11,25 – 12,00*

***Using Fuzzy Petri Nets for Process Definition***

Jaroslav Knybel (University of Ostrava)  
Jaroslav Procházka (OASA COMPUTERS, Ltd.)  
Viktor Pavliska (University of Ostrava)

*12,00 – 14,00*

***Lunch***



*December 12, 2006. Morning*

*Session 5 – Chairman: Radim Jiroušek*

*8,30 – 8,55*

*MUDIM – a Software Tool Based on MUltiDiMensional Models*

Vladislav Bina (Faculty of Management, University of Economics)

Radim Jiroušek (Institute of Information Theory and Automation)

Václav Kratochvíl (Institute of Information Theory and Automation)

*8,55 – 9,20*

*An Algebraic Approach to Structural Learning Bayesian Networks*

Milan Studený (Institute of Information Theory and Automation)

*9,20 – 9,45*

*Additive Decomposition of Probability Tables*

Petr Savický (Institute of Computer Science)

Jiří Vomlel (Institute of Information Theory and Automation)

*9,45 – 10,10*

*Shapley Mappings and Values of Coalition Games*

Dan Butnariu (University of Haifa)

Tomáš Kroupa (Institute of Information Theory and Automation)

*10,10 – 10,35*

*Coffee Break*

*10,35 – 11,00*

*Application of Rényi's Divergence in Testing Hypotheses about Exponential Models*

Lucie Fajfrová (Institute of Information Theory and Automation)

*11,00 – 11,25*

*Hierarchical and Distributed Urban Traffic Control*

Jan Příkryl (Institute of Information Theory and Automation)

*11,25 – 11,50*

*Linear Uniform State-Space Model of Traffic Flow and its Estimation*

Lenka Pavelková (Institute of Information Theory and Automation)

*11,50 – 12,15*

*Urban Traffic Control Model*

Tomáš Tichý (ELTODO dopravní systémy s.r.o.)

Dušan Vaněk (ELTODO dopravní systémy s.r.o.)

*12,15 – 14,00*

*Lunch, Departure*