

Applications of Mathematics

Editorial

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EDITORIAL

This special issue of *Applications of Mathematics* is devoted to the third workshop on Analytical Methods in Statistics (AMISTAT 2019), which took place in Liberec on September 16–19, 2019. It was organized by the Department of Applied Mathematics at the Faculty of Science, Humanities and Education of the Technical University of Liberec. The workshop was held under the auspices of Miroslav Brzezina, Rector of the Technical University of Liberec.

The tradition of AMISTAT workshops started in 2011, when the first workshop took place in Prague, and the second AMISTAT 2015 took place in Prague again.

We would like to thank all the speakers and participants for their coming and contributing to the high scientific level of the program. There were almost 60 participants from around the world (Austria, Belgium, Finland, France, India, Russia, Serbia, Slovakia, Sweden, Turkey, UK, USA, and the Czech Republic).

The workshop was an opportunity to exchange ideas and to discuss solved or unsolved problems of mathematical statistics, among others concerning the subjects:

- ▷ Fisher information
- ▷ Parameter and function estimation
- ▷ Distances, norms and optimality in statistics and econometrics
- ▷ Shape problems and shape restrictions
- ▷ Generalized linear models
- ▷ Signal plus noise models
- ▷ Stochastic inequalities
- ▷ Asymptotics versus non-asymptotics

Let us recall the keynote speakers and titles of their presentations:

ILDAR IBRAGIMOV (Steklov Mathematical Institute, St. Petersburg, Russia):

On the Estimation of Intensity Density Functions of Poisson Processes

ABRAM KAGAN (University of Maryland, USA):

An Exponent of Signal Detection

HIRA L. KOUL (Michigan State University, USA):

Weighted Empirical Minimum Distance Estimators in Berkson Measurement Error Regression Models

HANNU OJA (University of Turku, Finland):

Information and Structures in Multivariate Data Sets: PCA vs. ICA

Let us also recall the invited speakers and titles of their presentations:

PRANAB K. SEN (University of North Carolina, USA):

Hadamard Differentiability of Certain Statistical Functionals with Applications to Arsenic Contamination Problems

MARC HALLIN (Université Libre de Bruxelles, Belgium):

Center-Outward R-Estimation for Semiparametric VARMA Models

URSULA U. MÜLLER (Texas A&M University, USA):

Estimating the Response Density in Semiparametric Regression

IVAN MIZERA (University of Alberta, Canada):

Analytic Properties of Nonparametric Maximum Likelihood and Related Estimators

ROGER KOENKER (University College London, UK):

Minimalist G-Modeling: Empirical Bayes Methods for Mixture Models

LEV KLEBANOV (Charles University in Prague, Czech Republic):

Outliers and Heavy Tailness

In addition to interesting and inspiring talks and posters, the workshop offered space for formal and informal discussions, and allowed to enjoy a highly appreciated social program spent together among colleagues in friendly atmosphere.

The Guest Editors use this occasion to cordially thank the anonymous referees, who kindly (and thoroughly) read the manuscripts before publication.

The Guest Editors cordially thank Vít Dolejší, Editor-in-Chief of *Applications of Mathematics*, for giving his approval to dedicate this special issue to the workshop AMISTAT 2019. They also appreciate the cooperation with Eva Ritterová, the Executive Editor, and her help with preparing and organizing this issue.

We believe that the readers will follow the papers with interest, and that we shall meet again at one of the next workshops.

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