Novosibirsk State Technical University
NETI

AMSA '19

PROGRAM
of the V International Workshop

APPLIED METHODS OF STATISTICAL ANALYSIS. STATISTICAL COMPUTATION AND SIMULATION

Novosibirsk

18-20 September, 2019

18 September 2019

9.00 – 9.30 **Registration**

9.30 – 10.00 **Opening Ceremony**

10.00 – 11.15 Keynote Lecture: Prof. G. Koshkin

Estimation of the present values of net premiums and life annuities for the different actuarial models

11.15 – 11.45 **Coffee Break**

11.45 – 13.00 Keynote Lecture: Prof. Yu. Grigoriev

Actuarial risk theory: becoming in Russia, main problems and development of concepts

13.00 – 14.00 **Lunch**

14.00 – 15.30 Section: Econometric methods and modeling

Chair: Dr. V. Timofeev

N. Oleinik, V. Shchekoldin

Study of the properties of geometric ABOD-approach modifications for outlier detection by statistical simulation

V. Timofeev, A. Veselova, K. Teselkina

Analysis of the methods of the Kriging family and GWR for transport speeds prediction models development

A. Timofeeva, A. Borisova

Logistic regression model of student retention based on analysis of the Bolasso regularization path

M. Shakra, Yu. Shmidt, I. Almosabbeh

Evaluating the impact of tourism on economic growth in Tunisia

T. Sumskaya

Problems of Sub-Federal budget policy in Russian Federation (The case of municipalities of the Novosibirsk Oblast)

15.30 – 16.00 **Coffee Break**

16.00 – 17.30 Section: Applications of statistical methods

Chair: Dr. M. Krnjaji¢

M. Krnjaji¢, R. Maslovskis

On some practical approaches of data science applied in forecasting and personalization

V. Demin

FOREL clusterization approach for finding "home/work" users geolocations

Yu. Mezentsev, O. Razumnikova, I. Tarasova, O. Trubnikova

On the clustering task of Big Data in medicine and neurophysiology

V. Glinskiy, L. Serga, Yu. Ismaiylova, M. Alekseev

Disproportion of Russian Regions development in the sphere of population provision with food of own production

N. Zakrevskaya, A. Kovalevskii

An omega-square statistics for analysis of correspondence of small texts to the Zipf–Mandelbrot law

19.00 – 23.00 **Gala Dinner**

19 September 2019

9.30 – 11.00 Section: Nonparametric and robust statistical methods in cybernetics

Chair: Prof. G. Koshkin

E. Pchelintsev, S. Perelevskiy
Asymptotically efficient estimation of a drift coefficient in diffusion processes

K. Chirikhin, B. Ryabko
Application of artificial intelligence and data compression methods to time series forecasting

D. Politis, V. Vasiliev, S. Vorobeychikov
Optimal index estimation of log-gamma distribution

T. Dogadova, V. Vasiliev
Adaptive prediction of Ornstein-Uhlenbeck process by observations with additive noise

Yu. Burkatovskaya, V. Vasiliev
Parameter estimation with guaranteed accuracy for AR(1) by noised observations

11.00 – 11.30 **Coffee Break**

11.30 – 13.00 Section: Nonparametric and robust statistical methods in cybernetics

Chair: Prof. V. Vasiliev

Yu. Dmitriev, G. Koshkin
Estimation of present value of deffered life annuity using information about expectation of life

V. Smagin, G. Koshkin, K. Kim
Robust extrapolation in discrete systems with random jump parameters and incomplete information

A. Medvedev, E. Chzhan
On levels of a priori information in the identification and control problems

A. Raskina, E. Chzhan, V. Kukartsev, A. Karavanov, A. Lonina
Nonparametric dual control algorithm for discrete linear dynamic systems

D. Lisitsin, A. Usol'tsev
Minimum gamma-divergence estimation for non-homogeneous data with application to ordered probit model

13.00 – 14.00 **Lunch**

14.00 – 15.30 Section: Nonparametric and robust statistical methods in cybernetics

Chair: Prof. G. Koshkin

N. Antropov, E. Agafonov
Adaptive kernel identification of nonlinear stochastic dynamical systems

B. Dobronets, O. Popova
A nonparametric approach for estimating the set of solutions of random linear programming

K. Pakhomova, P. Peresunko, S. Videnin, E. Soroka
The income prediction module of the retail store's network

P. Peresunko, K. Pakhomova, E. Soroka, S. Videnin
Comparison of generalization error's methods on case of linear regression

V. Stasyshin
Research of educational business processes in the decision making support system of University

A. Tyrsin, Ye. Chistova, A. Antonov
A scalar measure of interdependence between random vectors in problems for researching of multidimensional stochastic systems

15.30 – 16.00 **Coffee Break**

16.00 – 17.30 Section: Statistical simulation of natural processes

Chair: Prof. V. Ogorodnikov

A. Medvyatskaya, V. Ogorodnikov
Approximate numerical stochastic spectral model of a periodically correlated process

O. Soboleva
Modeling of dispersion in a fractal porous medium

M. Akenteva, N. Kargapolova, V. Ogorodnikov
Numerical study of the bioclimatic index of severity of climatic regime based on a stochastic model of the joint meteorological time series

T. Averina, I. Kosachev, K. Chugai
A stochastic model of an unmanned aerial vehicle control system

T. Averina, K. Rybakov
Maximum cross section method in estimation of jump-diffusion random processes

20 September 2019

09.00 – 10.15	Keynote Lecture: Distinguished Professor N. Balakrishnan On First Passage Time of Monotone Degradation Processes
10.15 – 11.00	Section: Lifetime data analysis Chair: Dr. E. Chimitova

P. Philonenko, S. Postovalov
On the distribution of the MIN3 two-sample test statistic

P. Philonenko, S. Postovalov
The research of the two-sample test statistics convergence rate

11.00 – 11.30 **Coffee Break**

11.30 – 13.00	Section: Lifetime data analysis Chair: Dr. E. Chimitova

I. Malova, S. Malov
On estimation algorithms in nonparametric analysis of the current status right-censored data

L. Kakadjanova
Empirical processes of independence in presence of estimated parameter

N. Galanova
Approaches to customers lifetime value prediction

E. Chetvertakova, E. Chimitova, E. Osintseva, R. Snetkov
The Wiener degradation model in the analysis of the laser module ILPN-134

13.00 – 14.00 **Lunch**

14.00 – 15.00	Section: Monte Carlo method in problems of Applied Statistics Chair: Prof. B. Lemeshko

O. Makhotkin
Investigation of the chi-squared test errors

A. Voytishek, T. Bulgakova
On conditional optimization of “kernel” estimators of densities

B. Lemeshko, S. Lemeshko, M. Semenova
Features of testing statistical hypotheses under big data analysis

15.00 – 15.30 **Closing Ceremony**