

# ***Conference Schedule***

## **Tuesday** **September 6**

8.00–20.00	Registration
15.00–19.00	Visiting of museum

## **Wednesday** **September 7**

8.00–20.00	Registration
9.00–9.30	Opening ceremony
9.30–12.40	Plenary session
14.00–18.30	Contributed sessions
19.00	Theaters

## **Thursday** **September 8**

9.00–12.40	Plenary session
14.00–18.30	Contributed sessions
19.00	Conference Dinner

## **Friday** **September 9**

9.30–12.40	Plenary session
14.00–18.30	Contributed sessions

## **Saturday** **September 10**

9.00–17.00	Excursion Departure
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## **Everyday** **September 7, 8, 9**

10.40–11.10, 15.40–16.10	Coffee Break
12.40–14.00	Lunch Break

## **Time and Place of Sessions**

Room	R0	R1	R2
<b>Time</b>	<b>9.00–12.40</b>	<b>14.00–18.30</b>	<b>14.00–18.30</b>
<b>Sep.7</b>	<b>O, P</b>	<b>C1</b>	<b>C6</b>
<b>Sep.8</b>	<b>P</b>	<b>C2</b>	<b>C5</b>
<b>Sep.9</b>	<b>P</b>	<b>C3</b>	<b>C4</b>

*O – Opening, P – Plenary, C1–C6 – Contributed sessions*

**The Registration and Conference sessions will be held in the Building of International Relations Faculty of the BSU (Leningradskaya str., 20).**

# Scientific program

## Wednesday, September 7

Time	Chair: Prof. Yu. Kharin	Plenary Session
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9.00–9.30		<b>Opening ceremony</b>
9.30–10.10	<b>Fokianos K.</b>	<b>Keynote Lecture:</b> Binary and Count Time Series Analysis

10.10–10.40	<b>Oliveira M.R., Vilela M., Pacheco A., Valadas R., Salvador P.</b>	Extracting Information from Interval Data Using Symbolic Principal Component Analysis
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Chair: Prof. P. Filzmoser		
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11.10–11.40	<b>Miksch S.</b>	A Matter of Time: Interactive Visual Analytics of Time-Oriented Data and Information
11.40–12.10	<b>Zaigrajew A., Alama-Bučko M.</b>	Optimal Choice of Order Statistics Under Confidence Region Estimation in Case of Large
12.10–12.40	<b>Kharin Yu.S., Zhurak M.</b>	Statistical Analysis of Discrete Spatio-Temporal Data by Conditional Autoregressive Models

14.00–18.30	Contributed Sessions
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Session C1	Robust and Multivariate Data Analysis
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Time	Chairs: P. Filzmoser, A. Kharin	
14.00–14.20	<b>Brodinova S., Zaharieva M., Filzmoser P., Ortner T., Breiteneder C.</b>	Group Detection in the Context of Imbalanced Data
14.20–14.40	<b>Hoang H.S., Baraille R.</b>	On Stochastic Perturbation Method for Estimation of High Dimensional Matrix
14.40–15.00	<b>Kharin A., Ton That Tu</b>	Evaluation of Sequential Test Characteristics for Time Series with a Trend
15.00–15.20	<b>Ortner T., Filzmoser P., Brodinova S., Zaharieva M., Breiteneder C.</b>	Forward Projection for High-Dimensional Data
15.20–15.40	<b>Walach J., Filzmoser P., Hron K., Walczak B.</b>	A Pairwise Log-Ratio Method for the Identification Biomarkers

16.10–16.30	<b>Hoffmann I., Filzmoser P., Croux C.</b>	Robust and Sparse Multiclass Classification by the Optimal Scoring Approach
16.30–16.50	<b>Abdushukurov A.A., Muradov R.S.</b>	Estimation of Two-Dimensional Survival Function by Random Right Censored Data
16.50–17.10	<b>Smirnov P.O., Shirokov I.S., Shevlyakov G.L.</b>	On Approximation of the $Q_n$ -estimate of Scale by Highly Robust and Efficient M-estimates
17.10–17.30	<b>Savelov M.P.</b>	On the Sequential Chi-Square Test
17.30–17.50	<b>Zhuk E.E., Dus D.D.</b>	Assignment of Arbitrarily Distributed Random Samples to the Fixed Probability Distribution and its Risk
17.50–18.10	<b>Nikolov N.I.</b>	Lee Distance in Two-Sample Rank Tests
18.10–18.30	<b>Chernov S.Y.</b>	Error Probabilities in Sequential Testing of Simple Hypotheses for Dependent Observations

## Session C6

## Computer Data Analysis and Modeling in Applications

Time	Chairs: P. Dzemyda, M. Matalytski	
14.00–14.20	<b>Baklanova O., Baklanov A., Shvets O.</b>	Multivariate Analysis for Image Recognition System to Assess the Quality of the Mineral Species
14.20–14.40	<b>Hubin A.A., Storvik G.O.</b>	On Mode Jumping in MCMC for Bayesian Variable Selection within GLMM
14.40–15.00	<b>Kolchin A.V., Ionkina H.G.</b>	On Some Aspects in Acquisition of Brain Electrical Activity
15.00–15.20	<b>Klimenok V.I.</b>	Unreliable Queueing System with Backup Server
15.20–15.40	<b>Kharin A., Filzmoser P., Gabko P.</b>	Development of the Master Program on Applied Computer Data Analysis within the Tempus Project “Applied Computing in Engineering and Science”
16.10–16.30	<b>Matalytski M., Naumenko V., Kopats D.</b>	Analysis and Application of G-network with Incomes and Random Waiting Time of Negative Customers
16.30–16.50	<b>Minkevičius S., Greičius E.</b>	On the Inequality in Open Multiserver Queueing Networks
16.50–17.10	<b>Sergeev R.S., Kavaliou I.S., Tuzikov A.V., Sprindzuk M.V.</b>	Bioinformatics Analysis of M.TUBERCULOSIS Whole-Genome Sequences
17.10–17.30	<b>Varlamov O.O., Danilkin I.A.</b>	Knowledge Representation and Reasoning. Mivar Technologies
17.30–17.50	<b>Pavlova O.S., Malugin V.I., Ogurtsova S.E., Byk I.S., Novopoltsev A.Yu., Gorbat T.V., Liventseva M.M., Mrochek A.G.</b>	Computer Analysis of Essential Hypertension Risk on the Base of Genetic and Environmental Factors
17.50–18.10	<b>Starodubtsev I.E.</b>	Fractal Dimension as a Characteristic of Biological Cell AFM Images

## Thursday, September 8

Time	Chair: Prof. E. Orsingher	Plenary Session
9.00–9.40	Datta S., Dutta S.	<b>Keynote Lecture:</b> A Rank-Sum Test for Clustered Data When the Number of Subjects in a Group within a Cluster is Informative
9.40–10.10	Monti G.S., Filzmoser P., Deutsch R.	Robust Estimation Approach for Hazardous Concentration Levels Using Species Sensitivity Distribution
10.10–10.40	Stabingis G., Bernatavičienė J., Dzemyda G., Imbrasienė D., Paunksnis A.	Automated Classification of Arteries and Veins in the Retinal Blood Vasculature
<b>Chair: Prof. G. Dzemyda</b>		
11.10–11.40	Dürre A., Fried R., Vogel D.	The Spatial Sign Covariance Matrix and its Application for Robust Correlation Estimation
11.40–12.10	Shevlyakov G.L., Vasilevskiy N.V.	Performance Study of Linfoot's Informational Correlation Coefficient and its Modification
12.10–12.40	Vencalek O.	Data Depth and its Applications in Classification
<b>14.00–18.30</b>		<b>Contributed Sessions</b>
<b>Session C2</b>		<b>Statistical Analysis of Time Series and Spatial Data</b>
<b>Time</b>	<b>Chairs: K. Fokianos, Yu. Kharin</b>	
14.00–14.20	Ducinkas K., Dreiziene L.	Expected Error Rates in Classification of Gaussian CAR Observations
14.20–14.40	Badziahin I.A.	Parameter Estimation of Stationary Gaussian Time Series Observed Under Right Censoring
14.40–15.00	Sakhno L.M.	Statistical Inference for Random Fields in the Spectral Domain Based on Tapered Data
15.00–15.20	Ralchenko K.V.	Consistent Estimators of Drift Parameter in Stochastic Differential Equations Driven by Fractional Brownian Motion
15.20–15.40	Egorov A.D.	Evaluation of Expectation of a Class of Poisson Functionals

16.10–16.30	<b>Vorobeychikov S.E., Burkatovskaya Y.B.</b>	Guaranteed Change Point Detection of Linear Autoregressive Processes with Unknown Noise Variance
16.30–16.50	<b>Ageeva H.</b>	Forecasting of Regression Model Under Classification of the Dependent Variable
16.50–17.10	<b>Baranovskiy A.G., Troush N.N.</b>	Analysis of Self-Similarity Property of $\alpha$ -stable Processes
17.10–17.30	<b>Svidrytski A., Yatskou M., Apanasovich V.</b>	An Improved $k$ -Nearest Neighbors Algorithm for the Analysis of Two-Color DNA Microarray Data with Spot Quality Factors
17.30–17.50	<b>Orlova E.N.</b>	Statistical Analysis of Markov Chains with the Periodically Changed Transition Probability Matrices
17.50–18.10	<b>Nikitsionak V.I., Bachar A.M.</b>	Significance Level Analysis for Adaptive Algorithm of Stationary Poisson Stream Processing

## Session C5

## Survey Analysis and Official Statistics

<b>Time</b>	<b>Chairs: N. Agabekova, L. Soshnikova</b>	
14.00–14.20	<b>Novikov M.M.</b>	The Relevant Leading Indicator of Macroeconomic Dynamics
14.20–14.40	<b>Soshnikova L.A.</b>	Methodological Approaches to the Reflection of Environmental Assets in SEEA and NAMEA
14.40–15.00	<b>Agabekova N.</b>	Technique of Calculating the Gender and Age Scales of Real Consumer Expenditure
15.00–15.20	<b>Bokun N.</b>	Micro-Entities and Small Enterprises Surveys in Belarus
15.20–15.40	<b>Kolesnikova I.</b>	The R&D Intensity Factors of GDP
16.10–16.30	<b>Kulak A., Sharilova Y.</b>	Statistical Assessment of Gender Issues in Social and Labor Sphere
16.30–16.50	<b>Matkovskaya O.</b>	Application of Method Lags Model for the Analysis of the Impact Ecology on Health
16.50–17.10	<b>Sharilova Y., Kulak A.</b>	The Statistical Validity of the Increase in Retirement Age in the Republic of Belarus
17.10–17.30	<b>Visotski S.</b>	Modeling Competitive Advantage of Territories

## Friday, September 9

Time	Chair: Prof. K. Fokianos	Plenary Session
9.30–10.10	Orsingher E.	<b>Keynote Lecture:</b> Some Fractional Extensions of the Poisson Process
10.10–10.40	Mishura Yu.S.	Mixed Power Variations with Statistical Applications
	<b>Chair: Prof. K. Dučinskas</b>	
11.10–11.40	Stoimenova E.	Comparison of Partially Ranked Lists
11.40–12.10	Matilainen M., Miettinen J., Nordhausen K., Oja H., Taskinen S.	ICA and Stochastic Volatility Models
12.10–12.40	Jakimauskas G., Sakalauskas L.	Implementation of the Poisson-Gaussian Regression Model in Empirical Bayes Estimation of Small Probabilities

14.00–18.30

### Contributed Sessions

#### Session C3

#### Probabilistic and Statistical Analysis of Discrete Data

Time	Chairs: A. Zubkov, V. Voloshko	
14.00–14.20	Zubkov A.M., Kruglov V.I.	On Coincidences of Tuples in a Binary Tree with Randomly Labeled Vertices
14.20–14.40	Pavlov Yu.L.	On Random Graphs in Random Environment
14.40–15.00	Filina M.V., Zubkov A.M.	Some Remarks on the Noncentral Pearson Statistics Distributions
15.00–15.20	Cheplyukova I.A.	On the Limit Distribution of the Maximum Vertex Degree in a Conditional Configuration Graph
15.20–15.40	Radavičius M.	Hoeffding Type Inequalities for Likelihood Ratio Test Statistic
16.10–16.30	Gurevich G., Vexler A., Yang Zhao	Modern Empirical Likelihood Concepts
16.30–16.50	Kharin Yu.S., Maltsev M.V.	On One Generalization of Markov Chain with Partial Connections
16.50–17.10	Leri M.M.	On Robustness of Configuration Graphs with Random Node Degree Distribution
17.10–17.30	Menshenin D.O.	Asymptotic Properties of Binary Sequences Obtained by the Neumann Transform
17.30–17.50	Iskakova A.S.	Modeling Unbiased Estimators with Good Asymptotic Properties for the Sum of Multivariate Discrete Independent Random Variables

17.50–18.10	<b>Serov A.A., Zubkov A.M.</b>	Two-Sided Inequalities for the Average Number of Elements in the Union of Images of Finite Set Under Iterations of Random Equiprobable Mappings
18.10–18.30	<b>Voloshko V.</b>	Steganographic Capacity of Locally Uniform Markov Covers

## Session C4

## Econometric Modeling and Financial Mathematics

Time	Chairs: Yu. Mishura, V. Malugin	
14.00–14.20	<b>Malugin V.I., Novopoltsev A.Yu.</b>	Statistical Estimation and Testing of Turning Points in Multivariate Regime-Switching Models
14.20–14.40	<b>Medvedev G.A.</b>	On the Probability Distribution Processes Some Models of Interest Rates
14.40–15.00	<b>Mukha V.S.</b>	Minimum Distance from Point to Linear Variety in Euclidean Space of the Two-Dimensional Matrices
15.00–15.20	<b>Lialikova V.I., Khatskevich G.A.</b>	Modeling the Regions of Belarus Competitiveness Based on Panel Data
15.20–15.40	<b>Lappo P.M., Yakushava T.A.</b>	Some Approaches to Classification of Subjects of Foreign Economic Activity by Risk Level
16.10–16.30	<b>Navitskaya K., Zhalezka B.</b>	Modeling of Regional Socio-Economic Development of Belarus
16.30–16.50	<b>Novopoltsev A.Yu.</b>	Multivariate Linear Regression with heterogeneous Structure and Asymmetric Distributions of Errors
16.50–17.10	<b>Kirlitsa V.P.</b>	Exact D-optimal Designs Experiments for Linear Model with Heteroscedastic Observations
17.10–17.30	<b>Zuev N.M.</b>	Calculation of European Options with Absolute Criteria
17.30–17.50	<b>Zmitrovich A.I., Krivko-Krasko A.V., Lysenko T.V.</b>	Automated Report on the Business Plan of the Investment Project
17.50–18.10	<b>Belovas I., Sakalauskas L.</b>	Modeling Financial Data Distributions: a Comparison of Models

## Organizing Committee

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