

## Technical Program

## Working language - English

Room A	Октябрьская
Room B	Октябрьская
Room C	Октябрьская
Room D	ДК УРАЛ

## YEKT TIME GMT +5

1 4 : 0 0 - 1 9 : 0 0	Jul. 2, SUNDAY :: Arrival Oktyabrskaja hotel, lounge
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9:00 - 19:00	Jul. 3, MONDAY		
9:00 - 10:00	Opening Ceremony, Prof. Michael Khachay, Prof. Nickolay Lukoyanov, Prof. Jinwei Zhu		
10:10 - 13:00	Plenary Session, Chair: Prof. Michael Khachay		
10:10 - 10:50	Plenary - Prof. Mario R. Guarracino, HSE, Russia and Università degli Studi di Cassino, Italy Semi-supervised Learning with Depth Functions		
11:00 - 11:40	Plenary - Prof. Pinyan Lu, Shanghai University of Finance and Economics, China, Algorithms for Solvers: Ideas from CS and OR (online)		
11:50 - 12:30	Plenary - Prof. Alexander Shananin, Lomonosov Moscow State University, Russia, General equilibrium models in production networks with substitution of inputs		
13:00 - 14:00	Lunch Break		
14:10 - 16:30	Session 1 - Mathematical Programming and Applications (I) Chair: Prof. Oleg Khamisov	Session 2 - Discrete and Combinatorial Optimization (I) Chair: Prof. Yury Kochetov	Session 6 - Game Theory (I) Chair: Prof. Igor Bykadorov 14:10 - Julia Chirkova,
	14:10 - Savelii Chezhegov, Alexander Rogozin & Alexander Gasnikov,	14:10 - Ivan Davydov, Igor Vasilyev & Anton V. Ushakov,	Paper 135: Equilibrium arrivals to preemptive queuing system with fixed

	Paper 058: On Decentralized Nonsmooth Optimization	Paper 035: Tabu Search metaheuristic for the penalty minimization personnel task scheduling problem	reward for completing request (online)
	14:30 - Nikita Fedin & Eduard Gorbunov, Paper 040: Byzantine-Robust Loopless Stochastic Variance-Reduced Gradient	14:30 - Adil Erzin, Alexander Kononov, Stepan Nazarenko & Konstantin Sharankhaev, Paper 018: An O(n logn)-time algorithm for linearly ordered packing of 2-bar charts into OP T + 1 bins	14:30 - Mikhail I. Gomoyunov, Paper 187: On Optimal Positional Strategies in Fractional Optimal Control Problems
	14:50 - Tatiana V. Gruzdeva & Anton V. Ushakov, Paper 023: Semi-Supervised K-Means Clustering via DC Programming Approach	14:50 - Adil Erzin, Roman Plotnikov & Ilya Ladygin, Paper 019: Aggregation Tree Construction Using Hierarchical Structures (online)	14:50 - Igor' Izmest'ev & Viktor Ukhobotov, Paper 097: On a Single-type Differential Game of Retention in a Ring
	<b>15:10</b> - Olga Pinyagina, Paper 006: <i>An algorithm for</i> decentralized multi-agent feasibility problems	<b>15:10</b> - Dmitry Gribanov, Paper 123: Enumeration and Unimodular Equivalence of Empty Delta-Modular Simplices (online)	15:10 - Vladimir Mazalov & Anna Ivashko, Paper 051: Harmonic Numbers in Gambler's Ruin Problem
	15:30 - Oleg Savchuk, Fedor Stonyakin, Mohammad Alkousa, Rida Zabirova, Alexander Titov & Alexander Gasnikov, Paper 144: Online Optimization Problems with Functional Constraints under Relative Lipschitz Continuity and Relative Strong Convexity Conditions (online)	<b>15:30</b> - Victor Il'ev & Svetlana Il'eva, Paper 181: Approximation Algorithms for Graph Cluster Editing Problems with Clusters of Bounded Sizes	15:30 - Vladimir Mazalov & Anna Rettieva, Paper 028: Exploitation and Recovery Periods in Dynamic Resource Management Problem
	<b>15:50</b> - Vladimir Zubov, Paper 174: On the Uniqueness of Identification the Thermal Conductivity and Heat Capacity of Substance (online)	<b>15:50</b> - Vladimir Khandeev & Sergey Neshchadim, Paper 057: Constant-factor approximation algorithms for some maximin multi-clustering problems	15:50 - Leon Petrosyan, David Yeung & Yaroslavna Pankratova, Paper 008*: Power Degrees in Dynamic Multi-Agent Systems
	<b>16:10</b> - Maria Barkova & Alexander Strekalovsky, Paper 050: On Solving DC Optimization Problem with Inequality Constraints	<b>16:10</b> - Andrei V. Nikolaev & Alexander V. Korostil, Paper 013: On cone partitions for the min-cut and max-cut problems with non-negative edges	<b>16:10</b> - lakov Zhukov, Paper 190: <i>The Problem of the Leader of a</i> <i>Coalition Partition</i>
16:30 - 16:50	Coffee Break		
17:00 - 19:00	Session 5 - Operations Research (I)	Session 2 - Discrete and Combinatorial	Session 6 - Game Theory (II)

## Chair: Prof. Alexander Kazakov Optimization (II) Chair: Prof. Vladimir Mazalov Chair: Prof. Anton Eremeev 17:00 - Anna Tur & Leon Petrosyan, 17:00 - Olga Battaia, Daniel Khachav. 17:00 - Artem V. Pvatkin. Paper 081: Communication restriction-based Alexander Petunin and Michael Khachav. Papepr 004: PTAS for p-means q-medoids r-given characteristic function in differential games Paper 072: Discrete Cutting Path clustering problem on networks Problems: General Modeling Approach and Algorithms with Accuracy Guarantees 17:20 - Yulia Kareeva, Artem Sedakov & 17:20 - Alexey Ratushnyi, Mengke Zhen, Paper 029: A pattern-based heuristic for a 17:20 - Alexander G. Chentsov & Pavel Paper 175: Stackelberg solutions in an Chentsov, temporal bin packing problem with conflicts opinion dynamics game with stubborn agents Paper 027: Additive routing problem for a system of high-priority tasks 17:40 - Denis Kuzyutin, Nadezhda Smirnova & 17:40 - Ruslan Simanchev & Inna Urazova. Yaroslavna Pankratova. 17:40 - Sergey Lavlinskii, Artem Panin & Paper 178: Integer models for the total weighted Paper 067: Sustainable cooperation in multi-Alexander Plyasunov. tardiness problem on a single machine objective dynamic game of renewable Paper 039: Public-Private Partnership resource extraction Model with a Consortium 18:00 - Andrei Orlov, 18:00 - Gennady Zabudsky, Paper 012: A Computational Study of Hybrid Paper 180: Solving maximin location problems on 18:00 - Tatiana Levanova, Alexander Genetic Global Search Algorithm for networks with different metrics and restrictions Gnusarev, Ekaterina Rubtsova & Hexamatrix Games Vyatcheslav Sigaev, (online) Paper 010: Variable Neighborhood Search Approach for the Bi-Criteria Competitive Location and Design Problem with Elastic Demand 18:20 - Stepan Utyupin, Andrey Melnikov & 18:20 - Saeid Alikhani, Hamidreza Vladimir Beresnev. 18:20 - Alexander Yuskov, Igor Golmohammadi & Elena Konstantinova. Paper 191: Representation of the Eternal Kulachenko, Andrev Melnikov & Yurv Paper 037: Some results on the coalition number Vertex Cover Problem as a Dynamic Kochetov. of cubic graphs of order at most 10 Stackelberg Game Paper 046: Decomposition approach for simulation-based optimization of inventory management 18:40 - Shimai Su & Elena M. Parilina, 18:40 - Aleksander Chirkov, Dmitry Gribanov, Paper 002: Trade-off Mechanism to Sustain 18:40 - Evgeny Bobrov & Advan Sergey Veselov & Nikolai Zolotykh, Cooperation in Pollution Reduction Paper 113: On the Number of Edges in Integer Dordzhiev,

Polyhedra

(online)

Paper 160: On Probability Shaping for 5G

MIMO Wireless Channel with Realistic

LDPC Codes

9:00 - 19:00	Jul. 4, TUESDAY		
9:00 - 10:40	Session 7 - Optimal Control and Mathematical Economics (I) Chair: Prof. Alexander Shananin  9:00 - Boris Ananyev, Paper 107: Guaranteed Expectation of the Flock Position with Random Distribution of Items  9:20 - Danis N. Ibragimov & Sofya R. Guseva, Paper 054: A Priori Estimates of the Objective Function in the Speed-in-Action Problem for a Linear Two-Dimensional Discrete-Time System (online)  9:40 - Pavel Lebedev & Alexander Uspenskii, Paper 026: Analytical construction of the singular set in one class of time-optimal control problems in the presence of linear segments of the boundary of the target (online)  10:00 - Valeriy Rozenberg, Paper 045: An approach to solving input reconstruction problems in stochastic differential equations: dynamic algorithms and tuning their parameters  10:20 - Alexander Shananin & Nikolai Trusov, Paper 096: Mathematical modeling of the household behavior on the labor market	Session 4 - Scheduling (I) Chair: Prof. Alexander Kononov  9:00 - Ilya Chernykh, Olga Krivonogova & Anna Shmyrina, Paper 008: Approximation algorithms for two- machine proportionate routing open shop on a tree  9:20 - Yulia Zakharova, Paper 052: Hybrid Evolutionary Algorithm with Optimized Operators for Total Weighted Tardiness Problem  9:40 - Igor Vasilyev, Ildar Muftahov & Anton V. Ushakov, Paper 100: MIP Heuristics for a Resource Constrained Project Scheduling Problem with Workload Stability Constraints  10:00 - Sergey Sevastyanov, Paper 188: Efficient approximation algorithms for scheduling problems with p-batch uniform and unrelated machines and arbitrary processing set restrictions  10:20 - Yulia Zakharova & Maria Sakhno, Paper 042: Structure of schedules for problems with parallelizable jobs	Session 3 - Stochastic Optimization (I) Chair: Prof. Sergey Ivanov  9:00 - Maxim Ershov & Albert Voroshilov, Paper 056: UCB Strategy for Gaussian and Bernoulli Multi-Armed Bandits (online)  9:20 - Sergey Garbar, Paper 114: Estimation of both unknown parameters in Gaussian multi-armed bandit for batch processing scenario (online)  9:40 - Aleksei Ignatov, Paper 022: On the resource allocation problem to increase reliability of transport systems  10:00 - Aleksandr Lobanov, Anton Anikin, Alexander Gasnikov, Alexander Gornov & Sergey Chukanov, Paper 116: Zero-Order Stochastic Conditional Gradient Sliding Method for Non-smooth Convex Optimization  10:20 - Konstantin Semenikhin & Alexandr Arkhipov, Paper 065: Distributionally Robust Optimization by Probability Criterion for Estimating a Bounded Signal
10:40 - 11:00	Coffee Break		
11:10 - 12:10	Session 7 - Optimal Control and Mathematical Economics (II) Chair: Prof. Alexander Shananin	Session 2 - Discrete and Combinatorial Optimization (III) Chair: Prof. Ruslan Simanchev	Session 3 - Stochastic Optimization (II) Chair: Prof. Sergey Ivanov

	11:10 - Margarita Sotnikova & Ruslan Sevostyanov, Paper 108: Visual Positioning Of A Moving Object Using Multi-Objective Control Algorithm  11:30 - Vladimir Ushakov, Aleksandr Ershov, Anna Ershova & Alexandr Alekseev, Paper 063: Linear Interpolation of Program Control with Respect to a Multidimensional Parameter in the Convergence Problem  11:50 - Anastasiia A. Usova & Alexander M. Tarasyev, Paper 074: Behavior of stabilized trajectories of a two factor economic growth model under the changes of a production function parameter	11:10 - Andrey Dobrynin, Paper 025: On the preservation of the Wiener index upon removing a vertex in a cubic graph (online)  11:30 - Yana Glotova, Paper 089: A local search heuristic for the temporal knapsack problem (online)  11:50 - Anton Eremeev, Vyacheslav Ustyugov & Lidia Zaozerskaya, Paper 079: On local search for MILP solver parameters optimization	11:10 - Sergey Ivanov, Andrey Kibzun & Valentina Akmaeva, Paper 109: Algorithm for Finding a Guaranteed Solution to a Quantile Optimization Problem with Convex Loss Function  11:30 - Alexander Kolnogorov, Maxim Ershov & Albert Voroshilov, Paper 053: Customization of the Auer-Cesa- Bianchi-Fischer UCB strategy for a Gaussian One-Armed Bandit (online)  11:50 - Aleksandr Lobanov & Alexander Gasnikov, Paper 060. Zero-Order Algorithms for Solving Non-Smooth Stochastic Optimization Problems with Heavy-Tailed Noise
12:20 - 13:00	Plenary - Prof. Panos Pardalos, University of Florida, Gainesville, FL, USA, Artificial Intelligence, Smart Energy Systems, and Sustainability (online)		
13:00 - 14:00		Lunch Break	
14:10 - 16:30	Session 8 - Optimization in Machine Learning and Artificial Intelligence (I) Chair: Prof. Mario R. Guarracino	Session 5 - Operations Research (II) Chair: Prof. Predrag S. Stanimirović	Session 7 - Optimal Control and Mathematical Economics (III) Chair: Prof. Alexander Chentsov
	14:10 - Artem Aroslankin & Valeriy Kalyagin, Paper 182: Uncertainty of graph clustering in correlation block model (online)	14:10 - Oleg Khamisov & Nadezhda Ulyanova, Paper 138: Power generation planning in energy systems	14:10 - Sergey Antsyz, Paper 044: On the search for the highest level of wellfare of an economic entity (online)
	14:30 - Tatiana Makarovskikh, Anatoly Panyukov & Mostafa Abotaleb, Paper 110: Using General Least Deviations Method for Forecasting of Crops Yields	14:30 - Dmitry Arkhipov, Daniel Skachkov, Dong Zhang & Jie Ren, Paper 126: Computational Tree-based tool to solve industrial optimization problems	14:30 - Igor Bykadorov, Paper 186: Unimodality of Equilibrium Welfare in International Trade under Monopolistic Competition
	14:50 - Vsevolod Voronov, Alexander Tolmachev, Dmitry Protasov & Anna Neopryatnaya, Paper 152: Searching for distance graph	14:50 - Sergey Gladyshev & Dmitry Arkhipov, Paper 124: Resource capacity bounding algorithms for Resource-Constrained Project Scheduling	14:50 - Elena Khoroshilova & Anatoly Antipin, Paper 038: A proven method for an optimal control problem with linear dynamics,

	embeddings and optimal partitions of compact sets in Euclidean space  15:10 - Mostafa Abotaleb, Amr Badr, Tatiana Makarovskikh & Anatoly Panyukov, Paper 088: Grid Search to Optimize Hyperparameters for (LSTM) for daily Infections SARS-CoV-2 cases in Russia  15:30 - Tatiana Antonova & Alexander Ageev, Paper 117: A new approach to the localizing fractal lines of discontinuity  15:50 - Artyom Firstkov, Majid Fogrhani & Michael Khachay, Paper 080: Searching optimal embedding for genetic sequences with application in modeling viral evolution  16:10 - Kirill Kalmutskiy, Lyailya Cherikbayeva, Alexander Litvinenko & Vladimir Berikov, Paper 69: Multi-target	15:10 - Ivan Davydov & Alexander Lyapin, Paper 032: Matheuristic with VLNS approach for additional English courses timetabling  15:30 - Oleg Khamisov, Paper 142: Bang-bang mixed speed governing for steam and hydro turbines  15:50 - Mostafa Abotaleb, Amr Badr, Tatiana Makarovskikh & Anatoly Panyukov, Paper 091: Improving smart farming by optimizing transfer learning for weed detection	phase constraints, and boundary value problems (online)  15:10 - Tatiana Zvonareva & Olga Krivorotko, Paper 036: Numerical solution of the optimal control problem in social networks  15:30 - Mikhail Gusev & Ivan Osipov, Paper 118: Approximate Solution of Small-Time Control Synthesis Problem based on Linearization  15:50 - Alexander Fominyh, Paper 31: Method for Solving a Differential Inclusion with a Subdifferentiable Support Function of the Right-Hand Side  16:10 - Yulia Danik & Mikhail Dmitriev, Paper 183: The algorithm for the construction of a symbolic family of regulators for nonlinear discrete control
	Weakly Supervised Regression using Manifold Regularization and Wasserstein Metric		systems with two small parameters
	Metric	Coffee Doorl	
16:30 - 16:50		Coffee Break	
17:00 - 17:40	Plenary - Prof. Milojica Jaćimović, University of Montenegro, Montenegro, Strong convergence of extragradient-like methods for solving quasi-variational inequalities (online)		
17:50 - 19:00	Session 8 - Optimization in Machine Learning and Artificial Intelligence (II) Chair: Prof. Alexander Ageev	Session 2 - Discrete and Combinatorial Optimization (IV) Chair: Prof. Artem Pyatkin	Session 5 - Operations Research (III) Chair: Prof. Alexander Plyasunov
	17:50 - Daria Semenova, Aleksandr Soldatenko & Ellada Ibragimova, Paper 021: On heuristic algorithm with greedy strategy for the Correlation Clustering problem solution	17:50 - Yaroslav Kharchenko & Alexander Kononov, Paper 169: Prediction-augmented algorithms for parking permit problem	17:50 - Aleksei Kondratev, Egor Ianovski & Alexander Nesterov, Paper 149: Geometric and optimal scoring rules in sports competitions (online)
	18:20 - Grigoriy Tamasyan & George Shulga,	18:20 - Polina Kononova & Igor Kulachenko, Paper 020: A decomposition approach for solving a large-scale consistent vehicle routing problem	18:20 - Anna Lempert, Alexander Kazakov & Pavel Lebedev, Paper 033: Algorithms of optimal routing

Paper 099: Sum of modules of affine functions optimization: linear regression, methods and comparison
18:40 - Sergey A.Vandanov, Aleksandr V.
Plyasunov & Anton V. Ushakov,
Paper 075: Development of a parallel clustering algorithm for the k-medoids problem in high-dimensional space for large-scale datasets

and covering for changing environment

18:40 - Sergey Loktev, Evgeny Bobrov & Zongdi Yue, Paper 105: Geometric Shaping for Wireless Communications

9:00 - 19:00	Jul. 5, WEDNESDAY		
9:00 - 10:40	Session 1 - Mathematical Programming and Applications (II) Chair: Prof. Vladimir Erokhin  9:00 - Vladimir Erokhin, Paper 005: Stable solution of a dual pair of approximate and improper linear programming problems with interval uncertainty of coefficients  9:20 - Oleg Khamisov & Mikhail Posypkin, Paper 140: Generalized convexity and global optimization  9:40 - Oleg Khamisov, Paper 141: Global optimization in convex parametric programming  10:00 - Vladimir Krutikov, Predrag Stanimirovic, Lev Kazakovtsev & Elena Tovbis, Paper 143: A family of multi-step relaxation subgradient minimization methods for non-smooth functions	Session 5 - Operations Research (IV) Chair: Prof. Dmitry Arkhipov  9:20 - Natalia Nikitina & Evgeny Ivashko, Paper 177: Centrality analysis of the road network of Petrozavodsk  9:40 - Artem Panin, Alexander Plyasunov & Maxim Vodyan, Paper 189: A study of the threshold stability of the bilevel problem of facility location and discriminatory pricing  10:00 - Alexander Zyryanov, Sergey Lavlinskii & Yury Kochetov. Paper 024: A bilevel planning model for public- private partnership with budget uncertainty (online)	Session 2 - Discrete and Combinatorial Optimization (V) Chair: Dr. Vladimir Khandeev  9:00 - Sofia Shperling, Yuriy Kochetov, Paper 034: A fitness functions based algorithm for the two-dimensional irregular strip packing problem  9:20 - Aleksey Zakharov, Paper 104: A metaheuristic with optimized operators for problems with tree-based solution representation (online)
10:40 - 11:00		Coffee Break	
11:10 - 12:10	Session 1 - Mathematical Programming and Applications (III) Chair: Prof. Vladimir Erokhin	Session 5 - Operations Research (IV) Chair: Prof. Dmitry Arkhipov	Session 4 - Scheduling (II) Chair: Prof. Sergey Sevastyanov
	11:10 - Alexander Strekalovsky, Paper 007: On convergence of global search in general DC optimization problem (online)	11:10 - Varvara Rasskazova, Paper 150: LIP Model in Solving RCPSP at the Flow Type Production	11:10 - Svetlana Malakh & Vladimir Servakh. Paper 087: Project scheduling problem with NPV criterion
	11:30 - Demyan Yarmoshik, Alexander	11:30 - Varvara Rasskazova & Dmitriy Berenov, Paper 030: Object Relation Technique for	11:30 - Vladimir Servakh, Paper 078: The complexity of the problem

	Rogozin & Alexander Gasnikov, Paper 115: Decentralized strongly convex optimization with affine constraints over time-varying networks  11:50 - Nikita Yudin & Alexander Gasnikov, Paper 151: Scaled Gradient Methods for Faster Convex Optimization (online)	Modelling of Digital Production Solutions  11:50 - Daniil Yudakov, Dmitrii Kolosov & Evgeny Bobrov, Paper 161: Mapper Side Geometric Shaping for QAM Constellations in 5G MIMO Wireless Channel with Realistic LDPC Codes	of minimizing makespan for identical jobs
12:20 - 13:00	Plenary - Prof. Eugene Semenkin, Reshetnev Siberian State University of Science and Technology (SibSU), Russia, Hybrid evolutionary optimization: how self-adapted algorithms can automatically generate applied AI tools (online)		
13:00 - 14:00	Lunch Break		
14:10 - 16:30	INDUSTRIAL SECTION Speakers: Dr. Qiuling Pan, Dr. Mikhail Krasilnikov, Dr. Dmitry Arkhipov, Oleg Sukhoroslov, Dr. Jinwei Zhu		
16:30 - 16:50	Coffee Break		
17:00 - 19:00	INDUSTRIAL SECTION Speakers: Dr. Qiuling Pan, Dr. Mikhail Krasilnikov, Dr. Dmitry Arkhipov, Oleg Sukhoroslov, Dr. Jinwei Zhu		

9:50 - 19:00	Jul. 6, THURSDAY		
9:50-10:30	Plenary - Prof. Kamil Aida-Zade, Institute of Control Systems, Azerbaijan, Feedback control on the class of zonal control actions		
10:30-11:00	Coffee Break		
1 1 : 1 0 - 1 1 : 5 0	Plenary - Prof. Vladimir V. Vasin, Krasovsky Institute of Mathematics and Mechanics, Iterative processes of Fejér type for quadratic optimization problem		
1 2 : 0 0 - 1 2 : 4 0	Plenary - Prof. Predrag S. Stanimirović, University of Niš, Serbia, Optimization methods in gradient and zeroing neural networks / Towards Subderivative-based Zeroing Neural Networks		
13:00 - 14:00	Lunch Break		
14:00 - 18:00	CITY TOUR	OPTIONAL: PhD Presentations	
19:00 - 21:00	Gala Dinner		

9:00 - 14:00	Jul. 7, FRIDAY		
9:00 - 10:40	Session 1 - Mathematical Programming and Applications (IV) Chair: Prof. Michael Khachay	Session 5 - Operations Research (V) Chair: Dr. Yury Ogorodnikov	
	9:00 - Alexander Rogozin, Anton Novitskii & Alexander Gasnikov, Paper 073: Decentralized proximal optimization method with consensus procedure  9:20 - Vladimir Krutikov, Predrag Stanimirovic, Lev Kazakovtsev & Elena Tovbis, Paper 159: Algorithm for convex constrained optimization with a quadratic transformation of dual variables	9:00 - Arseniy Spiridonov & Sergey Kumkov, Paper 092: Multi-Trajectory Cascade Merging of Aircraft Flows  9:20 - Anton Mikhailov & Sergey Kumkov, Paper 095: Guiding aircraft to checkpoint by air-traffic controller and autopilot together  9:40 - Ivan Khmara & Tatiana Levanova, Paper 017: Development of local search algorithms for the robust p-median problem  10:00 - Vitalii Kochevadov & Artem Sedakov, Paper 168: Dynamic network model of production and investment  10:20 - Valeriy Marakulin, Paper 90: On the existence of fuzzy contractual allocations, fuzzy core and perfect competition in an exchange economy (online)	
10:40 - 11:00	Coffee Break		
11:10 - 11:40	Closing Ceremony		