

XLI International Conference
PROBLEMS OF DECISION MAKING UNDER UNCERTAINTIES 2026 (PDMU- 2026)
October 5 – 7, 2026
On-line*: Join Zoom Meeting
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October 5, 2026 (Monday)	
OFF-LINE SESSION	
Tbilisi time	OPEN CEREMONY, PLENARY SESSION (Batumi Shota Rustaveli State University)
11 ⁰⁰ - 11 ²⁰	Professor I. Didmanidze (<i>Member of International Program Committee</i>), Professor T. Aroshidze (<i>Rector of the Batumi Shota Rustaveli State University</i>), Professor O. Nakonechnyi (<i>Chairman of International Program Committee</i>), Professor G. Chachanidze (<i>Member of International Program Committee</i>) Greetings
11 ²⁰ - 11 ⁴⁰	Nakonechnyi O. 60 years of scientific activity: achievements and prospects
11 ⁴⁰ - 12 ⁰⁰	G. Chachanidze A logical-mathematical decision-making model for demographic process management
12 ⁰⁰ - 12 ²⁰	Bagrationi I.O. Worldview algorithms of decision-making and philosophical mathematics: perspectives of interdisciplinary education
12 ²⁰ – 12 ⁴⁰	Iskenderov A.D., Ibrahimov N.S., Yagubov G.Y. On a necessary condition in an optimal control problem with a boundary functional for a nonlinear nonstationary Schrödinger equation with a special gradient term
12 ⁴⁰ - 13 ⁰⁰	Martsenyuk V., Gancarczyk T., Bernas M., Klos-Witkowska A., Andrushchak I., Sverstiuk A. Competence-based preparation of AI and IoT business leaders for decision-making under uncertainty: the transleader framework
13 ⁰⁰ - 14 ⁰⁰	Lunch
14 ⁰⁰ – 14 ²⁰	Suraj Z. From standard operators to uninorms: assessing decision reliability across distinct Fuzzy Petri Net formalisms
14 ²⁰ – 14 ⁴⁰	Aliyev S.A., Ibadova I.A., Aliyev Sa.A. Convergence of branching stochastic processes with many types of particles and emigration
14 ⁴⁰ – 15 ⁰⁰	Gadjiev T. Qualitative properties of solutions to quasilinear elliptic equations in generalized Morrey spaces with variable exponents
15 ⁰⁰ – 15 ²⁰	Alianakh D., Dyyak I. Reliable finite element implementations with deep learning
15 ²⁰ – 15 ⁴⁰	Semenyuk S.A., Chabanyuk Ya.M., Khimka U.T. L^p convergence for a stochastic optimal control problem in the averaging schema
15 ⁴⁰ – 16 ⁰⁰	Koval V.V., Nakonechnyi O.G., Vakas V.I., Piskun O.M. Enhancing the resilience of critical infrastructure signal synchronization systems under uncertainty: modern solutions and strategic priorities
16 ⁰⁰ - 17 ⁰⁰	POSTER SESSION
17 ⁰⁰ - 19 ⁰⁰	Excursion

ON-LINE SESSION

Moderator of the session – Doc.Sci. (Phys.&Math.) Olena Kapustian

<i>Tbilisi time</i>	<i>Kyiv time</i>	<i>SECTIONAL SESSIONS</i>
16 ⁰⁰ – 16 ¹⁰	15 ⁰⁰ – 15 ¹⁰	Pankratova N.D., Golinko I.M., Pankratov V.A. Architecture of a cognitive digital twin for a UAV swarm
16 ¹⁰ – 16 ²⁰	15 ¹⁰ – 15 ²⁰	Pankratova N.D., Golinko I.M., Pankratov V.A. A conceptual framework for the cognitive behavior of intelligent agents in a UAV swarm
16 ²⁰ – 16 ³⁰	15 ²⁰ – 15 ³⁰	Miliavskiy Yu., Kuievda Iu., Kantsedal H. System analysis and decision making for usage of renewable sources of energy in agricultural enterprises
16 ³⁰ – 16 ⁴⁰	15 ³⁰ – 15 ⁴⁰	Bakhrushyn V. Combinatorial optimization problems of critical infrastructure protection
16 ⁴⁰ – 16 ⁵⁰	15 ⁴⁰ – 15 ⁵⁰	Davidov P., Jan T., Armoza N., Katzav L. Behavioral solutions to global warming: nudging recycling in young households
16 ⁵⁰ – 17 ⁰⁰	15 ⁵⁰ – 16 ⁰⁰	Bartashevskaya Yu., Ryzhkova H. Soft skills of future specialists in the conditions of Industry 5.0
17 ⁰⁰ – 17 ¹⁰	16 ⁰⁰ – 16 ¹⁰	Hahurin Ye. R., Pichkur V. V. On sufficient optimality conditions in the stabilization problem with phase constraints
17 ¹⁰ – 17 ²⁰	16 ¹⁰ – 16 ²⁰	Kashpur O., Lipsky D. Adaptive LIPSI method for automated testing log analysis
17 ²⁰ – 17 ³⁰	16 ²⁰ – 16 ³⁰	Osmak Y., Kapustian O. Solving a structurally fuzzy flexible job shop scheduling problem: a real-world case of a service company
17 ³⁰ – 17 ⁴⁰	16 ³⁰ – 16 ⁴⁰	Petrulia V., Shatyrko A. The impact of stochastic uncertainty and time-delay in qualitative analysis of “direct” control systems
17 ⁴⁰ – 17 ⁵⁰	16 ⁴⁰ – 16 ⁵⁰	Sluchynskiy D., Shchestyuk N. Mixtures of subordinators for risk measurement in option pricing
17 ⁵⁰ – 18 ⁰⁰	16 ⁵⁰ – 17 ⁰⁰	Shakotko T., Nakonechnyi O., Chukhrai L. Parameter identification problems in dynamic neural networks under uncertainty
18 ⁰⁰ – 18 ¹⁰	17 ⁰⁰ – 17 ¹⁰	Sirenko A. S., Studennykov V.D. Development of a scenario generation and validation framework for large language model-based decision-making modules in autonomous delivery systems
18 ¹⁰ – 18 ²⁰	17 ¹⁰ – 17 ²⁰	Arzamastsev V.O., Makhno M.F. Prioritising multi-step attack paths in containerized clusters
18 ²⁰ – 18 ³⁰	17 ²⁰ – 17 ³⁰	Bakhrushyn O. Evolution of orchestrated multi-agent systems
18 ³⁰ – 18 ⁴⁰	17 ³⁰ – 17 ⁴⁰	Khrypko S. Topological ensemble fuzzy risk model for decision support
18 ⁴⁰ – 18 ⁵⁰	17 ⁴⁰ – 17 ⁵⁰	Smirnyi D. A. Properties of network equilibriums
18 ⁵⁰ – 19 ⁰⁰	17 ⁵⁰ – 18 ⁰⁰	Khrypko O. Pedagogical decision support in an innovative online educational environment

October 6, 2025 (Tuesday)

OFF-LINE SESSION

Tbilisi time	PLENARY AND SECTIONAL SESSIONS
10 ⁰⁰ - 10 ²⁰	Nakonechniy O., Zinko P., Zinko T., Losieva M. Recognition of pulse signals under uncertainties
10 ²⁰ - 10 ⁴⁰	Melnychyn A.V., Chypurko A.I., Melnychyn S.Y. Optimizing database retrieval using aggregated and probabilistic query characteristics
10 ⁴⁰ - 11 ⁰⁰	Khasaia I., Jintcharadze N., Jincharadze N., Beridze A. Fuzzy decision-making in education: opportunities for innovation
11 ⁰⁰ - 11 ²⁰	Surguladze G., Petriashvili L., Topuria N., Zhvania T. AI-Based multimodal supply chain management in an unpredictable environment
11 ²⁰ - 11 ⁴⁰	Bartish M.Y., Ohorodnyk N.P. On some Steefensen method modifications
11 ⁴⁰ - 12 ⁰⁰	Gadjiev T., Rasulov R. Fujita-type critical blow-up theorems for doubly nonlinear parabolic equations in generalized Morrey spaces
12 ⁰⁰ - 12 ²⁰	Korkuna N.M., Pryadko O.Y. Discrepancy analysis in a system of logarithmic trend equations for Ukrainian tax revenue forecasting
12 ²⁰ - 12 ⁴⁰	Hedrih (Stevanović) K. R. Ordinary and partial differential equations of fractional order on examples in the dynamics of rheological discrete and continuous dynamical systems of fractional types
12 ⁴⁰ - 13 ⁰⁰	Didmanidze I., Kakhiani G., Tkhyilaishvili R., Tsitskishvili G. Rigidity of multi-agent formations and a generalized Heron–Cayley–Menger identity: from an algebraic realizability criterion to multistability in distance-based control
13 ⁰⁰ - 14 ⁰⁰	Lunch

ON-LINE SESSION

Moderator of the session – Doc.Sci. (Phys.&Math.) Serhii Mashchenko

Tbilisi time	Kyiv time	SECTIONAL SESSION
15 ⁰⁰ – 15 ¹⁰	14 ⁰⁰ – 14 ¹⁰	Shakhno S.M., Yarmola H.P. On the Gauss-Newton-Broyden method for solving nonlinear least squares problem
15 ¹⁰ - 15 ²⁰	14 ¹⁵ - 14 ³⁰	Lysenko V., Nakonechniy O., Lendiel T., Nakonechna K. Artificial intelligence for wheat yield prediction in Ukraine
15 ²⁰ - 15 ³⁰	14 ³⁰ - 14 ⁴⁰	Benner P., Chuiko S., Nesmelova O. A generalization of the Newton-Kantorovich theorem for nonlinear operator equations
15 ³⁰ - 15 ⁴⁰	14 ⁴⁰ - 14 ⁵⁰	Benner P., Chuiko S., Chuiko V. Normally solvable boundary value problems with impulse action
15 ⁴⁰ - 15 ⁵⁰	14 ⁵⁰ - 15 ⁰⁰	Semenov V.V., Kravets A.V., Chernorai V.O. A new results on the operator extrapolation algorithm
15 ⁵⁰ - 16 ⁰⁰	14 ⁵⁰ - 15 ⁰⁰	Shakhno S.M., Shakhov M.E. Two-step combined methods for solving nonlinear equations with a decomposition of the operator
16 ⁰⁰ - 16 ¹⁰	15 ⁰⁰ - 15 ¹⁰	Demydiuk V. M. A software application for computing the optimal control of two-link manipulators

$16^{10} - 16^{20}$	$15^{10} - 15^{20}$	Demydyuk M.V., Prots B.O. Software tools for parametric optimization of gantry robot motion
$16^{20} - 16^{30}$	$15^{20} - 15^{30}$	Drin Ya.M., Drin I.I., Drin S.S., Lutskevych M.M. Haar and Chebyshev wavelets for solving a boundary problem for a variable order partial pseudodifferential equation
$16^{30} - 16^{40}$	$15^{30} - 15^{40}$	Kantsedal H.O., Voichyk O.S. Adaptive PID control via actor-critic neural network for cryptocurrency volatility targeting
$16^{40} - 16^{50}$	$15^{40} - 15^{50}$	Shkilniak O.S., Shkilniak S.S., Galkin O.V. Semantic properties of Multiple-Expert modal systems of quasiary predicates
$16^{50} - 17^{00}$	$15^{50} - 16^{00}$	Tymofijeva N.K. Evaluation of the result of the optimal solution output in artificial intelligence problems
$17^{00} - 17^{10}$	$16^{00} - 16^{10}$	Nos A.M., Yeleiko Y.I. Controlled Markov processes with absorption for maximizing production output before bankruptcy
$17^{10} - 17^{20}$	$16^{10} - 16^{20}$	Voloshchuk S., Krasovska A. Modeling of dynamic systems with fuzzy discrete observations
$17^{20} - 17^{30}$	$16^{20} - 16^{30}$	Senio P.S., Zayats A.R. Method for solving integral equations based on the mathematics of functional intervals
$17^{30} - 17^{40}$	$16^{30} - 16^{40}$	Argyros I.K., Shakhno S.M., Shakhov M.E. Extending the applicability of a parametric sixth-order convergent method for solving nonlinear equations
$17^{40} - 17^{50}$	$16^{40} - 16^{50}$	Usar I.Ya., Makushenko I.A., Lukovych O.V. On stationary distribution for migration processes of a special type
$17^{50} - 18^{00}$	$16^{50} - 17^{00}$	Pryshchepa O.V. On control of wireless charging and landing platforms for UAV swarms via retrieval queues
$18^{00} - 18^{10}$	$17^{00} - 17^{10}$	Ponomarev V. Analysis of the Ukrainian music market using data mining methods
$18^{10} - 18^{20}$	$17^{10} - 17^{20}$	Lupenko S.A., Lytvynenko I.V., Sumko V.V. Method for resampling a cyclic electrocardiographic signal based on a greedy algorithm
$18^{20} - 18^{30}$	$17^{20} - 17^{30}$	Dolenko G., Manovytska D., Kolesnikov D. Decision-making based on a combination of three methods
$18^{30} - 18^{40}$	$17^{30} - 17^{40}$	Tsymbrak N. I. Mathematical modelling of demographic potential of a country: Leslie matrix, ARIMA and LSTM ensemble approach
$18^{40} - 18^{50}$	$17^{40} - 17^{50}$	Ostapchuk B.V. Analysis of mathematical models of taxation and inflation
$18^{50} - 19^{00}$	$17^{50} - 18^{00}$	Zhernovyi Y.V., Zhernovyi K.Y. Asymptotic analysis of reliability characteristics in series repairable system with large redundancy

October 7, 2026 (Wednesday)		
OFF-LINE SESSION		
Tbilisi time	PLENARY AND SECTIONAL SESSIONS	
10 ⁰⁰ - 10 ²⁰	Gadjiev T., Aliyev S. The behavior of solutions to non-standard degenerate parabolic equations in generalized Lorentz–Morrey spaces	
10 ²⁰ - 10 ⁴⁰	Kipiani G., Megrelishvili Z., Didmanidze I. Issues regarding shore protection along the Black Sea coast of Adjara	
10 ⁴⁰ - 11 ⁰⁰	Kobernyk M. V., Chabanyuk Ya. M., Horlatch V. M. Markov model of football passing regimes with stochastic approximation refinement	
11 ⁰⁰ - 11 ²⁰	Bratiichuk M., Usar I. Optimal two-threshold strategy for a finite retrial queue	
11 ²⁰ - 11 ⁴⁰	Akhvlediani N., Didmanidze I., Turmanidze I. Implementing forensic linguistics as an interdisciplinary university course	
11 ⁴⁰ – 12 ⁰⁰	Donadze M., Beridze B., Beridze Z., Sirabidze N. Modeling Computer Network Security Using Access Control Lists (ACLs)	
12 ⁰⁰ - 12 ²⁰	Bardavelidze A., Bardavelidze K. IOT-based information system for monitoring fresh fruit quality and the supply chain	
12 ²⁰ - 12 ⁴⁰	Vikhor L., Nakonechnyi O.G., Kotsur M., Rusnak M. Results of optimal control of unsteady thermoelectric cooling process in the mode of minimum power consumption	
12 ⁴⁰ – 13 ⁰⁰	Degtyar S.V., Samiilenko A.P., Shusharin Yu.V. Necessary and sufficient conditions for the stability of solutions to a system of linear difference equations with random coefficients	
13 ⁰⁰ - 14 ⁰⁰	Lunch	
ON-LINE SESSION		
Moderator of the session – Doc.Sci. (Phys.&Math.) Anatolii Nikitin		
Tbilisi time	Kyiv time	SECTIONAL SESSION
15 ⁰⁰ – 15 ¹⁰	14 ⁰⁰ – 14 ¹⁰	Yarova O.A., Yeleyko Ya.I. The mixture of semi-Markov processes in nonlinear aproximation
15 ¹⁰ - 15 ²⁰	14 ¹⁰ - 14 ²⁰	Yeleyko Y., Drebot A. Bayesian inference of the aggregated transition kernel in a latent mixture of Markov chains
15 ²⁰ - 15 ³⁰	14 ²⁰ - 14 ³⁰	Mitsa O., Dulishkovych H., Sharkan V. A hierarchical decision support system for geographic localization of Ukrainian dialect words
15 ³⁰ - 15 ⁴⁰	14 ³⁰ - 14 ⁴⁰	Yefremov M.S., Stelya O.B., Krak Iu.V. ECG R-peak detection on microcontrollers using piecewise polynomial smoothing
15 ⁴⁰ - 15 ⁵⁰	14 ⁴⁰ - 14 ⁵⁰	Tereshchenko V.M., Vasyliiev A.S. Pixel-aware evaluation of camera layouts
15 ⁵⁰ - 16 ⁰⁰	14 ⁵⁰ - 15 ⁰⁰	Nakonechnyi O.G., Zinko P.M., Borysenko O.O. Estimation of stationary parameters in fake information propagation models under uncertainty
16 ⁰⁰ - 16 ¹⁰	15 ⁰⁰ - 15 ¹⁰	Holubov H., Pashko A. Predicting the risk of low academic performance in gamified learning systems

16 ¹⁰ - 16 ²⁰	15 ¹⁰ - 15 ²⁰	Slabospitsky A.S. About another recurrent form of representation for parameter identification by the method of least squares of relative errors under non-classical assumptions for systems under uncertainties
16 ²⁰ - 16 ³⁰	15 ²⁰ - 15 ³⁰	Semenova N.V., Koliechkina L.M., Semenov V.V. Methods for solving multicriteria optimization problems on combinatorial configurations with fuzzy data
16 ³⁰ - 16 ⁴⁰	15 ³⁰ - 15 ⁴⁰	Sharapov M.M. Natural vs. specific typing rhythm in authentication interface concealment: advantages and trade-offs
16 ⁴⁰ - 16 ⁵⁰	15 ⁴⁰ - 15 ⁵⁰	Nikitin A.V., Shvediuk V.V. Diffusion approximation of a stochastic model of radiophysical processes in UAV microcontroller systems
16 ⁵⁰ - 17 ⁰⁰	15 ⁵⁰ - 16 ⁰⁰	Strus M.V., Yarmola H.P. A comparative analysis of the genetic algorithm and the <i>m</i> -step secant method
17 ⁰⁰ - 17 ¹⁰	16 ⁰⁰ - 16 ¹⁰	Zinchenko A.Yu. Analysis of regular and chaotic dynamics in a fractional-order nonlinear system
17 ¹⁰ - 17 ²⁰	16 ¹⁰ - 16 ²⁰	Timashov E. Digital twins for HIL-modeling of mobile medical and diagnostic complexes
17 ²⁰ - 17 ³⁰	16 ²⁰ - 16 ³⁰	Nedashkovskyy M. O., Shevchuk M.-S. A. Ensemble machine learning for computing solution tuples of cubic matrix equations
17 ³⁰ - 17 ⁴⁰	16 ³⁰ - 16 ⁴⁰	Lyashko V.S. Optimization of the systems governed by linear hyperbolic integro-differential equations
17 ⁴⁰ - 17 ⁵⁰	16 ⁴⁰ - 16 ⁵⁰	Khimich O.M., Sydoruk V.A., Liashko V.S. Multi-GPU algorithm for solving hyperbolic integro-differential equations
17 ⁵⁰ - 18 ⁰⁰	16 ⁵⁰ - 17 ⁰⁰	Borysyuk Ya.E., Shcherbatyy M.V. A compartmental model of tuberculosis transmission dynamics with incomplete treatment and reinfection
18 ⁰⁰ - 18 ¹⁰	17 ⁰⁰ - 17 ¹⁰	Kulian V., Korobova M., Yunkova O. On the analysis of stock price formation models
18 ¹⁰ - 18 ²⁰	17 ¹⁰ - 17 ²⁰	Samoilenko T.A., Samoilenko O.I. Properties of solutions of epidemiological dynamical systems with impulse perturbations
18 ²⁰ - 18 ³⁰	17 ²⁰ - 17 ³⁰	Nikitin A.V., Sachovska V.A. Asymptotic analysis of a stochastic model of the technological labor market using diffusion approximation
18 ³⁰ - 18 ⁴⁰	17 ³⁰ - 17 ⁴⁰	Hishchak I.B. Identifying a latent market factor using principal component analysis
18 ⁴⁰ - 18 ⁵⁰	17 ⁴⁰ - 17 ⁵⁰	Liashko A. V., Stelya O. B., Krak Iu. V. New algorithm for determining key ECG parameters on the RR-interval
18 ⁵⁰ - 19 ⁰⁰	17 ⁵⁰ - 18 ⁰⁰	Luzan A. A multi-criteria framework for scale–iterate–stop decisions in digital product portfolios under uncertainty

*The schedule of presentations may change due to power outages in Ukraine caused by the war