CONFERENCE MITRE-2025, JUNE 26-29, 2025

PROGRAMME		
THURSDAY, JUNE 26, CHIȘINĂU TIME, GMT/UTC+3		
10.00 – 12.55	REGISTRATION	*Small Senate Hall*
13.00 – 13.30	**Opening ceremony**	*The Senate Hall*
13.30 – 14.30	*Coffee break - hall, 2nd floor, central building*	
Plenary session, *The Senate Hall*		
	Chairperson:	**Valeriu UNGUREANU**
14.30 – 15.10	Andrei ALEXANDRU	Atomic cardinalities
15.15 – 15.55	Mircea SOFONEA	A convergence criterion for history-dependent variational inequalities
16.00 – 16.30	*Coffee break – room 222, Building 4*	
Section 1. Algebra, Geometry and Topology, Room 213a, Building 4		
	Chairperson:	**Valeriu POPA**
16.30 – 16.55	Vladimir ARNAUTOV*, Galina ERMAKOVA	Completeness of the factor group of a complete topological abelian group by a compact subgroup
17.00 – 17.25	Ivan GUTSUL	On the number of hyperbolic orientable and non-orientable manifolds sharing a fundamental polytope with finite volume
17.30 – 17.55	Ivan GUTSUL	On compact orientable and non-orientable hyperbolic manifolds with the same fundamental polytopes
18.00 – 18.25	Florin DAMIAN	On hyperbolic manifolds with fundamental groups generated by translations
18.30 – 19.00	Vladimir BALCAN	The behavior of geodesic orbits in hyperbolic surfaces
Section 2. Analysis, Differential Equations and Dynamical Systems, Room 405, Building 4		
	Chairperson:	**David CHEBAN, Vasile GLAVAN**
16.30 – 16.55	Vasile GLAVAN*, Valeriu GUȚU	Shadowing in linear skew-product flows

* Presenting author

17.00 – 17.25	Yaroslav BIHUN[*] Andrii DROBOT	Multifrequency systems with an asymptotic hierarchy of amplitude and phase variable
17.30 – 17.55	David CHEBAN	On the algebraic closeness of the space of remotely almost periodic functions
18.00 – 18.25	Andrei PERJAN	The hyperbolic relaxation of the non viscous Cahn-Hilliard equation
Section 3. Applied Mathematics, Room 423, Building 4		
	Chairperson:	**Dmitrii LOZOVANU, Boris HÎNCU**
16.30 – 16.55	Dmitrii LOZOVANU	Stationary equilibria for dynamic positional games on graphs
17.00 – 17.25	Grigore SECRIERU	Modeling the formation of one-dimensional flows of a real gas at large Strouhal numbers.
17.30 – 17.55	Alexandru LAZARI	Hidden Markov models with final sequences of observable states.
Section 4. Computer Science and IT, Room 145, Building 4		
	Chairperson:	**Ludmila NOVAC**
16.30 – 16.55	Ion Alexandru MARINESCU[*], Ciprian DOBRE, Ionuț PETRE, Florin POP	Public awareness and perceptions of smart mobility: a survey-based analysis
17.00 – 17.25	Tudor BUMBU[*], Liudmila BURTSEVA, Marius CERESCU, Svetlana COJOCARU, Alexandru COLESNICOV, Ludmila MALAHOV	Handwritten texts processing: challenges and solutions
17.30 – 17.55	Ana ȚURCAN[*], Dumitru CIORBĂ	A WSI-based assessment of HTTP security headers implementation on popular websites in the Republic of Moldova

[*] Presenting author

18.00 – 18.25	Adela GOREA[*], Mircea PETIC	Aspects of AI modeling the perception of credibility of information on the Web
18.30 – 18.55	Olesea CAFTANATOV[*], Alexandr PARAHONCO	Personalized learning through cognitive user modeling
Section 5. Didactics of Mathematics and Informatics, Room 404, Building 4		
	Chairperson:	**Maria CRISTEI, Lilia SOLOVEI**
16.30 – 16.55	Natalia GAȘIȚOI	Fostering critical and creative thinking in an undergraduate mathematical analysis course through reflective practice and complex tasks
17.00 – 17.25	Olga CERBU*, Tatiana ȘESTACOVA	Despre caracteristicile curbelor plane
17.30 – 17.55	Nicoleta GORDILĂ	Problematizarea – cheie pentru o lecție altfel
18.00 – 18.25	Cristina Vasilica TUDOSE*, Raluca Mihaela GEORGESCU	Some applications with points and lines in three-dimensional Euclidean space solved in Maple
18.30 – 18.55	Maria Crina DIACONU	About a statistical problem
19.00 – 19.25	Ioana ILEANA*, Maria Crina DIACONU	Benefits of using digital applications in the study of mathematics

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FRIDAY, JUNE 27, CHIŞINĂU TIME, GMT/UTC+3		
Plenary session, *Room 405, Building 4*		
	Chairperson:	**Andrei PERJAN**
09.00 – 09.40	Dan TIBA	Penalization approaches in shape and topology optimization
09.45 – 10.25	Petru JEBELEAN	Potential systems with relativistic type operator
10.30 – 11.00	*Coffee break – room 222, Building 4*	
Section 1. Algebra, Geometry and Topology, Room 213a, Building 4		
	Chairperson:	**Florin DAMIAN**
11.00 – 11.25	Elena CUZNETOV *, Parascovia SYRBU	On a new quasigroup prolongation and its recursive differentiability
11.30 – 11.55	Halyna KRAINICHUK, Liudmyla IVANOVA	Logical schemes of some asymmetric quasigroups for lw-cryptography
12.00 – 12.25	Tatiana ROTARI *, Parascovia SYRBU	On 4-quasigroups with exactly ten distinct parastrophes
12.30 - 12.55	Bohdan BUNIAK, Fedir SOKHATSKY	About SA loops of order 10
13.00 – 15.00	*Lunch break*	
Section 2. Analysis, Differential Equations and Dynamical Systems, Room 405 Building 4		
	Chairperson:	**Vasile GLAVAN**
11.00 – 11.25	Cătălin-George LEFTER	Quantization and Liouville type properties for the system $-\Delta u = uJ'\left(1 - |u|^2\right)$ with a potential convex near zero
11.30 – 11.55	Teodora BACIU	Predicting predator extinction in space and time
12.00 – 12.25	Vasile NEAGU	Solution of some singular integrale quations with unbounded coefficients

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12.30 – 12.55	Valerii DRIUMA	Multidimension Riemann metrics to integrating of the Navier-Stokes equations
13.00 – 15.00	*Lunch break*	
	Chairperson:	**Nicolae VULPE**
15.00 – 15.25	Andrei SULTAN* David CHEBAN	Almost periodic solutions of lattice dynamical systems with monotone nonlinearity (**online**)
15.30 – 15.55	Alex C. REZENDE* Regilene D.S.OLIVEIRA Dana SCHLOMIUK Nicolae VULPE	Invariant parabolas and lines configurations in planar quadratic systems (**online**)
16.00 – 16.25	Joan Carles ARTES* Jaume LLIBRE Dana SCHLOMIUK Nicolae VULPE	Codimension in planar polynomial differential systems (**online**)
16.30 – 17.00	*Coffee break – room 222, Building 4*	
	Chairperson:	**Dumitru COZMA**
17.00 – 17.25	Nicolae VULPE * Joan Carles Artes	The codimension of the phase portraitsfor the family of degenerate quadratic differential system
17.30 – 17.55	Natalia NEAGU* Mihail POPA	Functional bases of center-affine invariant polynomials for the differential system s^3 (1, 2)
Section 3. Applied Mathematics, Room 423 Building 4		
	Chairperson:	**Boris HÎNCU**
11.00 – 11.25	Mihaela DUMITRACHE* Camelia GHELDIU	Non-stationary diffusion problem with non-zero robin conditions in the doubly perforated domain
11.30 – 11.55	Alexandra TKACENKO	Efficient methods for solving the linear mult-icriteria optimization model in

		integers.
12.00 – 12.25	Stefan NICOV	Analytical lower bounds for conditional label probability confidence intervals
12.30 – 12.55	Mircea T. SOFONEA * , Bastien REYNÉ, Alexander MASSEY, Corentin BOENNEC, Claudia RESTREPO-ORTIZ, Baptiste ÉLIE, Ramsès DJIDJOU-DEMASSE, Quentin RICHARD, Christian SELINGER, Yannis MICHALAKIS, Samuel ALIZON	Non-Markovian real-time modeling of an emerging infectious disease: a French retrospective on COVID-19 mathematical projections.
13.00 – 15.00		*Lunch break*
	Chairperson:	**Alexandra TKACENKO**
15.00 – 15.25	Mario LEFEBRE	First-passage problems for a diffusion process used in population genetics.
15.30 – 15.55	Vladislav SEICIUC *, Eleonora SEICIUC	Weak singular integral operators andtheir estimations in holder spaces
16.00 – 16.25	Omar PURTUKHIA	Constructive integral representations of Brownian functionals.
16.30 – 17.00		*Coffee break – room 222, Building 4*
	Chairperson:	**Alexandra TKACENKO**
17.00 – 17.25	Alexander D. KOLESNIK	A stochastic model of surface soil pollution from a stationary source
17.30 – 17.55	Titu CAPCELEA[*],	B-spline collocation method for solving singular integral equations with piecewise continuous coefficients

[*] Presenting author

	Maria CAPCELEA	
18.00 – 18.30	Dan STRATILA	A computational comparison of mixed-integer formulations for concave piecewise-linear functions
Section 4. Computer Science and IT, Room 145, Building 4		
	Chairperson:	**Mihail CROITOR**
11.00 – 11.25	Mihail CROITOR	Test generation for contest programming tasks
11.30 – 11.55	Nichita NARTEA[*], Mihail CROITOR	Secure execution of participants' code in automated evaluation systems
12.00 – 12.25	Gheorghe LATUL	Model-driven engineering in computer based instruction courses development
12.30 – 12.55	Natalia PLEȘCA	Bringing web content to life - a comparative study of TTS technologies
13.00 – 15.00	*Lunch break*	
	Chairperson:	**Valeriu UNGUREANU**
15.00 – 15.25	Valeriu UNGUREANU	Generative AI and Workforce: a synergistic future with LLMs
15.30 – 15.55	Vsevolod ARNAUT	Mathematical models and aggregation functions
16.00 – 16.25	Constantin CIUBOTARU	Some modifications of the DMP algorithm for testing undirected graphs planarity
16.30 – 17.00	*Coffee break – room 222, Building 4*	
	Chairperson:	**Olga CERBU**
17.00 - 17.25	Olga CERBU[*], Valentina TÎRȘU	Methodological approaches in encryption based on the Laplace transform
17.30 - 17.55	Matei-Octavian ȚURCAN[*] Tudor BUMBU	Managing PDF text layers for visualising and comparing transliterated text
18.00 - 18.25	Olga DARII[*],	Semantic test case generation from code using LLM

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	Tudor BRAGARU, Maria BELDIGA	
18.30 - 18.55	Cristian CEMÎRTAN	Internationalising programming languages using regular expressions
Section 5. Didactics of Mathematics and Informatics, Room 404, Building 4		
	Chairperson:	**Maria CRISTEI**
11.00 – 11.25	Andrei BRAICOV	Classic number problems solved by algorithms without control structures: educational insights
11.30 – 11.55	Angela GLOBA	Probleme de geometrie computațională în contextul competițiilor de programare
12.00 – 12.25	Larisa SALI*, Marcel TELEUCA	Current issues and challenges in the education of mathematically gifted students
12.30 – 12.55	Tatiana PAȘA*, Doina USACI	Digitalizarea învățământului superior
13.00 – 15.00	*Lunch break*	
	Chairperson:	**Lilia SOLOVEI**
15.00 – 15.25	Marcel TELEUCA*, Larisa SALI	Some applications of Eisenstein ring properties to solving competition problems in number theory
15.30 – 15.55	Galina SPRINCEAN*, Lilia SOLOVEI	Retraining in mathematics: between necessity and efficiency – solutions for optimizing the impact on the educational system
16.00 – 16.25	Mihail CROITOR	The use of artificial intelligence in Essay-type question assessment
16.30 – 17.00	*Coffee break – room 222, Building 4*	
	Chairperson:	**Galina SPRINCEAN**
17.00 – 17.25	Aurelia PROFIR	Modeling of the Filament Nucleation–Elongation Process on Damaged DNA

* Presenting author

17.30 – 17.55	Ion JARDAN*, Andrei CORLAT	Metoda coeficienților nedeterminați în integrarea funcțiilor raționale
18.00 – 18.30	Simona-Maria BUCURENCIU*, Ion ACHIRI	Algoritmul aplicării metodei descoperirii în predarea-învățarea matematicii în liceu
18.30 - 18.55	Mariana BUTNARU*, Greta STURZA	Rolul limbajelor formale în dezvoltarea gândirii computaționale la studenți
19.00 – 19.25	Sergiu PERETEATCU	Realizarea aplicațiilor de suport pentru cursul „Grafică 2D pe calculator"
19.30 – 19.55	Boris ȚARĂLUNGĂ	About the diophantine equation $1/w+1/x+1/y+1/z = 1/n$

[*] Presenting author

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SATURDAY, JUNE 28, CHIŞINĂU TIME, GMT/UTC+3		
Plenary session, Room 405 Building 4		
	Chairperson:	**Parascovia SÂRBU**
09.00 – 09.40	Poom KUMAM Sani SALISU	Fixed point iterative techniques for solving nonlinear convex optimization problems
09.45 – 10.25	Ales DRAPAL	Quadratic quasigroups, nearfields and associative triples
10.30 – 11.00	*Coffee break – room 222, Building 4*	
Section 1. Algebra, Geometry and Topology, Room 213a, Building 4		
	Chairperson:	**Andrei RUSU**
11.00 – 11.25	Elena COJUHARI *, Barry GARDNER	Generalized monoid rings and applications
11.30 – 11.55	Valeriu POPA	On LCA groups whose closed polythetic subgroups have commutative ring of continuous endomorphisms
12.00 – 12.25	Elizaveta ZAMORZAEVA	Using symmetry elements on hyperbolic riemann surfaces
12.`30 – 12.55	Oyeyemi Oluwaseyi OYEBOLA	On the characterization of extra polyloop and its applications to genetic interactions
13.00 – 15.00	*Lunch break*	
	Chairperson:	**Elena COJUHARI**
15.00 – 15.25	Andrei RUSU *, Elena RUSU	On existential expressibility of terms in a topological boolean algebras with 2 open elements
15.30 – 15.55	Serban VLAD	On the generalized technical condition of proper operation
16.00 – 16.25	Eugene KUZNETSOV	Isomorphisms of projective planes and corresponding transformations of coordinating pair loops
16.30 – 17.00	*Coffee break – room 222, Building 4*	

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Section 2. Analysis, Differential Equations and Dynamical Systems, Room 405 Building 4		
	Chairperson:	**Mihail POPA**
11.00 – 11.25	Alexandru ȘUBĂ	Center conditions for cubic differential systems with two affine non-parallel invariant straight lines of total multiplicity three
11.30 – 11.55	Dumitru COZMA* Angela MATEI	Center conditions for a cubic system with one invariant straight line and one invariant conic
12.00 – 12.25	Cristina BUJAC* Nicolae VULPE	A family of cubic systems with invariant straight lines in the configuration of the type (3, 2, 1)
12.30 – 12.55	Victor PRICOP* Lidia MUȘINSCHI	The GL(3, R)-Lie algebra admitted by thedifferential system s^3 (1, 3)
13.00 – 15.00	*Lunch break*	
	Chairperson:	**Cristina BUJAC**
15.00 – 15.25	Olga VACARAS	Quartic differential systems with a center-focus critical point and two parallel complex invariant straight lines of maximal multiplicity
15.30 – 15.55	Wiyada KUMAM Muhammad SAQLAIN Poom KUMAM	Half a Century of Fixed Point Theory Research in Thailand: A Bibliometric Analysis
16.30 – 17.00	*Coffee break – room 222, Building 4*	
Section 3. Applied Mathematics, Room 423 Building 4		
	Chairperson:	**Ludmila NOVAC, Boris HÎNCU**
11.00 – 11.25	Boris HÎNCU*, Calin TURCANU	Informational extensions in mixed-strategy matrix game
11.30 – 11.55	Vladimir MURSA*, Boris HÎNCU	Mathematical and computational framework for wave–neural modeling

*Presenting author

12.00 – 12.25	Dinara BUCILA*, Boris HÎNCU	Parallel algorithms in encryption problems
12.30 – 12.55	Ludmila NOVAC	Valuation of option contracts: the discrete case
13.00 – 15.00	*Lunch break*	
Section 4. Computer Science and IT, Room 145, Building 4		
	Chairperson:	**Tudor BUMBU**
11.00 – 11.25	Inga ȚÎȚCHIEV*, Olesea CAFTANATOV, Dan DANCUȚA, Arcadie FRON	Cultivating awareness: using augmented reality to combat plant blindness in home environments
11.30 – 11.55	Tudor BUMBU*, Eugeniu PLAMADEALA	On semantic segmentation of moldavian dialect maps
12.00 – 12.25	Olga POPCOVA, Elena GUȚULEAC, Iulian SECRIERU*	Study on the longevity perspectives of information tools used in medical diagnostics
12.30 – 12.55	Iulian SECRIERU*, Carolina ȚÂMBALĂ, Andrei RUSU, Ana NASTASIU	Improving the interpretability of scoring systems through graphical visualization
13.00 – 15.00	*Lunch break*	
	Chairperson:	**Titu CAPCELEA**
15.00 – 15.25	Maria ROTARU	Reliability of serial-parallel and parallel-serial networks with a variable number of subnetworks and a constant number of units
15.30 – 15.55	Valentina DEMIDOVA, Tatiana VERLAN*	Classification elaboration for the digitized handwritten archive of school math problems of the teacher and scientist B. Cinic

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16.00 – 16.25	Aurelia PROFIR	Extended model of SOS regulon switching: the role of cooperative processes in system regulation
16.30 – 17.00	*Coffee break – room 222, Building 4*	
	Chairperson:	**Maria CAPCELEA**
17.00 – 17.25	Alexandr PARAHONCO[*], Liudmila PARAHONCO	Behind the words: what drives text complexity?
17.30 – 17.55	Dan LEFTER[*], Maria CAPCELEA, Vitalie URSACHI	Predictive analysis of university enrollment trends using statistical modeling and AI techniques
18.00 – 18.25	Dan DANCUȚA[*], Dimitrii BUMBAC	3D Unity roguelite horror shooter
18.30 – 18.55	Svetlana CONIUC[*], Alexei RUSANOV	Mathematical analysis of information security threats in advanced metering infrastructure
19.00 – 19.25	Vlada COLESNICOVA[*], Argentina FRON, Daniela CAGANOVSCHI	Comparative evaluation of AI-powered image generation platforms
Section 5. Didactics of Mathematics and Informatics, Room 404, Building 4		
	Chairperson:	**Lilia SOLOVEI**
11.00 – 11.25	Dumitru IEȘEANU[*], Tudor BRAGARU, Gabriela Cristina BRĂNOAEA	Potențialul e-testării pe Moodle pentru studiul matematcii și informatcii
11.30 – 11.55	Ilie ANDRONIC*, Eugen PÎRVAN, Anatol GOREA	Învață programarea, verifică cu coderunner pe Moodle
12.00 – 12.25	Gabriela Cristina	Potențialul jocurilor tematice pe Moodle pentru consolidarea cunoștințelor

[*] Presenting author

	BRĂNOAEA*, Tudor BRAGARU, Dumitru IEȘEANU	
12.30 – 12.55	Ecaterina IEȘEANU*, Georgiana DRĂGAN, Gabriela Cristina BRĂNOAEA	Învațarea matematicii prin itemi parametrizați
13.00 – 15.00	*Lunch break*	
	Chairperson:	**Maria CRISTEI**
15.00 – 15.25	Dumitru BOTNARU*, Alina ȚURCANU	Despre funcții multivalorice
15.30 – 15.55	Alina ȚURCANU*, Rita DOMENTEAN	Despre progresii
16.00 – 16.25	Anastasia OCERETNÎI*, Maria CRISTEI	Aplicarea software-ului specializat în analiza calitativă a datelor
16.30 – 17.00	*Coffee break – room 222, Building 4*	
	Chairperson:	**Maria CRISTEI, Lilia SOLOVEI**
17.00 – 17.25	Llia SOLOVEI*, Galina SPRINCEAN	Individualization of mathematics education in university education: problems and technologies
17.30 – 17.55	Maria CRISTEI	Aplicarea inteligenței artificiale în monitorizarea curriculumului școlar
18.00 – 18.30	Ludmila NOVAC	Statistical methods used in insurance
18.30 – 19.00	Ghenadie MARIN	Setarea și utilizarea opțiunilor în aplicația „EXPLORINGBMP"

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SUNDAY, JUNE 29, CHIȘINĂU TIME, GMT/UTC+3	
08.30 – 17.00	*Excursion*

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