



International Scientific Conference Mathematics & IT: Research and Education

MITRE-2021, Chişinău, Republic of Moldova, July 01-03, 2021



Languages

Programme (MITRE-2011)

The Conference MITRE-2011 is organized in five sections:

- Section 1 “**Algebra, Geometry and Topology**” (room A)
- Section 2 “**Analysis and Differential Equations**” (room B)
- Section 3 “**Applied Mathematics**” (room C)
- Section 4 “**Computer Science and IT**” (room D)
- Section 5 “**Didactics**” (room E)

The conference rooms are in the Building 1 of the Moldova State University (rooms A, B, C, D at the 2nd floor, rooms E at the 1st floor, coffee break at the 2nd floor)

The Conference languages: English, Romanian and Russian

Monday, August 22, 2011

08.00–09.45 Registration (Building I, MSU)

10.00–10.45 Opening ceremony (Aula Nicolae Corlăteanu)

Section “Algebra, Geometry and Topology” (room A)

Chairman M. Cioban

11.30–12.00 S. Bogatyy. Embedding compacta into Euclidean space

12.00–12.30 A. I. Kashu. Preradicals in R-Mod and operations in the lattice of submodules

12.30–13.00 Gh. Ciocanu. On some properties of extremal elements

13.00–15.00 LUNCH pause

Chairman A. Kashu

15.00–15.20 V. Ursu. On some properties of quasivarieties of loops

15.20–15.40 G. B. Belyavskaya, T. V. Popovich. On the classes of quasigroups defined by the conjugate sets

15.40–16.00 V. A. Shcherbacov. A-nuclei of quasigroups

16.00–16.20 P. Sârbu, I. Grecu. On some isotropy invariants in Bol loops

16.20–16.40 D. Cheptea. Applications of the Jacobi-diagrammatic formulation of Johnson-Morita homomorphisms

16.40–17.10 Coffee break

Chairman V. Ursu

17.10–17.30 D. M. Ipate. On densely continuous forms

17.30–17.50 I. Ciobanu. About almost free topological universal algebras

17.50–18.10 L. Chiriac, N. Bobeică. On homomorphisms of topological n-groupoids with continuous division

18.10–18.30 Iu. Jardan, V. Popa. On complemented LCA groups

18.30–18.50 S. Cruglea, V. Popa. On LCA groups with Zorn rings of continuous endomorphisms

18.50–19.10 V. Bordan. Some properties of mono-linearly compact rings

19.10–19.30 M. Choban, D. Pavel. On a space of pseudometrics

19.30–19.50 O. Cerbu. The reflector functor and the lattice $L(R)$

19.50–20.10 N. Bobeică. On Haar measures on paramedical quasigroups

Section “Analysis and Differential Equations” (room B)

Chairman A. Perjan

11.30–12.00 I. I. Vrabie. Periodic solutions for retarded functional differential equations
12.00–12.30 N. Jitaraşu. On the regularity of solutions of parabolic equations near boundary
12.30–13.00 C. Mortici. Gamma function approximation methods
13.00–15.00 LUNCH pause

Chairman N. Jitaraşu

15.00–15.20 Ya. I. Bihun. Existence of solution and averaging of nonlinear multifrequency problems with delay
15.20–15.40 V. Dryuma. Geometric properties of the solutions of Navier-Stokes equations
15.40–16.00 N. Hryntsiv, A. Bodnarchuk. An inverse problem for the generally degenerate parabolic equation
16.00–16.20 A. Perjan, G. Rusu. Second order singularly perturbed Cauchy problems with monotone nonlinearities
16.20–16.40 Gh. Rusu. On simple Banach spaces and the hypothesis of Pietsch
16.40–17.10 Coffee break

Chairman V. Glavan

17.10–17.30 V. Neagu. The symbol of singular integral operators in the case of piecewise Lyapunov contour
17.30–17.50 I. Pancenco, G. Vornicescu. On stability of the number of solutions of homogeneous Riemann problem
17.50–18.10 N. Gaşitoi. On the Levi problem in the blow-up
18.10–18.30 A. I. Lazu, V. Postolache. Approximate viability and relaxation for differential inclusions in Banach spaces

Section “Applied Mathematics” (room C)

Chairman D. Lozovanu

11.30–12.00 P. Soltan. The topology of multi-ary relations and their applications
12.00–12.30 Gh. Zbăganu. On hidden Markov models
12.30–13.00 Gh. Mishkoy, D. Bejenari, L. Mitev. Method of catastrophes and numerical problems in queueing theory

13.00-15.00 LUNCH pause

Chairman Gh. Mishkoy

15.00–15.20 D. Zambîţchi. Problema amplasării medianei în diferite spații metrice

15.20–15.40 A. Poştaru, N. Prodan. Randomized response method

15.40–16.00 Iu. Damian, A. Mamonova. Queuing system $[SM\epsilon | M | \infty]$ in the average Scheme

16.00–16.20 I. Dmitrieva. Differential Maxwell system in the case of non stationary medium

16.20–16.40 A. Corlat. Semimarkovian systems with rebuilt structure

16.40–17.10 Coffee break

Chairman S. Cataranciuc

17.10–17.30 Gh. Mishkoy, S. Costaş, L. Mitev, A. Ocolitii. Econometrical models and structures in the queueing phenomena

17.30–17.50 O. Benderschi, Gh. Mishkoy. Evaluation of the characteristics of priority Queueing systems using various distribution functions for service and switchover times

17.50–18.10 G. Nicorici. Robust posterior predictive p-values for normal distribution

18.10–18.30 B. Gh. Munteanu, A. Leahu, S. Cataranciuc. A new rate of convergence of the random variables sequence to the χ^2 distribution

18.30–18.50 D. Bejenari. Numerical solutions for the multidimensional Kendall equation using PH distribution

Section “Computer Science and IT” (room D)

Chairman Gh. Căpăţână

11.30–12.00 I. Velbitskiy, A. Khodakovskiy. Visual programming technology of new generation

12.00–12.30 S. Cojocaru, C. Gaidric, Iu. Secrieru. SONARES.EDU: E-Learning system in ultrasound examination domain

12.30–13.00 E. Boian, S. Cojocaru, C. Gaidric, E. Grabov, V. Macari, G. Magariu, T. Verlan. Principles of elaboration on information analytical system in research

13.00-15.00 LUNCH pause

Chairman I. Velbitskiy

15.00–15.20 Gh. Căpățână. Computer applications oriented to families of problems

15.20–15.40 A. Lefterov, V. Khodakivskiy, A. Fedoseev, I. Velbitskiy. My sommelier – Internet Service for collectors

15.40–16.00 N. Magariu, L. Nigretcaia-Croitor, N. Pleșca, M. Croitor. A method of R- technology innovation

16.00–16.20 N. Pleșca, L. Nigretcaia-Croitor. Development of a course on "R-Technology and its applicatons"

16.20–16.40 M. Croitor. The ontology of software reusable resources

16.40–17.10 Coffee break

Chairman N. Magariu

17.10–17.30 V. Arnaut. Possibilities of collecting data from electronic microscopes

17.30–17.50 A. Colesnicov, L. Malahov. Using Virtual Machines in Automated Library Systems

17.50–18.10 T. Bragaru, I. Crăciun. Instruments supporting preparation of items for uploading into Moodle

18.10–18.30 N. Bruc, G. Magariu, T. Verlan. Ultrasound images ontology elaborating for gallbladder

18.30–18.50 M. Petic. Generative models in automatic derivational morphology

Section “Didactics” (room E)

Chairman I. Achiri

11.30–12.00 I. Goian, V. Marin, P. Sârbu, A. Topală. Asupra ciclicității grupului $U(\mathbb{Z}_n)$

12.00–12.30 V. Ursu, E. Ursu. Aplicații ale produsului vectorial și produsului mixt în spațiul Euclidian

12.30–13.00 I. Valuță. Asupra unor probleme actuale ale predării-învățării matematicii

13.20-15.00 LUNCH pause

Chairman I. Valuță

15.00–15.20 I. Goian, V. Marin, P. Sârbu. Asupra unor probleme de construcție cu rigla și compasul

15.20–15.40 I. Lupu. Funcții pare și impare. Aplicații.

15.40–16.00 M. Cioban, I. Ciobanu. Unele note asupra predării cursului "Geometrie diferențială"

16.00–16.20 A. Sava. Familia – factor important pentru asigurarea calității în educație

16.20–16.40 A. M. Cioban-Pilețkaia. A design of mathematical development of children as a condition of education quality management

16.40–17.10 Coffee break

Chairman I. Goian

17.10–17.30 I. Achiri. Standarde de competență la matematică

17.30–17.50 M. Teleucă. Despre elaborarea conținutului învățământului în vederea dezvoltării gândirii matematice

17.50–18.10 Valeriu Bordan, Valentina Bordan. Despre matricea asociată unei relații binare

18.10–18.30 P. Ciumac. O metodă de deducere a formulei lui Stirling

18.30–18.50 L. Chiriac, A. Globa, N. Bobeică. Procedee metodice privind pregătirea și desfășurarea olimpiadelor de informatică

18.50–19.10 P. Macari, L. Macari. Metoda funcțiilor generatoare

19.10–19.30 L. Sali. Studiu privind pregătirea cadrelor didactice pentru instruirea elevilor dotați la matematică

19.30–19.50 S. Gîncu. Aplicații ale metodei proiectului în formarea și dezvoltarea competenței de programare orientată pe obiecte

19.50–20.10 L. Mihălache. Experimentul pedagogic prin prisma analizelor statistico-matematice

20.10–20.30 L. Mihălache. Aspecte metodice privind elaborarea testelor la compartimentul "Calculul numeric" din cursul liceal de informatică

Tuesday, August 23, 2011

11.50–13.20, room A: Presentations of books, dedicated to acad. Nicolae Popescu and acad. Petru Soltan.

Section "Algebra, Geometry and Topology" (room A)

Chairman S. Bogatyy

09.00–09.30 V. I. Arnautov. The estimation of the number of one-point expansions of a topology defined on a finite set

09.30–10.00 L. Calmuțchi, M. Choban. On Wallman-Shanin compactifications

10.00–10.30 R. Miron, Gh. Pitiș, I. Pop. On the abstract Čech cohomology

10.30–11.00 Coffee break

Chairman A. Palistrant

11.00–11.20 S. Bogataya. Special embeddings into Euclidean space

11.20–11.40 D. Botnaru, A. Țurcanu. The transformation of some classes of subcategories by the right product

11.50–13.20 (room A) Presentations of books

13.20–15.00 LUNCH pause

Chairman A. Lungu

15.00–15.20 A. Palistrant. Using the P-symmetry space groups of crystals to investigate 6D symmetry groups

15.20–15.40 E. Zamorzaeva. On new types of folding tilings of the sphere

15.40–16.00 I. Gutsul. On a metric method for the construction of hyperbolic polyhedra which admit face-to-face tile-transitive tilings of H_3

16.00–16.20 F. Damian, P. Makarov, V. Makarov. On some methods of constricting new tilings and manifolds using fundamental groups

16.20–16.40 V. Makarov, V. Balkan. Properties of Boroczky tilings in high dimensional Lobachevsky spaces Λ_n ($n \geq 2$)

16.40–17.10 Coffee break

Chairman V. A. Shcherbacov

17.10–17.30 A. Lungu, M. Roșca. Some properties of pseudo-minor groups of generalized symmetry

17.30–17.50 I. Valuță, E. Valuță. Algebraical and informatics concepts in the development of mathematics

17.50–18.10 E. Boico. On some three-dimensional and four-dimensional manifolds

18.10–18.30 I. Cucu. A criterion for completeness relative to implicit reducibility in the chain logics

18.30–18.50 I. Negru. The problem of solvability in implicational logic

18.50–19.10 A.-M. Patriciu. Fuzzy modeling applied in geometry

19.10–19.30 I. Dorca, D. Breaz, M. Acu. Some classes of functions defined by using a modified Sălăgean operator

19.30–19.50 T. V. Popovich. On the conjugate sets of quasigroups and identities

19.50–20.10 D. I. Pushkashu. Groupoids with Tarki associative identity

Section “Analysis and Differential Equations” (room B)

Chairman I. I. Vrabie

09.00–09.30 N. Vulpe, J. Llibre, J. C. Artes. Quadratic systems with an integrable saddle: a complete classification in the coefficient space \mathbb{R}^{12}

09.30–10.00 V. Romanovski. Invariants and time-reversibility of 2-dim systems of ODE's

10.00–10.30 D. Cheban. G.Sell's Conjecture for non-autonomous dynamical systems

10.30–11.00 Coffee break

Chairman N. Vulpe

11.00–11.20 V. Glavan. Linear shadowing versus hyperbolicity: implications and counterexamples

11.20–11.40 V. Guțu. Various IFS's with common attractor

11.50–13.20 (room A) Presentations of books

13.20-15.00 LUNCH pause

Chairman V. Romanovski

15.00–15.20 A. Șubă, S. Poderioghin. The center problem for a cubic system

15.20–15.40 M. Popa, V. Pricop. About the maximal number of algebraically independent focal pseudo-quantities of the system $s(1,3)$

15.40–16.00 D. Cozma. Centers in some cubic systems with two invariant straight lines

16.00–16.20 Iu. Calin, V. Baltag. The center problem for some classes of cubic bidimensional differential systems

16.20–16.40 Iu. Calin, S. Ciubotaru. The rational bases of $GL(2, \mathbb{R})$ -comitants for the two-dimensional system of differential equations with nonlinearity of the fourth degree

16.40–17.10 Coffee break

Chairman A. Şubă

17.10–17.30 I. Capraru. Approximate weak invariance and relaxation for fully nonlinear differential inclusions

17.30–17.50 V. Cracan. A first look at the orbits of a rotation-reflection system

17.50–18.10 V. Orlov. About Lie's integrating factor for differential system with cubic nonlinearities

18.10–18.30 V. Repeşco. The cubic system with a real invariant straight line and two triplets of complex parallel invariant straight lines

Section “Applied Mathematics” (room C)

Chairman P. Soltan

09.00–09.30 D. Lozovanu, M. Capcelea. Linear programming algorithms for solving infinite horizon stochastic control problems on networks

09.30–10.00 S. Cataranciuc. Homogeneous complex of n -dimensional abstract cubes and Grundy function

10.00–10.30 D. Solomon. Generalized convex fractional programming

10.30–11.00 Coffee break

Chairman S. Vlad

11.00–11.20 O. Topală. Convex sets, starshaped sets and the Hadwiger number in graphs

11.20–11.40 A. Lazari. Determining the cardinality of the set of numbers with given count of digits and fixed sum of digits

11.50–13.20 (room A) Presentations of books

13.20–15.00 LUNCH pause

Chairman D. Solomon

15.00–15.20 A. Godonoaga, P. Balan. Stochastic methods for solving differentiable and nondifferentiable convex problems

15.20–15.40 S. Vlad The symmetry of the universal regular autonomous asynchronous systems

15.40–16.00 B. Hâncu. Reversible informational extended games

16.00–16.20 L. Novac. Applications of the extensive games

16.20–16.40 I. Secieru. Stability of weighted approximate schemes

16.40–17.10 Coffee break

Chairman A. Poștaru

17.10–17.30 A. Musteață, G. Secieru, V. Caragia, D. Nikolaeva, M. Podogova. Mathematical model of the supercritical CO₂-extraction of oil from wheat germs

17.30–17.50 E. Naval. Stochastic maximum principle application to the economic growth modeling

17.50–18.10 I. Băț. A heuristic polynomial algorithm for the maximum independent set problem

18.10–18.30 D. Goina, O. R. Tuns (Bode). A kind of bilevel traveling Salesman problem

18.30–18.50 E.-L. Pop, D. I. Duca. Optimization problems having the composition with a linear continuous mapping in the objective function

18.50–19.10 S. Cataranciuc, C. Țurcanu. Isometric embeddings of trees

Section “Computer Science and IT” (room D)

Chairman S. Cojocaru

09.00–09.30 E. Boian. Morpho-syntactic analysis of scientific texts

09.30–10.00 C. Ciubotaru, V. Gîsca. Utilization of attribute grammars in morpho-syntactic disambiguation

10.00–10.30 C. Resteanu, D. Banciu, E. Mitan. OR E-courses' shell: learning's management

10.30–11.00 Coffee break

Chairman A. Colesnicov

11.00–11.20 B. Rybakin, E. Strelnikova, G. Secieru, E. Gutuleac. Computer simulation of dynamic loading of fluid-filled shell structures

11.20–11.40 N. Objelean. An approach of statistical language model for voice recognition

11.50–13.20 (room A) Presentations of books

13.20–15.00 LUNCH pause

Chairman C. Ciubotaru

15.00–15.20 A. Profir, B. Yang. Optimization of membrane Petri nets models using method of dynamic priorities

15.20–15.40 A. Profir, B. Yang, D. Ciurganov, L. Prepeleța. Developing of Patient-specific model of glycemia level

15.40–16.00 V. Grigorcea. A method of realization of case based reasoning

16.00–16.20 M. Butnaru, A. Căpățână, Gh. Căpățână, O. Cobîleanschi, A. Popov. The intelligent support system for remission in patients in epilepsy

16.20–16.40 D. Balanel. Method of information equation

16.40–17.10 Coffee break

Chairman S. Arnaut

17.10–17.30 A. Objelean. WEB resource optimization from theory to practice with open source

17.30–17.50 A. Profir, R. Damaschin, L. Prepeleța. ECG representation in Patient-specific model

17.50–18.10 A. Chior. Event-threading algorithm on modern database management systems

18.10–18.30 M. Muntean. Family of information systems for building units

18.30–18.50 L. Bitcovschi. The monoid of stacks under their compound

18.50–19.10 M. Cristei. Methodological aspects of computer-based teaching

Section “Didactics” (room E)

Chairman A. Hariton

09.00–09.30 P. Efros. Examenul de bacalaureat 2011. Proba scrisă la matematică

09.30–10.00 F. Banu, G. Streinu-Cercel. Cu privire la sistemul de evaluare din învățământul secundar

10.00–10.30 I. Grati. Monotonia strictă a funcției și utilizarea ei

10.30–11.00 Coffee break

Chairman I. Lupu

11.00–11.20 A. Hariton, L. Calmuțchi. Despre rezolvarea problemelor prin diverse metode

11.20–11.40 Gh. Căpățână, Gh. Latul. Sisteme inteligente de E-learning

11.50–13.20 (room A) Presentations of books

13.20-15.00 LUNCH pause

Chairman I. Negru

15.00–15.20 A. Corlat. Implementarea tehnologiilor informaționale în cursul liceal al științelor exacte

15.20–15.40 D. M. Ipate, I. I. Jurji. Metodica instruirii studenților din învățământul universitar la "Calculul integral" cu utilizarea tehnologiilor informaționale

15.40–16.00 D. M. Ipate, I. I. Jurji. Abordări metodice de sporire a motivației în procesul de rezolvare a problemelor

16.00–16.20 M. Efros. Valoarea formativă a temei de acasă

16.20–16.40 E. Railean, S. Cataranciuc. The cybernetic modeling of competence forming through optimized graph

16.40–17.10 Coffee break

__Chairman P. Efros__

17.10–17.30 I. Negru. Despre evaluarea profesorului de către studenți

17.30–17.50 L. Zastînceanu. Etapele formării competenței de rezolvare a problemelor matematice în ciclul preuniversitar de învățământ

17.50–18.10 T. Vascan, I. Camerzan. Strategii de proiectare a programelor complexe

18.10–18.30 D. Pavel, M. Pavel. Abordări metodice în predarea disciplinei "Rețele de calculatoare"

18.30–18.50 V. Popovici-Bujor, L. Popovici. Softul AEL și rolul lui în studiul matematicii

18.50–19.10 A. Mihailevschi. Promovarea metodelor moderne de predare și învățare

19.10–19.30 A. Băbălău, L. Popa. Stimularea creativității elevilor

19.30–19.50 N. Apetrii. Evaluarea cunoștințelor în complexul metodic "Data Mining"

19.50–20.10 V. Osipov. Sistemele electronice integrate matematice (SEIM) în studierea matematicii - noua paradigmă computerizată a învățământului

Wednesday, August 24, 2011

08.30-15.00 Excursion to the archeological complex “Orheiul Vechi” (“Old Orhei”)

18.00-21.00 Official Dinner (MSU café)

Thursday, August 25, 2011

12.00–12.30 Closing session (room A)

Section “Algebra, Geometry and Topology” (room A)

Chairman L. Chiriac

09.00–09.30 V. Izbaş. On orthogonality of groupoids

09.30–10.00 N. Sandu. Simple Moufang loops and alternative algebras

10.00–10.30 D. Botnaru, E. Baeş. Theories of relative torsion

10.30–10.50 A. D. Gurdish. On commutative Moufang ZA-loops of finite special rank

10.50–11.10 A. Covalschi, N. Sandu. On locally centrally nilpotent loops

11.10–11.30 A. Covalschi. On lower and upper central series of A-loops

11.30-11.50 N. Lupashco. On automorphisms of commutative Moufang loops

Section “Applied Mathematics” (room C)

Chairman D. Lozovanu

09.00–09.30 M. Dehmer. Information theory of Networks

09.30–10.00 V. Paţiuć, G. Rîbacova. Finite volume method for 3D electrostatic problems

10.00–10.30 V. Seichiuc. On approximate solving of nonlinear singular integral equations with Carleman shift and with conjugate of unknown function

10.30–10.50 A. Tkacenko. Some considerations about portfolio's optimization model

10.50–11.10 M. Bulat, S. Cataranciuc, A. Zgureanu. A method for calculating the Zhegalkin polynomial coefficients

11.10–11.30 T. Capcelea, M. Capcelea. Numerical method for solving integral equations of the second kind defined on piecewise smooth boundary surfaces of three dimensional domains

Section “Didactics” (room E)

Chairman A. Corlat

09.00–09.20 Ș. Alexei. Note referitoare la expunerea unor teme de matematici

09.20–09.40 T. Bragaru, I. Bruc, Gh. Căpățână, M. Gandrabura. Sistem de E-learning pentru învățământul preuniversitar

09.40–10.00 M. Cristei. Elaborarea sistemului computerizat de instruire la disciplina "Inteligența artificială"

10.00–10.20 I. Bruc. Sistem de instruire la distanță și formarea continuă la USM

10.20–10.40 N. Pelin. Sistem informațional destinat generării întrebărilor la un subiect

10.40–11.00 O. Vovnenciuc. Bugetul de timp al studentului

11.00-11.20 S. Corlat. Comunități virtuale pentru pregătirea de performanță în domeniul informaticii

11.20-11.40 D. Afanas, E. Afanas. Evaluarea orală

11.40-12.00 M. Beldiga. Computerized adaptive tests

Important Dates and Deadlines

May 31, 2021 – Registration

May 31, 2021 – Submission of the Abstract

June 15, 2021 – Notification of acceptance

June 25, 2021 – Programme

July 1-3, 2021 – Conference works