

Monday, June 24, 2019

**Conference MITRE-2019**  
**Programme<sup>1</sup> (June 24–25, 2019)**

**Monday, June 24, 2019**

**09.00–09.55 Registration<sup>2</sup>** (BC, 1<sup>st</sup> floor, room 141).

**10.00–10.20 Opening Ceremony** (BC, 1<sup>st</sup> floor, room 141)

**Chairperson: G. Rusu**

**10.20–10.35 Special session of homage to Professor Boris Şerbacov**

Presentation: **V. Guţu**

**Plenary session** (BC, 1<sup>st</sup> floor, room 141)

**Chairperson: A. Caşu**

**10.45-11.30 V. Brînzănescu, C. M. Sandu.** Algebraic methods for solutions of  
Bloch-Iserles Hamiltonian systems

**11.40-12.05 *Coffee break*** (BC, 1<sup>st</sup> floor, room 141)

**Chairperson: A. Perjan**

**12.10-12.55 M. Lefebvre.** Applied stochastic processes

**13.05-14.30 *Lunch break***

---

<sup>1</sup> In case of joint authorship, the presenting author is indicated with the sign \*.

<sup>2</sup> The Registration, Opening Ceremony and Plenary session will be held in the Central Building (BC), the Section sessions will be held in the Building 4 (B4).

**Section 1 “Algebra, Geometry and Topology”** (B4, 1<sup>st</sup> floor, room 113)

**Chairperson: P. Sârbu**

- 14.30-14.50** M. Choban\*, E. Mihaylova. About local properties of mappings  
**14.55-15.15** V. Arnautov\*, G. Ermakova. On the number of topologies on countable fields  
**15.20-15.40** P. Homorodan. Fixed point theorems in spaces with distance  
**15.45-16.05** V. Popa. On topological torsion LCA groups with commutative  $\pi$ -regular ring of continuous endomorphisms  
**16.10-16.30** O. Izbash\*, V. Izbash. On ultraweak model completeness in the logic of 3-element  $\Delta$ -pseudo-boolean algebra  
  
**16.30-16.55** *Coffee break*

**Chairperson: V. Popa**

- 17.00-17.20** P. Syrbu, I. Grecu\*. On total multiplication groups of middle Bol loops  
**17.25-17.45** N. Didurik.  $i$ -Quasigroups  
**17.50-18.10** N. Malyutina. Cryptanalysis of some stream ciphers  
**18.15-18.35** M. Cimpoeaş. On the restricted partition function

**Section 2 “Analysis, Differential Equations and Dynamical Systems”**

(B4, 2<sup>nd</sup> floor, room 214)

**Chairperson: A. Perjan**

- 14.30-14.50** Ya. Bihun\*, R. Petryshyn. Averaging method in multifrequency systems with delay and integral conditions  
**14.55-15.15** D. Cheban. Levitan almost periodic solutions for linear differential equations  
**15.20-15.40** R. Luca Tudorache\*, J. Henderson. Positive solutions for a system of coupled fractional boundary value problems  
**15.45-16.05** V. Guţu. Chain recurrent viable sets in relations  
**16.10-16.30** G. Prajitura. Chaos vs entropy in linear dynamics  
  
**16.30-16.55** *Coffee break*

**Chairperson: Ya. Bihun**

- 17.00-17.20** M. Lefebvre. On a partial integro-differential equation from financial mathematics  
**17.25-17.45** A. Perjan, G. Rusu\*. Convergence estimates for abstract second order differential equations with two small parameters and monotone nonlinearities  
**17.50-18.10** M. Ivanchov. Inverse problem for a 2D degenerate heat equation  
**18.15-18.35** P. Moloşnic, V. Neagu. On factorization of functions in  $L_p^n$  spaces

- 18.40-19.00** **C. Bujac\*, D. Schlomiuk, N. Vulpe.** Cubic systems with invariant lines of total multiplicity seven with configuration of the type (3,3) and two real and two complex singular points at infinity

### **Section 3 “Applied Mathematics”** (B4, 4<sup>th</sup> floor, room 404)

**Chairperson: D. Lozovanu**

- 14.30-14.50** **S. Cataranciuc, G. Braguța\*.** Median properties in an abstract  $N$ -dimensional cubic complex
- 14.55-15.15** **O. Topală.** On Radon and Tverberg numbers for some classes of graphs
- 15.20-15.40** **R. Buzatu.** Optimization problems of general convex covering problem of graphs
- 15.45-16.05** **A. Ghazaryan.** On the palette index of generalized theta graphs
- 16.10-16.30** **T. Pașa.** Solving the large-scale non-linear transportation problem
- 16.30-16.55** *Coffee break*

**Chairperson: S. Cataranciuc**

- 17.00-17.20** **D. Lozovanu.** Optimal stationary strategies for average stochastic positional games
- 17.25-17.45** **B. Hâncu.** Informational extended duopoly games
- 17.50-18.10** **A. Tkacenko.** Multi-criteria fractional transportation problem including the “bottleneck” criterion of fuzzy type
- 18.15-18.35** **V. Pațiuț\*, G. Rîbacova.** Numerical approach for calculating magnetic field parameters of power lines
- 18.40-19.00** **G. Secrieru\*, E. Guțuleac.** Computer evaluation of thin-walled structure state under wave loading

### **Section 4 “Computer Science and IT”** (B4, 2<sup>nd</sup> floor, room 222)

**Chairperson: V. Ungureanu**

- 14.30-14.50** **C. Gaidric, S. Cojocaru, I. Secrieru, O. Popcova\*.** IT-Supported multilayered approach for management of mass casualty situations
- 14.55-15.15** **I. Andriesh.** A phenomenological digital color model as a bijection onto RGB color space
- 15.20-15.40** **M. C. Baroni.** Some combinatorial results on phylogenetic networks
- 15.45-16.05** **V. Ungureanu.** Graphics and strategic game applications in the Wolfram Language
- 16.10-16.30** **V. Grigorcea.** Case-based reasoning
- 16.30-16.55** *Coffee break*

**Chairperson: C. Gaidric**

- 17.00-17.20** **A. Colesnicov\*, L. Malahov.** OAI-PMH access to the institutional repository

Monday, June 24, 2019

- 17.25-17.45** **V. Arnaut.** Color-grayscale image transformation
- 17.50-18.10** **M. A. Baroni.** Constructive monotone functions
- 18.15-18.35** **L. Burtseva.** Bringing of data, represented by image, and P system for visualization of experiment
- 18.40-19.00** **N. Pleșca.** Importance of using the regular expressions in securing the web applications
- 19.05-19.25** **C. Opinca.** Parallel computing in Wolfram Mathematica

## **Section 5 “Didactics of Mathematics and Informatics”**

(B4, 2<sup>nd</sup> floor, room 213a)

**Chairperson: L. Solovei**

- 14.30-14.50** **Iu. Baltag.** Unele aplicații ale integralelor curbilinii
- 14.55-15.15** **I. Achiri.** Reconceptualizarea învățământului matematic liceal
- 15.20-15.40** **A. Corlat.** Transformări ale expresiilor trigonometrice
- 15.45-16.05** **A. Corlat\*, I. Jordan.** Parametru în probleme
- 16.10-16.30** **Ș. Alexei.** Note referitoare la expunerea unor teme de matematici
- 16.30-16.55** *Coffee break*

**Chairperson: A. Corlat**

- 17.00-17.20** **I. Titchiev.** Opportunities for using blended learning in the Republic of Moldova
- 17.25-17.45** **C. Ciubotaru.** Algoritm mixt recursiv-iterativ de generare a combinațiilor
- 17.50-18.10** **T. Bragaru\*, V. Ungureanu.** Lucrul independent al studenților: planificare, monitorizare, evaluare
- 18.15-18.35** **N. Apetrii\*, Gh. Căpățână.** Metoda “Camera chineză” de predare a algoritmilor genetici
- 18.40-19.00** **A. Pereteatcu, S. Pereteatcu\*.** Utilizarea problemei de calculare a sumelor alternanțelor consecutive

**Tuesday, June 25, 2019**

**Section 1 “Algebra, Geometry and Topology”** (B4, 1<sup>st</sup> floor, room 113)

**Chairperson: M. Ciobanu**

- 09.00-09.20** **A. Kashu.** Preradicals and closure operators of modules in an adjoint situation  
**09.25-09.45** **D. Botnaru.** Semireflexive subcategories  
**09.50-10.10** **C. Frigioiu.** On the geometry of rheonomic Lagrangians  
**10.15-10.35** **I. Jordan.** New operations in the class of preradicals of modules  
**10.40-11.00** **A. Lungu.** On the symmetry of the “indexed” bounded geometric figures  
  
**11.00-11.25** *Coffee break*

**Chairperson: A. Lungu**

- 11.30-11.50** **I. Gutsul.** On pseudoprisms in hyperbolic space  $H^3$   
**11.55-12.15** **E. Zamorzaeva.** On the enumeration of 3-isohedral spherical tillings for the group series  $2*n$   
**12.20-12.40** **V. Balcan.** A new approach to the study of the behavior of geodesics  
**12.45-13.05** **F. Damian\*, V. Makarov, P. Makarov.** Geometry of hyperbolic lens 3-manifolds

**Section 2 “Analysis, Differential Equations and Dynamical Systems”**

(B4, 2<sup>nd</sup> floor, room 214)

**Chairperson: M. Popa**

- 09.00-09.20** **D. Cozma\*, A. Matei.** Integrability conditions for a cubic system with two invariant straight lines and one invariant elliptic cubic curve  
**09.25-09.45** **N. Neagu, V. Orlov\*, M. Popa.** Invariant stability conditions of unperturbed motion governed by critical differential systems  $s(1,2,3)$  in a nonsingular case  
**09.50-10.10** **Iu. Calin, V. Baltag\*.** The sufficient  $GL(2,R)$ -invariant center conditions for a class of bidimensional cubic differential systems  
**10.15-10.35** **Iu. Calin\*, S. Ciubotaru.** The sufficient  $GL(2,R)$ -invariant center conditions for a class of bidimensional polynomial systems of differential equations with nonlinearities of the fourth degree  
**10.40-11.00** **V. Dryuma.** On limit cycles of planar differential systems  
  
**11.00-11.25** *Coffee break*

**Chairperson: D. Cozma**

- 11.30-11.50** A. Şubă, S. Turuta\*. Centers in cubic differential systems with the line at infinity of maximal multiplicity
- 11.55-12.15** D. Cozma, A. Dascalescu\*. Center conditions for cubic systems with two invariant straight lines and one invariant cubic in generic position
- 12.20-12.40** V. Glavan. Strong chain-recurrence and Lyapunov functions in closed relations
- 12.45-13.05** Iu. Baltag. On some particular solutions of the stationary Navier-Stokes equation

**Section 3 “Applied Mathematics”** (B4, 4<sup>th</sup> floor, room 404)

**Chairperson: A. Tkacenko**

- 09.00-09.20** Gh. Mishkoy, L. Mitev\*. Polling models with priorities and semi-Markov switching
- 09.25-09.45** M. Barbosu. Big Data analytics methods on sensor-collected data
- 09.50-10.10** A. Leahu\*, V. Andrievschi-Bagrin. Lifetime in network’s reliability and approximation of its probability distribution
- 10.15-10.35** A. Poştaru, N. Prodan\*. Randomized response techniques
- 10.40-11.00** L. Novac. Monte Carlo simulation for exchange risk approach
- 11.00-11.25** *Coffee break*

**Chairperson: B. Hâncu**

- 11.30-11.50** A. Baractari\*, Ş. Blanuţa, A. Godonoagă. Algorithms for adjusting inputs and outputs in production systems
- 11.55-12.15** L. Golban\*, A. Godonoagă. Wald and savage decision-making criteria for monopoly under uncertainty
- 12.20-12.40** E. Cataranciuc. DMM parallel algorithm to solve bimatrix games
- 12.45-13.05** V. Seiciuc\*, Gh. Carmocanu, E. Seiciuc. On modified algorithms of spline-collocations and spline-quadratures methods for solving integral equations of second kind
- 13.10-13.30** C. Opinca. Analysis of wind energy potential with Weibull distribution

**Section 4 “Computer Science and IT”** (B4, 2<sup>nd</sup> floor, room 222)

**Chairperson: V. Arnaut**

- 09.00-09.20** A. Ciubotaru, M. Petic\*. About the Web service interoperability for a Web application for agriculture
- 09.25-09.45** O. Caftanатов. Methodologies of identifying and selecting criteria for evaluating the educational software interfaces
- 09.50-10.10** R. Bergmann. Information projects quality assessment
- 10.15-10.35** Gh. Latul\*, T. Bragaru, M. Croitor. Objective items development system
- 10.40-11.00** V. Malcoci. General aspects of national PKI creation

**11.00-11.25** *Coffee break*

**Chairperson: I. Andrieş**

- 11.30-11.50** **S. Bodrug, A. Profir.** Comparative analysis of fiscal policy models based on economic literature and its impact on macroeconomics
- 11.55-12.15** **M. Croitor\*, T. Bragaru, Gh. Latul.** Management system for bank of items and tests
- 12.20-12.40** **Gh. Usic.** Comparative analysis of modern diabetes schools for developing patient-specific monitoring model for patients with type I diabetes
- 12.45-13.05** **M. Butnaru\*, A. Popov.** Intelligent applications for study of mental and behavioral disabilities in epilepsy

### **Section 5 “Didactics of Mathematics and Informatics”**

(B4, 2<sup>nd</sup> floor, room 213a)

**Chairperson: I. Achiri**

- 09.00-09.20** **V. Guţu.** Acoperiri ale unor figuri plane cu copii ale lor
- 09.25-09.45** **G. Popescu.** Natural versus artificial in teaching Mathematics
- 09.50-10.10** **I. Ciobanu\*, E. Neruşca.** Vizualizarea aplicării determinanţilor în studiul geometriei analitice prin intermediul softului GeoGebra
- 10.15-10.35** **A. Turcanu\*, R. Domentean.** Extreme problems in geometry
- 10.40-11.00** **Z. Ghilan, V. Pricop.** Development of some functions in Fourier series and their graphic interpretation

**11.00-11.25** *Coffee break*

**Chairperson: I. Ciobanu**

- 11.30-11.50** **L. Solovei.** Utilizarea manualelor electronice în predarea cursului de matematică superioară
- 11.55-12.15** **V. T. Ghiţă\*, Gh. Căpăţână.** O metodologie de pregătire a olimpicii la matematică
- 12.20-12.40** **O. Cerbu\*, Gh. Căpăţână, M. Cerbu, C. Oanţa, V. Grigorcea.** O metodologie de aplicare a diagramei Voronoi

**15.00-21.00** **Excursion to the Asconi Winery.**

**Conference time-table****Monday, June 24, 2019**

	<b>BC, 1<sup>st</sup> floor, room 141</b>				
<b>09.00-09.55</b>	<b>Registration</b>				
<b>10.00-10.20</b>	<b>Opening Ceremony</b>				
<b>10.20-10.35</b>	<b>Special session of homage to Professor Boris Şcerbacov</b>				
<b>10.45-11.30</b>	<b>Plenary talk V. Brînzănescu+</b>				
<b>11.40-12.05</b>	<i>Coffee break</i>				
<b>12.10-12.55</b>	<b>Plenary talk M. Lefebvre</b>				
<b>13.05-14.30</b>	<i>Lunch break</i>				
	<b>Section 1 AGT B4, room 113</b>	<b>Section 2 ADE B4, room 214</b>	<b>Section 3 AM B4, room 404</b>	<b>Section 4 CSIT B4, room 222</b>	<b>Section 5 DMI B4, room 213a</b>
<b>14.30-14.50</b>	M. Choban+	Ya. Bihun+	G. Braguța+	O. Popcova+	Iu. Baltag
<b>14.55-15.15</b>	V. Arnautov+	D. Cheban	O. Topală	I. Andriesh	I. Achiri
<b>15.20-15.40</b>	P. Homorodan	R. Luca Tudorache+	R. Buzatu	M. C. Baroni	A. Corlat
<b>15.45-16.05</b>	V. Popa	V. Guțu	A. Ghazaryan	V. Ungureanu	A. Corlat+
<b>16.10-16.30</b>	O. Izbash+	G. Prajitura	T. Pașa	V. Grigorcea	Ș. Alexei
<b>16.30-16.55</b>	<i>Coffee break (B4, 2<sup>nd</sup> floor, room 218)</i>				
<b>17.00-17.20</b>	I. Grecu+	M. Lefebvre	D. Lozovanu	A. Colesnicov+	I. Titchiev
<b>17.25-17.45</b>	N. Didurik	G. Rusu+	B. Hâncu	V. Arnaut	C. Ciubotaru
<b>17.50-18.10</b>	N. Malyutina	M. Ivanchov	A. Tkacenko	M. A. Baroni	T. Bragaru+
<b>18.15-18.35</b>	M. Cimpoeaș	P. Moloșnic+	V. Pațiuț+	L. Burtseva	N. Apetrii+
<b>18.40-19.00</b>		C. Bujac+	G. Secrieru+	N. Pleșca	S. Pereteatcu+
<b>19.05-19.25</b>				C. Opinca	



Conference time-table

**Tuesday, June 25, 2019**

	<b>Section 1 AGT B4, room 113</b>	<b>Section 2 ADE B4, room 214</b>	<b>Section 3 AM B4, room 213a</b>	<b>Section 4 CSIT B4, room 222</b>	<b>Section 5 DMI B4, room 122</b>
<b>09.00-09.20</b>	A. Kashu	D. Cozma+	L. Mitev+	M. Petic+	V. Guțu
<b>09.25-09.45</b>	D. Botnaru	V. Orlov+	M. Barbosu	O. Caftanatov	G. Popescu
<b>09.50-10.10</b>	C. Frigioiu	V. Baltag+	A. Leahu+	R. Bergmann	I. Ciobanu+
<b>10.15-10.35</b>	I. Jardan	Iu. Calin+	N. Prodan+	Gh. Latul+	A. Turcanu+
<b>10.40-11.00</b>	A. Lungu	V. Dryuma	L. Novac	V. Malcoci	Z. Ghilan+
<b>11.00-11.25</b>	<i>Coffee break (B4, 2<sup>nd</sup> floor, room 218)</i>				
<b>11.30-11.50</b>	I. Gutsul	S. Turuta+	A. Baractari+	S. Bodrug+	L. Solovei
<b>11.55-12.15</b>	E. Zamorzaeva	A. Dascalescu+	L. Golban+	M. Croitor+	V. T. Ghiță+
<b>12.20-12.40</b>	V. Balcan	V. Glavan	E. Cataranciuc	Gh. Usic	O. Cerbu+
<b>12.45-13.05</b>	F. Damian+	Iu. Baltag	V. Seiciuc+	M. Butnaru+	
<b>13.10-13.30</b>			C. Opinca		
<b>13.30-14.45</b>	<i>Lunch break</i>				
<b>15.00-21.00</b>	<b>Excursion to the Asconi Winery</b>				