

The 23rd Conference on Applied and Industrial Mathematics

CAIM 2015

September 17–20, 2015, Suceava

Programme

General Schedule

Thursday, September 17, 2015

16.00-20.00	Registration Hotel Albert, Suceava, bd. Sofia Vicoveanca 24
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Friday, September 18, 2015

08.00-09.00	Registration- Aula Hall, "E" Building
09.00-09.40	Opening Ceremony, Aula Hall, "E" Building The „Adelina Georgescu" Prize Award Ceremony
09.40-10.00	<i>Coffee Break</i>
10.00-11.20	Invited Lectures
11.20-11.40	<i>Coffee Break</i>
11.40-13.00	Invited Lectures
13.00-14.30	<i>Lunch</i>
14.30-15.50	Communications
15.50-16.05	<i>Coffee Break</i>
16.05-17.45	Communications
17.45-19.00	ROMAI General Assembly
19.30	Banquet

Saturday, September 19, 2015

09.40-11.00	Invited Lectures
11.00-11.20	<i>Coffee Break</i>
11.20-12.40	Invited Lectures
12.40-14.30	<i>Lunch</i>
14.30-15.50	Communications
15.50-16.10	<i>Coffee Break</i>
16.10-17.30	Communications
17.30-17.50	<i>Coffee Break</i>
17.50-18.50	Communications
18.50-19.50	ROMAI General Assembly

Sunday, September 20, 2015

08.00-20.30	Excursion
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Scientific Communications. Invited Lectures

Friday, September 18, Invited Lectures, Analysis

Amphitheater E129		
Chairman: Calin Ioan Gheorghiu		
10.00-10.40	Yaroslav Bihun	<i>Nonlocal Boundary Value Problem for Multi-frequency System with Delay</i>
10.40-11.20	Sebastian Anita	<i>Internal stabilization for a class of spatial structured epidemic model</i>
Chairman: Costică Moroşanu		
11.40-12.20	Stelian Ion	<i>Mathematical Modeling of Subsurface and Surface Water Flow</i>

Friday, September 18, Invited Lectures, Algebra

Amphitheater E230		
Chairman: Ioan Maxim		
10.00-10.40	Mitrofan M. Choban	<i>Boundedness and Solutions of Topological Optimization Problems</i>
10.40-11.20	Mirela Stefanescu	<i>Some properties of the hyperfields extensions</i>
Chairman: Mirela Stefanescu		
11.20-12.00	Ioan Maxim	<i>The design of educational software - a paradigm shift</i>

Saturday, September 19, Invited Lectures, Analysis

Amphitheater E129		
Chairman: Yaroslav Bigun		
9.40-10.20	Bianca Satco	<i>Methods for Studying Hybrid Systems</i>
10.20-11.00	Vasile Postolica	<i>Efficiency in the Infinite Dimensional Ordered Vector Spaces</i>
Chairman: Vasile Postolica		
11.20-12.00	Mircea Lupu	<i>Airplanes or Ballistic Rockets Optimal Control and Flight Absolute Stabilization in Vertical Plane by Using the Criterion of Minimal Time or Fuel Consumption</i>

Saturday, September 19, Invited Lectures, Math. Modeling

Amphitheater E230		
Chairman: Gabriel Dimitriu		
9.40-10.20	Costica Morosoanu	<i>Well-posedness for a phase-field transition system endowed with a classical regular potential and a general class of nonlinear and non-homogeneous dynamic boundary conditions</i>
10.20-11.00	Calin Ioan Gheorghiu	<i>Stable Spectral Collocation Algorithms for Nonlinear Wave Equations with Linear Dispersion</i>
Chairman: Anca Veronica Ion		
11.20-12.00	Serban Vlad	<i>The Time-Reversal Symmetry and the Technical Condition of Proper Operation of the Asynchronous Flows</i>

Scientific Communications on Sections

Analysis. Friday, September 18

E120		
Chairman: Vladislav Seiciuc, Bianca Satco		
14.30-14.50	Gabriela Apreutesei and Anca Croitoru	<i>Semi-linearity of some spaces of multifunctions</i>
14.50-15.10	Alina Gavrilut, Anca Croitoru	<i>Considerations on the problem of atomicity in non-additive set-valued integrability</i>
15.10-15.30	Dan-Mircea Borş and Anca Croitoru	<i>On different types of near linear spaces</i>
15.30-15.50	Ömer Gök	<i>On the center of Banach $C(K)$-modules</i>

E120		
Chairman: Gabriela Apreutesei, Anamaria Macovei		
16.05-16.25	Andrei Perjan, Galina Rusu	<i>Some convergence estimates for abstract linear second order differential equations with two small parameters and depending on time operators</i>
16.25-16.45	Valeriu Popa, Alina-Mihaela Patriciu	<i>A general fixed point theorem for a sequence of mappings in G_p - complete metric spaces</i>
16.45-17.05	Vladislav Seiciuc	<i>On convergence in Lebesgue and Hölder spaces of direct-approximate methods in solving some nonlinear singular integral equations</i>
16.05-17.25	Cristina Stamate and Anca Croitoru	<i>G-integrals for vector multifunctions</i>
17.25-17.45	Omar Benniche and Ovidiu Cârja	<i>Invariance results for a graph with respect to differential inclusions</i>

PDEs, ODEs. Friday, September 18

E105		
Chairman: Carmen Roşoreanu, Gabriel Cramariuc		
14.30-14.50	Olga Danilkina	<i>Existence and uniqueness of generalized solutions to nonlinear nonlocal problems for hyperbolic equations</i>
14.50-15.10	Gabriel Dimitriu	<i>Computational issues for a regularized extension of the Patlak-Keller-Segel model</i>
15.10-15.30	Camelia Gheldiu and Mihaela Dumitrache	<i>Double scale convergence and exact internal controllability with Fourier conditions</i>
15.30-15.50	V. V. Kravchenko, J. A. Lopez-Toledo², H. Oviedo-Galdeano	<i>Analysis of electromagnetic propagation on stratified lossy inhomogeneous medium using the SPPS method</i>
Chairman: Gabriel Dimitriu, Olga Danilkina		
16.05-16.25	L.M. Sergeeva	<i>About global solutions of partial differential equation with deviating argument in the time variable</i>
16.25-16.45	Igor Chervko, Andrew Dorosh, Larissa Piddubna	<i>Existence and approximation of a solution of the boundary value problems for delay integro-differential equations</i>
16.45-17.05	Carmen Roşoreanu, Mihaela Sterpu	<i>Approximations of the homoclinic solutions for the FitzHugh-Nagumo system</i>
17.05-17.25	Maricel Agop, Alina Gavriliuţ, Gabriel Crumpei	<i>The role of the informational energy in wave-particle duality</i>
17.25-17.45	Anca Veronica Ion	<i>On the computation of an approximation of the center manifold for delay differential equations, with a single constant delay</i>

Prob., Math. Stat., Oper. Res. Friday, September 18

E230		
Chairman: Gheorghita Zbaganu, Tudor Colomeischi		
14.30-14.50	Buzatu Radu	<i>Nontrivial convex 2-covers of simple undirected graphs</i>
14.50-15.10	Oleksandr Fedosieiev , Oleksandr Lefterov , Oleksii Lykhovyd , Petro Stetsyuk	<i>Optimization tools for selecting wine routes</i>
15.10-15.30	Halyna Melnyk, Vasyl Melnyk	<i>Modeling of oligopolistic competition using the evolution games theory</i>
15.30-15.50	Valeriu Ungureanu	<i>Stackelberg Equilibrium Set Computing in Mixed-Strategy Stackelberg Games</i>

Chairman: Valeriu Ungureanu, Radu Buzatu		
16.05-16.25	Gh. Zbaganu and A. M. Raducan	<i>How common sense can be misleading in insurance?</i>
16.25-16.45	Ludmila Novac	<i>Models and methods for measurement of Exchange Rate Risk</i>
16.45-17.05	Mustafa Ali Dokuyucu¹, Erkan Celik	<i>Modelling of Birth-Death Process</i>
17.05-17.25	Tiberiu Socaciu	<i>Closed-form formula for S PDE for pricing in Heston framework</i>
17.25-17.45	Tiberiu Socaciu	<i>C++ code for S conjecture validation</i>

Alg., Geom., Topol. Friday, September 18

E129		
Chairman: Mitrofan Choban, Ioan Maxim		
14.30-14.50	N. Bobeica, L. Chiriac	<i>Topological medial right loops which are direct products of topological commutative groups</i>
14.50-15.10	Laurențiu I.Calmuțchi and Mitrofan M.Choban	<i>About Extensions with First-Countable Remainders</i>
15.10-15.30	M.Choban, L.Chiriac, N. Bobeica	<i>About absolutely closed topological quasigroups</i>
15.30-15.50	Ümit Karabıyık, Aynur Keskin Kaymakçı	<i>\mathcal{G}-Sequential Continuity</i>
Chairman: Liubomir Chiriac, Ümit Karabıyık		
16.05-16.25	Mihai Anastasiei and Manuela Gîrțu	<i>Figuratrix foliations of a Cartan space</i>
16.25-16.45	Şemsi Eken and Cornelia-Livia Bejan	<i>Harmonicity with respect to Riemann extension</i>
16.45-17.05	Cristina-Elena Hretcanu, Mircea Crasmareanu	<i>On the geometry of the product metallic Riemannian manifold</i>
17.05-17.25	Galina Braguta	<i>Generalized convexity in a complex of multy-ary relations</i>

Computer Sciences. Friday, September 18

E101		
Chairman: Tkacenko Alexandra, Valeriu Lupu		
14.30-14.50	Elisabete Alberdi Celaya, Juan Jose Anza Aguirrezabala	<i>Error estimation of the adaptive Backward Differentiation Formula</i>
14.50-15.10	Stefan-Gicu Cruceanu, Dorin Marinescu, and Stelian Ion	<i>Numerical scheme for water flow on real topography with porosity and friction influences</i>
15.10-15.30	Sergiu Chilat	<i>Time Series Analysis and Prediction Based on Fuzzy Logic</i>
15.30-15.50	Sergiu Chilat	<i>Processing of ambiguous and contradictory rules in a fuzzy controller</i>
Chairman: Gh. Pentiuc, Șerban Vlad		
16.05-16.25	Eugene Kuznetsov, Victor Kuznetsov	<i>The formalization of various internet portals and sites as expert systems</i>
16.25-16.45	Mircea Petic, Sergiu Chilat, Radu Dumbraveanu, Ecaterina Osoian	<i>Methods of processing unstructured texts</i>
16.45-17.05	Tkacenko Alexandra	<i>The interval method for solving fuzzy multi-criteria fractional transportation problem</i>
17.05-17.25	Skitsko Volodymyr, Halyna Melnyk	<i>UML and Coloured Petri nets in modeling of logistics systems</i>

Education. Friday, September 18

E118		
Chairman: Otilia Clipa, Liliana Bujor		
14.30-14.50	Ion Valuța	<i>Unele puncte de vedere referitor la istoria și metodologia matematicii</i>
14.50-15.10	Viorica Cornelia Bronț	<i>Cabinetul de matematică în sistemul activității didactice. Specificul lecțiilor desfășurate la cabinetul de matematică.</i>
15.10-15.30	Angela Globa	<i>Unele aspecte psiho-pedagogice utilizate în procesul de predare-învățare-evaluare a cursului universitar „Tehnici de programare”</i>
15.30-15.50	Macari Pavel, Macari Ludmila	<i>Funcții generatoare și șiruri recurente</i>
Chairman: Ioan Valuța, Angela Globa		
16.05-16.25	Liliana Bujor	<i>High potential for logical-mathematical intelligence</i>
16.25-16.45	Elisabete Alberdi Celaya, M^a Isabel Eguia Ribero, M^a Jose Garcia Lopez, Paulo Etxeberria Ramirez, Aintziber Unzueta Inchaurre, Irantzu Alvarez Gonzalez	<i>Interdisciplinary activities for the acquisition of competences in geometry in the first course of engineering degrees</i>
16.45-17.05	Elisabete Alberdi Celaya, M^a Isabel Eguia Ribero, M^a Josefa Gomez	<i>Building interactive figures and simulations with mathematical software</i>
17.05-17.25	Nadia Laura Serdenciuc	<i>The Role of Mathematics Education in Shaping Contemporary Personality Profile</i>
17.25-17.45	Gabriela Streinu-Cercel, Bogdan Cristescu	<i>Mathematics and Science Assessment for the 6th grade - Use of Assessment Data</i>

Analysis. Saturday, September 19

E120		
Chairman: Bianca Satco		
14.30-14.50	Khursheed J. Ansari	<i>Approximation by Szasz operators involving Brenke type polynomials</i>
14.50-15.10	M. Mursaleen	<i>Applications of summability methods in approximation</i>
15.10-15.30	Irina Dmitrieva	<i>Landau-Lifshitz equation whose spectral parameter varies on hyperelliptic surface</i>
15.30-15.50	Peter Vorobiyenko, Irina Dmitrieva	<i>Exact study in electromagnetic field theory using systems of partial differential equations</i>
16.10-17.30	M. Ahmed	<i>Primitive Ideal Spaces of Semigroup C crossed Products</i>

PDEs, ODEs. Saturday, September 19

E105		
Chairman: Dumitru Cosma, Anamaria Macovei		
14.30-14.50	Adela Ionescu and Florian Munteanu	<i>On the Feedback Linearization for the Prey-Predator Dynamical Systems</i>
14.50-15.10	Paicu Angela	<i>Applications of Lotka-Volterra equations in ecology</i>
15.10-15.30	L. Emir Sakman, Erol Uzal, Bogac Bilgic	<i>On a Class of Eigenvalue Problems for Ordinary Differential Equations</i>
15.30-15.50	Bujac Cristina, Vulpe Nicolae	<i>Cubic systems with invariant lines of total multiplicity eight possessing exactly one infinite singularity</i>
Chairman: Stelian Ion, Paicu Angela		
16.10-16.30	Dumitru Cozma	<i>Integrability conditions for a cubic system with a bundle of two invariant straight lines and one invariant cubic</i>
16.30-16.50	Victor Pricop	<i>The common Hilbert series of Sibirsky algebras for differential system $s(1, 7)$</i>
16.50-17.10	Victor Pricop, Sergiu Port	<i>Krull dimension and common Hilbert series of Sibirsky algebras for differential system $s(7)$</i>
17.10-17.30	Suba Alexandru, Vacaras Olga	<i>Cubic Differential Systems With Two Real Invariant Straight Lines of Maximal Multiplicity</i>
Chairman: Stelian Ion, Paicu Angela		
17.50-18.10	Natalia Neagu, Mihail Popa	<i>Ternary generalized Lyapunov-Darboux system and some polynomial-exponential first integrals</i>

Prob., Math. Stat., Oper. Res. Saturday, September 19

E230		
Chairman: Tiberiu Socaciu, Tudor Colomeischi		
14.30-14.50	Hâncu Boris	<i>Bayes solutions of the bimatrix informational extended games</i>
14.50-15.10	Alexandru Lazari	<i>A fast numerical method for determining the limit matrix in Markov chains</i>
15.10-15.30	Anamaria Popescu and Nadia Elena Stoicuta	<i>Statistical analysis of monetary policy indicators variability</i>
15.30-15.50	Nadia Elena Stoicuta, Anamaria Popescu, Olimpiu Stoicuta	<i>Comparative analysis of estimation methods of the real gross value added, in Romania through Cobb-Douglas production function</i>
Chairman: Hâncu Boris, Alexandru Lazari		
16.10-16.30	Vladimir Popukaylo and Yulia Stolyarenko	<i>Determining of the distribution form for small volume samples</i>
16.30-16.50	George-Andrei Padureanu	<i>On Entropic Measures for Log-linear Semi-parametric Regression Models with Poisson Response</i>
16.50-17.10	Lucian Maticiuc	<i>A stochastic approach for a path dependent Kolmogorov equation</i>
17.10-17.30	Elena C. Bobric, St. Gh. Pentiuc	<i>Evaluation and Assessment of Multiple Partitions for Determining the Adequated Load Profiles in a Power Distribution Station</i>
17.50-18.10	Ioana Dănilă	<i>Applications over the Negative-Binomial Model</i>

Alg., Geom., Topol. Saturday, September 19

E129		
Chairman: Lungu Alexandru, Cornelia Livia Bejan		
14.30-14.50	Vasile Ursu	<i>About congruences and commutators modular model</i>
14.50-15.10	Liubomir Chiriac	<i>Vanishing Traces of Frobenius</i>
15.10-15.30	Ömür Deveci and Erdal Karaduman	<i>The Jacobsthal-Circulant Sequences and their Applications</i>
15.30-15.50	Ömür Deveci, Gizem Artun, and Yeřim Aküzüm	<i>The Fibonacci p-Orbits and The Padovan p-Orbits of The Extended Triangle Groups</i>
Chairman: Liubomir Chiriac, Dumitru Botnaru		
16.10-16.30	Ina D. Ciobanu and Mitrofan M. Choban	<i>On Compact Subsets of Free Topological Algebras</i>
16.30-16.50	Radu Dumbrăveanu and Mitrofan M. Choban	<i>On Sequentiality of Function Spaces</i>
16.50-17.10	Cornelia Bejan	<i>Neutral Metrics on Cotangent Bundle</i>
17.10-17.30	Lungu Alexandru	<i>On the theory of finite groups of W_p-symmetry</i>
Chairman: Ömür Deveci, Lungu Alexandru		
17.50-18.10	P. Syrbu, I. Grecu	<i>On pseudoautomorphisms of middle Bol loops</i>
18.10-18.20	Ion Cucu	<i>The Recognition of Parametrical Completeness in Pseudo-Boolean Algebras</i>
18.20-18.40	Musca Ciprian Dumitru	<i>Tree trunk shape analysis using classical geometry</i>
18.40-19.00	Dumitru Botnaru	<i>About semireflexive subcategories</i>

Math. Modeling. Saturday, September 19

E101		
Chairman: Gh. Pentiuc, Eugen Vasile		
14.30-14.50	Sergiu Cataranciuc	<i>The stable sets in a complex of multi-ary relations</i>
14.50-15.10	Grigoriu Nicolae	<i>Transitive orientation of graph using B-stable subgraphs</i>
15.10-15.30	Zeynep Ilbay, Bogac Bilgic	<i>Fuzzy Modelling for Extraction of Total Polyphenols from Mandarin Leaves</i>
15.30-15.50	Zeynep Ilbay, Bogac Bilgic	<i>An Approach for Grapefruit Leaf Extraction through Homogenizator: Response Surface Methodology versus Fuzzy Model</i>

Chairman: Sergiu Cataranciuc, Zeynep Ilbay		
16.10-16.30	Bogac Bilgic	<i>Vibration Control of Airfoil in Hypersonic Flow by Variational Control Algorithms</i>
16.30-16.50	Diana Rotaru, Alexandra Baluta, Mihaela Ilie, D. Falie, E. Vasile	<i>About equations for electrical polarization in some non-linear anisotropic optical crystals</i>
16.50-17.10	P. A. Velmisov, A. V. Korneev	<i>Mathematical Modeling for the problems of dynamics and stability of pipeline</i>
17.10-17.30	Veaceslav Zelentsov and Tatiana Datsko	<i>Modelling of the adsorption of fluorine onto diatomite</i>

Education. Saturday, September 19

E118		
Chairman: Gabriel Cramariuc, Nadia Laura Serdenciuc		
14.30-14.50	Țicău Vitalie	<i>Rezolvarea numerică a unor probleme tipice, bazate pe calculul integralei definite</i>
14.50-15.10	Teodora Vascan	<i>Metoda euristică de optimizare a mulțimii dependențelor funcționale la proiectarea bazelor de date</i>
15.10-15.30	Olga Benderschi, Andrei Poștaru	<i>Elemente de combinatorică și cursul de Teoria Probabilităților</i>
15.30-15.50	Marcel Teleuca, Ivan Budanaev	<i>The Kumon Method in Mathematics and Informatics for Gymnasiums</i>
16.10-16.30	Neculae Dinuță	<i>Folosirea strategiilor anticipative în rezolvarea problemelor de geometrie în ciclul gimnazial</i>