

The 22nd Conference on Applied and Industrial Mathematics

CAIM 2014

September 18–21, 2014, Bacău

Programme

General Schedule

Thursday, September 18, 2014

14.00-23.00	Registration
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Faculty of Sciences, "Vasile Alecsandri" University of Bacău
157, Mărășești Street, 600115 Bacău

Friday, September 19, 2014

09.00-09.40	Opening Ceremony, "Vasile Alecsandri" Hall The „Adelina Georgescu" Prize Award Ceremony
09.40-10.00	<i>Coffee Break</i>
10.00-11.20	Plenary Lectures
11.20-11.40	<i>Coffee Break</i>
11.40-13.00	Plenary Lectures
13.00-14.30	<i>Lunch</i>
14.30-15.50	Communications
15.50-16.05	<i>Coffee Break</i>
16.05-17.25	Communications
17.25-17.40	<i>Coffee Break</i>
17.40-19.00	Communications

Saturday, September 20, 2014

09.00-11.00	Plenary Lectures
11.00-11.20	<i>Coffee Break</i>
11.20-13.20	Plenary Lectures
13.20-14.30	<i>Lunch</i>
14.30-15.50	Plenary Lectures
15.50-16.00	<i>Coffee Break</i>
16.00-17.20	Communications
17.20-17.30	<i>Coffee Break</i>
17.30-18.30	Communications
18.30-19.30	ROMAI General Assembly
19.30	Banquet

Sunday, September 21, 2014

08.00-20.30	Excursion
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Scientific Communications

Plenary Lectures. Friday, September 19		
"Vasile Alecsandri" Hall		
Chairman: Acad. Mitrofan M. Chobanu		
10.00-10.40	Acad. Radu Miron	<i>Lagrangian spaces in the analytical mechanics</i>
10.40-11.20	Acad. Ioan Tomescu	<i>Mathematical Aspects of Molecular Structure Descriptors</i>
Chairman: Acad. Ioan Tomescu		
11.40-12.20	Acad. Mitrofan M. Choban	<i>Selections and fixed points theorems for mapping defined on convex spaces</i>
12.20-13.00	Adrian Constantinescu	<i>Some classic and special Lie group structures on some algebraic plane cubic curves with singularities</i>
Plenary Lectures. Saturday, September 20		
"Vasile Alecsandri" Hall		
Chairman: Călin Ioan Gheorghiu		
09.00-9.40	Narcisa Apreutesei	<i>Properties of nonlocal reaction-diffusion equations from population dynamics</i>
09.40-10.20	Dan Tiba	<i>Local parametrization and generalized solutions for implicit functions</i>
10.20-11.00	Lori Badea	<i>Multilevel methods for variational and quasi-variational inequalities</i>
Chairman: Ilie Burdujan		
11.20-12.00	Vasile Postolică	<i>A Coincidence Between the General Efficiency and the Approximate Dominance</i>
12.00-12.40	Matthias Dehmer	<i>Location of Zeros of Polynomials</i>
13.20-12.40	Vladimir Balan, Jelena Stojanov	<i>Anisotropic metric models in the Garner oncologic framework</i>
Chairman: Vasile Postolică		
14.30-15.10	Călin Ioan Gheorghiu	<i>On the Numerics of Allen-Cahn Type Equations</i>
15.10-15.50	Costică Moroşanu	<i>Numerical analysis of an iterative scheme of fractional steps type associated to the nonlinear phase-field equation in Caginalp's model endowed with non-homogeneous dynamic boundary conditions</i>

Analysis. Friday, September 19

Room 1		
Chairman: Cecil P. Grunfeld		
14.30-14.50	Gabriela Apreutesei	<i>Some connection between Pompeiu-Hausdorff convergences of nets and other well-known hyperconvergences</i>
14.50-15.10	Anca Croitoru, Alina Gavriliuț	<i>Comparison results on Gould integral</i>
15.10-15.30	Alina Gavriliuț, Alina Iosif, Anca Croitoru	<i>Remarks on the Gould integral in Banach lattices</i>
15.30-15.50	Cristina Stamate, Anca Croitoru	<i>Remarks on a Pettis-Sugeno types integral of multifunctions</i>
Chairman: Valeriu Popa		
16.05-16.25	Cecil P. Grunfeld, Dorin Marinescu	<i>On a time and space discretization for the nonlinear Boltzmann equation in unbounded domain</i>
16.25-16.45	Ionel Roventă	<i>Relative convexity and relative Schur-convexity</i>
16.45-17.05	Martin Shoptrajanov	<i>Intrinsic strong shape of global attractors in compact metric spaces</i>
16.05-17.25	Laurențiu I. Calmuțchi	<i>About Extensions with p-Remainders</i>
Chairman: Ionel Roventă		
17.40-18.00	Andrei Perjan, Galina Rusu	<i>Some convergence estimates for abstract linear second order differential equations with two small parameters</i>
18.00-18.20	Valeriu Popa	<i>A general fixed point theorem for occasionally weakly compatible hybrid mappings</i>
18.20-18.40	Valeriu Popa, Alina-Mihaela Patriciu	<i>A general fixed point theorem for mappings satisfying a cyclical contractive condition in G-metric spaces</i>
18.40-19.00	Zoran Misajleski	<i>Connection between continuous and V-continuous functions, proximative sequences and approximative sequences and flow interaction</i>

Analysis. Saturday, September 20

Room 1		
Chairman: Vladislav Seichiuc		
16.00-16.20	Ion Chițescu, Oana Cojocaru	<i>Product Function Norms and Köthe-Bochner Sequence Spaces</i>
16.20-16.40	Marcelina Mocanu	<i>Differentiability properties of Orlicz-Sobolev functions on metric measure spaces</i>
16.40-17.00	Lucian Niță, Ion Chițescu	<i>Fractal Vector Measures. Support</i>
17.00-17.20	Vasile Neagu	<i>Symbol of singular integral operators. The case of an unlimited contour</i>
Chairman: Marcelina Mocanu		
17.30-17.50	Pațiu Vladimir, Rîbacova Galina	<i>Finite volume method on nonuniform grids for semiconductor device simulation</i>
17.50-18.10	Eleonora Seichiuc, Gheorghe Carmocanu, Vladislav Seichiuc	<i>On Intelligent Support System in solving of integral equations of second kind</i>
18.10-18.30	Vladislav Seichiuc	<i>Computing algorithms for approximate solving of some nonlinear singular integral equations with Carleman moved shift</i>

Analysis, PDEs, ODEs. Friday, September 19**Room 2****Chairman: Narcisa Apreutesei**

14.30-14.50	Elisabete Alberdi Celaya, María González	<i>Time adaptivity for a BDF2 discretization of the wave equation</i>
14.50-15.10	Olga Danilkina	<i>On some class of nonlocal problems for parabolic equations</i>
15.10-15.30	Erdoğan Şen, Kamil Oruçoğlu	<i>Existence and Uniqueness of Positive Solutions for a Boundary Value Problem with a Laplacian Operator</i>
15.30-15.50	Ana-Maria Moşneagu	<i>Optimizing the position of the support of the control for some optimal harvesting problems</i>
Chairman: Elisabete Alberdi Celaya		
16.05-16.25	Cristina Bujac	<i>A subfamily of cubic systems with invariant lines of total multiplicity 8</i>
16.25-16.45	Dumitru Cozma	<i>Center conditions for a cubic system with parallel invariant straight lines and an invariant cubic</i>
16.45-17.05	Natalia Neagu, Mihail Popa, Victor Orlov	<i>First integrals with polynomials not higher than third order of the model of tuberculosis</i>
17.05-17.25	Mircea Lupu	<i>The absolute stabilization and the optimal control of nonlinear dynamical systems for special cases. Flight control systems in the case of rollin</i>
Chairman: Mircea Lupu		
17.40-18.00	Serban E. Vlad	<i>On the computational asynchronous systems</i>
18.00-18.20	Ilie Burdujan	<i>Some classification results for commutative algebras without derivations</i>
18.20-18.40	Maitree Podisuk	<i>Simple Method for Finding the Numerical Solution of the Initial Value Problem of the Ordinary Differential Equation</i>

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

Room 3		
Chairman: Gherghita Zbăganu		
14.30-14.50	Maria Capcelea, Titu Capcelea	<i>Algorithms for solving stochastic discrete optimal control problems on networks</i>
14.50-15.10	Valeriu Ungureanu	<i>Mathematical Models of PNS Control Processes Influenced by Echoes and Ψ Phenomena</i>
15.10-15.30	Vadim E. Levit, Eugen Mandrescu	<i>On unique perfect matchings</i>
15.30-15.50	Hâncu Boris	<i>Parallel algorithm to solve bimatrix informational extended game</i>
Chairman: Valeriu Ungureanu		
16.05-16.25	Mario Lefebvre	<i>LQG homing for jump-diffusion processes</i>
16.25-16.45	Silvia Dedu, Florentin Șerban	<i>Estimating portfolio return using interval analysis</i>
16.45-17.05	Monica Patriche	<i>New random coincidence point theorems</i>
17.05-17.25	Gheorghiuță Zbăganu	<i>Broken stick models in finite and infinite settings: correlation and Lorenz curves</i>
Chairman: Mario Lefebvre		
17.40-18.00	Ludmila Novac	<i>Approach of the exchange rate risk for the Problem of Currency Exchange</i>
18.00-18.20	Tkacenko Alexandra	<i>Iterative approach for solving fuzzy multi-criteria fractional transportation problem of "bottleneck" type</i>
18.20-18.40	Teuta Thanasi, Besiana Paf-tali, Gjergji Thanasi	<i>Study on the Correlation of the Remittances and the Life of the Albanian Families</i>
18.40-19.00	Gerit Kallbaqi, Sivi Asllani	<i>Binary Options in Forex versus traditional Trading, comparison and evaluation</i>

Prob., Math. Stat., Oper. Res. Saturday, September 20**Room 3****Chairman: Hâncu Boris**

16.00-16.20	Irina Băncescu	<i>On bayesian analysis for Birnbaum Saunders distribution. Results and applications</i>
16.20-16.40	Crina Țuculan Diaconu, Vasile Preda	<i>Inferences on the parameters of a Burr-type distribution with conventional Type-I censoring</i>
16.40-17.00	Mircea Dragulin	<i>Bayesian analysis of Lindley distribution with partial information</i>
17.00-17.20	Mircea Dragulin, Vasile Preda	<i>A new family of Lindley-type distributions with applications</i>
Chairman: Tkancenکو Alexandra		
17.30-17.50	Bogdan Biolan	<i>Entropy Optimization with Applications to Signal Processing Theory</i>
17.50-18.10	Elena-Grațîela Robe-Voinea	<i>Exponential tilting for computing multivariate compound distributions using the Fast Fourier Transform</i>

Alg., Geom., Topol. Friday, September 19**Room 4****Chairman: Mihai Talmaciu**

14.30-14.50	Sergiu Cataranciu	<i>Distance Function of n-Dimensional Abstract Cubes Complex</i>
14.50-15.10	Vasile Ursu	<i>On Quasi-Equational Theory of Finite Algebraic System</i>
15.10-15.30	Zlatko Varbanov, Todor Todorov, Maya Hristova	<i>A Method for Constructing DNA Codes from Additive Self-Dual Codes over $GF(4)$</i>
15.30-15.50	Boris Țarălungă	<i>About Some Properties of the Group G^\square</i>

Chairman: Dumitru Botnaru

16.05-16.25	Mihai Talmaciu	<i>Combinatorial Optimization Algorithms for P_4-sparse graphs</i>
16.25-16.45	Buzatu Radu	<i>Convex covers of undirected graphs</i>
16.45-17.05	Monica Ștefu, Miranda Vlad and Mircea V. Diudea	<i>Topological Symmetry of Spongy Nanostructures</i>
17.05-17.25	Lungu Alexandru	<i>The semi-minor and pseudo-minor groups of $\bar{6}$-symmetry, generated by tablet groups</i>

Chairman: Vladimir Balan

17.40-18.00	Manuela Gîrțu	<i>Finslerian homotheties and isometries</i>
18.00-18.20	Cristina-Elena Hretcanu, Mircea Crasmareanu	<i>On the properties of structures induced on a product manifold of two metallic Riemannian manifolds</i>
18.20-18.40	Adrian Sandovici	<i>Quasi-homogeneous time-dependent geometry</i>

Alg., Geom., Topol. Saturday, September 20**Room 4****Chairman: Sergiu Cataranciuc**

16.00-16.20	Mitrofan Choban and Dorin Pavel	<i>On almost periodic functions on dynamical systems</i>
16.20-16.40	Natalia Bobeica, Liubomir Chiriac	<i>Topological Quasigroups which are Direct Products of Abelian Topological Groups</i>
16.40-17.00	Dumitru Botnaru, Olga Cerbu	<i>The semireflexive product</i>
17.00-17.20	Dumitru Botnaru, Alina Turcanu	<i>About of the right product of two subcategories</i>
Chairman: Liubomir Chiriac		
17.30-17.50	Bitcovschi Lucia	<i>The research of unorder tables as algebraic structures</i>
17.50-18.10	Ion Cucu	<i>Some generalizaion of completeness in 5-valued pseudo-Boolean algebra with two incomparable elements</i>
18.10-18.30	Ömür Deveci and Erdal Karaduman	<i>The Pell-Padovan p-Lengths of Some Special Metacyclic Groups</i>

Math. Modeling. Friday, September 19**Room 5****Chairman: Dan Tiba**

14.30-14.50	Recep Burkan, Omur Can Ozgüney	<i>Adaptive-Robust Control of Spatial Robot Arm</i>
14.50-15.10	Hashim A. Saber	<i>Surface Modeling of the left Ventricle of the heart</i>
15.10-15.30	Florentin Șerban, Silvia Dedu	<i>An approach about robustness using non-linear scalarizing functionals</i>
15.30-15.50	Stelian Ion, Dorin Marinescu, Stefan-Gicu Cruceanu, Virgil Iordache	<i>Multiresolution analysis of spatial environmental data</i>

Chairman: Costica Morosanu

16.05-16.25	Bogac Bilgic, Serdar Baris	<i>Three-Dimensional Hydromagnetic Flow Arising in a Porous Elliptic Slider</i>
16.25-16.45	Bogac Bilgic, Serdar Baris	<i>Non-Inertial Flow of a Third Order Fluid in a Corner Region with a Moving Wall</i>
16.45-17.05	Diana Rotaru, Alexandra Băluță, Mihaela Ilie & E. Vasile	<i>Modelling of the gradient-force in the optical trap</i>
17.05-17.25	Ana Iordan, Mihaela Ilie D. Falie, A. Rusu, E. Vasile	<i>Low radiation pulse formation in a semiconductor photo-detector</i>

Chairman: Costica Morosanu

17.40-18.00	Farouk Chérif	<i>Qualitative Analysis for Delayed Recurrent Neural Networks</i>
18.00-18.20	Dmitrieva Irina	<i>Investigation of electromagnetic field problems by systems of partial differential equations</i>
18.20-18.40	Lucian Coroianu	<i>Recent results in the ranking of fuzzy numbers</i>

Math. Modeling. Saturday, September 20**Room 5****Chairman: Robert Kosova**

16.00-16.20	Adrian Carabineanu	<i>Mathematical Theory of M.H.D. Power Generators</i>
16.20-16.40	Mihaela Dumitrache, Raluca-Mihaela Georgescu, Camelia Gheldiu	<i>The heat diffusion in a thin alveolar structure</i>
16.40-17.00	Stelian Ion, Dorin Marinescu, Anca Veronica Ion, Stefan-Gicu Cruceanu	<i>Soil erosion on a vegetated surface</i>
17.00-17.20	Veaceslav Zelentsov and Tatiana Datsko	<i>Adsorption of fluorine on siliceous adsorbent: kinetics modelings</i>
Chairman: Adrian Carabineanu		
17.30-17.50	Baha Guney, Mehmet Tas, Cagatay Teke	<i>Fuzzy linear programming approach for determining the manufacturing amount of different parts in automotive supply industry</i>
17.50-18.10	Baha Guney, Cagatay Teke, Mehmet Tas	<i>Fuzzy linear programming approach and an application in a food company</i>
18.10-18.30	Robert Kosova, Lindita Mukli, Teuta Thanasi, Murat Dervishi	<i>Estimating Oil Reserves in Kucova Oilfield by Using Stochastic Methods and Monte Carlo Simulation</i>

Computer Sciences. Friday, September 19

Room 6		
Chairman: Cristian Vidraşcu		
14.30-14.50	Titchiev Inga, Petic Mircea, Horos Grigorii	<i>Modern technology for the efficiency data processing</i>
14.50-15.10	Ioan Dzitac	<i>Soft Computing vs. Hard Computing</i>
15.10-15.30	Gerard Brunet and Abdellah Qannari	<i>Knowledge-based Recognition of Objects in Aerial Images</i>
15.30-15.50	Abdellah Qannari, Gerard Brunet, Mohamed Ibazizen	<i>Principal Component Analysis applied to Real Images</i>
Chairman: Ioan Dzitac		
16.05-16.25	Cristian Vidraşcu	<i>Modelling business processes by Petri nets</i>
16.25-16.45	Ion Andries, Vsevolod Ar- naut	<i>Automated system of digital processing of interferograms for high accuracy characterization of thin films</i>
16.45-17.05	Cocîrlă Mihai	<i>Parallel algorithms for solving informational extended games</i>
17.05-17.25	Gloria Cerasela Crişan, Elena Nechita	<i>Computational study on solving a dynamic problem with uncertain data using an Ant-based system</i>

Education. Friday, September 19**Room 7****Chairman: Ion Valuța**

14.30-14.50	Larisa Sali	<i>The Formation of Spatial Representations in the Process of Constructing Sections in Polyhedra</i>
14.50-15.10	Marcel Teleucă, Larisa Sali	<i>Metode de rezolvare a unor probleme de concurs din teoria numerelor bazate pe relația $ab = cd$</i>
15.10-15.30	Marcel Teleucă	<i>Folosirea ordinului unui număr în probleme de olimpiadă</i>
15.30-15.50	Maria Beldiga, Gheorghe Căpățână	<i>Elaborarea automată a itemilor individuali</i>
Chairman: Marcel Teleucă		
16.05-16.25	Ion Valuța, Evelina Valuța	<i>Conexiunile în aspect istoric ale Matematicii și Informaticii și rolul lor în predare învățare</i>
16.25-16.45	Costică Lupu	<i>Discipline didactice in the context of the educational systems</i>
16.45-17.05	Costică Lupu	<i>Experimental research on the effects on learning geometry</i>
17.05-17.25	Teodora Vascan	<i>Folosirea mediului de programare LAZARUS ca o alternativă a lui DELPHI în studierea programării</i>
Chairman: Marcel Teleucă		
17.40-18.00	Lefterov Alexander, Khodakivskiy Vasyl, Fedoseyev Alexander	<i>Transformation of the object-oriented approach to the subject-oriented approach in the process of the information systems development</i>

Education. Saturday, September 20**Room 2****Chairman: Larisa Sali**

16.00-16.20	Gabriel Crumpei, Alina Gavriluț, Maricel Agop, Irina Crumpei, Lucian Negură	<i>Sisteme complexe din perspectiva funcțiilor complexe</i>
16.20-16.40	Olga Benderschi, Andrei Poștaru	<i>Asupra formării intuiției probabiliste</i>
16.40-17.00	Elisabete Alberdi Celaya	<i>Analysis of the academic performance in the basic matters of the first year of two Degrees in Engineering in relation with the profile of entry of students</i>
17.00-17.20	Elisabete Alberdi Celaya	<i>Design of a zero virtual course to improve the academic performance in Engineering Degrees</i>
Chairman: Alina Gavriluț		
17.30-17.50	Raluca-Mihaela Geogescu	<i>The straight line in the three-dimensional Euclidean space studied with Maple</i>
17.50-18.10	Olga Danilkina, Soud Khalifa Mohamed, Said A. H. Vuai	<i>Challenges and innovations in math student research motivating</i>
18.10-18.30	Neculae Dinuță	<i>Folosirea modelului figurativ în predarea-învățarea matematicii în învățământul preuniversitar</i>