

**ROMANIAN SOCIETY OF APPLIED AND INDUSTRIAL MATHEMATICS**  
**UNIVERSITY OF AGRICULTURAL SCIENCES AND VETERINARY MEDICINE**  
**“Ion Ionescu de la Brad” IAȘI – Faculty of HORTICULTURE**  
**“Al. I. Cuza” UNIVERSITY OF IAȘI, Faculty of MATHEMATICS**  
**"Gh. Asachi" TECHNICAL UNIVERSITY OF IAȘI**  
**ACADEMY OF ROMANIAN SCIENTISTS**  
**ROMANIAN MATHEMATICAL SOCIETY – IAȘI branch**

**THE 19<sup>th</sup> CONFERENCE ON APPLIED  
AND INDUSTRIAL MATHEMATICS**

**C A I M 2 0 1 1**

**PROGRAMME**

**September 22 – 25, 2011**  
**Iași, Romania**



## CONFERENCE SECTIONS

- |  |   |
|--|---|
| <b>1 DYNAMICAL SYSTEMS, JET THEORY<br/>AND THEIR APPLICATIONS; QUADRATIC<br/>DYNAMICAL SYSTEMS</b> | <b>5 ANALYTICAL AND NUMERICAL<br/>METHODS IN MECHANICS</b>    |
| <b>2 ALGEBRA AND LOGIC</b>   | <b>6 MATHEMATICS IN PHYSICS, CHEMISTRY<br/>AND INDUSTRY</b>   |
| <b>3 TOPOLOGY AND DIFFERENTIAL<br/>GEOMETRY</b>  | <b>7 MATHEMATICS IN BIOLOGY AND<br/>ENVIROMENTAL SCIENCES</b> |
| <b>4 FUNCTIONAL ANALYSIS AND<br/>DIFFERENTIAL EQUATIONS</b>  | <b>8 THEORETICAL COMPUTER SCIENCES</b>                        |
|  | <b>9 EDUCATION</b>  |

## INVITED SPEAKERS

Serban BASARAB (Bucharest, Romania)	Eugen GREBENICOV (Moscow, Russia)
Daniel BREAZ (Alba Iulia, Romania)	Nicolae JIȚĂRAȘU (Kishinev, Rep. Moldova)
Mitrofan CHOBAN (Kishinev, Rep. Moldova)	Antonio MATURO (Pescara, Italy)
Sanda CLEJA – ȚIGOIU (Bucharest, Romania)	Sergiu MOROIANU (Bucharest, Romania)
Adrian CONSTANTINESCU (Bucharest, Romania)	Constantin NĂSTĂSESCU (Bucharest, Romania)
Gheorghe DINCĂ (Bucharest, Romania)	Wil SCHILDERS (Eindhoven, Netherland)
Călin – Ioan GHEORGHIU (Cluj, Romania)	

## SCIENTIFIC COMMITTEE

Nuri AKSEL (Bayreuth)	Ovidiu CARJA (Iasi)
Mihai ANASTASIEI (Iasi)	Mitrofan CHOBAN (Chisinau)
Narcisa APREUTESEI – DUMITRIU (Iasi)	Sanda CLEJA – TIGOIU (Bucharest)
Constantin BACUTA (Delaware, U.S.A.)	Adrian CONSTANTINESCU (Bucharest)
Vladimir BALAN (Bucharest)	Piergiulio CORSINI (Italy)
Catherine BUNDLE (Basel)	Ion CRACIUN (Iasi)
Serban BASARAB (Bucharest)	Gabriel DIMITRIU (Iasi)
Martin BOHNER (Missouri, U.S.A.)	Behzad DJAFARI – ROUHANI (Texas, USA)
Dumitru BOTNARU (Chisinau)	Ioan DZITAC (Oradea)
Tassos BOUNTIS (Patras)	Angelo FAVINI ( Bologna )
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Vasile BRANZANESCU (Bucharest)	Constantin FETECAU (Iasi)
Ilie BURDUJAN (Iasi)	Angel GARRIDO (Madrid)
Adrian CARABINEANU (Bucharest)	Vladimir GERT (Russia)

Anca – Veronica ION (Bucharest)  
Mario LEFEBVRE (Canada)  
Boris LOGINOV (Ulyanovsk)  
Bogdan KAZMIERCZAK (Poland)  
Nikos MASTORAKIS ( Greece)  
AntonioMATURO(Italy)  
Nenad MLADENOVICI (Birmingham)  
Ioana MOISIL (Sibiu)  
Costica MOROSANU (Iasi)  
Gheorghe MOROSANU (Budapest)  
Dumitru MOTREANU (Perpignan)  
Ingo MULLER (Berlin)  
Virgil OBADEANU (Timisoara)  
Lidia PALESE (Bari)  
Nicolae PAVEL (Athens, Ohio)  
Zbigniew PERADZYNSKI (Warsaw)  
Titus PETRILA (Cluj – Napoca)  
Emilia PETRISOR (Timisoara)  
Kazimierz PIECHOR (Warsaw)  
Maria PINHO (Porto)

Constantin POPA (Constantza)  
Mihail POPA (Chisinau)  
Vasile POSTOLICA (Bacau)  
Maido RAHULA (Estonia)  
Kumbakonam RAJAGOPAL (Texas)  
Mefodie RATIU (Chisinau)  
Liliana RESTUCCIA (Messina)  
Ruggero Maria SANTILLI (USA)  
Dana SCHLOMIUK (Canada)  
Panayotis SIAFARIKAS (Patras)  
Mirela STEFANESCU (Constantza)  
Nicolae SUCIU (Cluj – Napoca)  
Kiyoyuki TCHIZAWA (Tokyo)  
Dan TIBA (Bucharest)  
Vladilen TRENIGIN (Moskow)  
Mihai TURINICI (Iasi)  
Vladimir VELIOV (Vienna)  
Harry VEREECKEN (Juelich)  
Nicolae VULPE (Chisinau)  
Cristian VOICA (Bucharest)

#### ORGANIZING COMMITTEE

Valeriu V. COTEA  
Ilie BURDUJAN  
Ion CRĂCIUN  
Costică MOROȘANU  
Constantin POPOVICI

## PROGRAMME

### September 22, 2011

15.00 – 22.00 **Registration at “Ion Ionescu de la Brad” University, Iași,  
M. Sadoveanu Alley, 3**

### September 23, 2011

8.00 – 9.00 **Registration at “Ion Ionescu de la Brad” University, Iași**  
9.00 – 9.30 **Opening Ceremony**  
9.30– 9.45 **Adelina Georgescu annual AWARD**  
9.45 – 10.00 **Coffee Break**  
10.00 – 12.30 **Plenary Session**  
12.30 – 13.30 **Book Promotion: “N. Popescu, Man – Mathematician – Menthor”**  
13.30 – 15.00 **Lunch**  
15.00 – 17.25 **Plenary Session**  
17.25 – 17.45 **Coffee Break**  
17.45 – 19.30 **Parallel Sessions**  
19.30 – 20.30 **Dinner**

### September 24, 2011

9.00 – 11.25 **Plenary Session**  
11.25 – 11.45 **Coffee Break**  
11.45 – 12.45 **ROMAI GENERAL ASSEMBLY**  
12.45 – 15.00 **Lunch**  
15.00 – 17.25 **Plenary Session**  
17.25 – 17.40 **Coffee Break**  
17.40 – 19.25 **Parallel Sessions**  
20.00 – 22.00 **Official DINNER**

### September 25, 2011

Excursion to Iași – Voroneț

## PROGRAMME

### THURSDAY, September 22, 2011

15.00 – 22.00 Participants' arrival and check – in

### FRIDAY, September 23, 2011

- 8.00 – 9.00 **REGISTRATION AT „Ion Ionescu de la Brad” University, Iași**  
9.00 – 9.30 **Opening session**, A6 Lecture Hall of UASVM IASI, M. Sadoveanu Alley, 3  
**Prof. univ. dr. Gerard Jitäreanu**, Rector of “Ion Ionescu de la Brad” University  
9.30 – 9.45 **Adelina Georgescu award**  
9.45 – 10.00 **Coffee break**

### PLENARY SESSION – Chairman: Acad. Constantin Nastasescu & Acad. Mitrofan Choban

- 10.00 – 10.45 **Acad. Mitrofan Choban** (Tiraspol State University, Kishinev, Rep. of Moldova)  
*On solutions of perturbed optimization problems*  
10.50 – 11.35 **George Dincă** (Faculty of Mathematics and Informatics, University of Bucharest, Romania)  
*Espaces de Sobolev à exposants variables: aspects géométriques*  
11.40 – 12.25 **Acad. Constantin Năstăsescu** (“Simion Stoilow” IMAR, Bucharest)  
*Reserved subject*  
12.30 – 13.30 **BOOK PROMOTION: “N. Popescu : Man – Mathematician – Menthor”**  
13.30 – 15.00 **Lunch**

### PLENARY SESSION – Chairman: Sanda Cleja – Tigoiu & Sergiu Moroianu

- 15.00 – 15.45 **Șerban BASARAB** (“Simion Stoilow” IMAR Bucharest, Romania )  
*Group actions on generalized trees: median and metric viewpoints*  
15.50 – 16.35 **Sanda Cleja – Tigoiu** (Faculty of Mathematics and Computer Science, University of Bucharest, Romania)  
*Continuum models in elasto – plastic materials with micro – structure*  
16.40 – 17.25 **Sergiu MOROIANU** (“Simion Stoilow” IMAR Bucharest, Romania)  
*Uniformization of the sphere and at singular surfaces*  
17.25 – 17.40 **Coffee break**

17.45 – 19.30 **PARALLEL SESSIONS**

## SECTION 1 – DYNAMICAL SYSTEMS, JET THEORY AND THEIR APPLICATIONS

### QUADRATIC DYNAMICAL SYSTEMS

**Chairmen: Dumitru Cozma, Alexandru Şubă**

- 17.45 – 18.00 **Alexandru Şubă, Vadim Repesço** (Institute of Mathematics and Computer Science, Chisinau, Rep. of Moldova)  
*Cubic differential systems with degenerate infinity*
- 18.00 – 18.15 **Dumitru Cozma** (Tiraspol State University, Chisinau, Rep. of Moldova)  
*Center and reversibility in a cubic differential system with one invariant straight line*
- 18.15 – 18.30 **Victor Pricop** (Institute of Mathematics and Computer Science, Chisinau, Rep. of Moldova)  
*The differential system  $s(1; 4)$  and algebraically independent focal pseudo – quantities*
- 18.30 – 18.45 **Stavros Anastassiou, Tassos Bountis, Spyrow Pnevmatikos** (Department of Mathematics, University of Patras, Greece)  
*Quadratic vector fields on  $P^3$  invariant under the  $D_2$  symmetry group*
- 18.45 – 19.00 **Ilie Burdujan** (UASVM Iasi)  
*Classification of homogeneous quadratic differential systems on  $R^3$  having a derivation*
- 19.00–19.15 **Iurie Calin, Valeriu Baltag** (Institute of Mathematics and Computer Science Academy of Sciences of Moldova)  
*The transvectants and  $GL(2,P)$  – invariant center conditions for some cubic differential systems*

## SECTION 2: ALGEBRA and LOGIC

**Chairmen: Mirela Ştefanescu, Vasile Ursu**

- 17.45 – 18.00 **Vasile Ursu** ("Simion Stoilow" IMRA Bucharest & Technical University of Moldova)  
*Free orderable  $A$  – loops*
- 18.00 – 18.15 **Nicolae Sandu** (Tiraspol State University, Republic of Moldova)  
*On structure of Moufang loops*
- 18.15 – 18.30 **Alexandru Covalschi, Nicolae Sandu** (State Pedagogical University „Ion Creanga”, Chisinau; Tiraspol State University, Chisinau, Rep. Moldova)  
*On lower and upper central series of Moufang loops*
- 18.30 – 18.45 **Natalia Lupashco, Nicolae Sandu** (Tiraspol State University, Chisinau, Rep. Moldova)  
*On groups of automorphisms of commutative Moufang loops*
- 18.45 – 19.00 **Aliona Gurdish** (Tiraspol State University of Moldova, Chisinau)  
*On commutative Moufang loop with centralizer satisfying some finiteness conditions*
- 19.00 – 19.15 **Ioan Dzitac, Loriana Andrei** (Department of Mathematics – Informatics, University of Oradea, Romania)  
*Contributions of Gh. S. Nadiu in non – classical logics*

## SECTION 3: TOPOLOGY and DIFFERENTIAL GEOMETRY

**Chairmen: Mitrofan M. Choban, Mihai Anastasiei**

- 17.45 – 18.00 **St. Nedev, M. Choban, E. Mihaylova, D. Stavrova** (Institute of Mathematics and Informatics, Bulgaria)  
*On factorization principles*

- 18.00 – 18.15 **Florin Damian** (Moldova State University Chisinau, Republic of Moldova)  
About symmetry of the elements of symmetry on hyperbolic manifolds
- 18.15 – 18.30 **A. V. Arhangel'skii and M.M. Choban** (Moscow State University, Russia)  
*On special external bases of countable order of topological spaces*
- 18.30 – 18.45 **Dorin I. Pavel and Mitrofan M.Choban** (Tiraspol State University, Kishinev, Rep. Moldova)  
*About topologies on spaces of pseudometrics*
- 18.45 – 19.00 **Ekaterina P. Mihaylova, St. Nedev, M. Choban, D. Stavrova** (Sofia University "St. Kliment Ohridski", Bulgaria)  
*On selection principles*

#### SECTION 4: FUNCTIONAL ANALYSIS AND DIFFERENTIAL EQUATIONS

**Chairmen: Rodica Luca – Tudorache, Mihai Turinici**

- 17.45 – 18.00 **Mihai Turinici** ("A. Myller" Mathematical Seminar; "Al.I. Cuza" University Iasi, Romania)  
*Normed coercivity for monotone functionals*
- 18.00 – 18.15 **Rodica Luca – Tudorache** (Department of Mathematics, Gh. Asachi Technical University, Iasi, Romania)  
*On a nonlinear second – order multi – point boundary value problem*
- 18.15 – 18.30 **Anca Croitoru** ("Al.I. Cuza" University of Iasi, Romania)  
*Convergence in fuzzy measure for measurable multifunctions*
- 18.30 – 18.45 **Stamate Cristina** ("Al.I. Cuza" University of Iasi, Romania)  
*Stability for perturbed vector valued problems*
- 18.45 – 19.00 **Ioana Cătălina Anton** ("Al.I. Cuza" University of Iasi, Romania)  
*Carleman Estimates for the Magnetohydrodynamic Equations on the Torus*
- 19.00 – 19.15 **Victoria Stanciu** (Universitatea Politehnica Bucuresti)  
*On classes of generalized quasiconformal mappings*

#### SECTION 5: ANALYTICAL AND NUMERICAL METHODS IN MECHANICS

**Chairmen: Nicoleta Breaz, Mihai Anastasiei**

- 17.45 – 18.00 **Mihai Anastasiei** („Al. I. Cuza” University of Iasi, Romania)  
*Finite – dimensional Lie Algebroids. Applications to Classical Mechanics*
- 18.00 – 18.15 **Nicoleta Breaz** (Department of Mathematics and Computer Science, "1 Decembrie 1918" University of Alba Iulia, Romania)  
*Quasi – Hadamard product of some uniformly analytic and  $p$  – valent functions*
- 18.15 – 18.30 **Camelia Gheldiu, Raluca – Mihaela Georgescu** (University of Pitesti, Romania)  
*The elasticity of the lattice structures with complex geometry*
- 18.30 – 18.45 **Ion Crăciun** (Department of Mathematics, Technical University of Iasi, Romania)  
*Monochromatic plane waves in the linear theory of micropolar thermoelasticity*
- 18.45 – 19.00 **Boris Rybakin, Gregory Secieru, Elena Gutuleac** (Institute of Mathematics and Computer Science of ASM, Moldova)  
*Research of the is intense – deformed condition of elastic – plastic shells under the inuence of*



*intensive dynamic loadings*

- 19.00 – 19.15 **Tkacenko Alexandra, Tkacenko Dumitru** (Moldova State University, Kishinev, Rep, Moldova)  
*Fuzzy Technique in efficient solving of the Multiple Criteria Transportation Problem of special type*

## SECTION 6: MATHEMATICS IN PHYSICS, CHEMISTRY AND INDUSTRY

**Chairmen: Galina Ribacova, Ioan Ursu**

- 17.45 – 18.00 **Ivan Secrieru** (Moldova State University, Rep. Moldova)  
*Stability of weighted approximate schemes*
- 18.00 – 18.15 **Costică N. Moroşanu** („Al. I. Cuza” University of Iasi, Romania)  
*Cubic spline method and fractional steps schemes to approximate the phase – field system with non – homogeneous Cauchy – Neumann boundary conditions*
- 18.15 – 18.30 **Vladimir Patiuc, Galina Ribacova** (Moldova State University, Rep. Moldova)  
*Finite Volume Method for Electrostatic Field Calculation*
- 18.30 – 18.45 **Veaceslav Zelentsov, Tatiana Datsko, Dvornicova Elena** (Institute for Applied Physics of Moldova)  
*Adsorption models for treatment of experimental data on remove fluorine from water by oxihydroxides of aluminum*
- 18.45 – 19.00 **Ioan Ursu, Adrian Toader** („Elie Carafoli” National Institute for Aerospace Research, Bucharest, Romania)  
*Neuro – fuzzyadaptive control synthesis for autonomous flight control of an unmanned air vehicle*
- 19.00 – 19.15 **Adrian Toader, Ionel Iorga** („Elie Carafoli” National Institute for Aerospace Research, Bucharest, Romania)  
*Numerical investigations of stability of the coupled system pilot – airplane using the methods of frequency domain analysis*
- 19.15–19.30 **Eugen Vasile** („POLITEHNICA” University of Bucharest, Romania)  
*On the Ramo’s Theorem applied to semiconductor photodetection*
- 19.15–19.30 **Petre Cârlescu, Ion Ţenu, Radu Roşca** (U.A.S.V.M. Iasi, Romania)  
*Simulation air curtain flow in a vertical open display cabinet*

## SECTION 7: MATHEMATICS IN BIOLOGY AND ENVIRONMENTAL SCIENCES

**Chairmen: Paul Georgescu, Narcisa Apreutesei Dumitriu**

- 17.45 – 18.00 **Narcisa Apreutesei Dumitriu** (Technical University "Gh. Asachi" Iasi, Romania)  
*Some properties of integro – differential equations from Biology*
- 18.00 – 18.15 **Gabriel Dumitriu** (University of Medicine and Pharmacy „Gr. T. Popa” of Iasi)  
*Optimal protocols applied to natural response of the immune system in obesity-related chronic inflammation*
- 18.15 – 18.30 **Paul Georgescu** (Technical University “Gh. Asachi” Iasi, Romania)  
*Lyapunov functionals for abstract disease propagation models*
- 18.30 – 18.45 **V. Culev, V. Orlov, V. Pricop, V. Putuntica** (University "Nicolae Testemitanu Institute of Mathematics and Computer Science of ASM, Rep. Moldova)  
*The intrinsic transmission dynamics of tuberculosis epidemics in the conditions of Moldova Republic*

- 18.45 – 19.00 **Daniel Dunea, Alin Pohoata, Emil Lungu** (Valahia University Targoviste, Romania)  
*Fuzzy inference systems for estimation Air Quality Index*
- 19.00 – 19.15 **Stelian Ion<sup>1</sup>, Minodora Manu<sup>2</sup>** (<sup>1</sup>ISMMA „Gheorghe Mihoc-Caius Iacob”, Romanian Academy, Bucharest, Romania; Institute of Biology, Romanian Academy, Bucharest, Romania)  
*Statistical Analysis of the Variation of the Population of Predatory Mites in the Natural Forests of Bucegi*
- 19.15-19.30 **Gheorghe Nistor, Bogdan Amuzescu, Catalin Liviu Bichir** (University of Pitesti; University of Bucharest, Bucharest; Rostirea Maths Research Galati, Romania)  
*Improved methods to compute the boundary layer functions of the first order asymptotic approximation of the Fitz Hugh – Nagumo model*
- 19.30-19.45 **Sanjeev Kumar** (Dr. B.R. Ambedkar University, Agra, India)  
*A Non – Newtonian Fluid Model with Resistance Parameter of Uniform and Non – Uniform Portion of Arterial Stenosis*

## SECTION 8: THEORETICAL COMPUTER SCIENCES EDUCATION

**Chairmen: Serban E. Vlad, Eugen Mandrescu**

- 17.45 – 18.00 **Eugen Mândrescu, Vadim E. Levit** (Holon Institute of Technology; Ariel University of Samaria, Israel)  
*On Independent Sets in Unicyclic Graphs*
- 18.00 – 18.15 **Eugen Mandrescu, Ion Mirica** (Holon Institute of Technology, Israel, University “Dunarea de Jos”, Galati, Romania)  
*Independence polynomials of the unicyclic graphs whose Fibonacci indexes are extremal*
- 18.15 – 18.30 **Serban E. Vlad** (Oradea City Hall, Romania)  
*On the serial connection of the regular asynchronous systems*
- 18.30 – 18.45 **Letitia Velcescu, Laurentiu Vasile** (FMI Bucharest, Romania)  
*On advanced databases with uncertain information*
- 18.45 – 19.00 **Laura Savu** (University of Bucharest, Faculty of Mathematics and Computer Science)  
*Signcryption saves computational and communicational cost*
- 19.00 – 19.15 **Corina Sararu** (University of Pitești, Romania)  
*Kernel Independent Component Analysis in Edge Detection*

## SECTION 9: EDUCATION

**Chairmen: Mitsunori Imaoka, Neculae Dinuță**

- 17.45 – 18.00 **Voica Cristian, Florence Mihaela Singer, \*Ildiko Pelczer** (University of Bucharest; University of Ploiesti; Romania; \* National Autonomous University, Mexico )  
*Students' difficulties in composing and decomposing problems*
- 18.00 – 18.15 **Mitsunori Imaoka, Tetsu Shimomura, Eikoh Kanno** (Hiroshima University, Japan; Aichi Prefectural Handa High School, Japan)  
*Problem posing in the upper grades using computers*
- 18.15 – 18.30 **Eugenia Chiriac, Liubomir Chiriac** (Tiraspol State University, Rep. Moldova)  
*Applying Mathematical Models through the Prism of Integrating Factor in the Study of Biological Processes*
- 18.30 – 18.45 **Angela Sava** (dsd. Tiraspol State University, Rep. Moldova)

*The role of graphical representation in making the study of mathematics in gymnasium more efficient*

18.45 – 19.00 **Neculae Dinuță** (University of Pitești, Romania)

*Using logical inference scheme to solve geometry problems*

19.00 – 19.15 **Viorica Cornelia Bront** (“Ioan Bococi” Scholar group of Oradea, Romania)

*On the limit of a function in a point*

19.15 – 19.30 **Cristian Voica, Consuela Luiza Voica, Ildikó Pelzer** (University of Bucharest,; Middle School No.12 “Herăstrău”, Bucharest, Romania; National Autonomous Univ. Mexico)

*Using Origami to teach Math concepts*

## SATURDAY, September 24, 2011

9.00 – 11.25 **PLENARY SESSION**

**PLENARY SESSION – Chairman: Adrian Constantinescu & Wil Schilders**

9.00 – 9.45 **Wil Schilders** (Eindhoven Technical University, Netherlands)

*Model Order Reduction: mathematical methods and applications*

9.50 – 10.35 **Adrian Constantinescu** („Simion Stoilow” Institute of Mathematics of the Romanian Academy, Bucharest)

*Graded subalgebras: Algebra, Topology, Geometry. II.*

Dedicated to the memory of Professor Nicolae RADU (1931 – 2001)

10.40 – 11.25 **Eugen Grebenicov** (Moscow, Russia)

*A generalization of the dynamical model Euler – Lagrange and the problem of financing cosmic research*

11.25 – 11.45 **Coffee break**

11.45 – 12.45 **The GENERAL ASSEMBLY of ROMAI**

**PLENARY SESSION – Chairman: Antonio Maturo , Daniel Breaz**

15.00 – 15.45 **Daniel Breaz** (Alba Iulia University)

*Univalence conditions for integral operators with applications in fluid mechanics*

15.50 – 16.35 **Antonio Maturo** (Pescara University, Italy)

*Multi – objective decision making based on fuzzy events and their coherent fuzzy measures*

16.40 – 17.25 **Călin I. Gheorghiu** (“T. Popoviciu” Institute of Numerical Analysis, Cluj – Napoca, Romania)

*Accurate Spectral Solutions to some Non – Standard Eigenvalue Problems*

17.25 – 17.40 **Coffee Breack**

17.40 – 19.25 **PARALLEL SESSIONS**

## SECTION 1 – DYNAMICAL SYSTEMS, JET THEORY AND THEIR APPLICATIONS

### QUADRATIC DYNAMICAL SYSTEMS

**Chairmen: Carlo Mari, Anca Veronica Ion**

- 17.40 – 17.55 **Carlo Mari** (Dipartimento di Metodi Quantitativi e Teoria Economica, Università “G. d’Annunzio” di Chieti – Pescara, Italy)  
*Regime switches induced by supply – demand equilibrium: a model for power prices dynamics*
- 17.55 – 18.10 **Ursu Ioan** („Elie Carafoli” National Institute for Aerospace Research)  
*Neuro – fuzzy adaptive control synthesis for autonomous flight control of an unmanned air vehicle*
- 18.10 – 18.25 **Alexandru Lazari** (Moldova State University, Chisinau)  
*Probabilistic characterization of the dynamical stochastic systems with final critical state*
- 18.25 – 18.40 **Raluca Efrem** (Craiova University, Romania)  
*A Hillam algorithm to locate fixed points*
- 18.40 – 18.55 **Rocsoreanu Carmen, Sterpu Mihaela** (Craiova University, Romania)  
*Control of Hopf bifurcations in finite dimensional dynamical systems*
- 18.55 – 19.10 **Anca Veronica Ion** (ISMMA "Gh. Mihoc – C. Iacob", Bucharest, Romania),  
*On the computation of the term  $w_{21}u^2$  of the series defining the center manifold for a scalar delay differential equation*

## SECTION 2: ALGEBRA and LOGIC

**Chairmen: Chiriac Liubomir, Alexandru Lungu**

- 17.40 – 17.55 **Izbaş Vladimir** (Institute of Mathematics and Computer Science, Chisinau)  
*Some results on the orthogonal groupoids*
- 17.55 – 18.10 **Chiriac Liubomir, Natalia Bobeica** (Tiraspol State University, Republic of Moldova)  
*On homomorphism of Topological Groupoids with a Continuous Division*
- 18.10 – 18.25 **Natalia Bobeica** (Tiraspol State University, Republic of Moldova)  
*On Invariant Haar Measure on Topological Quasigroups*
- 18.25 – 18.40 **Alexandru Lungu** (State University of Republic Moldova)  
*Some theoretical aspects of spatial groups of generalized symmetry*
- 18.40 – 18.55 **Andrei Rusu** (Ovidius University of Constantza, Romania)  
*On functional expressibility of systems of formulas containing paraconsistent negation*
- 18.55 – 19.10 **Mahboubeh Alizadeh Sanati, Fatemeh Mahdipour** (Golestan University, Gorgan, Iran)  
*Baer – invariant of some non finitely generated abelian groups*

## SECTION 2 bis: ALGEBRA and LOGIC

**Chairmen: Mirela Ștefănescu, Reza Ameri**

- 17.40 – 17.55 **Reza, Ameri, Razieh, Sadeghi Kohandei** (School of Mathematics, Statistics and Computer Sciences, University of Teheran; Department of Mathematics, Faculty of Basic Science University of Mazandaran, Babolsar; Iran)  
*Prime Submodules of Gamma Modules*
- 17.55 – 18.10 **Mirela Ștefănescu** (Ovidius University Constanta)  
*New applications of the algebraic hyperstructures*
- 18.10 – 18.25 **Razieh Mahjoob** (Department of Mathematics, Faculty of mathematics – statistics and computer science, University of Semnan, Semnan, Iran)  
*Some Results on Prime Fuzzy Subhypermodules*

- 18.25 – 18.40 **Maedeh Motameni** (Faculty of mathematics, University of Mazandaran, Babolsar, Iran)  
*A short survey on the spectrum of prime fuzzy submodules*
- 18.40 – 18.55 **Cerbu Olga, Botnaru Dumitru** (Moldova State University, Republic of Moldova)  
*On homomorphism of Topological Groupoids with a Continuous Division*
- 18.55 – 19.10 **Dumitru Botnaru, Alina Turcanu** (Technical University of Moldova)  
*About a application defined of the left product*
- 19.10 – 19.25 **Dumitru Botnaru, Elena Baes** (Technical University of Moldova; Tiraspol State University, Rep. Moldova)  
*Factorization structures with nonhereditary classes of projections*

#### SECTION 4: FUNCTIONAL ANALYSIS AND DIFFERENTIAL EQUATIONS

**Chairmen: Adrian Sandovici, Ioana Ciotir**

- 17.40 – 17.55 **Adrian Sandovici** ("Al. I. Cuza" University of Iasi, Romania)  
*On certain algebraic objects in the study of spectral properties of linear relations*
- 17.55 – 18.10 **Nematollah Nyamoradi** ("Razi" University, Kermanshah, Iran)  
*Existence of three solutions for a class of fractional boundary value problems*
- 18.10– 18.25 **Ioana Ciotir** ("Al.I. Cuza" University of Iasi, Romania)  
*Convergence of solutions for stochastic differential equations in Hilbert spaces and applications*

#### SECTION 8: THEORETICAL COMPUTER SCIENCES

**Chairmen: Gheorghe Mishkoy, Diana Bejenari**

- 17.40 – 17.55 **Iulia Damian** (FCS „Al. I. Cuza” University of Iasi,, Romania)  
*Queueing system type  $[SM/M/1/\infty]^N$  with semi – Markov flow in the average scheme*
- 17.55 – 18.10 **Radu Oprisa** (University of Pitesti, Romania)  
*Using State Machines for modeling and testing software systems*
- 18.10 – 18.25 **Teodora Gherman** (Chair of Applied informational Technologies, Academy of Public Administration, Kishinev, Rep. Moldova)  
*Methodological aspects for realization of an informational system for a continuous training of public officials in Moldova*
- 18.25 – 18.40 **Gheorghe Mishkoy, Diana Bejenari, Valentina Klimenok** (Academy of Sciences of Moldova, Free International University of Moldova; Belarusian State University, Belarusia)  
*Some generalizations of Kendall and Pollaczek – Khintchin equations for Polling systems*
- 18.40 – 18.55 **Gheorghe Mişcoi, Diana Bejenari, Lilia Mitev** (Academy of Science of Moldova, Free International University of Moldova, Free International University of Moldova, Republic of Moldova)  
*Numerical algorithms regarding Polling systems with exhaustive service*
- 18.55 – 19.10 **Dmitry Ivanov** (IAMM NAS of Ukraine, Ukraine)  
*A scalable genetic algorithm for constructing of identifying sequences for VLSI circuits*

#### SECTION 8 bis: THEORETICAL COMPUTER SCIENCES

**Chairmen: Letitia Velcescu, Cristian Vidrascu**

- 17.40 – 17.55 **Vasile Alaiba** (FCS „Al. I. Cuza” University of Iasi, Romania)

*Using Process Graphs to Analyze BPMN 2.0 Models*

- 17.55 – 18.10 **Victoria Lozan** (Moldova State University, Kishinev, Rep. Moldova)  
*On Pareto – Nash equilibria*
- 18.10 – 18.25 **Marius Iulian Mihăilescu** (S.C. Softwin S.R.L., Pomania)  
*Comparison between Parameters of Anti – Collision Algorithms For Active RFID.*
- 18.25 – 18.40 **Cristian Vidrascu** (FCS „Al. I. Cuza” University of Iasi,, Romania)  
*Using Petri nets as a formalism to specify distributed systems*
- 18.40 – 18.55 **Răzvan Vasile** (FMCS University of Bucharest, Romania)  
*On BufferZone Automata Net – related case study*
- 18.55 – 19.10 **Letitia Velcescu, Laurentiu Vasile** (FCS University of Bucharest, Romania)  
*On advanced databases with uncertain information*

**SECTION 9: EDUCATION**

**Chairmen: Ion Valuță, Cristian Voica**

- 17.40 – 17.55 **Consuela Luiza Voica, Cristian Voica** (Middle School No.12 “Herăstrău”, Bucharest; University of Bucharest, Romania)  
*Bilingual students in school environment: the case of George*
- 17.55 – 18.10 **Lilia Mihălache** (Tiraspol State University, Kishinev, Rep. Moldova)  
*On the application of informational technologies in the teaching process of „Modeling and numeric computation” from the high – school informatics course*
- 18.10 – 18.25 **Larisa Sali** (Tiraspol State University, Kishinev, Rep. Moldova)  
*Regarding the didactical transposition competences of the mathematical contents*
- 18.25 – 18.40 **Marcel Teleucă, Larisa Sali** (Tiraspol State University, Kishinev, Rep. Moldova)  
*The use of rectangle „pavement” and coloring to solve some problems*
- 18.40 – 18.55 **Ion Valuță** (Tiraspol State University, Kishinev, Rep. Moldova)  
*On some crucial points in the process of teaching – learning mathematics*
- 18.55 – 19.10 **Răzvan Vasile** (FMCS University of Bucharest, Romania)  
*DNA – computing – overview*
- 19.10 – 19.25 **Răzvan Vasile** (FMCS University of Bucharest, Romania)  
*Reflexive assembly via DNA Computing*

**Book Exhibition**

**“Matrix” Publishing House**

The Hall of second floor Amf.