# SECTIONS' PROGRAM

# Section 1: Algebra, Algebraic, Complex and Differential Geometry and Topology

### Friday, June $29^{th}$ , 2007

09:00-10:45 Chairman: Vasile Brînzănescu

09:00-09:45	Andrei Căldăraru	The Mukai pairing on Hochschild homology
10:00-10:45	David Blair	Special Directions in Real and Complex Contact Geometry

#### Coffee

#### 11:15-13:00 Chairman: Mircea Mustață

11:15-12:00	Alexandru Dimca	De Rham cohomology of hypersurface complements
12:15-13:00	Heinrich Matzat	Galois Theory of Differential Equations

### Lunch

Section 1A: Geometry

#### 15:30-17:45 Chairman: Alexandru Dimca

15:30-16:15	Cristian Popescu	Special values of $p$ -adic and global $L$ -functions (A conjectural
		program in equivariant Iwassawa theory)

#### Coffee

16:45-17:15	Leonardo Mihalcea	Generalized Gromov-Witten invariants on Grassmanians
17:15-17:45	Mitrofan Choban	Functionally determined properties of topological spaces

#### 17:50-19:35 Chairman: David Blair

17:50-18:20	Monica Aprodu	Harmonic maps on Riemannian polyhedra	
18:20-18:50	Mircea Puta	New algebraic point of view for the rigid body dynamics on $SO(3)$	
18:55-19:25	Cristian Costinescu	Axiomatic characterization of the (co)homology theories on spectra	
Section 1B	_		
	15:30-1	7:45 Chairman: Toma Albu	
15:30-16:15	Dorin Popescu	Stanley conjecture in small embedding dimension	
		Coffee	
16:45-17:15	Dumitru Botnaru	Semireflective product of two refletive subcategories	
	Pantelimon Stănică	Counting balanced polynomials over finite field	
17:50–19:35 Chairman: Ciprian Bonciocat			
17:50-18:20	Simion Breaz	From torsion-free groups to mixed groups	
18:20-18:50	Florin Nichita	Coloured bialgebras and nonlinear equations	
18:55-19:15	Cosmin Pelea	Multialgebras universal algebras and identities	
19:15-19:35	Aleona Babiy	On $CH$ -quasigroups with maximum conditions	
Saturday, June $30^{\mathrm{th}},2007$			
09:00–10:45 Chairman: Dan Burghelea			
09:00-09:45	Marian Aprodu	Syzygies and geometry of complex curves	
10:00-10:45	Matthias Kreck	Self-duals codes and 3-manifolds	
${f Coffee}$			
11:15-13:00 Chairman: Matthias Kreck			
11:15-12:00	Ştefan Papadima	Cohomology jumping loci, groups, and algebraic manifolds	

19.15 13.00	Dan Burghelea	Tor
17.19-12.00	Dan Biirghelea	Lor

Torsion as a function on the variety of representations

#### Lunch

Section 1A: Geometry

15:30-17:45 Chairman: Liviu Ornea

15:30–16:15 Stefano Marchiafava Submanifolds of (para-)quaternionic manifolds

#### Coffee

16:45-17:15	Cornelia Bejan	Manifolds of quasi-constant sectional curvature
17:15-17:45	Adriana Turtoi	About the spin structures on the generalized twistor spaces

#### 17:50-19:35 Chairman: Ştefan Papadima

17:50-18:20	Anca Macinic	Cohomology jumping loci and formality properties of nilpotent groups
18:20-18:50	Costin Vîlcu	Every point is critical
18:55-19:25	Ion Albu	Differential geometry with fractional differentiated Langragian function

Section 1B: Algebra

#### 15:30-17:30 Chairman: Dorin Popescu

15:30–16:15 Toma Albu Subdirect irreducibility and Krull dimension in rings, modules and lattices

#### Coffee

16:45–17:30 Peter Roquette Artin's reciprocity law and Hasse's local-global principle

#### 17:50-19:35 Chairman: Mefodie Ratsa

17:50-18:20	Cristina Ballantine	Ramanujan graphs and representation theory of $p$ -adic groups
18:20-18:50	Daniel Mondoc	Models of exceptional compact simple Kantor triple systems
18:55-19:15	Cosmin Roman	On Baer and quasi-Baer properties for modules
19:15-19:35	Liubomir Chiriac	On some generalizations of commutativity in topological
		groupoids

### Monday, July $2^{nd}$ , 2007

09:00-10:45 Chairman: Paltin Ionescu

09:00-09:45	Mircea Mustață	Invariants of singularities in positive characteristic
10:00-10:45	Henri Moscovici	Spectral spaces and their characteristic classes

#### Coffee

#### 11:15-13:00 Chairman: Henri Moscovici

11:15–12:00	Tudor Raţiu	Convexity in symplectic geometry
12:15-13:00	Samuel Patterson	Gauss sums and their generalizations

### Lunch

#### Section 1A: Geometry

15:30–16:15 Edwin Beggs

#### 15:30-17:45 Chairman: Nicolae Manolache

Star structures and noncommutative Riemannian geometry

		Coffee
16:45-17:15	Marian Anton	Homological symbols and a vanishing conjecture
17:15-17:45	Răzvan Liţcanu	Arithmetic properties of differential operators on algebraic
		curves

#### 17:50-19:35 Chairman: Radu Pantilie

17:50-18:20	Nicolae Anghel	The spectrum of spherical Dirac-type operators
18:20-18:50	Daniel Matei	Bestvina-Brady groups and arrangements of hypersurfaces
18:55-19:15	Cătălin Ciupală	2- $\rho$ derivations on a $\rho$ -commutative algebra and applications to the quaternionic algebra
19:15-19:35	Laurenţiu Calmuţchi	On Perfect compactifications of $T_0$ -spaces

### Section 1B: Algebra

#### 15:30-17:45 Chairman: Preda Mihăilescu

15:30-16:15 Gigel 3	Militaru	Factorization	problems f	for finite groups
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#### Coffee

16:45-17:15	Ciprian Bonciocat	Prime numbers and irreducible polynomials
17:15-17:45	Adriana Nenciu	Isomorphic character tables of p-groups

#### 17:50-19:35 Chairman: Gigel Militaru

17:50-18:20	Metodie Ratsa	Algorithmic unsolvability of a problem of expressibility in the Gödel-Löb logic of provability
18:20-18:50	Marian Deaconescu	Groups and automorphisms
18:55-19:15	Codruţa Chiş	Criteria on the orders of the centralizers of the elements in a finite group
19:15-19:35	Natalia Bobeică	Paramedial topological groupoids

### Tuesday, July $3^{\rm rd}$ , 2007

#### 09:00-10:45 Chairman: Florian Pop

09:00-09:45	Alexandru Buium	Relations among modular points on elliptic curves
10:00-10:45	Radu Pantilie	Harmonic morphisms between Weyl spaces

#### Coffee

#### 11:15-13:00 Chairman: Alexandru Buium

11:15–12:00 Maurice Mignotte Pure powers among Fibonacci numbers 12:15-13:00 Paltin Ionescu Manifolds covered by lines Lunch Section 1A: Geometry 15:30-17:45 Chairman: Tudor Raţiu 15:30-16:15 Liviu Ornea A CR-embedding for Sasakian manifolds Coffee 16:45-17:15 Ovidiu Călin Heisenberg geometry 17:15-17:45 Oana Drăgulete The stratification of the orbit space of proper groupoids 17:50-19:35 Chairman: Mitrofan Ciobanu 17:50-18:20 Liviu Popescu The geometry of Lie algebroids and its applications 18:20-18:50 Iulia Hirică Algebraic operators provided from differential geometry 18:55-19:15 Ion Şandru Dirac fermions in curved space: spinorial invariance, densities and conservation laws 19:15–19:35 Florin Damian Geometry and topology of low dimensional hyperbolic manifolds from the point of view of discrete geometry

#### Section 1B: Algebra

17:15–17:45 Biliana Krsteska

#### 15:30-17:45 Chairman: Maurice Mignotte

15:30–16:15	Preda Mihăilescu Primality proving, theoretical and practic		
		Coffee	
16:45-17:15	Mihai Cipu	Gröbner bases and Pell equations	

Generalized fuzzy mappings

#### 17:50-19:35 Chairman: Mihai Cipu

17:50-18:20	Dan Ciubotaru	Spherical unitary representations for reductive groups
18:20-18:50	Elena Cojuhari	On general theory of skew polynomial rings
18:55-19:15	Mihai Chiş	On the autocommutator subgroup of a finite group
19:15–19:35	Natalia Lupaşco	On endomorphism semigroups of direct products of commutative Moufang loops

### Wednesday, July 4th, 2007

09:00-10:45 Chairman: Şerban Basarab

09:00-09:45	Mircea Craioveanu	On the dynamics and geometry of an autonomous underwater
		vehicle with a fixed control authority
10:00-10:45	Florian Pop	Large fields and inverse Galois theory

#### Coffee

#### 11:15-13:00 Chairman: Mircea Craioveanu

11:15–12:00	Şerban Basarab	Co-Galois theory: a topological group theoretic approach
12:15-13:00	Adrian Diaconu	Moment integrals for $GL(m)XGL(n)$ : toward convexity break-
		ing

### Lunch

### Section 1A: Geometry

#### 15:30-17:45 Chairman: Marian Aprodu

15:30-16:15	Steriu Ianuş	Harmonic maps and Riemannian submersions from quater-
		nionic Kaehler manifolds

#### Coffee

16:45–17:15 Daniel Naie The irregularity of cyclic multiple planes after Zariski

17:15-17:45	Dorin Cheptea	Universal	quantum	invariant	for	3-dimensional	homology
		cylinders					

#### 17:50-19:25 Chairman: Steriu Ianuş

17:50-18:20	Cornel Pintea	The size of the critical set of some differentiable mappings
18:20-18:50	Vladimir Bălan	CMC surfaces in Euclidian and Finsler spaces
18:55-19:25	Gabriel Pripoae	Riemannian metrics associated to vector fields

### ${\bf Section}\ {\bf 1B: Algebra}$

#### 15:30-17:45 Chairman: Dumitru Botnaru

15:30-16:15	Sergiu Rudeanu	Filters, localizations and fractions in algebra of logic

#### Coffee

16:45-17:15	Nicolae Sandu	Free Moufang loops and alternative algebras
17:15-17:45	Vasile Ursu	Product of quasivarities of algebraic systems

#### 17:50-19:35 Chairman: Sergiu Rudeanu

17:50-18:20	Afrodita Iorgulescu	A new class of residuated lattices
18:20-18:50	Sebastian Burciu	Quantum doubles for a certain class of rank two pointed Hopf algebras
18:55-19:15	Petru Sclifos	On $l$ -ideals of order lattice loop
19:15-19:35	Alexandru Covalschi	Identities of nilpotent $A$ -loops

# Section 2: Real and Complex Analysis, Potential Theory

### Friday, June 29th, 2007

09:00-10:45 Chairman: Cabiria Andreian Cazacu

09:00-09:45	Matti Vourinen	Conformal geometry and quasiregular mappings
10:00-10:45	Anatoly Golberg	Distortion of moduli of the ring domains in space

#### Coffee

#### 11:15-13:00 Chairman: Nicu Boboc

11:15-12:00	Chung-Chun Yang	Value distribution theory related to number theory
12:15-13:00	Grigore Sălăgean	Further properties of $\beta\text{-Pascu}$ convex functions of order $\alpha$
13:00-13:30	Petru T. Mocanu	Briot-Bouquet differential superordinations and sandwich the-
		orems

### Lunch

#### 15:30-17:35 Chairman: Raimo Näkki

15:30-16:15	Mihai Cristea	Local homeorphisms having local $\mathrm{ACL}^n$ inverses
		${f Coffee}$
	Gheorghe Bucur Liliana Popa	Variational methods in Dirichlet spaces A Dirichlet form on a standard $H$ -Cone

#### 17:40–18:40 Chairman: Ilpo Laine

17:40-18:00	Corneliu Udrea	Nonlinear resolvents: supermedian functions
18:00-18:20	Eugen Popa	The semi-dynamical system associated with a generator
18:20-18:40	Marian Panţiruc	Fourier transform of the "heat kernel" on the Heisenberg group

### Saturday, June $30^{th}$ , 2007

09:00-10:45 Chairman: Matti Vuorinen

09:00-09:45	Heinrich Begehr	Polyharmonic Dirichlet problems		
10:00-10:45	Ilpo Laine	Difference counterpart of Nevanlinna theory		
$\mathbf{Coffee}$				
	11:15–13:00	Chairman: Chung-Chun Yang		
11:15-12:00	Dorin Ghişa	The geometry of Blaschke product mappings		
12:15-13:00	Gabriela Kohr	Asymptotically starlike and asymptotically spiralike mappings in several complex variables		
		Lunch		
	15:30–17:3	5 Chairman: Heinrich Begehr		
15:30-16:15	Raimo Näkki	Homogeneous sets and quasiconformal mappings		
$\mathbf{Coffee}$				
16:45–17:15	Cabiria Andreian Cazacu	Lim inf Lipschitz and bi-Lipschitz conditions for direct products, skew products and other mappings		
17:15-17:35	Marcelina Mocanu	Maximal operators in Olicz spaces on metric measure spaces		
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# 17:40–19:00 Chairman: Miodrag Mateljević

17:40-18:00	Victoria Stanciu	Normal families of ring $FMO_{loc}$ quasiregular mappings
18:00-18:20	Anca Andrei	Comments on the behavior of quasiconformal mappings in Ahlfors regular spaces
18:20-18:40	Serafima Cerchez	Direct products of L-BLD homeomorphisms on direct product spaces
18:40-19:00	Dan Dogaru	Two theorems for $\psi$ -modulus

# Monday, July $2^{\rm nd}$ , 2007

#### 09:00-10:45 Chairman: Constantin Niculescu

09:00-09:45	Marco Abate	A unified approach to index theorems for holomorphic maps	
00.00 00.10	11201 00 113000	and foliations	
10:00-10:45	Mariusz Urbanski	Real analyticity of Hausdorff dimension for higher dimensional graph directed Markov systems	
		${f Coffee}$	
	11:15–13:0	00 Chairman: Mihnea Colţoiu	
11:15-12:00	Peter Dovbush	On normal and non-normal holomorphic functions on complex Banach manifolds	
12:15-13:00	Mihai Tibar	Polynomials and vanishing cycles	
$\mathbf{L}\mathbf{u}\mathbf{n}\mathbf{c}\mathbf{h}$			
	15:30–17	:35 Chairman: Marco Abate	
15:30-16:15	Eugen Mihăilescu	Metric properties and dynamics for conformal non-invertible maps	
		Coffee	
16:45-17:05	Ionel Roventa	The dynamics of the rational maps	
17:05-17:35	Mihai Pascu	Domain convergence of reflecting Brownian motion	
17:40-19:05 Chairman: Gheorghe Bucur			
17:40-18:10	Anca Bonciocat	Some geometric aspects of discrete metric spaces and metric graphs	
18:15-18:45	Radu Gologan	Two results in combinatorial geometry based on classical theorems in real analysis	
18:45-19:05	Aurelia Florea	Hermite-Hadamard inequality. New results	

### Tuesday, July $3^{\rm rd}$ , 2007

09:00-10:45 Chairman: Tadeusz Iwaniec

09:00-10:00	Bogdan Bojarski	Primary solutions to general Beltrami equations
10:15-10:45	Mohamed Sifi	On Besov-Dunkl spaces

#### Coffee

#### 11:15-12:45 Chairman: Mariusz Urbanski

11:15–12:00 Miodrag Mateljević Distortion of harmonic type mappings in the space

### Lunch

#### 15:30-17:15 Chairman: Bogdan Bojarski

15:30-16:15	Tadeusz Iwaniec	Invitation to $n$ -harmonic hyperelasticity. The art of intergra-
		tion of nonlinear forms and free langrangian

#### Coffee

16:45-17:15	Natalia Gashitoi	On the existence of K-admissible limits of holomorphic map-
		pings

#### 17:20-18:50 Chairman: Mohamed Sifi

17:20-17:50	Teodor Bulboacă	Subordination and superordination preserving convex inter-
		gral operators
17:50-18:10	Gheorghe Oroş	Strong differential subordination
18:10-18:30	Nicolae R. Pascu	Some extensions of the Schwarz lemma
18:30-18:50	Daniel Breaz	Certain integral operators on the classes $M(\beta_i)$ and $N(\beta_i)$

### Wednesday, July 4<sup>th</sup>, 2007

09:00-10:00 Chairman: Radu Gologan

	Romi Shamoyan Emil Saucan	Some remarks of the action of the operator of polarization Triangulations, quasiregular mappings and differential geometry
10:05–12:55 Chairman: Petru T. Mocanu		
10:05–10:25 10:25–10:45	Anca Croitoru Ionel Ţevy	A Gould type set valued integral  The generalized Riemann integral
${f Coffee}$		

On the Helly and Bray theorem

Application of Dirichlet L-series in the calculus of integrals

11:15-11:35 Radu Vîlceanu

11:35-12:55 Ileana Bucur

# Section 3: Ordinary and Partial Differential Equations, Variational Methods, Optimal Control and Mathematical Physics

### Friday, June 29th, 2007

09:00-10:45 Chairman: Toader Morozan

09:00-09:45	Vicenzo Cappasso	On the stochastic modelling of interacting populations
10:00-10:45	Mimo Iannelli	Growth and diffusion of a population in a fragmented habitat

#### Coffee

#### 11:15-13:00 Chairman: Vincenţiu Rădulescu

11:15-12:00 Marius Mitrea	The regularity of Green potentials in non-smooth domains
12:15–13:00 Gabriela Marinoschi	Well-posedness for a degenerate diffusion equation with a non-linear operator

### Lunch

#### 15:30-19:00 Chairman: Dan Tiba

The constructive solution of the n-dimnesional operator equa-

15:30-15:50 Irina Dmitrieva

15:55-16:15	Andrei Perjan	tions' systems and its application in classical Maxwell theory Singularly perturbed Cauchy problem for abstract system of linear equations in Hilbert spaces
		$\mathbf{Coffee}$
16:45-17:15	Kumar Sanjeev	Mathematical model of unsteady-state condition on oxygen diffusion through biological Floc particles
17:20-17:50	Vasile Postolică	A coincidence result between the sets of approximate efficient points and Choquet boundaries in ordered locally convex spaces

17:55–18:25 Călin Iurie

Invariant conditions for the existence of a center for a class of cubic differential systems

### Saturday, June 30th, 2007

09:00-10:45 Chairman: Gheorghe Nenciu

09:00–09:45 Horia Cornean Adiabatically swiched-on electrical bias in continuous syst
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and the Landauer-Büttiker formula

10:00–10:45 Pavel Exner Inequalities for means of chords and related isoperimetric

problems

#### Coffee

#### 11:15-13:00 Chairman: Pavel Exner

11:15-12:00	Ovidiu Costin	TBA
12:15-13:00	Otto Liess	Decay estimates for Fourier transforms of densities defined on surfaces

### Lunch

#### 15:30-18:50 Chairman: Horia Cornean

15:45–16:15	Rodica Luca-Tudorache	Time periodic solutions to a nonlinear second-order partial differential problem
		Coffee
16:45-17:15	Ioana Dragomirescu	Spectral methods in hydrodynamic stability
17:20-17:40	Boris Zachariev	New status of spectral theory for Schroedinger equation in inverse problem approach
17:45-18:15	Dumitru Opriş	Fractional Euler-Lagrange equations for Lie algebroids
18:20-18:40	Olivia Bundău	Hopf bifircation for some economic models with tax evasion and delay

# Monday, July $2^{\rm nd}$ , 2007

10:00-10:45 Chairman: Viorel Barbu

10:00-10:45	Daniel Tătaru	Blow up for some critical semilinear wave equation
11:15-12:55 Chairman: Marius Mitrea		
11:15-11:45	Nicolae Jitarășu	Asymptotic behavior of solutions of elliptic equations in the neighborhood of boundary and the boundary problems with singular boundary conditions
11:50-12:20	Ovidiu Călin	A geometric method for computing heat kernels for Hermite-type operators
12:25-12:55	Ovidiu Ilie Şandru	Differential operators that divide the wave operator. Application in the mathematical physics
		Lunch

#### 15:30-18:25 Chairman: Otto Liess

15:30-16:00	Aurelian Cernea	The maximum principle for constrained differential inclusions with delay
16:05-16:25	Valeriu Guţu	Limit sets of weakly contracting relations with eventual condensation
${f Coffee}$		
16:45-17:15	Narcisa Apreutesei	Fredholm property of infinite dimensional discrete operators
17:20-17:50	Ludovic Dan Lemle	$C_0$ -semigroups on the dual of a Banach space
17:55-18:25	Vasile Glăvan	On the Favard-Floquet theory
18:30-18:50	Raluca-Mihaela Georgescu	Equilibria of linear dynamical systems: analytical and algebraic approach

### Tuesday, July 3<sup>rd</sup>, 2007

09:00-10:05 Chairman: Sergiu Aizicovici

09:00-09:30	Jenică Crînganu	Existence results for a class of nonlinear equations involving a duality mapping
09:35-10:05	Olivian Simionescu-Panait	Spectral problems in guided waves propagation in piezoelectric crystals subject to initial fields

#### Coffee

#### 11:15-13:10 Chairman: George Dincă

11:15-12:00	Jean Mawhin	Boundary value problems for nonlinear perturbations of singular or bounded $\phi\text{-Laplacians}$
12:05-12:35	Cristian Bereanu	Some applications of Mawhin continuation theorem
12:40-13:10	Petru Jebelean	Ordinary $p$ -Laplacian systems with potential boundary con-
		ditions

### Lunch

#### 15:45-17:40 Chairman: Jean Mawhin

Singular elliptic systems of Gierer-Meinhardt type

15:45-16:15 Marius Ghergu

$\mathbf{Coffee}$		
	Viorel Catană Florin Isaia	M-hypoelliptic pseudodifferential operators on $L^p(\mathbb{R}^n)$ Generalized Pohozaev identities and non-existence results for $p$ -Laplacian and $p(x)$ -Laplacian
	Irina Meghea Codruţa Stoica	On a theorem of variational calculus Trichotomy in Infinite Dimensional Spaces

### Wednesday, July 4th, 2007

#### 09:00-10:45 Chairman: Constantin Vârsan

09:00–09:45 Nicolae Pavel Range conditions in optimization and optimal control

### Coffee

#### 11:15-13:00 Chairman: Gabriela Marinoschi

11:15-12:00	Toader Morozan	Exponential stability of discrete time linear equations defined by positive operators on ordered Hilbert spaces
12:30-13:00	Constantin Udrişte	Multi-time controllability obserbability and Bang-Bang principle

### Lunch

#### 15:30-17:40 Chairman: Radu Purice

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# Section 4: Functional Analysis, Operator Theory and Numerical Analysis

### Friday, June $29^{th}$ , 2007

09:00-10:45 Chairman: Petru Cojuhari

09:00-09:45	Alexander Ya. Helemskii	Semi-Ruan one-sided modules, the extreme flatness and the Arveson-Wittstock Theorem
10:00-10:45	George Isac	Quasi-boundedness, fixed-points, eigenvalues for nonlinear
		mappings and complementary problems

#### Coffee

#### 11:15-13:00 Chairman: George Isac

11:15–12:00	Ioan A. Rus	Special fixed point structures
12:15-13:00	Ismat Beg	Strong convergence theorems for common fixed points of Ba-
		nach operator pair

### Lunch

#### 15:30-17:45 Chairman: Ioan A. Rus

15:30–16:15	Lori Badea	Additive and multiplicative Schwarz methods for inequalities with contraction operators
16:45-17:15	Nicolae Dăneţ	Some applications of interval analysis in functional analysis
17:15-17:45	George Kostopoulos	General algorithm for the development of detailed algorithms
		for the extraction of integer roots

#### 17:50-19:35 Chairman: Călin Ambrozie

17:50-18:20	Florentina Tone	Long-time stability of the implicit Euler scheme for the 2d
		Navier-Stokes equations

18:20-18:50	Adrian Diaconu	On the approximation of equations' solutions through methods that use divided differences
18:55-19:15	Ivan Secrieru	The spectral properties of operators in approximate schemes
19:15-19:35	Marius Apetrii	A dual generalization of monotone mapping

### Saturday, June $30^{th}$ , 2007

#### 09:00-10:45 Chairman: Aurelian Gheondea

09:00-09:45	Călin Ioan Gheorghiu	Spectral methods for non-standard eigenvalue problems
10:00-10:45	Petru Cojuhari	Spectral analysis of some perturbed block Toeplitz operators

#### Coffee

#### 11:15-13:00 Chairman: Alexander Ya. Helemskii

11:15–12:00	Dan Pascali	On semilinear spectral theory
12:15-13:00	Nicolae Suciu	Analytic functions of $\rho$ -contractions

### Lunch

#### 15:30-17:45 Chairman: Mihai Şabac

15:30–16:15	Dumitru Gaşpar	Abstract reproducing kernel structures and general dilation results
16:45-17:15	Pastorel Gaşpar	On gramian (co)-isometric extensions
17:15–17:45	Aurelian Crăciunescu	Factorization properties of $\rho$ -contractions

#### 17:50-19:55 Chairman: Dumitru Gaşpar

17:50-18:20	Dan Popovici	On the structure of $\gamma$ contractions
18:20-18:50	Laurian Suciu	Classes of operators similar to partial isometries and generalized inverses
18:55-19:15	Adina Juratoni	P-spectral and semispectral reprezentations of function algebras
	Sorin Nădăban Flavius Pater	Representations of quotient Hilbert spaces A representation theorem for *-semigroups

## Monday, July $2^{\rm nd}$ , 2007

09:00-10:45 Chairman: Viorel Niţică

09:00-09:45	Marius Dadarlat	Bundles, operator algebras and K-theory
10:00-10:45	Florin Rădulescu	Quantum dynamics in the von Neumann algebras associated
		with some discrete groups

#### Coffee

#### 11:15-13:00 Chairman: Marius Dardalat

11:15-12:00	Bebe Prunaru	Toeplitz operators associated to commuting row contractions
12:15-13:00	Maria	Construction of unbounded *-representations in terms of "un-
	Fragouloupoulou	bounded" C*-seminorms

### Lunch

#### 15:30-17:45 Chairman: Călin Ioan Gheorghiu

15:30-16:15	Liliana Pavel	On the center of compact hypergroup algebras
16:45-17:15	Mihai Popa	On c-free probability with amalgamation
17:15-17:45	Maria Joiţa	Extremal completely n-positive linear maps between C*-algebras

#### 17:50-19:35 Chairman: Nicolae Suciu

17:50-18:20	Ilie Valuşescu	On periodically correlated processes in complete correlated actions
18:20-18:50	Radu Păltănea	Asymptotic expansion for Durrmeyer operators in complex domains
18:55-19:15	Elena Pelican	The bivariate log-skew-normal distribution. Numerical aspects
19:15–19:35	Cezar Lupu	Some remarks on an elementary inequality equivalent to Riemann hypothesis
19:35-19:55	Valeriu Anisiu	Porosity in Banach spaces

### Tuesday, July $3^{\rm rd}$ , 2007

09:00-10:45 Chairman: Dan Timotin

09:00-09:45	Florian-Horia	Unbounded subnormal operators
	Vasilescu	
10:00-10:45	Aurelian Gheondea	When are products of two normal operators normal?

#### Coffee

#### 11:15-13:00 Chairman: Camil Muscalu

11:15-12:00	Călin Ambrozie	A result on positive matrix completions
12:15-13:00	Dan Timotin	The eigenvalues of a sum of selfadjoint operators

### Lunch

#### 15:30-17:45 Chairman: Florian-Horia Vasilescu

15:30–16:15	Octav Olteanu	Some unexpected problems of Moment Problem
16:45-17:15	Luminiţa Lemnete	Moment problems
17:15-17:45	Dana Bereanu	Some perturbation results for quotient morphisms

#### 17:50-19:35 Chairman: Ismat Beg

17:50–18:20	Cristina Cismasiu	A quantitative estimation of an asymptotic representation for linear positive operators
18:20-18:50	Carmen Pârvulescu	On a property of quasicompact operators
18:55-19:15	Ligia Adriana Sporiş	On some extension and separations results in locally convex
		cones
19:15-19:35	Cristina Stamate	Duality for vector optimization problems

### Wednesday, July 4th, 2007

#### 09:00-10:45 Chairman: Nicolae Popa

09:00-09:45	Camil Muscalu	Calderon commutators and the Cauchy integral on Lipschitz
		curves, revisited

10:00-10:45	Viorel Niţică

Rigidity of higher rank abelian cocycles with values in diffeomorphism groups  $\,$ 

#### Coffee

#### 11:15-13:00 Chairman: Florin Rădulescu

11:15-12:00	Andrei Török	Stability of mixing and rapid mixing for hyperbolic flows
12:15-13:00	Mihai Şabac	Commuting systems of bounded operators, factorization, and
		spectral correspondence

### Lunch

#### 15:30-17:45 Chairman: Liliana Pavel

15:30-16:15	Nicolae Popa	Schur mu	ltipliers bety	ween Bana	ach sp	paces	of matrice	es	
16:45-17:15	Liviu Marcoci	A class of	unbounded	operators	and S	Schur	multipliers	s for	them
17:15-17:45	Olga Martin	Splitting	numerical	method	for	the	solution	of	one-
		dimension	al transport	t equation					

#### 17:50-19:35 Chairman: Andrei Török

17:50-18:20	Lemnaouar Zedam	A fuzzy version of Hahn-Banach theorem
18:20-18:50	Rodica-Mihaela	Fixed -point theorems for some families of multimaps
	Dăneţ	
18:55-19:15	Andrei Vernescu	On some new results in the summation of numerical series

# Section 5: Probability and Mathematical Statistics

### Friday, June 29th, 2007

09:00-10:45 Chairman: Marius Iosifescu

09:00–09:45 Alexandra Bellow From Riemann to Lebesgue by a.s averaging 10:00–10:45 Nicolae Dinculeanu Summability criterion for the stochastic integral

#### Coffee

11:15-12:00 Chairman: Alexandra Bellow

11:15–12:00 Peter Jagers The path to extinction

#### Lunch

15:30–17:45 Chairman: Gheorghe Mişcoi

15:30–16:00 16:00–16:30	Luiza Badin Costel Balcău	Nonparametric efficiency analysis: recent developments On maxentropic reconstruction method and applications
		${f Coffee}$
16:45-17:15	Diana Stanciu	On topological properties of the solution set for a class of variational inequalities
17:15-17:45	Nicoleta Breaz	Spline models in fitting and smoothing problems

### Saturday, June 30<sup>th</sup>, 2007

09:00-12:00 Chairman: Peter Jagers

09:00-09:45	Pierre Liardet	Dynamical processes behind number systems and related digital sequences
10:00-10:45	Cor Kraaikamp	Metric properties of Denjoy's canonical continued fraction expansion

#### Coffee

11:15–12:00 Ulrich Herkenrath Random systems with complete connections, iterated fuction systems and autoregressive tme series

### Lunch

#### 15:30-16:15 Chairman: Pierre Liardet

15.20 16.15	O1 1 7/1 '		
10:50-10:10	Gheorghe Mişcoi	Generalized models in queueing analysis	
		0.0110101101101101101111111111111111111	

#### Coffee

#### 16:45-17:55 Chairman: Vasile Preda

	Olga Benderski Olesia Groza	Congestions in priority queueing systems  Performance characteristics of the queueing models in network technologies
17:20-17:35	Sant Mishra	Computational approach to cost analysis of renewal model in clocked queueing network
17:35–17:55	Daniel Ciuiu	Solving nonlinear systems of equations and nonlinear systems of differential equations by the Monte Carlo method using queing networks and games theory

## Monday, July $2^{\rm nd}$ , 2007

#### 09:00-10:45 Chairman: Cor Kraaikamp

09:00-09:45	Bogdan Iftimie	An iterative stochastic construction for a solution of some Navier-Stokes equations
10:00-10:45	Cristian Preda	A new method of estiomstion the distribution of one and two- dimensional scan statistics

#### Coffee

#### 11:15-12:05 Chairman: Bogdan Iftimie

11:15-11:45	Doru Constantin	The variants of the FastICA algorithm for noisy data by using kurtosis and negentropy
11:45-12:05	Daniela Ijacu	Differential games with stochastic perturbation associated with non adapted solutions

### Lunch

#### 15:30-16:30 Chairman: George Haiman

15:30–16:00	Roxana Ciumara	On empirical Bayes estimators under some types of loss func- tion
16:00-16:30	Tiberiu Postelinicu	Connections between possibility theory and mathematical statistics

#### Coffee

#### 16:45-17:45 Chairman: Cristian Preda

16:45-16:55	Alexandra Colojoară	On the Wold decomposition of some periodical stochastic pro-
		cesses
17:15-17:45	Ana-Maria Staicu	Small sample inference for cohort and case control studies

# Tuesday, July $3^{\rm rd}$ , 2007

### ${\bf Special\ Session}: {\sf Advanced\ Mathematical\ Methods\ for\ Finance}$

Chairman:	Constantin	Varsan
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09:00-09:45 10:00-10:45	Lucia Caramellino Vlad Bally	Large deviations estimates of the crossing probability for small time and applications to Monte Carlo Methods in finance Malliavin calculus for locally smooth law and applications to jump type diffusions
		Coffee
11:15–12:00 12:15–13:00 13:15–14:00	Florin Rădulescu Mircea Nica Cristian Sima	Notes on free probability Option evaluation formulas for some classes of Levy processes $t.b.a.$
		Lunch
15:30-16:00	Marinela Marinescu	A global variational principle associated with gradient stochatic control systems
16:00-16:30	Pavel Farcaş	Istochastic models in risk evaluation for financial portofolio options
		$\operatorname{Coffee}$
17:00-17:30	Oana Mocioalcă	Regularity of solutions of the heat equation driven by irregular Gaussian processes
17:40-18:00	Nadia Bonchi s	Dependence of the optimal capital stock and consumption evolution on the consumers growth rate in the framework of Ramsey model on finite horizon
18:00-18:20	Cristinca Fulga	Multistage portofolio optimization

# Section 6: Mechanics and Applied Mathematics

### Friday, June 29th, 2007

09:00-10:45 Chairwoman: Sanda Cleja-Ţigoiu

09:00–09:45 Nicolaie D. Cristes	u Dynamic plasticity	
10:00-10:45 Cristian Teodosiu	Dislocation-Based Constituitve Modelling at Large P. Strains	lastic

#### Coffee

#### 11:15-13:00 Chairman: Nicolaie D. Cristescu

11:15-12:00	Gerard A. Maugin	From Mathematical Physics to Mechanical Engineering
12:15-13:00	Dorin Ieşan	Thermal stresses in inhomogeneous porous elastic cylinders

### Lunch

#### 15:30-16:00 Chairman: Gerard A. Maugin

15:30-16:00	Sanda Cleja-Ţigoiu	Finite elastoplasticity with continuously distributed disloca-
		tions

#### Coffee

#### 16:30-18:30 Chairpersons: Veturia Chiroiu and Cristian Teodosiu

16:30–17:00	Oana Cazacu	On modeling plastic anisotropy and strength differential effects in hexagonal metals
17:00-17:30	Marius Cocou	A variational analysis of a contact interaction problem in viscoelasticity
17:30-18:00	Cristian Făciu	Impact-induced adiabatic wave structure in phase transforming materials

18:00-18:30 Liviu Marin

A boundary element iterative algorithm for the temperature reconstruction in piecewise smooth domains from incomplete boundary data

### Saturday, June 30th, 2007

09:00-10:45 Chairman: Horia I. Ene

09:00-09:45	H. T. Banks	Phenomenological to molecular modelling of hysteresis in vis-
		coelastic polymers: elastomers to biotissue
10:00-10:45	Doina Ciorănescu	Homogenization of constrained integral energies by the un-

folding method

#### Coffee

#### 11:15-13:00 Chairwoman: Doina Ciorănescu

11:15-12:00	Florin Diacu	Saari's conjecture of the $n$ -body problem
12:15-13:00	Eugen Grebenikov	Singular elliptic systems of Gierer-Meinhardt type

### Lunch

#### 15:30-16:00 Chairman: H. T. Banks

15:30-16:00	Dan Polişevschi	Homogenization of the thermal flows with first-order jur	np
		interfaces	

#### Coffee

#### 16:30-19:00 Chairpersons: Ruxandra Stavre and Dan Polişevschi

16:30–17:00 17:00–17:30	Gelu Paşa Claudia Timofte	Stability results for multi-layer Hele-Shaw flow Upscaling in diffusion problems in domains with semipermeable boundaries
17:30–18:00	Romulus Militaru	On the modeling of the high Reynolds' number fluid flows by multiple scales method
18:00-18:30	Teodor Groşan	Heat transfer in assymetric stagnation flow an a thin cylinder
18:30-19:00	Mirela Kohr	Boundary integral equations for a three-dimensional Brinkman flow problem

### Monday, July 2<sup>nd</sup>, 2007

#### 09:00-10:45 Chairman: Dorin Ieşan

09:00-09:45	Mircea Sofonea	Recent advances in contact mechanics: modelling and varia-
		tional analysis of the models
10:00-10:45	Meir Shillor	Mathematical models for material damage

#### Coffee

#### 11:15-13:15 Chairman: Mircea Sofonea

11:15-12:00	Ioan R. Ionescu	Compressible rigid-visco-plastic fluids: mathematical and numerical challenges
12:15-12:45	Delia Ionescu-Kruse	Variational derivation of the Camassa-Holm shallow water equation
12:45-13:15	Iuliana Oprea	Dynamics ad bifurcation of waves in the electroconvection of nematic liquid crystals

### Lunch

#### 15:30-16:15 Chairman: Meir Shillor

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15:30–16:15 <b>Izu Vaisman</b> Weak	Hamiltonian	dynamical system	IS

#### Coffee

#### 16:30-18:30 Chairpersons: Claudia Timofte and Ioan R. Ionescu

16:30–17:00	Gheorghe Barbu	The Bayesian approach in computer simulation of a system reliability
17:00-17:30	Florin Bobaru	Adaptive refinement in the peridynamics for multiscale material models
17:30-18:00	Adrian Carabineanu	A numerical method of $2D$ flow around a flapping airfoil
18:00-18:30	Mira-Cristina Anisiu	3D Inverse problem of dynamics

### Tuesday, July $3^{\rm rd}$ , 2007

#### 09:00-11:00 Chairpersons: Florin Diacu and Eugen Grebenikov

09:00-09:30	Tiberiu Oproiu	On the motion of artifiacial satellites in a resisting medium
09:30-10:00	Mihai Popescu	Sufficient optimality condition in orbital rendez-vous problems
10:00-10:30	Rodica Roman	Close binary stellar systems. Consideration on the constants of stellar structure
10:30-11:00	Mihai Bărbosu	An inequality in the phase space of the planar three body problem

#### Coffee

#### 11:15-13:05 Chairwoman: Oana Cazacu

11:15-11:45	Vasile Mioc	Solar prominence models tackled via the theory of dynamical systems
11:45-12:15	George Purcaru	Are the earthquakes predictable?
12:15-12:45	Veturia Chiroiu	Deformation of carbon nanotubes by surface van der Waals forces
12:45-13:05	Mihaela Arsene	Some theoretically aspects of the inverse problem in seismic modelation

### Lunch

#### 15:30-16:00 Chairman: Constantin Fetecău

#### Coffee

#### 16:30-19:00 Chairpersons: Mirela Kohr and Cristian Făciu

16:30-17:00	Constantin Fetecău	Energetic balance for the Reyleigh-Stokes problem of an Oldroyd-B fluid
17:00-17:30	Victor Ţigoiu	Non-standard properties in some classes of non-Newtonian fluids
17:30-18:00	Şerban Rareş Pop	Free convection in a porous cavity with temperature dependent viscosity and radiation effects

18:00–18:30 Elena Carcadea Theoretical aspects regarding the fluid dynamics in the cata-

lyst layer of a PEM fuel cell

18:30–19:00 Valentin Butoescu A vortex model of a helicopter rotor

### Wednesday, July 4<sup>th</sup>, 2007

#### 09:00-11:00 Chairpersons: Marius Cocou and Mihai Popescu

09:00-09:30	Marcel Migdalovici	About integrability of unbound functions in the mechanical modeling
09:30-10:00	Anca Căpăţînă	On a class of abstract implicit evolution variational inequalities
10:00-10:30	Liliana Brăescu	The effect of the buoyancy and Marangoni forces on the dopant distribution in the case of a single crystal rod grown from the melt by the edge-defined film-fed growth $(EFG)$ method
10:30-11:00	Loredana Smaranda	Bloch waves homogenization of a Dirichlet problem in a periodically perforated domain

#### Coffee

#### 11:30-13:00 Chairpersons: Izu Vaisman and Victor Ţigoiu

11:30-12:00	Dorin Wainberg	Geometric prequantization of a generalized mechanical system
12:00-12:30	Carmen Rocşoreanu	Hopf bifurcation for coupled identical dynamical systems. Ap-
		plications
12:30-13:00	Mircea Cazacu	On the travelling wave motion

### Lunch

#### 15:30-16:00 Chairman: Gelu Paşa

15:30–16:00 Horia Dumitrescu Dynamical stall modelling of airfoils and comparison with experiments

#### Coffee

#### 16:30-18:00 Chairman: Adrian Carabineanu

16:30–17:00	Simona Roatesi	Mathematical modeling of coupled chemical-mechanical interactions for shale
17:00-17:30	A. K. Haghi	A Langrangian for deflection of Rhombic Plate
17:30–18:00	Richard Selescu	An intrinsic study on a certain flow of an inviscid compressible fluid, with extension to some cases in magneto-plasma dynamics

# Section 7: Theoretical Computer Science, Operations Research and Mathematical Programming

### Monday, July 2<sup>nd</sup>, 2007

09:00-10:45 Chairman: Ioan M. Stancu-Minasian

09:00-09:45	Irinel Drăgan	On the coalitional rationality of semivalues of cooperative transferable utility n-person games
10:00-10:45	Radu Ioan Boţ	Closedness type regularity conditions in convex optimization
		${f Coffee}$
	11:15-12:	:45 Chairman: Irinel Drăgan

11:15-11:45	Sebastian Cioaba	Finding your perfect matching with eigenvalues
11:45-12:15	Liliana Cucu	Real-time muliprocessor scheduling: feasibility issues
12:15-12:45	Cristinca Fulga	Penality-based decentralized methods for multiobjective op-
		timization

### Lunch

15:30–17:45 Chairman: Radu Ioan Boţ		
15:30-16:15	Alexandra Tkacenko	Time-constraining multiobjective fractional transportation problem
${f Coffee}$		
16:45–17:15	Ioan M. Stancu-Minasian	Duality for multiobjective nonlinear fractional programming problems involving generalized d-type-I n-set functions
17:15–17:45	Valeriu Ungureanu	Equilibrium principles for Pareto-Nash-Stackelberg games

#### 17:45-19:15 Chairman: Alexandra Tkacenko

17:45-18:15	Gheorghe Dogaru	Fuzzy integer transportation problem
18:15-18:45	Ştefan Mititelu	Topics in invexity theory
18:45-19:15	Vlad Şerban	The non-anticipation of the asynchronous systems
	Tueso	$\mathrm{lay,\ July\ 3^{rd},\ 2007}$
Special Ses	sion: Mathematical T	ruth and Provability in the 21st Century
09:00–10:45 Chairman: Solomon Marcus		
09:00-10:00	Douglas Bridges	Constructive reverse mathematics
10:15-10:45	Dragoş Vaida	Proof, explanation and example in the mathematical discourse of some Romanian mathematicians: Dan Barbilian and Grigore C. Moisil
		${f Coffee}$
	11:15–12:4	5 Chairman: Douglas Bridges
11:15-11:45	Ilie Pârvu	Mathematical proof and the argumentative structure of science
11:45-12:15	Cristian Calude	The halting problem and experimental mathematics
12:15-12:45	Doru Ştefănescu	Mathematical proofs and algorithms
		Lunch
15:30-17:45 Chairman: Cristian Calude		
15:30-16:15	Solomon Marcus	Proving and programming
${f Coffee}$		
16:45-17:15	Virgil Căzănescu	Foundation of the rewriting in an algebra
17:15-17:45	Gheorghe Ştefănescu	Tiling and Iteraction

#### 17:45-19:15 Chairman: Dragoş Vaida

17:45–18:15	Gabriel Istrate	Phase transitions in combinatorial optimization problems and computational complexity: towards rigorous connections
18:15–18:45	Cristian Kevorchian	A pragmatic overview of automated reasoning
18:45–19:15	Gabriel Ciobanu	Proof and deduction in dynamic interaction-based systems

### Wednesday, July $4^{\rm th}$ , 2007

09:15-10:45 Chairman: Virgil Căzănescu

09:15-09:45	Marius Buliga	Self-similar dilatation structures and automata
09:45-10:15	Marian Baroni	Towards a good constructive definition of order completeness
10:15-10:45	Mihaela Baroni	Modelling reticulate evolution

#### Coffee

#### 11:15-12:45 Chairman: Ioan Tomescu

11:15–11:45	Violeta Manevska	Relationship between vector valued semigroup automata and random processes
11:45–12:15	Eugen Mândrescu	On local maximum stable sets of the corona of a path with complete graphs
12:15-12:45	Laurenţiu Modan	Some remarks about random graphs

### Lunch

#### 15:30-18:45 Chairman: Ştefan Mititelu

15:30-16:00	Emil Moldoveanu	Semisupervised learning using Dirichlet spaces techniques
		Coffee
16:45-17:15	Olesia Groza	Performance characteristics of the queueing models in network technologies

17:15-17:45	Andrei Rusu	On functionally completeness problems in provability intuitionstic logic
	Maria Miroiu Alin Marian Rusu	Considerations on a boosting algorithm  Approximations for reconstruction problems
10.40-19.10	Virginia Atanasiu	More general credibility models

# Section 8: History and Philosophy of Mathematics

### Saturday, June 30th, 2007

#### 09:00-10:45 Chairman: Theodor Hanganu

09:00-09:45	Tudor Zamfirescu	Euler and the graph theory
10:00-10:45		The algorithms of Sister Celine and R.W. Gosper, Jr., for the
	Symeonidis	hypergeometric summation

#### Coffee

#### 11:15-12:45 Chairman: Tudor Zamfirescu

11:15–12:00	Mihaela Singer	Recent research in cognitive science and neuroscience: is it relevant to mathematics learning?
12:15-12:45	Dragoş Vaida	The beginning of computer science in Romania and the role of Professor Grigore C.Moisil

## Tuesday, July $3^{\rm rd}$ , 2007

09:00-11:45 Chairman: Eleutherius Symeonidis		
	Theodor Hanganu Doru Ştefănescu	Giovanni Poleni's curve, elastic curves and elastic strips Traian Lalescu and the birth of algebra in Romania
$\mathbf{Coffee}$		
11:15-11:45	Laurenţiu Modan	Professor Constantin Corduneanu, a life dedicated to Mathematics