

The Congress is organized by the Section of Mathematical Sciences of the Romanian Academy, the Faculty of Mathematics of the University of Bucharest, “Simion Stoilow” Institute of Mathematics of the Romanian Academy and the University of Pitești,

**under the Aegis of the Romanian Presidency,
with the support of
the Government of Romania.**

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1. Algebra, logic and number theory: Șerban Basarab, George Georgescu, Constantin Năstăsescu, Florian Pop, Dorin Popescu
2. Algebraic and complex geometry: Lucian Bădescu, Vasile Brînzănescu, Alexandru Buium
3. Differential geometry and topology: Dan Burghilea, Steriu Ianuș, Radu Miron, Henri Moscovici, Vasile Oproiu, Ștefan Papadima
4. Real and complex analysis, potential theory: Cabiria Andreian-Cazacu, Nicu Boboc, Ion Chițescu, Mihnea Colțoiu, Petru T. Mocanu, Constantin Niculescu
5. Ordinary and partial differential equations, dynamical systems: Constantin Corduneanu, Sergiu Klainerman, Toader Morozan, Vicențiu Rădulescu, Constantin Vărsan
6. Variational methods, optimal control and optimization: Viorel Barbu, George Dină, Ștefan Mirică
7. Functional analysis, operator theory: Romulus Cristescu, Nicolae Dinculeanu, Dumitru Gașpar, Nicolae Popa, Șerban Strătilă, Florian Horia Vasilescu
8. Probability, stochastic processes and mathematical statistics: Ioan Cuculescu, Monica Dumitrescu, Marius Iosifescu, Vasile Preda, Radu Theodorescu, Constantin Tudor
9. Numerical analysis and approximation theory: Gheorghe Micula, Dimitrie D. Stancu
10. Mathematical aspects of computer science: Toader Jucan, Gheorghe Păun, Ioan Tomescu, Ion Văduva
11. Mathematical programming and operations research: Wolfgang Breckner, Ioan Stancu-Minasian, Anton Ștefănescu
12. Mathematical modelling in natural and social sciences, mathematics and humanities: Gheorghe Barbu, Adelina Georgescu, Solomon Marcus, Gheorghe Opreșan
13. Mechanics and astronomy: Nicolae Cristescu, Lazăr Dragoș, Horia Ene, Ieronim Mihăilă, Magda Stavinschi, Nicolae Șandru
14. Mathematical physics: Sorin Ciulli, Viorel Iftimie, Gheorghe Nenciu, Radu Purice, Kostache Teleman
15. History and philosophy of mathematics, mathematics education: Solomon Marcus, Laurențiu Panaitopol, Paul Radovici-Mărculescu.

The sections are grouped as follows:

- **Sections 1, 2 and 3:**
Algebra, Algebraic, Complex and Differential Geometry and Topology;
- **Section 4:**
Real and Complex Analysis, Potential Theory;
- **Sections 5, 6 and 14:**
Ordinary and Partial Differential Equations, Variational Methods, Optimal Control and Mathematical Physics;
- **Sections 7 and 9:**
Functional Analysis, Operator Theory and Numerical Analysis;
- **Sections 8, 10 and 11:**
Probability, Mathematical Statistics, Computer Science, Mathematical Programming and Operation Research;
- **Sections 12, 13 and 15:**
Mechanics, Applied Mathematics and History of Mathematics.

Acknowledgement

The Organizing Committee acknowledges with appreciation support from:

The Government of Romania

The Ministry of Education and Research

The Ministry of Public Information

Fundația Familiei Menachem H. Elias

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”Simion Stoilow” Institute of Mathematics of the Romanian Academy acknowledges the support of the **CERES Program** of the Romanian Ministry of Education and Research, contracts no. 152 and 153/2001, CE 4, 38 and 39/2002.

P R O G R A M

Monday, June 23rd, 2003

09:30–11:00

OPENING CEREMONY

Opening address: ROMULUS CRISTESCU,
President of the Organizing Committee

Message of the President of Romania,
MR. ION ILIESCU

Message of the Prime Minister of
Romania, MR. ADRIAN NĂSTASE

Message of the President of the Romanian
Academy, MR. EUGEN SIMION

Welcome message: GHEORGHE BARBU,
Rector of the University of Pitești

Other messages

Coffee

11:30–12:15 SOLOMON MARCUS

Mathematics in Romania in the last 60 years

12:15–13:00

SYMPHONIC PROGRAM – Miniconcert

Lunch

Sections 1, 2 and 3: Algebra, Algebraic, Complex and Differential Geometry and Topology

14:30–16:40 Chairman: **Vasile Brînzănescu**

14:30–15:15 DAN BURGHELEA

Laplace transform from topology to spectral geometry

15:20–16:05 MIHNEA COLȚOIU

On the coverings of the complement of a point in a normal Stein space of dimension 2

16:10–16:40 TUDOR ZAMFIRESCU

A trip on a convex surface

Sections 7 and 9: Functional Analysis, Operator Theory and Numerical Analysis

14:30–15:40 Chairman: **Francesco Altomare**

14:30–15:15 HEINZ GONSKA

A survey on some results for Bernstein-type operators

15:20–15:40 NICOLAE POPA Some problems in harmonic analysis for matrices

Section 4: Real and Complex Analysis, Potential Theory

14:30–16:30 Chairman: **Sanford Miller**

14:30–15:15 OLLI MARTIO Potential Theory of quasiminimizers
15:20–15:50 CORNEL UDREA On generalized Laplace equation and nonlinear operators
15:50–16:10 EUGEN POPA Semidynamical systems on ordered convex cones
16:10–16:30 DANIEL BREAZ On univalent integral operator

Sections 5, 6 and 14: Ordinary and Partial Differential Equations, Variational Methods, Optimal Control and Mathematical Physics

14:30–16:35 Chairman: **Irena Lasiecka**

14:30–15:15 HATVANI LASLO Stability properties of second order linear differential equations with random coefficients
15:20–15:50 DAN SOCOLESCU On the unique solvability and the convergence at infinity to the prescribed value of the Leray solution to the two-dimensional stationary Navier-Stokes equations
15:50–16:20 NICOLAE JIȚĂRAȘU On the Sobolev boundary value problem with regular and singular boundary conditions for elliptic equations

Sections 8,10 and 11: Probability, Mathematical Statistics, Computer Science, Mathematical Programming and Operation Research

14:30–16:15 Chairman: **I.M. Stancu-Minasian**

14:30–15:15 DUMITRU LOZOVANU Algorithms for determining the optimal strategies in dynamic games
15:15–15:45 ȘTEFAN MITITELU Invex functions: invexity conditions and properties
15:45–16:15 DUMITRU SOLOMON Algorithms for solving polynomial fractional programming problems

Sections 12, 13 and 15: Mechanics, Applied Mathematics and History of Mathematics

15:00–16:30 Chairman: **Mihaela Suliciu**

15:00–15:45	ENRIQUE SANCHEZ-PALENCIA	Singular perturbations with unbounded energy and applications to thin shell theory
15:45–16:30	NICOLAE CRISTESCU	A model for slow motions of natural slopes

Coffee

Sections 1, 2 and 3: Algebra, Algebraic, Complex and Differential Geometry and Topology

17:00–19:10 Chairman: **Dan Burghelea**

17:00–17:30	MITROFAN CIOBANU	Mappings and Prokhorov spaces
17:35–17:55	RADU MIRON	The Geometries of Lagrange and Hamilton Spaces
18:00–18:30	MEFODIE RAȚĂ	Conditions for the functional completeness in the simplest extensions of dual intuitionistic logic
18:30–18:50	ION MIHAI	Geometric inequalities for warped product submanifolds
18:50–19:10	MIHAI STAIC	Hopf Algebras and Knot Theory

Section 4: Real and Complex Analysis, Potential Theory

17:00–19:05 Chairman: **Olli Martio**

17:00–17:30	DAN TIMOTIN	Almost orthonormal sequences in certain function spaces
17:35–17:55	NICU BOBOC	On the strongly supermedian functions and kernels
18:00–18:20	EMIL POPESCU	Some Dirichlet forms generated by PD-operators
18:25–18:45	VALERIU ANISIU	p -subdifferentiability and generic differentiability of convex functions
18:45–19:05	CONSTANTIN NICULESCU	The wonderful world of convexity

Sections 5, 6 and 14: Ordinary and Partial Differential Equations, Variational Methods, Optimal Control and Mathematical Physics

17:00–18:40 Chairman: **Constantin Corduneanu**

17:00–17:30	DAN PASCALI	On hyperbolic A -properness in Banach spaces
17:35–18:05	VASILE POSTOLICA	Recent results on pareto efficiency and related topics
18:10–18:40	PETRE JEBELEAN	Nontrivial solutions for a class of nonsmooth inequality problems

Sections 8, 10 and 11: Probability, Mathematical Statistics, Computer Science, Mathematical Programming and Operation Research

17:00–19:00 Chairman: **Ștefan Mititelu**

17:00–17:20	ANTON BĂTĂTORESCU	Optimality and Duality for a Nondifferentiable class of Minimax Fractional Programming
17:20–17:40	ANATOL GODONOAGA	Stochastic algorithms for solving optimization problems
17:40–18:00	BOGDANA POP	A method of solving fully fuzzified linear fractional programming problems
18:00–18:20	CRISTIAN NICULESCU	Optimality conditions and duality for multiobjective fractional programming problems involving n -arcwise connected and related functions
18:20–18:40	ALEXANDRA TKACENKO	The multiobjective linear fractional programming model
18:40–19:00	I.M. STANCU-MINASIAN	Efficiency and proper efficiency in multiobjective stochastic programming

Sections 12, 13 and 15: Mechanics, Applied Mathematics and History of Mathematics

17:00–18:30 Chairman: **Mihaela Suliciu**

17:00–17:30	MIRCEA CAZACU	DIMITRIE	On the boundary conditions in three-dimensional viscous fluid flows
17:30–17:50	MIRA ANISIU		Advances in the inverse problem of dynamics
17:50–18:10	RICHARD SELESCU		The supersonic flow around a Rogallo conical thin delta wing with two-semicircular directrix
18:10–18:30	SILVIU SBURLAN		Steady state flow as a bifurcation problem

**20:00 COCKTEIL offered by the Rector of the University of Pitești
(University House)**

Tuesday, June 24th, 2003

Sections 1,2 and 3: Algebra, Algebraic, Complex and Differential Geometry and Topology

09:00–12:00 Chairman: **Alexandru Buium**

09:00–09:45 ȘTEFAN PAPADIMA Topology of open algebraic varieties
10:00–10:45 PREDĂ MIHĂILESCU Zooming into Catalan's conjecture

Coffee

11:15–12:00 ANDREI IORDAN Non existence of smooth Levi-flat hypersurfaces in the complex projective space

Sections 7 and 9: Functional Analysis, Operator Theory and Numerical Analysis

09:00–10:45 Chairman: **Romulus Cristescu**

09:00–09:45 FRANCESCO ALTOMARE Affine projections on adapted subalgebras
10:00–10:45 LÁSZLÓ ZSIDÓ Non-commutative multiple recurrence theorems

Coffee

11:15–12:35 Chairman: **László Zsidó**

11:15–11:35 MIHAI VOICU A special class of semigroups
11:35–11:55 LILIANA PAVEL Ergodic sequences of probability measures on commutative hypergroups
11:55–12:15 RODICA DĂNEȚ Extensions of positive linear operators
12:15–12:35 GAVRIL PĂLTINEANU A generalization of the Nachbin's density theorem for weighted spaces

Section 4: Real and Complex Analysis, Potential Theory

09:00–12:00 Chairman: **Petru T. Mocanu**

09:00–09:45 CAMIL MUSCALU Generalization of the Carleson-Hunt theorem in classical analysis

10:00–10:45 SANFORD MILLER Differential superordinations

Coffee

11:15–12:00 RICHARD FOURNIER Differential Inequalities and Starlikeness

Sections 5, 6 and 14: Ordinary and Partial Differential Equations, Variational Methods, Optimal Control and Mathematical Physics

09:00–10:45 Chairman: **Viorel Barbu**

09:00–09:45 IRENA LASIECKA Finite dimensionality of attractors in hyperbolic dynamical systems with a nonlinear boundary dissipation

10:00–10:45 BOGDAN BOJARSKI Generalized Riemann-Hilbert transmission problem-Analysis and Geometry

Coffee

11:15–12:50 Chairman: **Viorel Barbu**

11:15–12:00 ROBERTO TRIGGIANI Stabilization of Navier-Stokes Equations

12:05–12:50 DOINA CIORĂNESCU On the Stokes problem by periodic unfolding method

Sections 8, 10 and 11: Probability, Mathematical Statistics, Computer Science, Mathematical Programming and Operation Research

09:00–10:30 Chairman: **Marius Iosifescu**

09:00–09:45 RADU THEODORESCU Preserving unimodality by mixing

09:45–10:30 PAUL DEHEUVELS Karhunen-Loewe Expansions for weighted Wiener processes and Brownian Bridges via Bessel Functions

Coffee

11:15–12:35 Chairman: **Radu Theodorescu**

11:15–11:45	AUREL SPĂTARU	Strengthening classical results concerning large, moderate and small deviations
11:45–12:15	GHEORGHITĂ ZBĂGANU	A family of inequalities generating positive nuclei
12:15–12:35	FABIAN TODOR	A probability interpretation for the Zeta function of Riemann and some technical regularization for spectral representation

Sections 12, 13 and 15: Mechanics, Applied Mathematics and History of Mathematics

09:00–12:35 Chairman: **Adelina Georgescu**

09:00–09:20	GHEORGHE BARBU	An algorithm for determining the structure function of a coherent system
09:20–09:40	MARIAN BARONI	On the constructive existence of a utility function
09:40–10:00	RADU BURLACU	Numerical solution of an optimal control problem in mathematical biology
10:00–10:20	MIHAELA BARONI	Hybrid Phylogenies
10:20–10:40	GABRIEL CIOBANU	Molecular networks: from a formal description to a software tool

Coffee

11:15–11:35	DUMITRU ENE	A model and program for optimal allocation of resources in agriculture
11:35–11:55	ION MIERLUȘ-MAZILU	Simulation used to estimate the structural reliability
11:55–12:15	ILIE MITRAN	About the optimal times and replacement policies in operation safety
12:15–12:35	ANCA BARBU	Aspects regarding the shaping of regional polarization

Lunch

Sections 1, 2 and 3: Algebra, Algebraic, Complex and Differential Geometry and Topology

14:45–16:30 Chairman: **Florian Pop**

14:30–15:15	ALEXANDRU BUTIUM	Differential orbit spaces and uniformization
15:20–16:05	MARIAN APRODU	Syzygies and geometry of projective curves
16:10–16:30	FLORIN DAMIAN	On lens polytopes and hyperbolic manifolds

Sections 7 and 9: Functional Analysis, Operator Theory and Numerical Analysis

15:30–16:30 Chairman: **Ioan Raşa**

15:30–16:00	IOAN RUS	Weakly Picard operators on L -spaces and applications
16:00–16:30	GHEORGHE BUCUR	Compactness in $\mathcal{M}_+(X, \mathcal{B})$

Section 4: Real and Complex Analysis, Potential Theory

14:45–16:30 Chairman: **Nicu Boboc**

14:45–15:30	ADAM LECKO	Univalent functions starlike with respect to a boundary point
15:35–16:05	NATALIA ZORII	Equilibrium problems for potentials with external fields
16:10–16:30	EMIL MOLDOVEANU	Analysis on space of trajectories

Sections 5, 6 and 14: Ordinary and Partial Differential Equations, Variational Methods, Optimal Control and Mathematical Physics

14:30–16:30 Chairman: **Dan Socolescu**

14:30–14:50	ŞTEFAN RADNEF	Structural Stable Solutions of Differential Algebraic Equations
14:50–15:10	IURIE CĂLIN	Invariant conditions for a symmetry center existence for planar cubic differential systems
15:10–15:30	DANIEL PAŞCA	Periodic solutions of second order differential inclusions
15:30–15:50	ABDES-SAMED BERNOUSSI	Spreadability and vulnerability of distributed parameters systems
15:50–16:10	DANA SCHLOMIUK	On the global theory of planar quadratic vector fields
16:10–16:30	ALEXANDER PROKOPENYA	Equilibrium solutions in the restricted many-body problems and their stability

Sections 8, 10 and 11: Probability, Mathematical Statistics, Computer Science, Mathematical Programming and Operation Research

14:30–16:30 Chairman: **Tiberiu Postelnicu**

14:30–14:50	NICOLETA BREAZ	Some new statistical tests about the linear regression model
14:50–15:10	DUMITRU ENE	Generalized direct product Error-Correcting Codes
15:10–15:30	HANNELORE LISEI	Stochastic dispersion models
15:30–15:50	JEANA-ALICE VĂTĂMĂNELU	The total variation form of the dominated convergence theorem
15:50–16:10	JESUS LOPEZ-FIDALGO	Optimal designs for the Arrhenius model
16:10–16:30	CAMELIA TRANDAFIR	Optimal designs for an extension to Michaelis-Menten model

Sections 12, 13 and 15: Mechanics, Applied Mathematics and History of Mathematics

15:00–16:30 Chairman: **E. Sanchez-Palencia**

15:00–15:45	HORIA ENE	Model of diffusion in partially fissured media
15:45–16:30	CRISTIAN FĂCIU	On modelling thermo-mechanical interactions accompanying reversible phase transformations

Coffee

Sections 1, 2 and 3: Algebra, Algebraic, Complex and Differential Geometry and Topology

17:00–19:20 Chairman: **Henri Moscovici**

17:00–17:30	MIRCEA MARTIN	Integral and Maximal Operators in Spin Geometry
17:40–18:10	STERE IANUȘ	Harmonic maps and geometric Structures on Manifolds
18:10–18:40	PHILIPPE CIARLET	Continuité d'une surface en fonction de ses 2 formes fondamentales
18:40–19:00	NICOLAE BONCIOCAT	Upper bounds for the number of factors for a class of polynomials with rational coefficients
19:00–19:20	GHIOCCEL GROZA	On the ring of Newton interpolating series

Sections 7 and 9: Functional Analysis, Operator Theory and Numerical Analysis

17:00–18:00 Chairman: **Constantin Niculescu**

17:00–17:20	NICOLAE DĂNEȚ	Hahn-Banach extension theorem and the Riesz decomposition property for the space of regular operators
17:20–17:40	ILEANA BUCUR	Interpolation in linear ordered spaces
17:40–18:00	OCTAV OLTEANU	A new geometric aspect of the implicit function principle and some applications of the Newton's method for convex operators

Section 4: Real and Complex Analysis, Potential Theory

17:00–18:45 Chairman: **Richard Fournier**

17:00–17:30	MIKA KOSKENOJA	Variable exponent Sobolev spaces with zero boundary values
17:35–17:55	MARCELINA MOCANU	Quasiminimizers and quasiconformal maps in metric measure spaces
18:00–18:20	MIHAELA NEGREA	A simple proof of the theorem of Lebesgue of Riemann integrability of the vector functions of real variable
18:25–18:45	FLORIN POPOVICI	A general Riemann-type integration theory including the Bochner integral

Sections 5, 6 and 14: Ordinary and Partial Differential Equations, Variational Methods, Optimal Control and Mathematical Physics

17:00–18:40 Chairman: **Bogdan Nicolescu**

17:00–17:20	MIHAI MEGAN	Concepts of exponential expansiveness for linear skew-product semiflows
17:20–17:40	MARIAN GIDEA	Topological mechanism for Arnold diffusion
17:40–18:00	AGNIESZKA SILUSZYK	The existence of equilibrium positions of differential equations of many bodies asymmetric problem
18:00–18:20	MIROSLAW JAKUBIAK	Application of computer algebra in restricted problems of cosmic dynamics
18:20–18:40	NARCISA APREUTESEI	On the continuous dependence on data for a class of evolution equations

Sections 8, 10 and 11: Probability, Mathematical Statistics, Computer Science,
Mathematical Programming and Operation Research

17:00–18:00 POSTER SESSION:

ADRIANA BERECHET	Ergodic behaviour of higher order derivatives of certain Perron-Frobenius operators
ALINA CONSTANTINESCU	Fuzzy partitions in data classification
LIVIU DRAGOMIRESCU	A new conception about numerical taxonomy applied in natural sciences
ELENA-NOLICA DRUICĂ	Unimodal functions and the comassability of the transitionmatrix attached to EA
MARIA MIROIU	On the statistical models applied to image restoration
CONSTANTIN MIROIU	A human detection system based on neural networks
ROMEO NEGREA	On a global convergence of successive approximations for stochastic differential equations
EUGENIA PANAITESCU	Algorithm for the generalized secvential Wald test
TIBERIU POSTELNICU	ML estimators in an epidemic model
ROMICA TRANDAFIR	Reliability of structural systems
EMILIANA URSIANU	Fractal sets applied to the diagnosis of malignant tumor

18:00–19:20 Chairman: **Gheorghită Zbăganu**

18:00–18:20	COSTEL BALCĂU	On maximum entropy distributions of nonnegative random variables with conditional-additive structure
18:20–18:40	GHEORGHE CONSTANTIN	On a class of stochastic differential equations
18:40–19:00	ION MIHOC	Effect of truncation on the exponential families of distributions
19:00–19:20	GEORGE-CRISTIAN URECHE	On some composite models

Sections 12, 13 and 15: Mechanics, Applied Mathematics and History of Mathematics

17:00–19:00 Chairman: **Enrique Sanchez-Palencia**

17:00–17:20	RUXANDRA STAVRE	Optimal control of nonstationary, three dimensional micropolar flows
17:20–17:40	ANTONELA TOMA	The generalized equations in the distributions space $D'(\mathbb{R}^2)$ of the transversal vibrations of the elastic rods with finite length and constant cross-section
17:40–18:00	DELIA-CLAUDIA COSTEA	TBA
18:00–18:20	CLAUDIA TIMOFTE	Homogenization results for Signorini's type problem
18:20–18:40	MIRCEA LUPU	A constructive theory of optimization airfoils for streamline flows
18:40–19:00	HORIA DUMITRESCU	Flow prediction in a blower casing

Wednesday, June 25th, 2003

Sections 1, 2 and 3: Algebra, Algebraic, Complex and Differential Geometry and Topology

09:00–12:00 Chairman: **Ștefan Papadima**

09:00–09:45	HENRI MOSCOVICI	Transverse Geometries and Modular Correspondences
10:00–10:45	ALEXANDRU SUCIU	Systolic inequalities and Massey products

Coffee

11:15–12:00	NICOLAE MANOLACHE	Multiple Structures
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Sections 7 and 9: Functional Analysis, Operator Theory and Numerical Analysis

09:00–10:30 Chairman: **Nicolae Popa**

09:00–09:45	LIOR TZAFRIRI	TBA
10:00–10:30	RICHARD FOURNIER	New results concerning an inequality of Bernstein

Coffee

11:15–12:15 Chairman: **Șerban Strătilă**

11:15–11:35	VASILE NEAGU	On the regularization of singular integral operators
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11:35–11:55 ELENA–CRISTINA STAMATE Vector subdifferentials

Section 4: Real and Complex Analysis, Potential Theory

09:00–12:20 Chairman: **Cabiria Andreian-Cazacu**

09:00–09:45 MIODRAG MATELJEVICI Harmonic mappings, trajectory structure and related problems
10:00–10:45 CHUNG-CHUN YANG Value distribution theory and its application to differential and functional equations

Coffee

11:15–12:00 DORIN GHIŞA Dianalytic dynamics and harmonic measure
12:00–12:20 DOUGLAS S. BRIDGES Apartness spaces and constructive topology

Sections 5, 6 and 14: Ordinary and Partial Differential Equations, Variational Methods, Optimal Control and Mathematical Physics

09:00–10:50 Chairman: **Vicenţiu Rădulescu**

09:00–09:45 DANIEL TĂTARU Nonlinear wave equations
10:00–10:30 EUGEN GREBENIKOV Integrability problem of hamiltonian differential equations
10:30–10:50 VASILE GLĂVAN Shadowing in set-valued dynamics

Coffee

11:15–12:30 Chairman: **Vasile Postolica**

11:15–12:00 ŞTEFAN MIRICĂ New concepts and results in the theory of differential games
12:00–12:30 AURELIAN CERNEA Maximum principle, dynamic programming and their relationship under state constraints

Sections 8, 10 and 11: Probability, Mathematical Statistics, Computer Science, Mathematical Programming and Operation Research

09:00–10:30 Chairman: **Ion Văduva**

09:00–09:45	LUMINIȚA STATE	Applications of PCA in image compression
09:45–10:30	IOAN TOMESCU	Almost all graphs and h -hypergraphs have small diameter

Coffee

11:00–12:50 Chairman: **Ioan Tomescu**

11:00–11:30	ION VĂDUVA	Simulation of some multivariate distributions
11:30–12:00	TUDOR BĂLĂNESCU	Formal specification, formal verification
12:00–12:30	FLORENTIN IPATE	Testing based on machine specification
12:30–12:50	LAURENȚIU MODAN	Some new aspects for random graphs

Sections 12, 13 and 15: Mechanics, Applied Mathematics and History of Mathematics

09:00–12:15 Chairman: **Nicolae Cristescu**

09:00–09:45	IOAN POP	Modelling industrial fluid mechanics and heat transfer problems
09:45–10:30	VETURIA CHIROIU	The solitonic behaviour of some nonlinear wave equations
10:30–10:50	MIHAI POPESCU	Functional analysis method in optimizing orbital rendez-vous

Coffee

11:15–11:35	TEODOR GROSAN	Conjugate heat transfer problems in porous media
11:35–11:55	GELU PAȘA	Improvement of the Hele-Shaw instability
11:55–12:15	WILHELM KECS	The study of the vibration's equations of viscoelastic rods with differential type constitutive law

Lunch

Sections 1, 2 and 3: Algebra, Algebraic, Complex and Differential Geometry and Topology

14:30–17:20 Chairman: **Șerban Basarab**

14:30–15:15	FLORIAN POP	New perspectives in the birational anabelian geometry
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15:30–16:00	CRISTIAN COBELI	Pair Correlation distribution for the Farey sequence
16:10–16:30	MIRELA ȘTEFĂNESCU	Homology of near-rings

Sections 7 and 9: Functional Analysis, Operator Theory and Numerical Analysis

14:30–16:30 Chairman: **Ioan Rus**

14:30–15:00	NICOLAE DINCULEANU	Stochastic integration in Banach spaces
15:00–15:30	GHEORGHE MICULA	A variational approach to spline functions theory
15:30–15:50	IOAN RAȘA	Altomare projection and related objects
15:50–16:10	VASILE BERINDE	Error estimates and weak stability of point iteration procedures
16:10–16:30	EMIL CĂȚINAȘ	The successive approximations and the Newton type iterations: connections, characterizing the convergence order in presence of perturbations

Section 4: Real and Complex Analysis, Potential Theory

14:45–16:30 Chairman: **Adam Lecko**

14:45–15:15	ELENA POPOVICIU	On the concept of allure
15:15–15:35	ION CHIȚESCU	Computational procedures for generating fractals
15:40–16:10	PIOTR DOVBUSH	Extension properties of X-normal maps
16:10–16:30	NATALIA GASHITSOI	Extension properties of B-normal maps

Sections 5, 6 and 14: Ordinary and Partial Differential Equations, Variational Methods, Optimal Control and Mathematical Physics

14:30–16:30 Chairman: **Radu Purice**

14:30–15:00	DIMITRI YAFAEV	High-energy and smoothness asymptotic expansion of the scattering amplitude
15:00–15:30	GHEORGHE NENCIU	Almost invariant subspaces for quantum evolutions
15:30–16:00	MARIUS MĂNTOIU	The Weil calculus in a magnetic field
16:00–16:30	HORIA CORNEAN	Do bosons condense in a homogeneous magnetic field?

Sections 8, 10 and 11: Probability, Mathematical Statistics, Computer Science, Mathematical Programming and Operation Research

14:30–16:30 Chairman: **Luminița State**

14:30–14:50	ELENA BOIAN	VPNP simulation of genes switching regulation process
14:50–15:10	COCAN MOISE	A comparison between the Randic weight of a connected graph and the graph connection power
15:10–15:30	CĂTĂLINA-LUCIA COCIANU	A wavelet based approach in image restoration
15:30–15:50	CRISTIAN KEVORCHIAN	A q -analyze approach of membrane computing
15:50–16:10	SORIN DEMETRIU	Reliability-based structural optimization
16:10–16:30	EUGEN MANDRESCU	Are the independence polynomials of trees unimodal?

Sections 12, 13 and 15: Mechanics, Applied Mathematics and History of Mathematics

14:45–16:30 Chairman: **Laurențiu Panaitopol**

14:30–14:50	RĂZVAN RĂDUCANU	Over the evolution of the fundamental ideas of fracture mechanics
14:50–15:10	GEORGE PURCARU	On the interaction of philosophy with mathematics: truth, laws and prediction
15:10–15:30	ANDREI VERNESCU	Some abilities in elementary mathematics
15:30–15:50	OLIMPIA POPESCU	About the history of Mathematical Gazette
15:50–16:10	ANGHEL DAFINA	Contribuții asupra locurilor geometrice
16:10–16:30	MIHAELA SINGER	A constructivist perspective on curriculum development: How to foster understanding?

Coffee

Sections 1, 2 and 3: Algebra, Algebraic, Complex and Differential Geometry and Topology

17:00–17:20	AFRODITA IORGULESCU	New generalizations of BL-algebras
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17:20–19:00 POSTER SESSION

CĂLIN AGUT	Submanifolds of contact metric manifolds
NICOLETA ALDEA	TBA
VLADIMIR BALAN	Lagrange structures associated to Sabba-Ștefănescu configurations
TEMISTOCLE BÂRSAN	Continuity of the spheres and convexity in the metric spaces
DUMITRU BOTNARU	Locally dualiy
SERGIU	TBA
CATARANCIUC	
VLADIMIR CEBOTARI	A criterion of parametrical completeness in the 4-valued extension of model logic
CRISTIAN	On some special spectra
COSTINESCU	
RADU IORDĂNESCU	Jordan structures in differential geometry
VLADIMIR IZBAS	Some applications of quasigroups
ALEXANDRU LUNGU	TBA
ADELINA MANEA	An invariance property of Mastrogiamomo cohomolgy group of a manifold
ADELA MIHAI	Slant submanifold of complex space forms
GHEORGHE	TBA
MURĂRESCU	
ION NEGRU	On finite approximation by lattices
ANDREI PAVELESCU	TBA
ANGELA PĂȘĂRESCU	The use of non-standard methods in algebra and complex analysis
CORNEL SEBASTIAN	Homotopy invariants of certain complements in a topologically critical point problem
PINTEA	
LIVIU OCTAVIAN	Integrability conditions for homogeneous geometric structures
POPESCU	
MONICA PURCARU	A remarkable structure and connections on the tangent bundle
ANDREI RUSU	Functional investigations in provability theory
ADRIAN SANDOVICI	Time-dependent lagrangian geometry
NICOLAE SANDU	The classification of simple Moufang loops
ION SCLIFOS	On the ordering of the commutative A-loop
VLADIMIR SLESAR	On the adiabatic limits of a riemannian foliation
CĂTĂLIN STERBETI	About semi-riemannian Osserman manifolds
ALINA TURCANU	The left and right products of two subcategories

Section 4: Real and Complex Analysis, Potential Theory

17:00–19:00 Chairman: **Gheorghe Bucur**

17:00–17:30	PETRU CARAMAN	Capacities and moduli in abstract Wiener spaces
17:30–18:00	MIHAI CRISTEA	A change of variable formula for quasidifferentiable maps
18:00–18:20	CABIRIA ANDREIAN-CAZACU	BMO-mappings in the plane
18:20–18:40	MONICA ROȘIU	N -quadratic differentials of finite norm on a Klein surface
18:40–19:00	SORINA BÂRZĂ	On some spaces of infinite matrices
18:40–19:00	EMILIAN COSTACHE	On cluster sets

Sections 5, 6 and 14: Ordinary and Partial Differential Equations, Variational Methods, Optimal Control and Mathematical Physics

17:00–18:30 Chairman: **Radu Purice**

17:00–17:30	CĂTĂLIN CIUPALĂ	Linear connections on almost commutative graded Lie - Cartan pair
17:30–18:00	NICOLAE COTFAS	Raising and lowering operators in the theory of hypergeometric type equations
18:00–18:30	OLIVIAN SIMIONESCU	Wave propagation in solid media subject to initial electromechanical fields

Sections 8, 10 and 11: Probability, Mathematical Statistics, Computer Science, Mathematical Programming and Operation Research

17:00–18:20 Chairman: **Luminița State**

17:00–17:20	HAJIME ISHIHARA	TBA
17:20–17:40	ADRIANA POPOVICI	Linear cellular automata
17:40–18:00	GABRIEL CIOBANU	Mobile ambients, the pi-calculus and their relationships
18:00–18:20	AURELIA PROFIR	VPNP simulation of genes switching regulation process. Mathematical models of genes switching

Sections 12, 13 and 15: Mechanics, Applied Mathematics and History of Mathematics

17:00–19:10 Chairman: Laurențiu Panaitopol

17:00–17:20	SOLOMON MARCUS	To prove or not to prove, that is the question!
17:20–17:40	NORBERT SCHLOMIUK	André Weil and the history of mathematics
17:40–18:00	GEORGE PURCARU	On the interaction of philosophy with mathematics: truth, laws and prediction
18:00–18:20	VASILE BERINDE	Romania's attendance at ICME-10, Copenhagen
18:20–18:40	NICOLAE IONESCU PALLAS	Mecano-logia/mekano-loghia historical, physical mathematical, technical-technological epistemological, methodological axiological aspects
18:40–19:10	CONSTANTIN CORDUNEANU	Remembering some Romanian Mathematicians who have lived abroad

Thursday, June 26th, 2003

Excursion

Reception at Cotroceni Palace

Friday, June 27th, 2003

Sections 1, 2 and 3: Algebra, Algebraic, Complex and Differential Geometry and Topology

09:00–12:00 Chairman: **Barbu Berceanu**

09:00–09:45	ALEXANDRU ZAHARESCU	Distribution of zeroes of L -functions
10:00–10:45	CRISTIAN POPESCU	1-Motives, Etale Cohomology and Equivariant Iwasawa Theory

Coffee

11:15–12:00	PALTIN IONESCU	Birational geometry of manifolds containing quasi-lines
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Sections 7 and 9: Functional Analysis, Operator Theory and Numerical Analysis

09:00–10:40 Chairman: **Gheorghe Micula**

09:00–09:20	COSTICĂ MUSTAȚĂ	Extension and approximation of semi-Lipschitz real functions
09:20–09:40	MARIA CRĂCIUN	Applications of the umbral calculus in approximation theory
09:40–10:00	CĂLIN GHEORGHIU	A stabilized Chebyshev-spectral approach for a class of nonlinear Orr-Sommerfeld eigenvalue problem
10:00–10:20	MARIA MIHOC	Canonical forms of the equation with four and five variables
10:20–10:40	GHEORGHE COMAN	Extension of Shepard interpolation

Coffee

11:15–12:35 Chairman: **Constantin Niculescu**

11:15–11:35	ALEXANDRU MITREA	On the unbounded divergence of some quadrature formulas
11:35–11:55	IVAN SECRIERU	Les valeurs propres extremales a la stabilité des méthodes numériques

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|-------------|-----------------|---|
| 11:55–12:15 | ANDREI VERNESCU | About the use of the umbral calculus of approximation operators |
| 12:15–12:35 | RADU PĂLTĂNEA | Estimates with second order moduli of continuity |

Section 4: Real and Complex Analysis, Potential Theory

09:00–12:00 Chairman: **Petru Caraman**

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|-------------|------------------|--|
| 09:00–09:20 | PETRU T. MOCANU | New applications of differential subordinations and superordinations |
| 09:25–09:55 | GRIGORE SĂLĂGEAN | Analytic functions with negative coefficients |
| 10:00–10:45 | GABRIELA KOHR | Loewner chains in several complex variables. Applications |

Coffee

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|-------------|-----------------|---|
| 11:15–12:00 | ANATOLY GOLBERG | Generalized classes of quasiconformal and quasiisometric mappings |
| 12:05–12:25 | WALTER FARKAS | Bessel potential spaces associated to a continuous negative definite function |

Sections 5, 6 and 14: Ordinary and Partial Differential Equations, Variational Methods, Optimal Control and Mathematical Physics

09:00–10:50 Chairman: **Eugen Grebenikov**

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|-------------|-------------------|---|
| 09:00–09:45 | SERGIU KLAINERMAN | The problem of evolution in General Relativity |
| 09:50–10:20 | ADELINA GEORGESCU | Bifurcation and dynamic in some concrete systems from biology, medicine and economics |
| 10:20–10:50 | ANDREI PERJAN | Singularly perturbed problems of hyperbolic-parabolic type |

Coffee

11:15–12:15 Chairman: **Adelina Georgescu**

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|-------------|------------------|--|
| 11:15–11:45 | NICOLAE VULPE | Planar cubic polynomial differential systems with the maximum number of invariant straight lines |
| 11:45–12:15 | BOGDAN NICOLESCU | On the solutions for the Reynolds equation |

Sections 8, 10 and 11: Probability, Mathematical Statistics, Computer Science, Mathematical Programming and Operation Research

09:00–10:30 Chairman: **Anton Ştefănescu**

09:00–09:45	GEORGE HAIMAN	Distribution of the partial maximum sequence of the tend map process
09:45–10:30	IRINEL DRĂGAN	The computation and the inverse problem for the least square values

Coffee

11:45–12:45 Chairman: **Irinel Drăgan**

11:45–12:05	VALERIU UNGUREANU	Strategic and Extensive games on Networks
12:05–12:25	ANTON ŞTEFĂNESCU	On the implementation of voting operators
12:25–12:45	SORINA GRAMATOVICI	On duality for a class of nondifferentiable multiobjective variational problems

Sections 12, 13 and 15: Mechanics, Applied Mathematics and History of Mathematics

09:00–10:15 POSTER SESSION

TRAIAN BADEA	A Preisach model of the hysteretic behaviour of rocks
ALEXANDRU DUMITRACHE	A method for computing strongly interacting steady and unsteady flows
CRISTIANA DUMITRACHE	The MHD of the coronal holes
ADINA IONESCU	Vertex deviation in our neighbourhood in the Galaxy
MIRELA KOHR	Boundary integral method for an oscillatory Stokes flow past a solid particle
ANDALUZIA-CRISTINA MATEI	Results on quasistatic contact problems in viscoelasticity
MANUELA MĂGUREANU	TBA
ROMULUS MILITARU	On the viscous turbulent flow over a rough surface
CĂTĂLIN MITRAN	Some aspects regarding the use of the Bernstein polynomials for the numerical integration Monte Carlo

ANGELA MUNTEAN	Asupra curenților Ekman
VALERIU PANAITESCU	An exact solution of Orr-Sommerfeld equation; stability analysis of plan poiseuille flow
RADU POPESCU	Phemu observational campaign at Bucharest
RĂZVAN RĂDUCANU	Moving Least squares, revisited
RĂZVAN RĂDUCANU	Over the evolution of the fundamental ideas of fracture mechanics
RICHARD SELESCU	Closed analytic formulas for the approximation of the Legendre complete elliptic integrals of the first and second kinds
MARIAN ȘURAN	Tensorial approach of the large scale structure of the Universe

10:15–13:00 Chairman: **Cristian Făciu**

10:15–10:35	MIRCEA BÎRSAN	Saint-Venant’s problem for Cosserat shells
10:35–10:55	LORI BADEA	On a Schwartz multigrid method for the constraint minimization of non-quadratic functionals

Coffee

11:15–11:35	MAGDA STAVINSCHI	The Manev-type problems under qualitative attack
11:35–11:55	MARIAN ȘURAN	From universe to Universe. Quantising a general category
12:00–12:20	LESZEK GADOMSKI	Hill’s surfaces in the generalized problem of many bodies
12:20–12:40	FERENC SZENKOVITZ	Possible Capture of Near Earth Objects
12:40–13:00	EUGEN GREBENIKOV	The Lyapunov stability of equilibrium positions of cosmic dynamics problems

Lunch

Sections 1, 2 and 3: Algebra, Algebraic, Complex and Differential Geometry and Topology

14:30–16:30 Chairman: **Nicolae Manolache**

14:30–15:15	VIOREL VĂJĂITU	A Levi problem involving q -subpluriharmonic functions
15:25–15:55	PETRU SOLTAN	A fixed element of abstract multidimensional varieties and their application in the tectonic mobilism

16:00–16:30 MARIAN VĂJĂITU Some remarks about Krasner analytic functions

Sections 7 and 9: Functional Analysis, Operator Theory and Numerical Analysis

14:30–15:15 Chairman: Gheorghe Bucur

14:30–15:15 FLORIAN VASILESCU Analysis on semialgebraic sets

15:15–16:30 POSTER SESSION

OCTAVIAN AGRATINI	Iterates of some bivariate linear approximation processes via weakly Picard operators
CĂLIN-GRIGORE AMBROZIE	Invariant subspaces for polynomially bounded operators
PETRE ILIAȘ	Resonance problem for the p -Laplacean
MARIA JOIȚA	Triviality theorems for Hilbert modules over locally C^* -algebras
LUMINIȚA LEMNETE- NINULESCU	On a generalization of a classical complex moment problem
ANCA NICOLETA MARCOCI	Remarks about a new Banach space of infinite matrices
CARMEN PÂRVULESCU	An interpolation property of some operator ideal
GHEORGHE PICOL	An analysis of accuracy and effectiveness of computed solutions from methods for solving linear systems
GEORGE POPESCU	Noncommutative inequalities in operator algebras
ANTON SOLOI	Methods for solving nonlinear systems of equations
LIGIA ADRIANA SPORIȘ	On some approximation properties in locally convex cones
LUMINIȚA VÎȚĂ	Set-set apartness and uniform spaces
FLORICĂ VOICU	On fixed point for mapping in complete vector lattices

Section 4: Real and Complex Analysis, Potential Theory

14:30–16:30 Chairman: Anatoly Golberg

14:30–15:00 TEODOR BULBOACĂ A general class of class subordination and superordination-preserving

15:00–15:20	GHEORGHE OROS	On a second-order nonlinear differential subordination
15:30–15:50	NICOLAE N. PASCU	Univalent functions in non-convex domains or in the half-upper plane
15:50–16:10	VERONICA NECHITA	Differential Superordinations in Several Complex Variables
16:10–16:30	DORINA RĂDUCANU	On some univalence conditions for analytic functions in the unit disk

Sections 5, 6 and 14: Ordinary and Partial Differential Equations, Variational Methods, Optimal Control and Mathematical Physics

14:30–16:30 Chairman: **Nicolae Jitărașu**

14:30–14:50	NICOLAIE LUNGU	On Gronwall - Wendorf - type inequalities
14:50–15:10	MIHAI POPESCU	Optimal control for affine non-linear system with a nilpotent structure
15:10–15:30	RADU BURLACU	Mathematical models of applied biology of some metabolic processes
15:40–16:00	OCTAVIAN GRIGORE	A fault detection and localization of an helicopter execution element
16:00–16:20	GABRIEL DIMITRIU	Variational methods, optimal control and optimization

Sections 12, 13 and 15: Mechanics, Applied Mathematics and History of Mathematics

14:30–16:30 Chairman: **Gheorghe Barbu**

14:30–14:50	PAUL-MARIAN PIS-TEA	Asupra legilor fizicii și modelelor universului
14:50–15:10	GEORGE PURCARU	The forecast of the next large earthquake in Vrancea(Romania): model, physical basis, and complexity of earthquake occurrence
15:10–15:30	MIHAELA STERPU	Bifurcation in a system of coupled advertising oscillators
15:30–15:50	DUMITRU TKACENKO	The DEA-type model in the study of economical efficiency indexes
15:50–16:10	NICOLAE TODOR	On the classification in oncology studies
16:10–16:30	LAURA UNGUREANU	Economic cycles emphasis to degenerated Hopf bifurcation in a model of economic dynamics

Coffee

Sections 1, 2 and 3: Algebra, Algebraic, Complex and Differential Geometry and Topology

17:00–18:20 Chairman: **Paltin Ionescu**

17:00–17:20	PETRE STAVRE	The parallelism in differential geometry and the Cauchy theorem
17:20–17:40	BRIGITTE BRECKNER	Compactifications of subsemigroups of Lie groups
17:40–18:00	VASILE URSU	Amplification of a Birkhoff theorem in quasi-variety theory
18:00–18:20	SEVER ANGEL POPESCU	Continuous functions on absolute Galois groups

Section 4: Real and Complex Analysis, Potential Theory

17:00–19:00 Chairman: **Miodrag Mateljević**

17:00–17:30	LIVIU CONSTANTIN FLORESCU	Compacity in Young measure spaces
18:00–18:20	MIHAI PASCU	Maximum principle for the mixed Dirichlet-Neumann eigenvalue problem
18:20–18:40	SILVIA CORDUNEANU	A class of means with parameters
18:40–19:00	ANCA CROITORU	Set-valued integration in seminorm

Sections 5, 6 and 14: Ordinary and Partial Differential Equations, Variational Methods, Optimal Control and Mathematical Physics

17:00–17:40 Chairman: **Petru Jebelean**

17:00–17:20	PAVEL MATEI	An eigenvalue problem for a class of nonlinear elliptic operators in Orlicz - Sobolev spaces
17:20–17:40	NICOLAE POP	On the convergence of the Uzawa type algorithm for solving contact problems with friction in dual mixed variational formulation

20:00 CONGRESS DINNER

Saturday, June 28th, 2003

Sections 1, 2 and 3: Algebra, Algebraic, Complex and Differential Geometry and Topology

09:00–12:30 Chairman: **Alexandru Suciu**

09:30–10:00	EUGEN MIHĂILESCU	Complex dynamics and applications of ergodic theory in complex analysis
10:15–10:45	ADRIAN CONSTANTINESCU	Grafts and desingularization

Coffee

11:15–11:45	OVIDIU PĂSĂRESCU	On the classification of projective curves
11:50–12:10	ANDREI BARAN	An abstract version of the Grauert's direct image theorem
12:10–12:30	YURI ZELINSKI	Mappings with fixed degree on the boundary

Section 4: Real and Complex Analysis, Potential Theory

09:00–12:20 Chairman: **Grigore Sălăgean**

09:00–09:45	ARTURO FERNANDEZ ARIAS	On the unintegrated fundamental inequality of Nevanlinna
10:00–10:45	ARMEN JERBASHIAN	Weighted spaces of regular functions associated with fractional integro-differentiation

Coffee

11:15–12:00	FLORIN RĂDULESCU	The noncommutative moment problem
12:00–12:20	ALINA CRISTIANA GAVRILUȚ	TBA