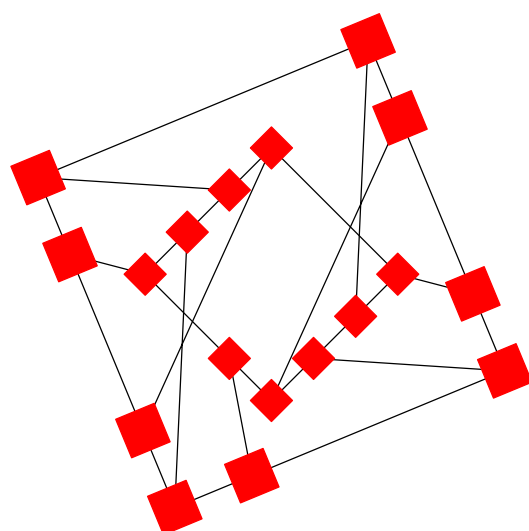


2nd CROATIAN CONGRESS
OF MATHEMATICS

SCIENTIFIC PROGRAM



Zagreb, Croatia
June 15–17, 2000

Thursday, June 15 — Morning session

7:30–8:30 **Registration**

8:30–9:15 **Opening ceremony, room 003**

- 8:30–8:35 Hrvoje Šikić (President of the Scientific Committee)
- 8:35–8:40 Hrvoje Kraljević (Minister of science and technology) – Congress opening
- 8:40–8:45 Branko Jeren (Rector, University of Zagreb)
- 8:45–8:50 Zvonimir Šikić (President of the CMS)
- 8:50–8:55 Mirko Polonijo – announcement of the CMS award winner
- 8:55–9:15 Lecture by the CMS award winner

9:15–9:30 Coffee break

Plenary lecture, room 003

Time	chairperson: Marko Tadić
9:30–10:20	Guy Henniart Recent Progress on the Langlands Conjectures for $GL(N)$

Work in sections (invited lectures and contributed talks)

10:30–12:10 Section A (room 003) – see page 7

10:30–12:30 Section B (room 004) – see page 7

10:30–12:50 Section C (room 005) – see page 8

10:30–12:50 Section D (room 001) – see page 8

12:50–15:00 Lunch break

Thursday, June 15 — Afternoon session**Plenary lecture, room 003**

Time	chairperson: Andro Mikelić
15:00–15:50	Alex Grossmann Comparisons of Biological Sequences: Some Tools from Linear Algebra

15:50–16:00 Coffee break

Work in sections (invited lectures and contributed talks)

- 16:00–18:40 Section E (room 003) – see page 9
16:00–18:00 Section F (room 004) – see page 9
16:00–17:40 Section G (room 005) – see page 10
16:00–18:00 Section H (room 006) – see page 10
16:00–18:00 Section I (room 001) – see page 11

Friday, June 16 — Morning session

Work in sections (invited lectures and contributed talks)

9:00–10:40 Section J (room 003) – see page 12

9:00–10:40 Section K (room 004) – see page 12

9:00–10:40 Section L (room 005) – see page 13

8:20–10:40 Section M (room 001) – see page 13

10:40–11:00 Coffee break

Plenary lecture, room 003

Time	chairperson: Juraj Šiftar
11:00–11:50	John G. Thompson Conjugacy Classes in Unitriangular Groups

12:00–15:00 Lunch break

Presentation, room 003

Time	
12:10	Presentation of the book “Uvod u teoriju skupova” by Pavle Papić

Friday, June 16 — Afternoon session

Plenary lecture, room 003

Time	chairperson: Zoran R. Pop-Stojanović
15:00–15:50	Zoran Vondraček Nonlinear Potentials in Functions Spaces

15:50–16:00 Coffee break

Work in sections (invited lectures and contributed talks)

16:00–18:00 Section N (room 003) – see page 14

16:00–18:00 Section O (room 004) – see page 14

16:00–17:40 Section P (room 005) – see page 15

16:00–18:00 Section Q (room 006) – see page 15

16:00–18:00 Section R (room 001) – see page 16

19:00 Congress Banquet, Zagreb City Museum, Opatička 20

Saturday, June 17 — Morning session

Work in sections (invited lectures and contributed talks)

9:00–10:40 Section S (room 003) – see page 17

9:00–10:40 Section T (room 004) – see page 17

9:00–10:40 Section U (room 005) – see page 18

8:40–10:40 Section V (room 001) – see page 18

10:40–11:00 Coffee break

Plenary lecture, room 003

Time	chairperson: Zvonimir Šikić
11:00–11:50	Andre Šćedrov Toward Logical Foundations of Security Protocol Analysis

12:00–15:00 Lunch break

Panel discussion, room 003

Time	
12:00–12:30	Mathematics and Microsoft guest: Yuri Gurevich

Saturday, June 17 — Afternoon session

15:00–17:00 Section W (room 003) – see page 19

15:00–16:40 Section X (room 004) – see page 19

15:00–17:00 Section Y (room 005) – see page 20

15:00–17:00 Section Z (room 006) – see page 20

15:00–17:00 Section ZZ (room 001) – see page 21

17:00–17:10 Coffee break

Plenary lecture, room 003

Time	chairperson: Dragan Miličić
17:10–18:00	Mirko Prime Vertex Algebras and Combinatorial Identities

18:00–18:20 Closing ceremony, room 003

18:00–18:10 Pavle Pandžić (Secretary of the Scientific Committee)

18:10–18:20 Nikica Uglešić – announcement of the 3rd Congress of Mathematics

Section A, room 003 (Thursday morning)

Time	chairperson: Sibe Mardešić
10:30–10:45	Ivan Ivanšić Extension Shape Theory
10:50–11:05	Sonja Štimac On Homeomorphisms of Knaster Continua
11:10–11:25	Ivan Tomašić Geometric Simplicity Theory
11:30–12:10	Henryk Toruńczyk (invited lecture) Topology and Game Theory

Section B, room 004 (Thursday morning)

Time	chairperson: Mirko Polonijo
10:30–10:45	Juraj Šiftar On Involutory Automorphisms of a Hypothetical (22, 8, 4) Design
10:50–11:05	Blaženka Divjak Minding's Isometries of Ruled Surfaces in Galilean and Pseudo-Galilean Space
11:10–11:25	Dean Crnković Construction of Symmetric Designs Admitting Automorphisms of Order $p \cdot q$
11:30–11:45	Željka Milin Šipuš Minding's Bendings of Ruled Surfaces in Simply Isotropic Space
11:50–12:30	Asia Ivić Weiss (invited lecture) Modular Groups and Ionic Subgroups of Coxeter Groups

Section C, room 005 (Thursday morning)

Time	chairperson: Mladen Rogina
10:30–11:10	Darko Skorin–Kapov (invited lecture) On Hub Network Models
11:15–11:30	Miljenko Marušić Application of Tension Splines to Singularly–Perturbed Boundary Value Problems for ODE
11:35–11:50	Krešimir Seršić An Example of the Genetic Algorithm Usage for Human Vision System Sensitivity Function
11:55–12:10	Tomislav Marošević Surface Fitting Using the Moving Total L_p Approximation
12:15–12:30	Robert Manger Optimized Versions of a Distributed Algorithm for Solving Path Problems
12:35–12:50	Renata Sotirov Moving Total L_p Method for Parameter Identification Problem

Section D, room 001 (Thursday morning)

Time	chairperson: Josip Pečarić
10:30–11:10	Lars–Erik Persson (invited lecture) Some Remarkable Inequalities Connected to L_p –Spaces and Fractional Order Hardy Inequalities
11:15–11:30	Živorad Tomovski New Generalizations of the Telyakovskii’s Inequalities
11:35–11:50	Ilko Brnetić Some Mappings Associated with Hadamard’s Inequalities for Convex Functions
11:55–12:10	Radimir Viher Symmetric and Skew–Symmetric Functions of Two Variables and a Bounded Mean Value Theorem
12:15–12:30	Aleksandra Čizmešija On Inequalities of Levin Type for Multidimensional Balls
12:35–12:50	Vera Čuljak The Unified Treatment of Some Inequalities of Ostrowski and Simpson Types

Section E, room 003 (Thursday afternoon)

Time	chairperson: Robert Manger
16:00–16:40	Branko Souček (invited lecture) Quantum Mind Interactive Browser, QMIB
16:45–17:00	Goranka Nogo Parallel Algorithm for Generalised Flow Problem
17:05–17:20	Saša Singer Efficient Termination Tests for Simplex Based Direct Search Methods
17:25–17:40	Dragutin Perše Prevention — Model of Optimization
17:45–18:00	Nela Bosner On Efficient Solution of Linear Systems in Implicit Discretization of the Shallow Water Equation
18:05–18:20	Valter Boljuncić Projections of Inefficient DMU to Efficient Frontier
18:25–18:40	Luka Neralić On Regions of Efficiency in Data Envelopment Analysis

Section F, room 004 (Thursday afternoon)

Time	chairperson: Hrvoje Šikić
16:00–16:40	Zoran R. Pop–Stojanović (invited lecture) Besov Spaces, Martingales, and Brownian Motion Process I
16:45–17:00	Boris Guljaš Pullback and Pushout Constructions for Hilbert C^* -Modules
17:05–17:20	Manos Papadakis Generalized Frame Multiresolution Analysis of Abstract Hilbert Spaces
17:25–17:40	Harry I. Miller Speed of Convergence of Classes of Sequences
17:45–18:00	Mihael Perman Testing the Roulette Wheel

Section G, room 005 (Thursday afternoon)

Time	chairperson: Nikica Uglešić
16:00–16:40	Vlasta Matijević (invited lecture) Classifying Overlay Structures of Topological Spaces
16:45–17:00	Vesna Županović Integrable Cubic Vector Fields
17:05–17:20	Zvonko Čerin Proper Shape Theory for C^* -Algebras
17:25–17:40	Šime Ungar Intrinsic Geometry and Rigid Sets

Section H, room 006 (Thursday afternoon)

Time	chairperson: Mladen Jurak
16:00–16:15	Josip Tambača One-Dimensional Eigenvalue Problem for Curved Rods
16:20–16:35	Nermína Mujaković 1D Flow of a Compressible Viscous Micropolar Fluid: Regularity of the Solution
16:40–16:55	Jan Rosenzweig Dynamics of Moving Contact Lines
17:00–17:15	Marko Vrdoljak Optimal Microstructures for Relaxed Two-Well Energy
17:20–18:00	Igor Mezić (invited lecture) Three-Dimensional, Volume-Preserving Maps and Flows and Applications in Fluid Dynamics

Section I, room 001 (Thursday afternoon)

Time	chairperson: Darko Veljan
16:00–16:15	Andrej Dujella An Absolute Bound for the Size of Diophantine m -Tuples
16:20–16:35	Marko Krznarić Calculating the Real Roots of a Rational Polynomial with Exact Real Arithmetic
16:40–16:55	Antoaneta Klobučar k -Domination Numbers of Cardinal Products
17:00–17:40	Dragutin Svrtnan (invited lecture) On Fock Representation of Braided Canonical Commutation Relations
17:45–18:00	Sergio Falcon Variation of an Operator Related to a Set Quantity

Section J, room 003 (Friday morning)

Time	chairperson: Nikola Sarapa
9:00– 9:40	Jakša Cvitanić (invited lecture) Methods of Partially Hedging Risks in Financial Markets
9:45–10:00	Milica Čudina A Distributional Identity for Exchangeable Random Walks
10:05–10:20	Roža Horvat Bokor Stochastically Stable One-Step Approximations of Solutions of Stochastic Ordinary Differential Equations
10:25–10:40	Gordan Žitković A Filtered Version of the Bipolar Theorem of Brannath and Schachermayer

Section K, room 004 (Friday morning)

Time	chairperson: Ivan Ivanšić
9:00– 9:40	Luis Javier Hernández Paricio (invited lecture) Sequential Homology
9:45–10:00	Krešimir Horvatić Problems in Embedding Theory of 2-Polyhedra
10:05–10:20	Uroš Milutinović Approximation of Maps into the Lipscomb Space by Embeddings
10:25–10:40	Corina Mohorianu Equivariant Strong Homology (G-Ssh Homology)

Section L, room 005 (Friday morning)

Time	chairperson: Mirko Primc
9:00– 9:15	Antun Milas A Constructive Approach to the Conformal Field Theory in Genus 1
9:20– 9:35	Goran Muić Howe Correspondence for Discrete Series
9:40– 9:55	David Renard Genuine Representations of the Metaplectic Group
10:00–10:40	Jing–Song Huang (invited lecture) Polynomial Invariants, Differential Operators and Eigenspace Representations

Section M, room 001 (Friday morning)

Time	chairperson: Luka Neralić
8:20– 8:35	Dragan Jukić Partial Linearization of One Class of the Nonlinear Total Least Squares Problem by Using the Inverse Model Function
8:40– 8:55	Ivo Beroš Collocation by Higher Order Tension Splines
9:00– 9:15	Rudolf Scitovski Total L_p Spline
9:20– 9:35	Vilmoš Horvat Collocation Methods with Spline in Tension for Singularly Perturbed Volterra Integro–Differential Equations
9:40– 9:55	Višnja Vojvodić Rosenzweig Lot Sizing Problem with Equipment Replacement
10:00–10:40	Jadranka Skorin–Kapov (invited lecture) On Design Optimization in Optical Networks

Section N, room 003 (Friday afternoon)

Time	chairperson: Ibrahim Aganović
16:00–16:40	Andro Mikelić (invited lecture) On the Incompressible Viscous Flow over a Rough Surface and the Navier Slip Condition
16:45–17:00	Ivica Nakić Relative Perturbation Theory for Matrix Pairs
17:05–17:20	Antonija Duvnjak Derivation of the Reynolds Type Equation with Memory Effects
17:25–17:40	Mladen Jurak Homogenization of Convection–Diffusion Equation. Case of High Peclet Number
17:45–18:00	Sergio Falcon Linear Partial Differential Equations of Second Order in the Aleph Derivative with Variable Coefficients

Section O, room 004 (Friday afternoon)

Time	chairperson: Dominik Palman
16:00–16:15	Zvonko Čerin On Properties of Rectangular Hyperbolas
16:20–16:35	Tibor K. Pogány On the (k, f, l) -Chordal Polygons
16:40–16:55	Tanja Vučićić On $(100, 45, 20)$ Symmetric Designs with Automorphism Groups of Order 100
17:00–17:15	Vedran Krčadinac A New Steiner $S(2, 5, 41)$ Design
17:20–18:00	Hans Vogler (invited lecture) Ruled Surfaces of E_n with Plane Orthogonal Trajectories of the Generators

Section P, room 005 (Friday afternoon)

Time	chairperson: Darko Skorin–Kapov
16:00–16:40	Darko Veljan (invited lecture) Secondary Structures
16:45–17:00	Ivan Perić A Sharp Multidimensional Bergh–Type Inequality
17:05–17:20	Goran Igaly Spine Based Construction of Column–Convex Polyominoes
17:25–17:40	Sanja Varošaneć Pólya–Type Inequalities

Section Q, room 006 (Friday afternoon)

Time	chairperson: Goran Muić
16:00–16:40	Gordan Savin (invited lecture) Representing Integers by Quadratic Forms, and Its Generalizations
16:45–17:00	Lejla Miller–Van Wieren Univalence Criteria for Classes of Equiangular Polygons
17:05–17:20	Tomislav Šikić Kac Parameters and \mathbb{Z} –Gradations of Classical Affine Lie Algebras
17:25–17:40	Pavle Pandžić A Proof of Vogan’s Conjecture about Dirac Operators
17:45–18:00	Medo Pepić Differentiation of Functions on Vilenkin Groups

Section R, room 001 (Friday afternoon)

Time	chairperson: Zoran Vondraček
16:00–16:15	Franka Miriam Brückler On a Characterisation of Hilbert C^* -Modules
16:20–16:35	Sergey N. Gerasin Stabilization of Distribution of Markov's Process in Wide Sense
16:40–16:55	Yuriy Krvavych On Some Problems of Stochastic Analysis of Wiener Integrals Constructed by Fractional Brownian Motions
17:00–17:15	Damir Bakić Extensions of Hilbert C^* -Modules
17:20–18:00	Murali Rao (invited lecture) Besov Spaces, Martingales, and Brownian Motion Process II

Section S, room 003 (Saturday morning)

Time	chairperson: Asia Ivić Weiss
9:00– 9:15	Jelena Beban–Brkić Isometric Invariants of Conics in Isotropic Plane. Classification of Conics.
9:20– 9:35	Zdenka Kolar–Begović Heaps and Corresponding Algebraic and Geometric Structures
9:40– 9:55	Radoslav Galić About 2–Partitions of Hartmanis
10:00–10:40	Otto Röschel (invited lecture) New Overconstrained Models of Polyhedra

Section T, room 004 (Saturday morning)

Time	chairperson: Damir Bakić
9:00– 9:40	Goran Peskir (invited lecture) On Standard Brownian Motion: The Einstein 1905 Arguments Revisited
9:45–10:00	Siniša Slijepčević Poincaré Sequences, Ergodic Theory and Fourier Analysis
10:05–10:20	Tibor K. Pogány Derivative Sampling Reconstruction of Bandlimited Stochastic Processes in the Almost Sure Sense
10:25–10:40	Thomas Benesch The Baum–Welch Algorithm for Parameter Estimation of Gaussian Autoregressive Mixture Models

Section U, room 005 (Saturday morning)

Time	chairperson: Krešimir Horvatić
9:00– 9:40	Yury T. Lisica (invited lecture) Strong Shape with Compact Supports
9:45–10:00	Sibe Mardešić On Iterated Inverse Limits
10:05–10:20	Nikica Uglešić O iteriranim rezolventama
10:25–10:40	Luciano Stramaccia Shape Theories and the Kan Extension Property

Section V, room 001 (Saturday morning)

Time	chairperson: Dragutin Svrtan
8:40– 8:55	Alexandru Cărauşu Morphisms and Quasinorms over Free Semigroups
9:00– 9:15	Dean Rosenzweig An Operational Theory of Objects
9:20– 9:35	Tomaz Pisanski Realizations of Configurations
9:40– 9:55	Joydip Dhar Some Results on Population Dynamics Modelling with Diffusion in an n -Patch Habitat
10:00–10:40	Marko Petkovšek (invited lecture) Finding Exact Solutions of Linear Recurrences

Section W, room 003 (Saturday afternoon)

Time	chairperson: Dean Rosenzweig
15:00–15:40	Yuri Gurevich (invited lecture) What is an Algorithm?
15:45–16:00	Mladen Vuković The Interpretability Logic and Generalized Veltman Models
16:05–16:20	Paola Glavan Knowledge and Expectation Formulae for Parsing
16:25–16:40	Boris Čulina How to Make Paradoxes in Set Theory
16:45–17:00	Svitan Gaborovič On the Notion of Restriction in the Partial Lambda Calculus

Section X, room 004 (Saturday afternoon)

Time	chairperson: Pavle Pandžić
15:00–15:40	Dragan Miličić (invited lecture) Geometry and Smooth Representations of Reductive Lie Groups
15:45–16:00	Ilie Burdujan On Clifford Manifolds of Type $\mathcal{C}\mathcal{L}_{0,3}$
16:05–16:20	Ivica Siladić A Basis of the Level 1 $A_2^{(2)}$ -Module
16:25–16:40	Dražen Adamović Representations of Affine Lie Algebras Having Infinite Dimensional Weight Spaces

Section Y, room 005 (Saturday afternoon)

Time	chairperson: Vjeran Hari
15:00–15:15	Luka Grubišić Accuracy of Kogbetliantz Method
15:20–15:35	Josip Matejaš An Overview of Results on the Quadratic Convergence of Scaled Iterates by Diagonalization Methods
15:40–15:55	Sanja Singer Some Perturbation Results for the Indefinite QR Factorization
16:00–16:15	Ivana Hunjet Accelerating Bidiagonal Divide and Conquer by Fast Multipole Method
16:20–17:00	Zlatko Drmač (invited lecture) Perturbation Theory and Algorithmic Development for the Symmetric Eigenvalue Problem

Section Z, room 006 (Saturday afternoon)

Time	chairperson: Vladimir Volenec
15:00–15:15	Mirko Polonijo On Medial-Like Quasigroups
15:20–15:35	Biljana Janeva Varieties of Groupoids with Axioms of the Form $x^{m+1}y = xy$ and/or $xy^{n+1} = xy$
15:40–15:55	Kroacija Kučera Some New Quartics
16:00–16:15	Sonja Gorjanc The Classification of the Pedal Surfaces of $(1, 2)$ Congruences and their Construction with Mathematica 4.0
16:20–17:00	Smile Markovski (invited lecture) Quasigroup String Processing – Theory and Applications (in Cryptography, PRNG, Fractal Designs, ...)

Section ZZ, room 001 (Saturday afternoon)

Time	chairperson: Zvonimir Tutek
15:00–15:15	Andrija Raguž Asymptotic Behaviour of Ginzburg–Landau Functionals
15:20–15:35	Neven Balenović Young and H–Measures for Relaxation of Multi–Well Energies
15:40–15:55	Krešimir Josić Synchronization in Chaotic Systems
16:00–16:15	Darko Žubrinić Existence, Nonexistence, and Qualitative Properties of Solutions for a Class of Quasilinear Elliptic Equations
16:20–17:00	Sunčica Čanić (invited lecture) Nonlinear Conservation Laws