10th CONGRESS OF YUGOSLAV MATHEMATICIANS
Belgrade, January 21–24, 2001

The *10th Congress of Yugoslav Mathematicians* was held January 21 to 24, 2001, in Belgrade. The organizers were: Faculty of Mathematics in Belgrade, Mathematical Society of Serbia, Union of Mathematical Societies of Yugoslavia and Institute of Mathematics of the Faculty of Sciences in Novi Sad.

Previous congresses were: I congress (1949) – Bled; II congress (1955) – Zagreb; III congress (1960) – Beograd; IV congress (1965) – Sarajevo; V congress (1970) – Ohrid; VI congress (1975) – Novi Sad; VII congress (1980) – Bečići; VIII congress (1985) – Priština; IX congress (1995) – Petrovac.

There were about nine hundred participating mathematicians, including thirty guests from Austria, Italy, FYR Macedonia, Germany, Nigeria, Romania and USA. The opening ceremony was completed with plenary lectures by two outstanding Yugoslav mathematicians, at this time working abroad, *Stevo Todorčević* from the University of Paris VII and *Judita Cofman* from the University of Erlangen. Scientific activities in eleven sections (Logic, Algebra, Geometry and Topology, Real and Complex Analysis, Functional Analysis and Operator Theory, Differential Equations, Combinatorics and Graph Theory, Probability and Statistics, Numerical Analysis and Optimization, Computer Sciences, Applied Mathematics) gave opportunities to the participants to present some of their recent original contributions in relevant fields. Fourteen invited lectures, delivered by outstanding Yugoslav mathematicians, mostly of expository character, had completed the scope of these activities.

The activities in the special section on Teaching, History and Popularizing of Mathematics were mostly devoted to some actual problems of teaching and learning mathematics and computer sciences, including some topics on research in mathematics education, distance teaching and learning, gifted students identification, advancement and promotion, ... The Republic Seminar 2001 on Mathematics and Computer Science Education in primary and secondary schools, and universities was the part of the Teaching section of the Congress.

Four round tables were organized; their titles reflect the discussed topics:

- Mathematics Instruction and reform of the educational system;
- Where is Theoretical Mathematics going?;
- Industrial Mathematics and Informatics;
- Mathematics and mathematicians today and tomorrow.

A prize was awarded by the Organizing Committee to *Danko Jocić* for the contributions in mathematical sciences by researchers up to 40 years old.

The regular Assembly of the Union of Mathematical Societies of Yugoslavia was held during the Congress and *Zoran Kadelburg* was elected its new president.

Here is the list of all lectures delivered during the Congress (titles of lectures are given as they appeared in the Programme of the Congress).

Plenary lectures

Stevo Todorčević: *Hierarchies of Ackermann and Baire*

Judita Cofman: *Kako motivisati 10–18-godišnje đake u toku nastave da samostalno rešavaju razne matematičke zadatke*

Invited lectures

Siniša Crvenković: *Neki problemi opšte algebre – rezultati i perspektive*

Dragoš Cvetković: *Grafovi sa najmanjom sopstvenom vrednošću −2*

Milutin Dostanić: *Ocena norme stepena Volterinog operatora preko njegovih singularnih vrednosti*

Vladimir Dragović: *Classical and quantum integrable dynamical systems*

Kosta Došen: *Skupovne aksiome, konverzija lambda i teorema dedukcije*

Aleksandar Ivić: *The fourth moment of the zeta function*

Danko Jocić: *Elementary operators*

Nenad Mladenović: *Metaheuristička metoda promenljivih okolina*

Nedeljko Parezanović: *Muzika, matematika i računarstvo u istraživanju i nastavi*

Đura Paunić: *Kratak pregled istorije XX veka*

Slaviša Prešić: *Kako predavati matematiku*

Vladimir Rakočević: *Continuity, differentiability and perturbations of the Drazin inverse for operators and for elements of Banach algebras*

Rade Živaljević: *Kombinatorika prostornih (topoloških) formi*

Miodrag Živković: *Massive computation as a problem solving tool*

Section lectures

Section 1. Logic

Mirjana Borisavljević, Kosta Došen i Zoran Petrić: *Permutovanje sečenja i kontrakcije*

Milan Grulović: *Comments on reduced products of forcing systems*

Mirjana Isaković-Ilić i Miodrag Kapetanović: *Automatsko dokazivanje teorema za predikatsku logiku bez kontrakcije*

Žarko Mijajlović: *O beskonačnim divergentnim redovima i primenama u teoriji skupova i teoriji brojeva*

Zoran Ognjanović i Miodrag Rašković: *O klasičnim logikama sa verovatnosnim operatorima*

Đorđe Vukomanović: *On the logical analysis of the basic notions in connection with differential equations*

Branko Vulićević: *Natural space and fundamental notions*

Section 2. Algebra

Vjekoslav Budimirović: *O klasi p-polugrupa i klasi p-poluprstena*

Ilaria Damiani: *The center of affine quantum algebras at roots of 1*

Vučić Dašić: *Jedna klasa hiperskoro-prstena*

Dončo Dimovski, Violeta Manevska: *Vector valued formal languages*

Fabio Gavarini: *The quantum duality principle*

Biljana Janeva, Gj. Čupona, N. Celakoski: *Injective grupoids*

Aleksandar Krapež: *Rectangular quasigroups*

Vera Lazarević, Andreja Tepavčević: *Special elements in posets and applications*

Aleksandar Lipkovski: *O jednom algebarskom problemu iz fizike elementarnih čestica*

Smile Markovski, Lidija Goračinova: *Free groupoids with the identity $(xy)y = yx$*

Miloš Miličić: *Zatvorene klase funkcija sa zadržavanjem za jednu vrstu potpunosti*

Melanija Mitrović: *Matrices of l_n-archimedean semigroups*

Branimir Šešelja: *Representations of ordered sets*

Andreja Tepavčević: *Weak congruences in universal algebra*

Veljko Vuković: *On the existence of nil ideals in distributive nonassociative near-rings*

Section 3. Geometry and Topology

Dušan Adnađević: *Continuous stalk functions*

Pavle Blagojević: *Lens spaces and shelling of toric varieties*

Neda Bokan: *Geometrija hiperpovrši afinog prostora određena zapreminom malih geodezijskih sfera*

Biljana Krsteska: *Some countable properties in fuzzy topological spaces*

Svetislav Minčić: *Ricci type identities and curvature tensors in Otsuki spaces*

Mila Mršević: *Neke osobine Čehovih okolinskih prostora*

Stana Nikčević: *On the existence of homogeneous geodesics in homogeneous Riemannian manifolds*

Miroslava Petrović-Torgašev: *3-type curves in the Euclidean space E^5*

Mileva Prvanović: *Par konjugovanih koneksija na skoro hermitskoj mnogostrukosti*

Nevena Pušić: *O četvrtsimetričnim koneksijama hiperboličnog Kelerovog prostora*

Ljiljana Radović, Slavik Jablan: *Klasifikacija prepletnih ornamenata*

Zoran Rakić: *On geometry of 4-dimensional Kleinian Osserman manifolds*

Mića Stanković: *On special third-type almost geodesic mappings of affine connection spaces*

Milica Stojanović: *Triangulation of convex polyhedra by small number of tetrahedra*

Stefano Trapani: *Group action and the Serre problem*

Section 4. Real and Complex Analysis

Momčilo Bjelica: *Differentiation of mean values*

Cabiria Andreian Cazacu: *Families of BMO_{loc}-QC mappings between Riemann surfaces and between Klein surfaces*

Tomica Divnić: *On p-convex functions*

Dragan Đurčić, Mališa Žižović: *O eksponentima konvergencije pravilne promenljivosti*

Miodrag Ivović: *O J. van Hehgel-ovoj nejednakosti*

Biljana Jolevska-Tuneska, Brian Fisher: *The cosine integral and the commutative neutrix convolution product*

Novo Labudović, Žarko Pavićević: *Boundedness of functions and strong analytic normality with respect to the hyperbolic cyclic semigroups*

Branko Malešević: *A combinatorial method in vector analysis*

Jovan Malešević: *Centriranost i nejednakosti*

Mioljub Nikić: *Geometrijska svojstva nekih klasa funkcija u algebri $C(T)$*

Milutin Obradović, S. Ponnusamy: *New criteria for univalent functions*

Tatjana Ostrogorski: *Pravilno ograničene funkcije i Hardijeva nejednakost*

Nikola Pandeski: *Approximation by interpolating Blaschke products and interpolating formula in the unit ball*

Žarko Pavićević: *Locally boundary properties of functions defined on the open ball of R^n*

Slavko Simić: *On matrix transforms with slowly varying sequences*

Nikola Tuneski: *On a starlikeness condition for analytic functions*

Section 5. Functional Analysis and Operator Theory

Miloš Arsenović: *Bergman spaces on the complement of a lattice*

Francesco de Blasi: *Baire category in existence problems*

Aneta Bučkovska, Stevan Pilipović: *Bilinear Hilbert transform*

Dragana Cvetković: *Gaps between subspaces and applications*

Ljubomir Čukić: *The strict topology and a bounded multiplier summability*

Dragan Đorđević: *Hyper-power iterative method in Banach algebras*

Slaviša Đorđević: *Spectral continuity in the algebra of operators*

Ljiljana Gajić: *On fixed point theorem in ultrametric spaces*

Siniša Ješić: *Zajednička fiksna tačka familije preslikavanja na transverzalnim verovatnosnim prostorima*

Danko Jocić: *Elementary operators on Schatten ideals*

Ivan Jovanović, Vladimir Rakočević: *Cauchy integrals and spectral projections*

Zoran Kadelburg, Stojan Radenović: *Cones in LMC-algebras*

Dragoljub Kečkić: *O operatorskoj jednačini $AX - XB = Y$*

Ratko Kravarušić, Milorad Mijatović, Stevan Pilipović: *Integrated semigroup of unbounded linear operators in Banach spaces—Cauchy problem*

Ratko Kravarušić, Milorad Mijatović, Stevan Pilipović: *Integrated semigroup of unbounded linear operators in Banach spaces—Relations with parameters*

Rade Lazović i Milenko Pikula: *Primena prvog regularizovanog traga operatora u rešavanju inverznih problema*

Eberhard Malkowsky: *Matrix transformations and measures of noncompactness*

Tihomir Marjanović, Milenko Pikula: *The inverse problem of the Sturm-Liouville type with the constant delay on a segment*

Romeo Meštrović: *Topologies on some generalized Orlicz spaces*

Pavle Miličić: *Uglovni modul deformacija kvazieuklidskog prostora*

Zoran Mitrović: *Some fixed point theorems in not necessarily locally convex spaces*

Johnson Olaleru: *Weighted semiconvex spaces of measurable functions*

Stevan Pilipović, Nenad Teofanov: *Pseudodifferential operators on ultramodulation spaces*

Arpad Takači: *On the wavelet transformation*

Aleksandar Torgašev: *Operators with maximally large local spectrum*

SECTION 6. DIFFERENTIAL EQUATIONS

Miloš Čanak: *O kompleksnim diferencijalnim jednačinama tipa Rikatija i Vekue i njihovim opštim rešenjima*

Nebojša Lažetić: *On uniform convergence of spectral expansions arising by an one-dimensional non-selfadjoint Schrödinger operator*

Jelena Manojlović: *Oscillation criteria for generalized half-linear differential equations of second order*

Nikola Rosić: *Dvostruka transformacija diferencijalne jednačine*
$L_n[a_0, y] = 0$

Đurđica Takači: *The factorization method in the field of Mikusiński operators*

Dragana Todorović, Nikola Burić: *Stability and bifurcations of delay-differential equations model of an immunogenic tumor*

Kurt Tomantschger: *Representations of solutions of elliptic differential equations— new results of the 20th century*

Kurt Tomantschger: *An extended method of Frobenius applied to coupled differential equations*

Section 7. Combinatorics and Graph Theory

Pavle Blagojević: *Flag diagrams*

Vidan Govedarica: *A function on the set of convex lattice polygons with minimal area*

Section 8. Probability and Statistics

Zoran Ivković: *Kako se jedan haos (Vinerov) projektuje na drugi*

Slobodanka Janković: *Neki slabiji uslovi pod kojima važi granična teorema o konvergenciji maksimuma*

Svetlana Janković, Miljana Jovanović: *Perturbed stochastic hereditary differential equations with integral contractors*

Miljana Jovanović, Svetlana Janković: *Convergence in $2m$-th mean for perturbed nonlinear stochastic integrodifferential equations*

Vladislav Milošević: *Mešavine raspodela i operacije sa njima*

Pavle Mladenović: *Rates of convergence in certain limit theorems for extreme values*

Gligorije Perović: *Robust perobls 3 method of least squares*

Gligorije Perović: *The MINQUE-PERG method of variance-component estimation*

Zoran Pop-Stojanović: *The Feynman-Kac functional and an energy formula*

Stevan Stojanović: *Some problems connected with a loss queuing system*

Jovan Ukšanović: *A theorem on coding with noise*

Section 9. Numerical Analysis and Optimization

Nada Đuranović-Miličić: *Step-size algoritam drugog reda*

Dragoslav Herceg, Miodrag Petković, Jelena Nedić: *On convergence of the family of simultaneous methods*

Dragoslav Herceg, Katarina Surla, Ivana Radeka, Helena Maličić: *Numerical experiments with different schemes for a singularly perturbed problem*

Vladimir Janković: *Diferencijabilnost maksimalnog rešenja diferencijalne jednačine po upravljajućoj funkciji*

Boško Jovanović, Lubin Vulkov: *O numeričkom rešavanju graničnih problema koji sadrže koncentrisane veličine*

Boban Marinković: *Rešenje Didoninog problema primenom teoreme Boltjanskog*

P. M. Rajković: *Rekostrukcija težinske funkcije za niz polinoma sa tročlanom rekurentnom relacijom*

Dragan Stankov: *The fractal dimension of graphs of some functions*

Katarina Surla, Dragoslav Herceg, Helena Maličić, Ivana Radeka: *On stability of some difference schemes for SPBVP*

Zorica Uzelac, Ljiljana Pavlović: *A uniformly convergent spline difference scheme for singular perturbation problems of convection-difusion type*

Section 10. Computer Sciences

Tatjana Davidović, Nenad Mladenović: *Genetički algoritam za raspoređivanje zadataka sa komunikacionim kašnjenjem*

Nebojša Dragosavac, Dejan Kovačević, Maja Miličić, Miroljub Radovanović, Aleksandar Samardžić, Desanka Radunović: *Jedna implementacija okruženja za numerička izračunavanja*

Vladimir Filipović, Dušan Tošić, Jozef Kratica: *Eksperimentalni rezultati primene fino gradirane turnirske selekcije*

Dragan Gašević, Mladen Đurašinović, Perica Štrbac: *Jedan prikaz grafičkog rešenja problema filozofa koji večeraju uz pomoć Petri-mreža*

Predrag Janičić: *Ugradnja procedura odlučivanja u dokazivače teorema*

Jozef Kratica, Dušan Tošić, Vladimir Filipović, Ivana Ljubić: *Poređenje nekih algoritama za rešavanje prostog lokacijskog problema*

Smile Markovski: *Quasigroup string processing—theory and applications*

Zoran Ognjanović, Tatjana Timotijević: *Dva pristupa dokazivanju modalnih teorema*

Gordana Pavlović-Lažetić: *Classification and information mining on Serbian language web documents*

Irena Spasić, Gordana Pavlović-Lažetić: *Uloga objektno orijentisanog modela u prirodnojezičkoj komunikaciji sa relacionom bazom podataka*

Vladimir Srdanović: *Elektronska trgovina i računarstvo*

Ranka Stanković, Ivan Obradović, Nikola Lilić: *Sprezanje metoda veštačke inteligencije u cilju razvoja hibridnog inteligentnog sistema*

Tatjana Timotijević: *Jedna implementacija PL dokazivača*

Dušan Tošić: *Automatizacija daljinskog obrazovanja pomoću Java-apleta*

Dragan Urošević, Nenad Mladenović: *Određivanje minimalnog k-stabla primenom pretrage i po promenljivim okolinama*

Duško Vitas: *Analiza paralelnih tekstova*

Dragan Živanović: *Pronalaženje asocijativnih pravila nad skupovima podataka velike baze podataka*

SECTION 11. APPLIED MATHEMATICS

Olga Atanacković-Vukmanović: *A forth-and-back implicit Lambda-iteration in the solution of the NLTE radiative transfer problem*

Zoran Drašković: *Prilog poređenju skalarnog i invarijantnog (kovarijantnog) pristupa u aproksimiranju tenzorskih polja*

Đorđe Dugošija: *Problemi pakovanja*

Slobodan Guberinić: *Primena metoda kombinatorne optimizacije u optimalnom upravljanju saobraćajem*

Katica (Stevanović) Hedrih: *Trigger of coupled singularities*

Jovo Jarić, Kikuo Kishimoto, Teijun Wang, Masaki Omiya: *An aplication of Noether's theorem to nonlinear anisotropic elastic materials*

Aleksandar Jovanović, Nenad Andonovski, Milan Bulat, Veljko Dunđerski, Goran Marković, Dejan Miljković, Dragoljub Perišić, Slaviša Tamburić, Aleksandar Uzelac: *Procesiranje biomedicinskih slika i signala*

Aleksandar Jovanović, Žarko Mijajlović, Nataša Dobrašinović, Marijana Lukić, Maja Miličić, Vladimir Aleksić, Goran Marković, Vladimir Filipović, Raka Jovanović, Vladimir Perović, Olivera Jovanović, Aleksandar Prodanović, Ivona Marić, Marjana Janković, Strahinja Glišić, Filip Marić, Miroslav Marić: *Eliminacija kvantora za monadički račun*

Bora Jovanović: *Aproksimiranje funkcija zbirom elementarnih trigonometrijskih i eksponentnih funkcija*

Predrag Jovanović, Dragutin Đurović, Nadežda Pejović: *Wavelet transforms and their applications*

Zoran Knežević, Andrea Milani: *Synthetic theory of asteroid motion: proper elements and chaos*

Vera Kovačević-Vujčić, Miroslav Ašić: *Koliko su dobre unutrašnje metode za linearno programiranje?*

V. Kovačević-Vujčić, M. Čangalović, J. Kratica: *Primalno-dualna metoda za semidefinitnu relaksaciju problema trgovačkog putnika*

Ilija Lazarević, Bratislav Iričanin: *Jedna primedba o klotoidi i gama funkciji*

Aleksandar Lipkovski: *Matematika, MATHEMATICA i primene*

Ilija Lukačević, Smilja Milanović: *Compatibility conditions for finite deformations of Cosserat shells and plates*

Eberhard Malkowsky, Vesna Veličković: *Visualization of different fields of mathematics*

Sava Mićić: *Problemi u medicini i matematika*

Dubravka Mijuca: *A new primal-mixed 3D finite element in analysis of plates and shells*

Lazar Milićević, Stevan Stević: *Primena matematičkih modela u penziono-invalidskom osiguranju*

Slobodan Ninković: *On the galactocentric orbits*

Rade Pavlović, Zoran Knežević: *Nekhoroshev stability of asteroid motion*

Dragan Radojević: *Nova fazi logika i njene primene*

Stevan Stević, Lazar Milićević: *Teorijski i metodološki aspekti primene metode Monte-Karlo*

Stevo Šegan, Nikola Vitas: *MATHEMATICA 4 i neki problemi dinamičke astronomije*

Dragoslav Šumarac: *Matematička teorija mehanike oštećenja sa primenama*

SECTION 12. TEACHING, HISTORY AND POPULARIZING OF MATHEMATICS

Vojislav Andrić: *Šta je „Integral"?*

Miomir Anđić: *Rješavanje ekstremalnih problema elementarnim putem*

Miroljub Čabrić: *O realizaciji programskih sadržaja iz matematike*

Miloš Čanak: *Matematička teorija muzike, Fibonačijev niz i neka njegova ispoljavanja u prirodi*

Savo Ćebić: *Zašto su potrebna istraživanja u oblasti istorije i metodike matematike (geometrije)?*

Mirko Dejić: *Prikaz manje poznatih radova Mihaila Petrović Alasa, namenjenih nastavnicima i učenicima osnovnih i srednjih škola*

Krista Đokić: *Linija težišta i centar opisane kružnice*

Jasna Fempl-Mađarević: *Mathematical 20th century souvenirs through the elementary and secondary school or a new approach to teaching classical mathematics*

Slađana Hotomski: *Identifikacija darovitih učenika za matematiku*

Miodrag Ivović: *O metodi parcijalne integracije*

S. Jevtić, Z. Vasiljević, B. Z. Popović, M. Stanić, S. Jovanović, N. Ikodinović: *Matematička radionica mladih (Šta smo uradili, a šta nameravamo da uradimo)*

Đorđe Kadijević: *Basic features of research in mathematics education*

Vesna Kojić: *Broj – periodni sistem elemenata – univerzalni oktavni zakon*

Nebojša Lazović: *Geometrijski zadaci u japanskim hramovima „San Gaku"*

Aleksandar Lipkovski: *Naučiti matematiku: zašto i kako*

Saša Manić: *Rešavanje jednačine $x^n + Ax^k + B = 0$*

Bojan Marković: *Neki primeri nestandardnih jednačina*

Miroslav Mihailović: *Učenje programiranja upotrebom grafičko-tekstualnog programskog jezika za izvršavanje algoritama*

Mato Mijajlović: *Osnova modela realizacije programa nastave matematike u prvom razredu gimnazije i srednje tehničke škole*

Mato Mijajlović, Dragan Acketa: *Jedan računarski pogled na konstrukcije trouglova*

Jelena Milogradov-Turin, Vladimir Mićić: *50 godina Saveza društava matematičara, fizičara i astronoma Jugoslavije – godinu dana posle*

Slobodan Miloradović: *Elementarni dokaz Stirlingove formule*

Branka Milošević: *Novi dokaz monotonosti niza $(e_n) = ((1 + 1/n)^n)$*

Ljiljana Petković: *Nastanak i razvoj matematičke simbolike*

Biljana Popović, Sonja Šumonja, Danijela Stojanović, Bojana Ilić: *Pupils' achievments in mathematics in teaching-learning process during and after the war events*

Stevan Pujić: *Neka zapažanja problemske nastave matematike i informatike u osnovnim i srednjim školama u opštini Pančevo*

Veselin Rmuš: *Površina i zapremina pravilnih poliedara*

Mihailo Veljković: *Ideja promenljive*

Biserka Zaklan: *Neka iskustva u radu sa učenicima poljoprivredne škole u Bačkoj Topoli*

    These Proceedings contain articles received by the Editorial Board till March 31st, 2001, and which passed the usual refereeing process. Some articles are included which were scheduled, but which were not communicated during the Congress due to various reasons. Articles are sorted by the Sections in which they were communicated.

Editorial Board