Wednesday, 19 August

Short Communications and Poster Sessions

Short Communications: Wednesday, 19 August, 14:00–14:45			
	14:00–14:15	**14:15–14:30**	**14:30–14:45**
Sect.: **02** MA 042	Rings, *Chair: Toma Albu*		
	Hyoung J. Ko *Some complete intersection and their minimal prime ideals (p.20)*	**Takasi Nagahara** *Classification of rings satisfying some generalized Herstein's condition (p.24)*	**Sylvia Chin-Pi Lu** *The Zariski topology on the prime spectrum of a module (p.22)*
Sect.: **03** MA 311	Computational Number Theory, *Chair: Michael E. Pohst*		
	Claus Fieker *On Constructive Class Field Theory (p.36)*	**István Gaál** *Power integral bases in algebraic number fields (p.36)*	**Jürgen Klüners** *Explicit Galois realization of transitive groups of degree up to 15 (p.40)*
Sect.: **08** MA 041	Function Spaces and Operators, *Chair: Jose Bonet*		
	Silke Holtmanns *An operator representation for weighted spaces of vector valued holomorphic functions (p.130)*	**Klaus D. Bierstedt** *An operator representation for weighted inductive limits of spaces of vector valued holomorphic functions (p.117)*	**Jose Bonet** *Hypercyclic operators on non-normable Fréchet spaces (p.118)*
Sect.: **08** MA 309	Iteration, Composition, Clifford Structure, *Chair: Mario Bonk*		
	Chung-Cun Yang *Some recent results on factorization of meromorphic functions (p.165)*	**Eugen J. Ionascu** *Wandering sets for a class of Borel isomorphisms of $[0,1)$ (joint work with Dr. Edward Azoff, UGA, Athens, USA) (p.131)*	**Enrique Ramirez-De-Arellano** *Almost-Clifford structures on manifolds (p.150)*
Sect.: **08** MA 043	Fractional Differentiation, *Chair: A. Eduardo Gatto*		
	Evelyn Buckwar *Application of the Lie group of scaling transformations to the fractional diffusion-wave equation (p.119)*	**Yuri Luchko** *Lie group analysis of a partial differential equation of fractional order (p.140)*	**A. Eduardo Gatto** *Fractional Calculus, Sobolev Spaces, and Related Rules on Spaces of Homogeneous Type (p.124)*
Sect.: **10** H 111	General Theory, *Chair: Massimo Lanza de Cristoforis*		
	Wenxiong Chen *High Order Conformally Invariant Equations (p.200)*	**Paweł Domański** *Splitting of differential complexes (p.201)*	**Massimo Lanza de Cristoforis** *Differentiability Properties of the Autonomous Composition Operator in Sobolev Spaces (p.213)*
Sect.: **10** H 110	Elliptic Equations I, *Chair: Florin C. Muscalu*		
	Evgeni A. Kalita *New class of a priori estimates for nonlinear elliptic equations and systems of high order (p.208)*	**Vladimir A. Kondratiev** *On Properties of Positive Solutions of Elliptic Equations (p.210)*	**Florin C. Muscalu** *A Harnack Type Theorem for Elliptic Systems with L^∞ Coefficients (p.214)*
Sect.: **12** H 107	Branching Processes, *Chair: Hermann Dinges*		
	Anton Wakolbinger *Critical branching random walks in a random medium (p.272)*	**Aubrey Wulfsohn** *Branching diffusions with random offspring distributions (p.272)*	**Klaus Fleischmann** *Super-Brownian motion with a super-Brownian catalyst (p.250)*
Sect.: **12** H 1029	Data Analysis, *Chair: Joerg Polzehl*		
	Osvaldo Marrero *Statistical analysis of seasonality in multiple groups (p.260)*	**Fernando Rosado** *On the Outlier Problem for Structured Data (p.268)*	**Vera Pawlowsky-Glahn** *Distances for multivariate spatial data analysis (p.265)*
Sect.: **15** H 2013	Ordinary Differential Equations I, *Chair: Alexander Ostermann*		
	Gennady Yu. Kulikov *How to control the global error of Runge-Kutta methods (p.305)*	**Alexander Ostermann** *The unstable manifold of an equilibrium point under discretization (p.308)*	**George Micula** *Polynomial spline functions of even degree approximating the solution of differential equations*
Sect.: **16** H 106	Phase Transition and Free Boundary Value Problems, *Chair: Jürgen Socolowsky*		
	Nikolaus Bubner *Phase Transitions in Shape Memory Alloys (p.320)*	**Olaf Klein** *Approximation results for phase–field systems (p.326)*	**Jürgen Socolowsky** *On a perturbed two-layer free surface flow down an inclined plane (p.332)*
Sect.: **16** H 112	Coding and Image Compression, *Chair: John K. Karlof*		
	Alexander P. Petukhov *Recursive wavelets and image compression (p.330)*	**John K. Karlof** *A Coding Scheme for the Gaussian Multiple Access Channel (p.325)*	
Sect.: **17** H 2033	Applied Optimal Control, *Chair: Fredi Tröltzsch*		
	Hans Josef Pesch *Optimal Control of Large Scale DAE Systems in Chemical Engineering (p.347)*	**Fabian Flores-Bazan** *Optimal solutions to some variational problems arising in Economics (p.341)*	**Bernd Kugelmann** *Robust and Optimal Feedback-Control in Flight Dynamics (p.344)*

Short Communications: Wednesday, 19 August, 15:00–15:45

	15:00–15:15	15:15–15:30	15:30–15:45
Sect.: **02** MA 042	ALGEBRAS I, *Chair: Alexandre V. Mikhalev*		
	Askar Dzhumadil'daev *Cohomologies of right-symmetric algebras and Novikov algebras (p.17)*	**Ekaterina A. Vasilieva** *Involutive Bases of Free Algebras (p.31)*	**Alexander A Totok** *Actions of Hopf algebras on noncommutative algebras*
Sect.: **03** MA 311	ADDITIVE NUMBER THEORY, *Chair: Doytchin Tolev*		
	Mariano Garcia *New type $(i, 1)$ amicable pairs with greatest common factor a power of 2 or a prime times a power of 2 (p.37)*	**Nazir M. Khan** *The Numbers that Can Be Represented as the Sum of Four Squares (One Repeating Itself Three Times), in Three Different Ways (p.39)*	**Doytchin Tolev** *Additive problem with prime numbers of a special type (p.46)*
Sect.: **08** MA 041	C*-ALGEBRAS AND MODULES, *Chair: Alexander Ya. Helemskii*		
	Michael J. Gruber *Non-commutative Bloch theory (p.128)*	**Evgenij V. Troitsky** *Kuiper and Dixmier-Douady theorems for C^*-Hilbert modules and K-theory (p.160)*	**Alexander Ya. Helemskii** *Description of projective Hilbert modules over C^*-algebras (p.129)*
Sect.: **08** MA 309	SPACES OF ANALYTIC FUNCTIONS, *Chair: Peter Duren*		
	Mitsuo Morimoto *Reproducing kernels related to the complex sphere (p.142)*	**Romeo Meštrović** *Topologies on Some F-algebras of Holomorphic Functions (p.141)*	**William E. Hornor** *Properties of isometry-inducing maps of the unit disc (p.130)*
Sect.: **08** MA 043	WAVELET TRANSFORMS, *Chair: Boris Rubin*		
	Charles N. Moore *Distribution function inequalities for sums of wavelets (p.142)*	**John Schmeelk** *Wavelet Transforms in Generalized Fock Spaces (p.154)*	**Boris Rubin** *Fractional Calculus and Wavelet Transforms in Integral Geometry (p.152)*
Sect.: **10** H 111	A PRIORI ESTIMATES & ASYMPTOTICS, *Chair: Shuji Watanabe*		
	Sergey Frolovitchev *Multiplicative solution asymptotics for Kolmogorov-Feller equation and asymptotics of the boundary value problems (p.203)*	**Annegret Glitzky** *Electro–reaction–diffusion systems in heterostructures (p.204)*	**Shuji Watanabe** *An embedding theorem of Sobolev type related to a generalized Fourier transform and applications to partial differential equations with singularity (p.224)*
Sect.: **10** H 110	APPLIED FLUIDS, *Chair: Lizabeth V. Rachele*		
	Olaf Schmidtmann *Stability Problems in Turbo Compressors (p.220)*	**Lizabeth V. Rachele** *Inverse Problems for Elastic Media (p.218)*	
Sect.: **12** H 107	RANDOM WALKS, DISCRETE STRUCTURES, *Chair: Klaus Fleischmann*		
	Boris L. Granovsky *Spectral gap of certain continuous-time Markov processes (p.252)*	**Rainer Siegmund-Schultze** *Level Crossing Probabilities for Random Walks (p.269)*	
Sect.: **12** H 1029	DISTRIBUTION THEORY, *Chair: Lutz Mattner*		
	Tea-Yuan Hwang *On some characterizations of population distributions (p.254)*	**Papa Ngom** *Aspect bayésien des α-distributions et application (p.263)*	**Lutz Mattner** *What are cumulants? (p.261)*
Sect.: **15** H 2013	ORDINARY DIFFERENTIAL EQUATIONS II, *Chair: Tatiana Anatolyevna Vasilyeva*		
	Felix Schwitzer *Linearly implicit Runge-Kutta discretizations of semilinear parabolic problems near equilibria (p.312)*	**Sergei Yu. Pilyugin** *Shadowing and perturbation of attractors in discretized parabolic equations (p.310)*	**Tatiana Anatolyevna Vasilyeva** *Twice implicit scheme with accuracy control and it application to chemical kinetics problems (p.316)*
Sect.: **16** H 106	NUMERICS FOR WAVE PROPAGATION, *Chair: Georg Hebermehl*		
	Rainer Schlundt *On the Computation of Systems of Linear Algebraic Equations for Monolithic Microwave Integrated Circuits (p.332)*	**Hüsnü Ata Erbay** *A numerical study of the complex modified Korteweg-de Vries equation (p.323)*	**Georg Hebermehl** *On the Computation of Eigen Modes for Lossy Monolithic Microwave Integrated Circuits (p.324)*
Sect.: **17** H 2033	DISTRIBUTED PARAMETER SYSTEMS I, *Chair: Dan Tiba*		
	Pierre, F. Aubert *Shape optimisation of geometrically nonlinear 3d beams and shells (p.336)*	**Raja Dziri** *Dynamical shape optimazation in Navier-Stokes equations (p.339)*	**Michael Hinze** *On the construction of feedback controllers for parabolic equations with an application to the control of fluid flow (p.343)*

Short Communications: Wednesday, 19 August, 16:15–17:00

	16:15–16:30	16:30–16:45	16:45–17:00
Sect.: **02** MA 311	Semigroups, *Chair: Hans-Jürgen Vogel*		
	Olga Macedonska *On semigroup identities in groups (p.22)*	**Boris M. Schein** *A new construction for free inverse semigroups (p.28)*	**Vučić Dašić** *Hyperrings and hypernear-rings of the multivalied mappings (p.16)*
Sect.: **02** MA 042	Topological Algebra, *Chair: Karl-Heinrich Hofmann*		
	Nouzha El Yacoubi *J-Generalized topological divisors of zero in topological Jordan algebras (p.18)*	**Rumara Jewett** *Almost Convexity of a Certain Nilpotent Group (p.19)*	**Mary Nailevna Sabitova** *The automorphisms of affine spaces and polynomial manifolds (p.27)*
Sect.: **05** MA 041	Kähler Manifolds, *Chair: Bill Watson*		
	Keizo Hasegawa *A class of compact Kählerian solvmanifolds and a general conjecture (p.71)*	**Toyoko Kashiwada** *The integrability of almost generalized Hopf manifolds (p.72)*	**Bill Watson** *The Goldberg Conjecture is true for the four-dimensional total space of an almost Hermitian submersion (p.84)*
Sect.: **06** H 112	Group Actions, *Chair: Reinhard E. Schultz*		
	Charles B. Thomas *Contact structure and spherical space forms (p.98)*	**Harald Biller** *Actions of large compact Lie groups on spheres (p.85)*	**Takashi Tsuboi** *On the group of area preserving homeomorphisms (p.99)*
Sect.: **09** H 111	Symmetry and Bifurcation I, *Chair: Karin Gatermann*		
	Oluwole Daniel Makinde *Numerical Study of Bifurcation for Steady Flow in a Diverging Tube (p.182)*	**Dmitry Turaev** *On infinitely degenerate dynamical systems (p.194)*	**Karin Gatermann** *Orbit space reduction (p.175)*
Sect.: **09** H 110	Dynamical Systems on Surfaces, *Chair: Raphael Albrecht*		
	Victoria Rayskin *Degenerate homoclinic crossings (p.187)*	**Shobh N. Singh** *Solutions of boundary value problems by double Laplace transformations (p.192)*	**Iuri M. Zaitsev** *Lyapunov-type vector-function for nonlinear dynamic system (p.196)*
Sect.: **13** H 106	Geometry I, *Chair: Jörg Rambau*		
	Dietmar Cieslik *The Steiner Ratio of Metric Spaces (p.275)*	**Michael Joswig** *On Elation Laguerre Planes (p.277)*	**Alexandre A. Makhnev** *Partial geometries and the Krein condition (p.282)*
Sect.: **15** H 2033	Wavelets I (organized by Andreas Rathsfeld), *Chair: Wayne M. Lawton*		
	Jacques Liandrat *Wavelets, from theory to efficients numerical algorithms (p.306)*	**Andreas Rieder** *Embedding and a-priori adaptivity (p.311)*	**Pierre Gilles Lemarié-Rieusset** *Some remarks on divergence free vector wavelets (p.306)*
Sect.: **15** H 2013	Nonlinear Operator Equations, *Chair: Jose A. Ezquerro*		
	Jose A. Ezquerro *A semilocal convergence result for Secant-type methods under Hölder continuity conditions (p.299)*	**Anatolii Borisovich Bakushinskii** *Iterative methods for the solution of nonlinear operator equations without property of the regularity (p.296)*	**Victor D. Didenko** *On Peculiarities of Approximation Methods for Singular Integral Equations with Conjugation (p.298)*

Short Communications: Wednesday, 19 August, 17:15–18:00

	17:15–17:30	17:30–17:45	17:45–18:00
Sect.: **02** MA 311	GROUPS I, *Chair: Wujie Shi*		
	Herbert Abels *Reductive groups as metric spaces (p.12)*	**Oleg I. Tavgen** *The free product of cyclic groups in the group $\mathrm{PSL}_2(\mathbb{C})$ (p.30)*	**Matthias Trittler** *Normalteiler symplektischer Gruppen (p.30)*
Sect.: **02** MA 042	SEMIRINGS/GROUPS AND ALGEBRAS, *Chair: Boris M. Schein*		
	Irena I. Artamonova *We consider semirings with $1 \neq 0$ (p.12)*	**Godwin Ekhaguere** *Algebraic representation theory of partial algebras (p.17)*	**Miroslav, D. Ćirić** *Atomic decompositions of algebras and structures*
Sect.: **05** MA 041	TOPOLOGY OF MANIFOLDS, *Chair: Sebastian Goette*		
	Christina Sormani *The Topology of Noncompact Manifolds with Positive Ricci Curvature (p.80)*	**Gerald M. Lodder** *Leibniz Cohomology for Differentiable Manifolds (p.75)*	**Sebastian Goette** *Equivariant η-invariants and η-forms (p.70)*
Sect.: **05** MA 043	MISCELLANEOUS TOPICS, *Chair: Zheng-Chao Han*		
		Margaret F. Symington *Symplectic rational blowdowns (p.81)*	**Zheng-Chao Han** *New existence results on conformal metrics with constant interior scalar curvature and constant boundary mean curvature (p.71)*
Sect.: **06** H 112	KNOTS, *Chair: Hitoshi Murakami*		
	Alan H. Durfee *Polynomial representations of knots (p.87)*	**Hugh R. Morton** *The Burau matrix and Fiedler's invariant for closed braids (p.94)*	**Vladimir V. Vershinin** *Generalizations of Braids: Homology and Vassiliev Invariants (p.100)*
Sect.: **09** H 111	SYMMETRY AND BIFURCATION II, *Chair: Reiner Lauterbach*		
	Patrick Bonckaert *Convergence problems of normalizing transformations with symmetry (p.172)*	**Claudia Wulff** *Spiral Waves and Euclidean Symmetry (p.194)*	**Reiner Lauterbach** *Intermittent dynamics and symmetry (p.180)*
Sect.: **09** H 110	INVARIANT MEASURES AND RANDOM DYNAMICS I, *Chair: Gerhard Keller*		
	Alexander Loskutov *Dynamics of one-dimensional nonhomogeneous coupled map lattices (p.181)*	**Roberto Markarian** *Invariant measures for Anosov maps with small holes (p.182)*	**Nikolas Efstathiou Sofronidis** *The Topological Entropy is continuous on a second category set in $\mathrm{Diff}^r(M)$, whenever M is a compact manifold and r is a non-negative integer (p.193)*
Sect.: **11** H 107	MANY PARTICLE SYSTEMS, *Chair: Gennady Shchepanuk*		
	Valeri V. Kucherenko *Normal forms of quadratic boson operators and theirs spectrum (p.238)*	**Christoph Bandt** *The geometry of a parameter space for interacting particle systems (p.229)*	**Gennady Shchepanuk** *Almost L_2-exponential mixing for classical continuous systems (p.245)*
Sect.: **13** H 106	GEOMETRY II, *Chair: Günter M. Ziegler*		
	Min Yan *Stratified Approach in Combinatorics (p.287)*	**Jörg Rambau** *A new View on the Cayley Trick (p.283)*	**Masahiro Hachimori** *Non-constructible triangulations of balls (p.277)*
Sect.: **15** H 2033	INTERPOLATION, *Chair: Raquel R. Martinez*		
	Raquel R. Martinez *Composite Methods for Interpolating Functions (p.307)*	**Wolfgang Volk** *Quasi-interpolation with Arbitrarily Often Differentiable Functions (p.316)*	**Yurij Kaluch I.** *Mathematical Problems of Condition Prognosing of Land Slopes and Slides (p.303)*

Poster Session: Wednesday, 19 August, 14:00–15:45

Sect.: **04** — Algebraic Geometry — MA 144

Jacqueline Arancibia *Canonical Curves in P^3* (p.49)	**Isidro P. Nieto** *$H_{2,2}$-Kummer surfaces associated to polarized abelian surfaces of type (1,3)* (p.58)	**Niranjan Ramachandran** *A conjecture of Deligne* (p.59)
Rudi Weikard *Algebro-geometric Differential Operators* (p.62)	**Katsuaki Yoshida** *Klein's surface of genus three and associated theta constants* (p.62)	**Rupert W.T. Yu** *Lattice polytopes for certain Demazure modules of sl_{n+1}* (p.63)

Sect.: **08** — Analysis — MA 144

Aldric L. Brown *Operator convex functions of two variables* (p.118)	**Mao-Ting Chien** *A parametrization of the c-numerical ranges of certain matrices* (p.120)	**William C. Connett** *Measure algebras that have oblate spheroidal wave functions as characters* (p.121)
Sonja Mouton *Some spectral properties in ordered Banach algebras* (p.143)	**Marjatta Näätänen** *Arithmetic Fuchsian groups of signature (0; a, b, c, oo)* (p.143)	**Samyon R. Nasyrov** *Robin capacity and lift of infinitely thin airfoils* (p.144)
David L. Salinger *Lifting the Difference Spectrum* (p.153)	**Ajit Iqbal Singh** *Maximal quotient rings of algebras of functions and operators* (p.156)	**Arne Stray** *Polynomial approximation of analytic functions with finite Dirichlet integral* (p.158)
Chia-Chi Tung *A Note on the Hilbert Nullstellen Satz* (p.161)	**Dmitri Zaitsev** *On holomorphic boundary extensions, web theory, and invariants of Grassmanians* (p.165)	**Jaroslav Zemánek** *Powers and resolvents* (p.167)

Poster Session: Wednesday, 19 August, 16:15–18:00

Sect.: **16** — Applications — MA 144

Attia A. Ashour *Solution for Certain Three Dimensional Boundary Value Problems with Mixed Boundaries* (p.320)	**Wolfgang Dreyer** *Evolution of Shock Structures in Gases and Solids* (p.322)	**Rolf Hünlich** *Modelling and simulation in the technology of power devices* (p.324)
Sophia R.-J. Jang *The dynamics of a variable-yield nutrient-plankton model* (p.325)	**Hans-Christoph Kaiser** *Modeling of QW–Lasers Including Schrödinger–Poisson Systems* (p.325)	**Carlos C. Moreira** *Self-organized model for the genetic code* (p.330)
Alexandra E. Rodkina *On stochastic functional-differential equations and its applications* (p.331)	**Elena Shchepanika** *Duck-trajectories in combustion problems* (p.332)	**Krzysztof Wilmański** *Dynamic Singularities in Porous and Granular Materials* (p.334)
Hajime Yamashita *Approximate Analysis of Fuzzy Graph and its Application* (p.334)		