Saturday, 22 August

Short Communications and Poster Sessions

Short Communications: Saturday, 22 August, 14:00–14:45

	14:00–14:15	14:15–14:30	14:30–14:45
Sect.: **02** MA 311	Representations of Groups, *Chair: Alexander S. Kleshchev*		
	Mohammad Reza Darafsheh *The character table of the group $GL_2(q)$ when extended by a certain group of order two* (p.15)	**Anna Helversen-Pasotto** *Représentations de $GL(n, F_q)$ et sommes de Gauss* (p.18)	**Alexei Davydov** *Drinfel'd theory and representations of finite groups* (p.16)
Sect.: **04** MA 042	Affine Algebraic Geometry, *Chair: Marko Roczen*		
	Tatsuji Kambayashi *A Nullstellensatz for Pro-Affine Algebras* (p.55)	**Vladimir Shpilrain** *Embeddings of curves in the plane* (p.60)	**Jie-Tai Yu** *Polynomial Retracts and the Jacobian Conjecture* (p.63)
Sect.: **05** MA 041	Surface Theory, *Chair: John M. Sullivan*		
	Udo J. Hertrich-Jeromin *Transformations of Isothermic surfaces* (p.71)	**Bernd Ammann** *New estimates for the Laplace and Dirac spectrum of 2-Tori and applications to the Willmore functional* (p.64)	**John M. Sullivan** *Triunduloids: Embedded Constant-Mean-Curvature Surfaces with Three Ends* (p.81)
Sect.: **06** H 112	Algebraic Topology I, *Chair: Jean-Michel Lemaire*		
	Igor Kriz *Real-oriented homotopy theory* (p.91)	**Carlos Prieto** *Quasifibrations and Bott periodicity* (p.95)	**Alexander S. Mishchenko** *Local combinatorial Hirzebruch formula* (p.94)
Sect.: **10** H 111	Elliptic Equations III (Spectral Theory), *Chair: Tetsutaro T. Shibata*		
	Gabriella Bognár *On a nonlinear eigenvalue problem* (p.198)	**Jochen Denzler** *Existence of windows with minimal heat diffusion* (p.201)	**Tetsutaro T. Shibata** *Asymptotic behavior of eigenvalues of nonlinear elliptic two-parameter problems* (p.221)
Sect.: **10** H 110	Systems II, *Chair: Joachim Naumann*		
	Hakop A. Hakopian *On two partial differential and one algebraic systems* (p.205)	**Waichiro Matsumoto** *On the Cauchy-Kowalevskaya theorem of Nagumo type for systems* (p.213)	**Joachim Naumann** *Interior Hölder continuity of weak solutions to nonlinear parabolic systems in two spatial dimensions* (p.215)
Sect.: **11** H 107	Field Theory I, *Chair: Pierre Mathieu*		
	Robert W. Carroll *On Whitham dynamics and renormalization* (p.230)	**Andrei G. Bytsko** *On factorized Virasoro characters* (p.230)	**Andreas Fring** *Lie Algebraic Structures from Factorized Virasoro Characters* (p.233)
Sect.: **11** H 1029	Discrete Eigenvalue Theory, *Chair: Miodrag Perovic*		
	Miodrag Perovic *Some Comments Concerning the Application of the Discrete Eigenvalue Theory*		
Sect.: **14** MA 043	Mathematical Aspects of Computer Science V, *Chair: Hartmut Ehrig*		
	Bernd Gärtner *Abstract Objective Functions — From Geometry to Combinatorics in Linear Programming* (p.291)	**Andreas Brieden** *Optimal Radii-Algorithms* (p.289)	**Anuar Dusembaev** *An operator approach to program segmentation* (p.290)
Sect.: **15** H 2033	Partial Differential Equations IV, *Chair: Jennifer J. Zhao*		
	Jennifer J. Zhao *Finite-difference approximations to a parabolic system modeling the thermoelastic contacts of two rods* (p.319)	**Jianping Zhu** *A High Order Algorithm for Solving Reaction Diffusion Equations* (p.319)	**Raul Kangro** *Analysis of Artificial Boundary Conditions for Black-Scholes Equations* (p.304)
Sect.: **17** H 2013	Optimization in Function Spaces, *Chair: Valeri V. Obukhovskii*		
	Andres, M. Encinas *Existence and Approximation of Gauss Variational Problem in Potential Theory* (p.340)	**Stanisław Migórski** *Optimal control of hemivariational inequalities* (p.345)	**Valeri V. Obukhovskii** *On some methods in a periodic problem for a functional differential inclusion in a Banach space* (p.346)

Short Communications: Saturday, 22 August, 15:00–15:45

	15:00–15:15	15:15–15:30	15:30–15:45
Sect.: **02** MA 311	COMMUTATIVE RINGS, *Chair: Peter Draexler*		
	Alexander Levin *Multivariable dimension polynomials and their invariants* (p.21)	**Venkat Murali** *On Krull Intersection Theorem of Fuzzy Ideals* (p.24)	**Cornelia G. Naude** *Asymptotic behaviour of attached primes* (p.25)
Sect.: **04** MA 042	RIEMANN SURFACES/LINEAR SYSTEMS, *Chair: Anette A'Campo-Neuen*		
	Sergei Natanzon *Topological structure of spaces of holomorphic morphisms* (p.58)	**Masahiro Ohno** *On nef values of determinants of ample vector bundles* (p.59)	**Siye Wu** *On the instanton complex of holomorphic Morse theory* (p.62)
Sect.: **05** MA 041	CURVES, *Chair: Joachim Giesen*		
		Kazuyuki Enomoto *Total absolute curvature of nonclosed curves* (p.67)	**Joachim Giesen** *Geometry of One-Manifolds* (p.69)
Sect.: **06** H 112	ALGEBRAIC TOPOLOGY II, *Chair: Daniel H. Gottlieb*		
	Carles Casacuberta *A universal space for plus-constructions* (p.86)	**Samson Saneblidze** *Adams Cobar Construction as a Cubical Complex* (p.97)	**Hirotaka Tamanoi** *BP cohomology theory and v_n-series* (p.98)
Sect.: **10** H 111	HYPERBOLIC EQUATIONS II (SHOCKS, BLOW-UP, AND OTHER SINGULAR PHENOMENA), *Chair: Ya-Guang Wang*		
	Mehmet Can *Blow up of solutions of a quasilinear hyperbolic equation with applications* (p.199)	**Michael Ruzicka** *Electrorheological fluids, an example for systems with non-standard growth* (p.219)	**Ya-Guang Wang** *Nonlinear Geometrical Optics for Shock Waves* (p.224)
Sect.: **10** H 110	DIFFUSION PROCESSES, *Chair: Natalia I. Grinberg*		
	Jack Carr *Asymptotic Behaviour of Solutions to a simplified Lifshitz-Slyozov Equation* (p.200)	**Alexander M. Chebotarev** *Resolvent theory for quantum dynamical semigroup* (p.200)	**Natalia I. Grinberg** *Inverse boundary problem for 2D diffusion equation* (p.205)
Sect.: **11** H 107	FIELD THEORY II, *Chair: Robert W. Carroll*		
	Pierre Mathieu *Generating functions for fusion rules* (p.240)	**Moukadas Missarov** *Critical phenomena and continuum limit in the hierarchical fermionic model* (p.240)	**Michael Monastyrsky** *Correlation functions on Riemann surfaces and statistics of Knots* (p.241)
Sect.: **14** MA 043	MATHEMATICAL ASPECTS OF COMPUTER SCIENCE VI, *Chair: Andreas Brieden*		
	Hartmut Ehrig *On the Role of Category Theory in Computer Science* (p.290)	**Raja Natarajan** *Combinators for Concurrency* (p.294)	**George Francis** *The Making of the Optiverse* (p.291)
Sect.: **15** H 2033	PARTIAL DIFFERENTIAL EQUATIONS V, *Chair: Cesar Palencia*		
	Cesareo González *The implicit Euler method for abstract time-dependent parabolic problems with variable domains* (p.301)	**Raimondas Ciegis** *Odd-even difference schemes for the Schrödinger problem* (p.298)	**Daisuke Furihata** *Finite difference schemes that inherit the energy conservation or dissipation property from partial differential equations* (p.300)
Sect.: **17** H 2013	STOCHASTIC CONTROL/CONTROLLABILITY, *Chair: Galina A. Timofeeva*		
	Yuri L. Sachkov *Controllability of right-invariant systems on solvable Lie groups* (p.349)	**Leonid E. Shaikhet** *Stability of stochastic difference equations with varying delays* (p.350)	**Galina A. Timofeeva** *Effective control and observation in the multistage stochastic optimization problem* (p.352)

Short Communications: Saturday, 22 August, 16:15–17:00

	16:15–16:30	16:30–16:45	16:45–17:00
Sect.: **03** MA 311	INTEGRAL MATRICES, *Chair: Jean-Louis Nicolas*		
	Shashikant Katre *Matrices over orders in algebraic number fields as sums of k-th powers* (p.39)	**Dmitri Malinin** *Integral representations of finite groups* (p.42)	**Jean-Louis Nicolas** *On the maximum order of torsion elements in $GL(n,\mathbb{Z})$* (p.43)
Sect.: **03** MA 042	ALGEBRAIC GEOMETRY II, *Chair: Jörg Wildeshaus*		
	Jörg Wildeshaus *Degeneration of Shimura Polylogarithms*		
Sect.: **07** H 112	TOPOLOGICAL GROUPS, *Chair: Wolfgang Reinhold Bergmann*		
	Boris S. Khots *Fifth Hilbert problem and infinite-dimensional P-groups* (p.106)	**Grigori Lazarevich Litvinov** *Group algebras and nonunitary representations of smooth groups* (p.107)	**Julio Cesar Rebelo** *Associating vector fields to certain subgroups of $\mathrm{Diff}^{w}(S^1)$: applications to ergodicity and rigidity* (p.109)
Sect.: **08** H 110	UNIVALENT FUNCTIONS II, *Chair: Arne Stray*		
	Peter Duren *Hyperbolic Capacity and its Distortion under Conformal Mapping* (p.122)	**Ilgiz G. Kayumov** *Asymptotical behaviour of logarithmic coefficients of univalent functions* (p.134)	**Dmitri V. Prokhorov** *Estimates of linear functionals for bounded univalent functions* (p.149)
Sect.: **08** MA 041	INEQUALITIES AND INTERPOLATION, *Chair: Vladimir I. Ovchinnikov*		
	Vladislav F. Babenko *Inequalities of Landau–Kolmogorov–Nagy Type* (p.115)	**Vladimir Alexandrovich Kofanov** *Exact Inequalities of Kolmogorov Type for Periodic Functions of Small Smoothness* (p.135)	**Vladimir I. Ovchinnikov** *Nonclassical Interpolation Theorems in Spaces of Smooth Functions* (p.146)
Sect.: **08** MA 309	MEASURE AND INTEGRATION, *Chair: Carmen D. Vlad*		
	Alexandre V. Mikhalev *Solution of Riesz-Radon problem* (p.141)	**Valeriy Konstantinovich Zakharov** *A solution of the general Riesz-Radon problem for a Hausdorff space* (p.166)	**Carmen D. Vlad** *Outer measures and countably additivity of measures* (p.162)
Sect.: **08** MA 043	BANACH ALGEBRAS AND FREDHOLM MAPS, *Chair: Kari E. Ylinen*		
	Victor G. Zvyagin *Topological methods in the theory of perturbations of Fredholm maps and applications* (p.167)	**Hans-Olav I. Tylli** *Rigidity of commutators and elementary operators on Calkin algebras* (p.161)	**Kari E. Ylinen** *Positive definite operator functions on groups and related multilinear operators on products of Banach-*-algebras* (p.165)
Sect.: **09** H 111	RANDOM DYNAMICAL SYSTEMS, *Chair: Govindan Rangarajan*		
	Lev Ryashko *Quasipotential in stochastic stability analysis of limit cycles* (p.188)	**Henri U. Schurz** *Contractivity and Stability Exponents of Nonlinear Stochastic Dynamical Systems* (p.191)	**Govindan Rangarajan** *A New Method for Computing Lyapunov Exponents* (p.186)
Sect.: **12** H 107	SELF SIMILARITY, WHITE NOISE, *Chair: Murad S. Taqqu*		
	Iosif Kolumban *Invariant sets in Menger spaces* (p.257)	**Louis F. Rossi** *Self-similar viscous rotating vortical structures* (p.268)	**Yuh-Jia Lee** *Generalized White Noise Functionals on Classical Wiener Space* (p.258)
Sect.: **12** H 1029	TESTS AND CONFIDENCE SETS, *Chair: Ekkehard Glimm*		
	Alejandra Cabana *Goodness-of-Fit Tests Based on Transformed Empirical Processes* (p.249)	**Roman Rozanski** *Asymptotically consistent and efficient fixed-size sequential confidence sets* (p.269)	**Ekkehard Glimm** *Power and admissibility of spherical multivariate tests* (p.251)
Sect.: **13** H 106	GEOMETRY III, *Chair: Klaus Altmann*		
	Jennifer Mc Nulty *Connected Hyperplanes in Binary Matroids* (p.282)	**Andreas W.M. Dress** *Highly Regular Spatial Structures: Theory, Software, and Visualization* (p.276)	**Klaus Altmann** *Hodge numbers for polytopes* (p.274)
Sect.: **18** H 2013	UNDERGRADUATE MATHEMATICS AT THE UNIVERSITY, *Chair: Joseph W. Eyles*		
	Talma O. Leviatan *Misconceptions, fallacies, pitfalls, and paradoxes in the teaching of probability* (p.361)	**Lyudmila Y. Khilchenko** *An algorithmic approach to the notion of an elementary function* (p.360)	**Joseph W. Eyles** *Discovering R.L. Moore's Calculus Course* (p.358)

Short Communications: Saturday, 22 August, 17:15–18:00

	17:15–17:30	17:30–17:45	17:45–18:00
Sect.: **03** MA 311	Analytic Number Theory I, *Chair: Jin Nakagawa*		
	Antanas Laurincikas *Value-distribution theorems on Lerch zeta-functions* (p.40)	**Roberto J. Miatello** *Estimates for Kloosterman sums for totally real number fields* (p.42)	**Jin Nakagawa** *Ohno conjecture on the zeta functions associated with the space of binary cubic forms* (p.43)
Sect.: **04** MA 042	Curves and Surfaces/Higher-Dimensional Varieties I, *Chair: Rolf-Peter Holzapfel*		
	Viktor S. Kulikov *On Chisini's Conjecture* (p.55)	**Kazuhisa Maehara** *Deformation of function fields* (p.56)	**Dan Avritzer** *The Hilbert scheme component of the intersection of two quadrics* (p.50)
Sect.: **07** H 112	Amenable Groups, *Chair: Grigori L. Litvinov*		
	Wolfgang Reinhold Bergmann *Amenable Groups and Generalized Cuntz Algebras* (p.102)	**Alexander I. Shtern [Chtern]** *Quasi-Symmetry and Amenability* (p.110)	
Sect.: **08** H 110	Hilbert and Krein Spaces, *Chair: Vladimir Strauss*		
	Elias Flytzanis *An invariance property of quadratic forms* (p.123)	**Michael Gebel** *Spectral Theory of Adjointable Operators in Spaces with two Metrics* (p.125)	**Vladimir Strauss** *On a model representation for a normal operator in Krein space* (p.158)
Sect.: **08** MA 041	Multivalued Mappings, Weighted Inequalities, and Means, *Chair: Lars-Erik Persson*		
	B.K. Sharma *A Strong Convergence Theorem for Multivalued Nonexpansive Mappings* (p.155)	**Zheng Liu** *Inequalities for Some Means* (p.139)	**Lars-Erik Persson** *Sharp multidimensional multiplicative inequalities for weighted Lebegue spaces* (p.147)
Sect.: **08** MA 309	Dunkl Operators and Hyperfunctions, *Chair: Dohan Kim*		
	Margit Rösler *Positivity of Dunkl's intertwining operator* (p.152)	**Stevan Pilipović** *Suppleness of Some Quotient Spaces of Microfunctions* (p.147)	**Dohan Kim** *Moment problem for hyperfunctions and the heat kernel method* (p.134)
Sect.: **08** MA 043	Measure Problems, *Chair: Jiří Jarník*		
	Raymond J. Grinnell *Two real functions associated with convolutions of measures* (p.127)	**Daniar H. Mushtari** *Orthomodular posets of projections on linear spaces and signed measures on them* (p.143)	**Jiří Jarník** *Convergence theorem for Henstock–Kurzweil integral based on the convergence of primitives* (p.132)
Sect.: **09** H 111	Complex Differential Equations, *Chair: Bruno Scardua*		
	Ljudmila A. Bordag *Projective differential geometrical structure of the Painlevé equations* (p.172)	**Alexei A. Glutsuk** *Stokes phenomena via generic perturbation* (p.176)	**Bruno Scardua** *Integration of Complex Differential Equations* (p.190)
Sect.: **12** H 107	Teaching in Probability, *Chair: Murad S. Taqqu*		
	Natalya V. Vinogradova *Classical Definition of Probability* (p.271)	**Yuliya Stepanovna Mishura** *Generalized stochastic integrals with application to fractional Brownian motion*	
Sect.: **13** H 106	Codes and Cryptography, *Chair: A. Donald Keedwell*		
	Gerhard R. Paseman *A different approach to Hadamard's maximum determinant problem* (p.283)	**Gholamrega B. Khosronshahi** *On trades and their codes* (p.279)	**A. Donald Keedwell** *Crossed-inverse quasigroups and their use in cryptography* (p.278)
Sect.: **17** H 2033	Nonlinear Optimization II, *Chair: Leon A. Petrosjan*		
	Alexei V. Blinov *The combined methods of centers with using reduced gradient for solving nonlinear optimization problems* (p.337)	**R. Enkhbat** *Global Optimality Conditions for some class of Nonconvex Optimization Problems* (p.340)	**Leon A. Petrosjan** *Time-consistancy problem in differential games* (p.348)
Sect.: **18** H 2013	Geometry in the Classroom, *Chair: F. Rudolf Fritsch*		
	Klaus-D. Graf *Distance learning fördert die Kreativität im Mathematikunterricht* (p.360)	**Bernd Zimmermann** *Al Sijzi on problemsolving and creativity in elementary geometry* (p.364)	**F. Rudolf Fritsch** *Remarks on quadrangles* (p.359)

Poster Session: Saturday, 22 August, 14:00–15:45

Sect.: **12** — Probability and Statistics — MA 144

Jaap Geluk *Second order regular variation and the domain of attraction* (p.251)	**Werner S. Hurlimann** *Comparison between extremal distributions: a conjecture and a partial proof* (p.253)	**Takeshi Ishikawa** *On modified maximum likelihood estimation for Rayleigh distribution* (p.254)
Dionis Lica *χ^2-Test for Markov Chains* (p.258)	**Alfred Liemant** *Hopping transport of charge carriers on a disordered lattice* (p.259)	**Elina M. Moldavskaya** *Minimum Contrast Estimators of Parameter of Spectral Density of Random Fields in Continuous Case* (p.261)
Hans-Joachim Mucha *Classification based on adaptive distances* (p.262)	**Marcus L.G. Nilsson** *Finite Probability Sequences of Large Entropy* (p.264)	**Jörg Polzehl** *Adaptive Image Denoising with Applications to MRI* (p.266)
Tiberiu V. Postelnicu *Specific Statistical Method for Binary Data* (p.266)	**Grzegorz A. Rempala** *Random permanents of increasing degree* (p.267)	**Mikhailo Yadrenko** *Extrapolation and filtering problems for isotropic random fields* (p.273)

Sect.: **18** — Teaching and Popularization of Mathematics — MA 144

Gloria L.M. Alves *Modernization of Basic Disciplines in Engineering Courses at IME* (p.357)	**Gerhard Brecht** *Do Mathematical Standards Concern Mathematics?* (p.357)	**Cecilia Crespo Crespo** *Thinking about Geometry Teaching* (p.358)
Paul Fjelstad *A Picture for Real Arithmetic* (p.359)	**Peter Kortesi** *Junior Mathematical Congress — Challenge for Future Mathematicians* (p.360)	**Elena Vladimirovna Kuragina** *Methodical support for a programming-methodical complex of study methods of optimization* (p.361)
Julia M. Moshnikova *Correspondence School of Mathematics in Karelia* (p.362)	**Yasuhiro Ozaki** *An Approach in Teaching by Means of the Personal Computer Software "Mathematica"* (p.363)	

Poster Session: Saturday, 22 August, 16:15–18:00

Sect.: **14** — Mathematical Aspects of Computer Science — MA 144

Giovanni Francesco Mascari *From TQFT to TQCT* (p.293)	**Roman Matuszewski** *Journal of Formalized Mathematics — a collection of mechanically checked articles* (p.293)	

Sect.: **15** — Numerical Analysis and Scientific Computing — MA 144

Mansour Abdullah Al-Zanaidi *A Class of Generalized Trapezoidal Formulas for the Integration of y'=f(x, y)* (p.296)	**Mehmet Bozer** *The composite grids method of increased accuracy in solving the mixed boundary value problem for the Laplace equation* (p.297)	**Chin-Yun Chen** *VANI: A package for Validated, Adaptive Numerical Integration in one and more dimensions* (p.297)
Adigezal Dosiyev *A block-grid method for solving Laplace's boundary value problem with singularities* (p.298)	**Bratislav Iricanin** *On the modification of Euler-Maclaurin summation formula connected with the Chebyshev quadrature formulae* (p.302)	**Anna Kamont** *Ditzian — Totik moduli of smoothness, spline systems and generalized Hölder spaces* (p.303)
Ivan G. Kazantsev *Tomographic reconstruction from arbitrary directions* (p.304)	**Ingemar Kinnmark** *Overdetermined Differential Equation Problems* (p.304)	**Peeter Oja** *Adaptive by monotonicity interpolating splines* (p.307)
Arvet Pedas *Collocation method for weakly singular integral equations* (p.309)	**Gerd Reinhardt** *Schnelle Algorithmen zum Clustern großer Datenmengen* (p.311)	**Mayumi Shoji** *Bifurcation structure of steady, deep-water gravity waves with constant vorticity* (p.313)
Svetlana N. Sytova *Mathematical Modelling of X-ray Dynamical Diffraction by Non-Stationary Deformed Crystals* (p.315)	**Zoltan Istvan Szabo** *Root-finding Inclusion Algorithms Based on Tangential Lines and Parabolas* (p.315)	**Svetlana B. Zaitseva** *On sharp error estimates in L_2-norm for methods of solving the heat equation in non-smooth data classes* (p.318)
Aihui Zhou *Multiparameter error resolution for finite elements* (p.319)		