Thursday, 20 August

Plenary Lectures

9:30 – 10:30 **Auditorium Maximum H 105**

Dusa McDuff, SUNY, Stony Brook, USA
Fibrations in Symplectic Topology *(I: p.16)*
Chair: Yakov Eliashberg, Stanford University, Stanford, USA

11:00 – 12:00 **Auditorium Maximum H 105**

I.G. Macdonald, Queen Mary and Westfield College, University of London, London, England
Constant Term Identities, Orthogonal Polynomials, and Affine Hecke Algebras *(I: p.12)*
Chair: Richard Borcherds, University of Cambridge, Cambridge, UK

Invited Lectures

14:00 – 14:45

04 **Mark L. Green,** UCLA, Los Angeles, USA **MA 005**
Higher Abel-Jacobi Maps *(I: p.62)*
Chair: Frank Schreyer

07 **Alexander Eskin,** University of Chicago, Chicago, USA **MA 004**
Counting problems and semisimple groups *(I: p.91)*
Chair: Peter Sarnak

08 **Sergey Ivanovich Pinchuk,** Indiana University, Bloomington, USA and Chelyabinsk State Univ. of Technology, Chelyabinsk, Russia **MA 001**
Reflection Principle in Higher Dimensions *(I: p.104)*
Chair: Jürgen Leiterer

10 **Matei Machedon,** University of Maryland, College Park, USA **H 1012**
Fourier Analysis of Null Forms and Non-linear Wave Equations *(I: p.124)*
Chair: Michael Struwe

12 **Ruth J. Williams,** University of California at San Diego, La Jolla, USA **H 1028**
Reflecting Diffusions and Queueing Networks *(I: p.152)*
Chair: Ludwig Arnold

17 **Alexander Schrijver,** CWI and University of Amsterdam, Amsterdam, Netherlands **H 2032**
Routing and timetabling by topological search *(I: p.194)*
Chair: Günter M. Ziegler

15:00 – 15:45

04 **Maurizio Cornalba,** Università di Pavia, Pavia, Italy **MA 005**
Cohomology of moduli spaces of stable curves *(I: p.61)*
Chair: Alberto Conte

07 **Joseph Bernstein,** Tel Aviv University, Tel Aviv, Israel **MA 004**
Analytic structures on representation spaces of reductive groups *(I: p.88)*
Chair: Wolfgang Soergel

08 **Nigel David Higson,** Pennsylvania State University, University Park, USA **MA 001**
The Baum-Connes Conjecture *(I: p.98)*
Chair: Joachim Cuntz

10 **Frank Eric Merle,** Université de Cergy-Pontoise, Cergy-Pontoise, France **H 1012**
Blow-up Phenomenon For Critical Nonlinear Schrödinger and Zakharov Equations *(I: p.124)*
Chair: Elmar Schrohe

12 **Maury D. Bramson,** University of Minnesota, Minneapolis, USA **H 1028**
State Space Collapse for Queueing Networks *(I: p.141)*
Chair: Jennifer T. Chayes

17 **Michel X. Goemans,** CORE, Louvain-La-Neuve, Belgium and MIT, Cambridge, USA **H 2032**
Semidefinite programming and combinatorial optimization *(I: p.193)*
Chair: András Frank

16:15 – 17:00

!!! **Lecture by a Fields Medalist** **MA 005**
– to be announced –
Chair: N.N.

05 **Joachim Lohkamp,** Universität Augsburg, Augsburg, Germany **MA 001**
Curvature Contents of Geometric Spaces *(I: p.75)*
Chair: Jean-Pierre Bourguignon

06 **Tomotada Ohtsuki,** Tokyo Institute of Technology, Tokyo, Japan **MA 004**
A filtration of the set of integral homology 3-spheres *(I: p.82)*
Chair: W.B. Raymond Lickorish

09 **Krystyna M. Kuperberg,** Auburn University, Auburn, USA **H 1012**
Counterexamples to the Seifert Conjecture *(I: p.117)*
Chair: Urs Kirchgraber

11 **Jennifer T. Chayes,** Microsoft Research, Redmond, USA **H 1028**
Birth of the Infinite Cluster: Finite-Size Scaling in Percolation *(I: p.130)*
Chair: Jean-Dominique Deuschel

14 **Madhu Sudan,** MIT, Cambridge, USA **H 2032**
Probabilistic checking of proofs *(I: p.173)*
Chair: Hans J. Prömel

17:15 – 18:00

05 **Yakov Eliashberg,** Stanford University, Stanford, USA **MA 001**
Invariants in Contact Topology *(I: p.70)*
Chair: Jean-Pierre Bourguignon

06 **Clifford Henry Taubes,** Harvard University, Cambridge, USA **MA 004**
The Geometry of the Seiberg-Witten Invariants *(I: p.86)*
Chair: Dieter Kotschick

09 **Håkan Eliasson,** Royal Institute of Technology, Stockholm, Sweden **H 1012**
Reducibility and point spectrum for linear quasi-periodic skew-products *(I: p.112)*
Chair: Reiner Lauterbach

11 **Detlev Buchholz,** Universität Göttingen, Göttingen, Germany **H 1028**
Scaling algebras in local relativistic quantum physics *(I: p.129)*
Chair: Gian Michele Graf

14 **Johan Håstad,** Royal Institute of Technology, Stockholm, Sweden **H 2032**
On approximating NP-hard optimization problems *(I: p.169)*
Chair: Hans J. Prömel

16 **Graeme Walter Milton,** The University of Utah, Salt Lake City, USA **MA 005**
Exact relations for composites: towards a complete solution *(I: p.191)*
Chair: Krzysztof Wilmanski

Short Communications and Poster Sessions

Short Communications: Thursday, 20 August, 14:00–14:45

	14:00–14:15	14:15–14:30	14:30–14:45
Sect.: **01** MA 042	Lattices and Universal Algebra, *Chair: Marcus A. Kracht*		
	Isabella C. Burger *Boolean algebras and information-dependent entailment relations (p.6)*	**Dietmar Dorninger** *On ring-like structures occurring in axiomatic quantum mechanics (p.7)*	**Philippe Niederkorn** *Natural dualities for finitely generated varieties of MV-algebras (p.8)*
Sect.: **03** MA 311	Cyclotomy, *Chair: Stanley J. Gurak*		
	Grzegorz, M. Banaszak *Wild kernel for higher K-groups and arithmetic of square rings (p.34)*	**Mónica del Pilar Canales** *Higher levels of Z/p^lZ and cyclotomy (p.34)*	**Stanley J. Gurak** *On the factors $\Phi^{(j\delta/m)}(x)$ of the period polynomial for finite fields (p.37)*
Sect.: **05** MA 041	Special Submanifolds I, *Chair: Takashi Okayasu*		
	Vladimir G. Tkachev *Upper estimates of volume growth for minimal quasigraphs (p.82)*	**Liu Ximin** *Positively curved totally complex submanifolds in the Cayley projective space (p.75)*	**Takashi Okayasu** *A Bernstein result for minimal graphs of higher codimension (p.77)*
Sect.: **06** H 112	Gauge Theory and Low Dimensional Topology, *Chair: Ronald J. Stern*		
	Yong S. Cho *Finite Group Actions and Seiberg-Witten Invariants (p.87)*	**Nikolai Saveliev** *Casson invariant and surface singularities (p.97)*	**Louis H. Kauffmann** *Functional Integrals and the Kontsevich Integral (p.90)*
Sect.: **09** H 111	Chaotic Dynamical Systems, *Chair: Mohamed Houssni*		
	Abdelhak Fahsi *Saddle loop and chaotic bifurcations in nonlinear oscillators (p.175)*	**Jaroslav Smital** *Distributional chaos in dynamical systems generated by iterates of continuous maps (p.192)*	**Mohamed Houssni** *Suppression of chaos in a quasi-periodically excited system (p.177)*
Sect.: **09** H 110	Periodic Solutions of Differential Equations, *Chair: Mohammad Jahanshahi*		
	Mihail Emilian Popescu *Existence and Oribital Stability of Periodic Solutions for Small-Parameter Non-Linear Differential Systems (p.186)*	**Sergiy V. Yanchuk** *Conditions for the existence of cycles in some two-dimensional system of differential equations (p.195)*	**Mohammad Jahanshahi** *Periodic Solution of a Non-Linear Dynamical System of Second Order with Dimension n (p.178)*
Sect.: **11** H 107	Integrable Systems I, *Chair: Renat Z. Zhdanov*		
	Igor Korepanov *Integrability in higher dimensions (p.238)*	**Iordan P. Michev** *On the Fay identity for Kdv tau functions and the identity for the Wronskian of squared solutions of Sturm-Liouville equation (p.240)*	**Renat Z. Zhdanov** *On classification of separable (2+1)-dimensional Schrödinger equations (p.246)*
Sect.: **14** MA 043	Mathematical Aspects of Computer Science I, *Chair: Stefan Felsner*		
	Laxminarayan Das *Convexity to Invexity (p.290)*	**Narayan C. Debnath** *RGPG: A Graph for Software Modeling (p.290)*	**Victor Kasyanov** *Hierarchical graphs and visual processing (p.292)*
Sect.: **15** H 2033	Approximation I, *Chair: Jozsef Grof*		
	Alexis Bacopoulos *On the link among vectorial minimal projections and best approximations (p.296)*	**Igor Fedotov** *Another Approach to Quadrature Methods (p.300)*	**Jozsef Grof** *Einige Verallgemeinerungen bzw. Modifizierungen der Szász-Mirakjan-Operatoren (p.301)*
Sect.: **15** H 2013	Partial Differential Equations I, *Chair: Vladimir V. Shaidurov*		
	Christoph Pflaum *Robust Multilevel Algorithms for Elliptic Differential Equations (p.309)*	**Vladimir V. Shaidurov** *Cascade finite element methods for weakly nonlinear elliptic equations (p.313)*	**Urve Kangro** *Spectral Convergence of the Interior Source Method with Point Matching (p.303)*
Sect.: **16** H 106	Non-linear Wave Propagation, *Chair: Lokenath Debnath*		
	Mikhail Vasiliev *Automodelling solutions to the equations of the viscous heat conductive gas flows (p.333)*	**Mark C.W. Jones** *Coupled evolution equations and the stability of stratified flows (p.325)*	**Lokenath Debnath** *Resonant Phenomena in Linear and Nonlinear Water Waves (p.321)*

Short Communications: Thursday, 20 August, 15:00–15:45

	15:00–15:15	15:15–15:30	15:30–15:45
Sect.: **03** MA 311	Function Fields and Curves I, *Chair: Franck Leprévost*		
	Florian Heß *Effective construction of Riemann-Roch spaces in global function fields* (p.38)	**Ryutaro Horiuchi** *On Weierstrass Points of the Fermat Curve* (p.38)	**Franck Leprévost** *On some elliptic surfaces and elliptic curves related to discriminants of cubic or quartic polynomials* (p.41)
Sect.: **05** MA 041	Special Submanifolds II, *Chair: Ivko M. Dimitric*		
	Valentin Gabriel Cristea *Totally umbilical graded submanifolds* (p.66)	**S.M.B. Kashani** *Cohomogeneity One Revolution Hypersurfaces of the Euclidean Space* (p.72)	**Ivko M. Dimitric** *Low-type submanifolds of non-flat complex space forms* (p.67)
Sect.: **06** H 112	Knots and 3-Manifolds, *Chair: Jonathan A. Hillman*		
	Joel Hass *The number of Reidemeister Moves Needed for Unknotting* (p.89)	**Cherry Kearton** *Alexander ideals of classical knots* (p.90)	**Michelangelo Vaccaro** *Unicity of the topological type of the simply connected 3-manifolds* (p.99)
Sect.: **09** H 111	Boundary Value Problems Related to FDE, *Chair: Zhanyuan Hou*		
	Manuel J. Alves К вопросу о разрешимости двухточечной краевой задачи для сингулярного функционально-дифференциального уравнения (p.169)	**Sergei A. Brykalov** *Solution sets of problems with nonlinear functional boundary conditions* (p.173)	**Zhanyuan Hou** *L^p-Perturbation of Linear Functional Differential Equations* (p.176)
Sect.: **09** H 110	Periodic Solutions of FDE, *Chair: Mustapha Yebdri*		
	Nataliya Bantsur *Existence and stability of the periodic and almost periodic solutions of differential equations with maxima* (p.171)	**Joao S.P. Munembe** *Computationally verifiable conditions of the existence of stabilizable solutions for linear differential systems with periodic parameters* (p.184)	**Mustapha Yebdri** *The linear stability of slowly oscillating periodic solutions of a delay differential equation* (p.195)
Sect.: **11** H 107	Statistical Mechanics, *Chair: Ali E Özlük*		
	Daniel Marinov Danchev *FSS Properties of an Exactly Solvable Quantum Model* (p.231)	**Valentina Goloubeva** *On algebraic similarity of Calogero and Sutherland models* (p.234)	**Ali E Özlük** *A Farey Fraction Spin Chain* (p.242)
Sect.: **14** MA 043	Mathematical Aspects of Computer Science II, *Chair: Clemens Gröpl*		
	Guy Merlin Mbakop *An Efficient Algorithm for Solving Real Polynomial Equations: The Complete Intersection Case* (p.294)	**Bernard Mourrain** *Multivariate polynomial equations and duality* (p.294)	**Emil J Volcheck** *Computing with algebraic curves: a survey of recent results* (p.295)
Sect.: **15** H 2033	Approximation II, *Chair: Alexei A. Mailybaev*		
	Alois Heinz *Efficient function approximation by tree-structured neural networks* (p.302)	**Peter Kirrinnis** *Fast algorithms for partial fractions* (p.305)	**Alexei A. Mailybaev** *Transformation of Families of Matrices to Normal Forms* (p.306)
Sect.: **15** H 2013	Partial Differential Equations II, *Chair: Jürgen Fuhrmann*		
	Bodo Erdmann *Mesh Controlling Strategy for Solving Nonlinear Evolution Problems* (p.299)	**Christian Wieners** *Adaptive multigrid methods for Prandtl-Reuß-plasticity* (p.318)	**Jürgen Fuhrmann** *Numerically Stable Finite Volume Discretizations for Nonlinear Parabolic Problems* (p.300)
Sect.: **16** H 106	Geophysical and Environmental Models, *Chair: Jinqiao Duan*		
	Verdiana Grace Masanja *A Mathematical Model and Simulation of Transport of Dust Particles in Dar es Salaam City* (p.329)	**Vitaly G. Il'ichev** *Delta-functions and analysis of ecological interactions in a variable environment* (p.324)	**Jinqiao Duan** *Dynamical Behavior of Quasigeostrophic Models* (p.322)

Short Communications: Thursday, 20 August, 16:15–17:00

	16:15–16:30	16:30–16:45	16:45–17:00
Sect.: **02** MA 311	NOETHERIAN RINGS, *Chair: Kurt Rosenbaum*		
	Vijay Kodiyalam *Asymptotic behaviour of Castelnuovo-Mumford regularity* (p.20)	**Syed Tariq Rizvi** *On noetherian and artinian rings* (p.26)	**Sylvia M. Wiegand** *Building Noetherian domains using completions* (p.31)
Sect.: **04** MA 042	TORIC VARIETIES, *Chair: Klaus Altmann*		
	Anette A'Campo-Neuen *Quasi–Projective Reduction of Toric Varieties* (p.49)	**Jürgen Hausen** *Toric Quotients* (p.53)	**Evgeni Nikolaevich Materov** *One estimate for dimension of* $H^n(\mathbf{C}^n \setminus V, \mathbf{C})$ (p.56)
Sect.: **07** H 112	SYMMETRIC SPACES, *Chair: Walter J. Michaelis*		
	Sergei S. Platonov *Invariant subspaces of some function spaces on symmetric spaces* (p.109)	**Shigeru Aoki** *Invariant Eigendistributions on* $U(1,2)/(U(1,1) \times U(1,1))$ (p.101)	**Adam Koranyi** *Equivariant differential operators on homogeneous vector bundles over G/MAN* (p.107)
Sect.: **08** H 110	SOBOLEV- AND FUNCTION SPACES, *Chair: Michal Wojciechowky*		
	Ritva Hurri-Syrjanen *Generalizations of Poincaré inequality* (p.131)	**Evgueni M. Semenov** *Disjoint Systems and Complemented Subspaces in Rearrangement Invariant Spaces* (p.155)	**Michal Wojciechowky** *The multidimensional Marcinkiewicz multiplier theorem for* H^1 *spaces on product domains* (p.164)
Sect.: **08** MA 041	INTEGRAL TRANSFORMS I, *Chair: Vakhtang M. Kokilashvili*		
	Jagdish N. Pandey *The Hilbert Transform of Almost Periodic Functions and Distributions* (p.146)	**Alexander N. Meskhi** *Solution of some weight problems for the Riemann-Liouville and Weyl operators defined on SHT* (p.141)	**Vakhtang M. Kokilashvili** *Solutions of Two-Weight Problems on Boundedness and Compactness for Integral Transforms* (p.135)
Sect.: **08** MA 309	VARIATIONAL PROBLEMS, *Chair: Julian P. Revalski*		
	Hong-Kun, H.K. Xu *Asymptotic behavior of a gradient flow* (p.164)	**Mikhail A. Sytchev** *Characterization of homogeneous scalar variational problems solvable for all boundary data* (p.158)	**Julian P. Revalski** *Porosity and variational principles* (p.152)
Sect.: **08** MA 043	TOPOLOGICAL VECTOR SPACES AND ALGEBRAS, *Chair: Wieslaw Zelazko*		
	Aboubakr Bayoumi *Quasi-Differentiability and Applications in Locally Bounded Spaces* (p.116)	**Mati Abel** *Structure of locally pseudoconvex algebras* (p.112)	**Wieslaw Zelazko** *A supersimple algebra* (p.166)
Sect.: **10** H 111	SYSTEMS I, *Chair: Yakov Krasnov*		
	Gennadii V. Demidenko *Systems not of Cauchy–Kovalevskaya type* (p.201)	**Abduhamid Dzhuraev** *On partial differential equations in the unit ball of* $\mathbb{C}^n$*, which are singular at the origin and on the boundary* (p.202)	**Yakov Krasnov** *Symmetries of Cauchy-Riemann-Füter Equation* (p.211)
Sect.: **12** H 107	INTERACTING PARTICLE SYSTEMS, *Chair: Hans-Otto Georgii*		
	Jochen Geiger *The genealogy of a cluster in the multitype voter model* (p.251)	**Alejandro F. Ramirez** *Diffusion and saturation processes in random media* (p.267)	**Kenji Handa** *A lower bound for time correlation of lattice gas* (p.252)
Sect.: **12** H 1029	LIMIT THEOREMS, *Chair: Ludwig Paditz*		
	Alexander V. Bulinski *Limit laws for arrays* (p.249)	**Oleg I. Klesov** *A general form of the strong law of large numbers* (p.256)	**Michael P. Voit** *Ultraspherical expansions and central limit theorems for unit spheres* (p.271)
Sect.: **13** H 106	COMBINATORICS OF WORDS, *Chair: Emo Welzl*		
	Julien Cassaigne *On the conjectured subword complexity of the Kolakoski sequence* (p.275)	**Martin Klazar** *Combinatorics of a containment relation that generalizes Davenport–Schinzel sequences* (p.279)	**Alexander Sergeevich Makarenko** *The complexity measure of individual geometrical and algebraical objects* (p.281)
Sect.: **15** H 2013	WAVELETS II (organized by Andreas Rathsfeld), *Chair: Jacques Liandrat*		
	Rudolph A. Lorentz *On the nonexistence of compactly supported Sobolev prewavelets for box spline multiresolution analyses* (p.306)	**Gunther Schmidt** *Representation of multidimensional potentials by approximate wavelets* (p.312)	**Wayne M. Lawton** *Energy functions on graphs, wavelets, and multilevel algorithms* (p.305)
Sect.: **17** H 2033	NONLINEAR OPTIMIZATION I, *Chair: Jürgen Guddat*		
	Leonid Faybusovich *Interior-point algorithms and Euclidean Jordan algebras* (p.341)	**Bernd Kummer** *Metric Regularity in Optimization: Trivial and Nontrivial Situations* (p.344)	**Ider Tsevendorj** *Sufficient Global Optimality Conditions for Nonconvex Nonsmooth Problems* (p.353)

Short Communications: Thursday, 20 August, 17:15–18:00

	17:15–17:30	17:30–17:45	17:45–18:00
Sect.: **02** MA 311	Rings and Modules I, *Chair: Sylvia M. Wiegand*		
	Toma Albu *Global Krull dimension and global dual Krull dimension of rings* (p.12)	**Jilyana Cazaran** *Sufficient conditions for finite commutative rings to be principal ideal rings and an application to error-correcting codes* (p.14)	**Reinhard Börger** *Infinitary Linear Combinations in Cotorsion Modules* (p.14)
Sect.: **04** MA 042	Singularities I, *Chair: Gert-Martin W. Greuel*		
	Sabir M. Gusein-Zade *On the index of a gradient vector field at an isolated complete intersection singularity* (p.53)	**Ludwig Balke** *Open book fibrations of lens spaces and deformations of cyclic quotient singularities* (p.50)	**Claus Hertling** *Variational Torelli result for hypersurface singularities* (p.53)
Sect.: **07** H 112	Lie Groups, *Chair: Adam Koranyi*		
	Dietrich Burde *Affine and projective structures on Lie groups* (p.103)	**Michael Wüstner** *Lie groups with surjective exponential function* (p.111)	**Walter J. Michaelis** *The exponential matrices of non-commuting matrices may commute* (p.108)
Sect.: **08** H 110	Analytic Functions I, *Chair: Žarko Pavićević*		
	Shigeyoshi Owa *Some Properties for Convulutions* (p.146)	**Yaroslav Ya. Prytula** *Generalization of Lindelöf Theorem* (p.149)	**Žarko Pavićević** *Meromorphic Functions Generating Normal Families in an Arbitrary Open Subset of the Unit Disk, with respect to any Subgroup of the Group of Conformal Automorphisms of the Unit Disk* (p.147)
Sect.: **08** MA 041	Operator Algebras, *Chair: Huzihiro Araki*		
	Grigori Amosov *Cocycle conjugacy classes of Powers' semiflow of shifts* (p.113)	**Alexandr V. Kosyak** *On von Neumann algebras, generated by regular representations of infinite-dimensional groups* (p.137)	**Huzihiro Araki** *Factor types of infrared representations of the XY-model* (p.114)
Sect.: **08** MA 309	Convexity, Semigroups, and Blocking, *Chair: Karl-Goswin Grosse-Erdmann*		
	Farhad V. Hüsseinov *Closedness of convex hull and its applications* (p.131)	**Nobuhisa Sakakibara** *Perfectness of conelike $*$-semigroups in Q^k* (p.153)	**Karl-Goswin Grosse-Erdmann** *The blocking technique and the weighted Hardy inequality* (p.127)
Sect.: **08** MA 043	Orthogonal Polynomials and Wavelets, *Chair: Thomas C. Kriecherbauer*		
	Mohsen Taghavi *Exact values of the autocorrelation coefficients of the Rudin-Shapiro polynomials* (p.159)	**Ahmed I Zayed** *Wavelets in Closed Forms* (p.166)	**Thomas C. Kriecherbauer** *Asymptotics of Orthogonal Polynomials via Integrable Methods* (p.137)
Sect.: **10** H 111	Fluids, *Chair: Mitsuo Morimoto*		
	Song Jiang *Large-time behavior of solutions to the equations of a one-dimensional viscous polytropic ideal gas in unbounded domains* (p.207)	**Anatoli Merzon** *A complete solution of the Ursell problem* (p.213)	**Hiroko Morimoto** *On the Existence of Steady Navier-Stokes Flow in 2D Tube-like Domain under General Outflow Condition* (p.214)
Sect.: **12** H 107	Particle Approximations, Stochastic Evolutions, *Chair: Alfred Liemant*		
	Terry J. Lyons *Branching particle approximations to smoothing and filtering* (p.259)	**Krystyna Twardowska** *Applications of support theorems to invariance measure theory* (p.270)	**Wolfgang Wagner** *Stochastic particle systems approximating the stationary Boltzmann equation* (p.271)
Sect.: **12** H 1029	Limit Theorems, Inequalities, and Martingales, *Chair: Sergei Nagaev*		
	Anatoly N. Kochubei *Limit Theorems for Sums of p-Adic Random Variables* (p.257)	**Toshitada Shintani** *Uniform integrability of L^1-bounded matingales* (p.269)	**Sergei Nagaev** *Probability inequalities for sums of dependent Banach space valued random variables* (p.263)
Sect.: **13** H 106	Independent Sets and Coloring, *Chair: Heinz Adolf Jung*		
	Stephan Brandt *Pach's Theorem on triangle-free graphs revisited* (p.274)	**Kevin A. Broughan** *Computing the minimal colouring of large graphs* (p.274)	**Ebadollah S. Mahmoodian** *Defining sets in graph colorings* (p.281)
Sect.: **15** H 2013	Differential Algebraic Systems, *Chair: Ulrich Nowak*		
	Rainald Ehrig *Recent advances in extrapolation methods for large scale differential algebraic problems* (p.299)	**Friedrich Grund** *Sparse-Matrix-Techniken für Parallelrechner* (p.301)	**Tatyana Shtykel** *On the criterion of asymptotical stability for index-1 tractable DAE* (p.313)
Sect.: **17** H 2033	Convex Optimization, *Chair: Bernd Kummer*		
	Anatoly Antipin *To Solving of Equilibrium Programming Problems* (p.335)	**Evgeny G. Belousov** *On Hausdorff continuity of convex polynomial mappings* (p.336)	**Patrick L. Combettes** *Some convergence principles in convex optimization* (p.338)

Poster Session: Thursday, 20 August, 14:00–15:45

Sect.: **02** MA 144 — Algebra

Shavkat A. Ayupov *Nilpotent Leibniz algebras of low dimension* (p.13)	**Valerii Vaclavovich Benyash-Krivetz** *On decomposing some finitely generated groups into amalgamated free products* (p.13)	**Matyas Domokos** *Determinantal ideals of certain subspace arrangements* (p.16)
Kiyomitsu Horiuchi *An expansion of lattice* (p.19)	**Andrei Marcus** *Derived equivalences and Dade's conjectures* (p.22)	**Shigeki Matsumoto** *Solutions of Sylvester Equations $AX - XB = C$ whose coefficients matrices A and B may have common eigenvalues* (p.23)
Marek Niezgoda *An unified approach to some majorization inequalities* (p.25)	**Yasushi Ninomiya** *Group algebras and nilpotency indices of their radicals* (p.25)	**Carlos Renteria-Marquez** *The a-invariant of some Reed-Muller codes* (p.26)
Constatin I. Sonin *Krull Dimension of Malcev-Neumann Rings* (p.29)	**Christophe Soulé** *Filtrations on Higher Algebraic K-theory* (p.29)	**Masamichi Tokizawa** *Set product residue semigroups* (p.30)
Roman Zapatrin *Duality and set representations for partially ordered sets* (p.32)	**Konstantin A. Zubrilin** *The structure theory of algebras that satisfy Capelli identities* (p.33)	

Poster Session: Thursday, 20 August, 16:15–18:00

Sect.: **03** MA 144 — Number Theory and Arithmetic Algebraic Geometry

Francis W. Clarke *Closed formulas for representing primes by binary quadratic forms* (p.35)	**Herbert Gangl** *Polylogarithmic identities in cubical higher Chow groups* (p.36)	**Noriaki Kimura** *A simple proof of Carlitz's congruence of Vandiver type* (p.39)
Tatsuya Okada *Explicit formulas for a generalized digital sum problem* (p.44)	**Margaret M. Robinson** *Igusa local zeta functions* (p.45)	

Special Activities

14:00 – 18:00 **H 104**

Mathematical Software

Chair: Winfried Neun, ZIB, Berlin, Germany

In this session, a broad spectrum of mathematical software including symbolic and numerical systems as well as interfaces and problem solutions will be presented. Details of the presentations can be found on the ICM'98 web server at URL http://elib.zib.de/ICM98/MathSoftware .

14:00 – 14:30 **Ewgenij Gawrilow** and **Michael Joswig,** Technische Universität Berlin, Germany
Polymake

14:40 – 15:10 **Peter Dräxler,** Universität Bielefeld, Germany
CREP

15:15 – 15:45 **Daniel Grayson** and **Michael Stillman,** University of Illinois, USA
Macaulay 2

15:45 – 16:15 **Break**

16:15 – 16:45 **Stephen Linton et. al.,** St Andrews, Scotland and Aachen, Germany
GAP

16:50 – 17:20 **Walter Oevel, Benno Fuchssteiner et. al.,** Universität Paderborn, Germany
MuPAD

17:30 – 18:00 **Fabrice Rouillier et. al.,** INRIA Lorraine, France
FRISCO

Other Events

12:15 **Springer Booth, Exhibition Area**

Presentation of Olli Lehto's New Book "Mathematics Without Borders, A History of the International Mathematical Union"

Reception on the occasion of the publication of this book, organized by Springer-Verlag and IMU

18:30 **Urania**

Opening of the Exhibitions

Mathematik zum Anfassen — Hands–on Mathematics,
Mathematical Stone Sculptures,
Mathematics and Ceramics
Works by High–School Students

19:00 **Urania**

Opening of the VideoMath Festival

19:30 **Urania**

Frank Natterer, Münster, Germany

The Mathematics of Imaging in Medicine and Technology