Wednesday, 19 August

Plenary Lectures

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

Peter W. Shor, AT&T Labs, Florham Park, USA
Quantum Computing *(I: p.19)*
Chair: Volker Strassen, Universität Konstanz, Konstanz, Germany

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

Ehud Hrushovski, Hebrew University of Jerusalem, Jerusalem, Israel
Geometric Model Theory *(I: p.9)*
Chair: Ronald Jensen, Humboldt–Universität, Berlin, Germany

Invited Lectures

14:00 – 14:45

05 **Leonid Polterovich,** Tel Aviv University, Tel Aviv, Israel **MA 001**
Geometry on the Group of Hamiltonian Diffeomorphisms *(I: p.77)*
Chair: Helmut H.W. Hofer

06 **Robert A. Oliver,** Université Paris-Nord, Villetaneuse, France **MA 004**
Vector bundles over classifying spaces *(I: p.84)*
Chair: Charles B. Thomas

07 **Minoru Wakimoto,** Kyushu University, Fukuoka, Japan **MA 005**
Representation theory of affine superalgebras at the critical level *(I: p.96)*
Chair: Richard E. Borcherds

09 **Zhihong Xia,** Northwestern University, Evanston, USA **H 1012**
Arnold diffusion and variational construction of connecting orbits *(I: p.120)*
Chair: Klaus Kirchgässner

11 **Gian Michele Graf,** ETH Zürich, Zürich, Switzerland **H 1028**
Stability of matter in classical and quantized fields *(I: p.134)*
Chair: Volker Bach

14 **Joan Feigenbaum,** AT&T Labs Research, Florham Park, USA **H 2032**
Games, Complexity Classes, and Approximation Algorithms *(I: p.167)*
Chair: Hans J. Prömel

15:00 – 15:45

05 **Yongbin Ruan,** University of Wisconsin-Madison, Madison, USA **MA 001**
Quantum cohomology and its applications *(I: p.77)*
Chair: Helmut H.W. Hofer

06 **Ronald A. Fintushel,** Michigan State University, East Lansing, USA **MA 004**
Ronald J. Stern, University of California, Irvine, USA
Knot Surgery on 4-Manifolds *(I: p.86)*
Chair: Ulrich Koschorke

07 **Kari Vilonen,** Brandeis University, Waltham, USA **MA 005**
Topological Methods in Representation Theory *(I: p.95)*
Chair: Wolfgang Soergel

09 **Welington de Melo,** IMPA, Rio de Janeiro, Brazil **H 1012**
Renormalization and Rigidity in one dimensional smooth dynamical systems *(I: p.112)*
Chair: Bernold Fiedler

11 **Barry McCoy,** State University of New York, Stony Brook, USA — **H 1028**
Rogers-Ramanujan identities: A Century of progress from mathematics to physics *(I: p.135)*
Chair: Robert Schrader

14 **Toniann Pitassi,** University of Arizona, Tucson, USA — **H 2032**
Combinatorial and algebraic techniques in proof complexity *(I: p.171)*
Chair: Helmut Alt

16:15 – 17:00

04 & 11 **Robbert Dijkgraaf,** University of Amsterdam, Amsterdam, The Netherlands — **MA 005**
The Mathematics of Fivebranes *(I: p.62)*
Chair: Fedor Smirnov

07 **Laurent Lafforgue,** Université Paris-Sud, Orsay, France — **MA 004**
Chtoucas de Drinfeld et applications *(I: p.92)*
Chair: James Arthur

08 **Michael T. Lacey,** Georgia Institute of Technology, Atlanta, USA — **MA 001**
On the Bilinear Hilbert Transform *(I: p.99)*
Chair: Elias M. Stein

10 **Fabrice Bethuel,** Université Paris-Sud, Orsay, France — **H 1012**
Recent results for Ginzburg-Landau models *(I: p.121)*
Chair: Dmitri Yafaev

12 **David John Aldous,** University of California, Berkeley, USA — **H 1028**
Stochastic Coalescence *(I: p.140)*
Chair: Friedrich Götze

17 **Jorge Nocedal,** Northwestern University, Evanston, USA — **H 2032**
Nonlinear Optimization: The Interplay Between Mathematical Characterizations and Algorithms *(I: p.193)*
Chair: Margaret H. Wright

17:15 – 18:00

04 **Johan de Jong,** Princeton University, Princeton, USA — **MA 005**
Barsotti-Tate groups and crystals *(I: p.61)*
Chair: Gerard van der Geer

07 **Robert Edward Kottwitz,** University of Chicago, Chicago, USA — **MA 004**
Harmonic analysis on semisimple p-adic Lie algebras *(I: p.91)*
Chair: Michael Rapoport

08 **Kristian Seip,** Norwegian University of Science and Technology, Trondheim, Norway — **MA 001**
Developments from Nonharmonic Fourier Series *(I: p.105)*
Chair: Klaus D. Bierstedt

10 **Robert R. Jensen,** Loyola University of Chicago, Chicago, USA — **H 1012**
Viscosity solutions of elliptic partial differential equations *(I: p.122)*
Chair: Stefan Müller

12 **Jayanta Kumar Ghosh,** Indian Statistical Institute, Calcutta, India and Purdue University, West Lafayette, USA — **H 1028**
Bayesian Density Estimation *(I: p.143)*
Chair: Vladimir I. Koltchinskii

17 **Jochem Zowe,** Universität Erlangen, Erlangen, Germany — **H 2032**
What is the Best Material? — The Answer of a Mathematician *(I: p.196)*
Chair: Josef Stoer

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**	RINGS, *Chair: Toma Albu*		
MA 042	**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**	COMPUTATIONAL NUMBER THEORY, *Chair: Michael E. Pohst*		
MA 311	**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**	FUNCTION SPACES AND OPERATORS, *Chair: Jose Bonet*		
MA 041	**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**	ITERATION, COMPOSITION, CLIFFORD STRUCTURE, *Chair: Mario Bonk*		
MA 309	**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**	FRACTIONAL DIFFERENTIATION, *Chair: A. Eduardo Gatto*		
MA 043	**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**	GENERAL THEORY, *Chair: Massimo Lanza de Cristoforis*		
H 111	**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**	ELLIPTIC EQUATIONS I, *Chair: Florin C. Muscalu*		
H 110	**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**	BRANCHING PROCESSES, *Chair: Hermann Dinges*		
H 107	**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**	DATA ANALYSIS, *Chair: Joerg Polzehl*		
H 1029	**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**	ORDINARY DIFFERENTIAL EQUATIONS I, *Chair: Alexander Ostermann*		
H 2013	**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**	PHASE TRANSITION AND FREE BOUNDARY VALUE PROBLEMS, *Chair: Jürgen Socolowsky*		
H 106	**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**	CODING AND IMAGE COMPRESSION, *Chair: John K. Karlof*		
H 112	**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**	APPLIED OPTIMAL CONTROL, *Chair: Fredi Tröltzsch*		
H 2033	**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**	ALGEBRAS I, *Chair: Alexandre V. Mikhalev*		
MA 042	**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**	ADDITIVE NUMBER THEORY, *Chair: Doytchin Tolev*		
MA 311	**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**	C^*-ALGEBRAS AND MODULES, *Chair: Alexander Ya. Helemskii*		
MA 041	**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**	SPACES OF ANALYTIC FUNCTIONS, *Chair: Peter Duren*		
MA 309	**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**	WAVELET TRANSFORMS, *Chair: Boris Rubin*		
MA 043	**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**	A PRIORI ESTIMATES & ASYMPTOTICS, *Chair: Shuji Watanabe*		
H 111	**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**	APPLIED FLUIDS, *Chair: Lizabeth V. Rachele*		
H 110	**Olaf Schmidtmann** *Stability Problems in Turbo Compressors (p.220)*	**Lizabeth V. Rachele** *Inverse Problems for Elastic Media (p.218)*	
Sect.: **12**	RANDOM WALKS, DISCRETE STRUCTURES, *Chair: Klaus Fleischmann*		
H 107	**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**	DISTRIBUTION THEORY, *Chair: Lutz Mattner*		
H 1029	**Tea-Yuan Hwang** *On some characterizations of population distributions (p.254)*	**Papa Ngom** *Aspect bayésien des a-distributions et application (p.263)*	**Lutz Mattner** *What are cumulants? (p.261)*
Sect.: **15**	ORDINARY DIFFERENTIAL EQUATIONS II, *Chair: Tatiana Anatolyevna Vasilyeva*		
H 2013	**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**	NUMERICS FOR WAVE PROPAGATION, *Chair: Georg Hebermehl*		
H 106	**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**	DISTRIBUTED PARAMETER SYSTEMS I, *Chair: Dan Tiba*		
H 2033	**Pierre, F. Aubert** *Shape optimisation of geometrically non-linear 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**	SEMIGROUPS, *Chair: Hans-Jürgen Vogel*		
MA 311	**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**	TOPOLOGICAL ALGEBRA, *Chair: Karl-Heinrich Hofmann*		
MA 042	**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**	KÄHLER MANIFOLDS, *Chair: Bill Watson*		
MA 041	**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**	GROUP ACTIONS, *Chair: Reinhard E. Schultz*		
H 112	**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**	SYMMETRY AND BIFURCATION I, *Chair: Karin Gatermann*		
H 111	**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**	DYNAMICAL SYSTEMS ON SURFACES, *Chair: Raphael Albrecht*		
H 110	**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**	GEOMETRY I, *Chair: Jörg Rambau*		
H 106	**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**	WAVELETS I (organized by Andreas Rathsfeld), *Chair: Wayne M. Lawton*		
H 2033	**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**	NONLINEAR OPERATOR EQUATIONS, *Chair: Jose A. Ezquerro*		
H 2013	**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**	GROUPS I, *Chair: Wujie Shi*		
MA 311	**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**	SEMIRINGS/GROUPS AND ALGEBRAS, *Chair: Boris M. Schein*		
MA 042	**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**	TOPOLOGY OF MANIFOLDS, *Chair: Sebastian Goette*		
MA 041	**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**	MISCELLANEOUS TOPICS, *Chair: Zheng-Chao Han*		
MA 043		**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**	KNOTS, *Chair: Hitoshi Murakami*		
H 112	**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**	SYMMETRY AND BIFURCATION II, *Chair: Reiner Lauterbach*		
H 111	**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**	INVARIANT MEASURES AND RANDOM DYNAMICS I, *Chair: Gerhard Keller*		
H 110	**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**	MANY PARTICLE SYSTEMS, *Chair: Gennady Shchepanuk*		
H 107	**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**	GEOMETRY II, *Chair: Günter M. Ziegler*		
H 106	**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**	INTERPOLATION, *Chair: Raquel R. Martinez*		
H 2033	**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)		

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 **John J. Cannon et. al.,** University of Sydney, Australia
MAGMA V 2.3

14:40 – 15:10 **Gert-Martin Greuel, Gerhard Pfister et. al.,** Universität Kaiserslautern, Germany
Singular

15:15 – 15:45 **Lorenzo Robbiano et. al.,** University of Genova, Italy
CoCoA

15:45 – 16:15 **Break**

16:15 – 16:45 **Michael Trott,** Wolfram Research, Inc., Illinois, USA
Solving Problems with Mathematica

16:50 – 17:20 **Ulrich Nowak, Uwe Pöhle et. al.,** ZIB Berlin, Germany
ODELab

17:30 – 18:00 **Andreas Dolzmann** and **Thomas Sturm,** Universität Passau, Germany
REDLOG

Other Events

12:15 **TU Main Building, “Lichthof”**

Terror and Exile

Opening of an exhibition, organized by the German Mathematical Society (DMV), about the persecution and expulsion of mathematicians from Berlin between 1933 and 1945.

19:30 **Auditorium Maximum H 105**

Andrew Wiles, Princeton University, Princeton, USA
Twenty Years of Number Theory
Chair: Don Zagier, Max-Planck-Institut für Mathematik, Bonn, Germany