Monday, 24 August

Plenary Lectures

9:00 – 10:00 **Auditorium Maximum H 105**

Karl Sigmund, University of Vienna, Vienna, Austria
The Population Dynamics of Conflict and Cooperation *(I: p.21)*
Chair: Frank Hoppensteadt, Arizona State University, Tempe, USA

10:15 – 11:15 **Auditorium Maximum H 105**

Michel Talagrand, CNRS, Université Paris 6, Paris, France
Huge Random Structures and Mean Field Models for Spin Glasses *(I: p.23)*
Chair: Lior Tzafriri, The Hebrew University, Jerusalem, Israel

11:45 – 12:45 **Auditorium Maximum H 105**

Cumrun Vafa, Harvard University, Cambridge, USA and Tehran, Iran
Geometric Physics *(I: p.25)*
Chair: Maxim Kontsevich, IHES, Bures-sur-Yvette, France

Invited Lectures

14:00 – 14:45

02 **Sergei Ivanov,** University of Illinois, Urbana, USA **MA 005**
On the Burnside problem for groups of even exponent *(I: p.38)*
Chair: Otto H. Kegel

05 **Ulrich Pinkall,** TU Berlin, Berlin, Germany **MA 001**
Quaternionic line bundles and the differential geometry of surfaces *(I: p.75)*
Chair: Dirk Ferus

10 **Dmitri Yafaev,** Université Rennes-1, Rennes, France **H 1012**
Scattering theory: some old and new problems *(I: p.127)*
Chair: Volker Enß

12 **Friedrich Götze,** Universität Bielefeld, Bielefeld, Germany **H 1028**
Lattice Point Problems and the Central Limit Theorem in Euclidean Spaces *(I: p.143)*
Chair: Richard M. Dudley

13 **András Frank,** Eötvös Lorand University, Budapest, Hungary **H 2032**
Applications of Relaxed Submodularity *(I: p.155)*
Chair: Alexander Schrijver

19 **Jeremy John Gray,** The Open University, Milton Keynes, England **MA 004**
The Riemann-Roch Theorem and Geometry, 1854-1914 *(I: p.208)*
Chair: Umberto Bottazzini

15:00 – 15:45

02 **Idun Reiten,** Norwegian University of Science and Technology, Trondheim, Norway **MA 005**
Tilting Theory and Quasitilted algebras *(I: p.43)*
Chair: Claus Michael Ringel

05 **Tobias Holck Colding,** Courant Institute, New York University, New York, USA **MA 001**
Manifolds and spaces with Ricci curvature bounds *(I: p.68)*
Chair: Dirk Ferus

10 **Hans Lindblad,** University of California at San Diego, La Jolla, USA **H 1012**
Minimal regularity solutions of nonlinear wave equations *(I: p.122)*
Chair: Konrad Gröger

12 & 16	**Marco Avellaneda,** Courant Institute, New York University, New York, USA *Inverse Problems in Quantitative Financial Modeling* Chair: George C. Papanicolaou	*(I: p.140)*	**H 1028**
13	**Jiří Matoušek,** Charles University, Praha, Czech Republic *Mathematical snapshots from the computational geometry landscape* Chair: Jaroslav Nešetril	*(I: p.158)*	**H 2032**
19	**Karine Chemla,** CNRS and Université Paris 7, Paris, France *History of Mathematics in China: A factor in World History and a Source for New Questions* Chair: Sergei S. Demidov	*(I: p.206)*	**MA 004**

16:15 – 17:00

03	**François Gramain,** Université Jean Monnet Saint-Etienne, Saint-Etienne, France *Some results of algebraic independence* Chair: Michel Waldschmidt	*(I: p.51)*	**MA 005**
08	**Stephen Wainger,** University of Wisconsin, Madison, USA *Discrete Analogues of Singular and Maximal Radon Transforms* Chair: Detlef H. Müller	*(I: p.109)*	**MA 001**
09	**Grzegorz Świątek,** Pennsylvania State University, University Park, USA *Induced Hyperbolicity for One-Dimensional Maps* Chair: Klaus R. Schneider	*(I: p.119)*	**H 1012**
15	**Hisashi Okamoto,** RIMS, Kyoto University, Kyoto, Japan *Bifurcation of Kolmogorov flows with an emphasis on singular limit* Chair: Rolf Jeltsch	*(I: p.180)*	**H 1028**
16	**Gérard M. Iooss,** Institut Universitaire de France, Valbonne, France *Travelling water-waves, as a paradigm for bifurcations in reversible infinite dimensional "dynamical" systems* Chair: Klaus Kirchgässner	*(I: p.184)*	**H 2032**
19	**Joseph Dauben,** The City University of New York, New York, USA *Marx, Mao and Mathematics: the Story of Nonstandard Analysis in China and the Cultural Revolution* Chair: Ivor Grattan-Guiness	*(I: p.208)*	**MA 004**

17:15 – 18:00

03	**William Duke,** Rutgers University, New Brunswick, USA *Bounds for arithmetic multiplicities* Chair: Per Salberger	*(I: p.50)*	**MA 005**
08	**Vitali Milman,** Tel Aviv University, Tel Aviv, Israel *Randomness and Pattern in Convex Geometric Analysis* Chair: Hermann König	*(I: p.101)*	**MA 001**
09	**Sergei B. Kuksin,** Steklov Institute, Moscow, Russia and Heriot-Watt University, Edinburgh, UK *Towards a Qualitative Theory of Hamiltonian PDEs* Chair: Jürgen Moser	*(I: p.116)*	**H 1012**
15	**Gregory Beylkin,** University of Colorado at Boulder, Boulder, USA *On multiresolution methods in numerical analysis* Chair: Siegfried Prößdorf	*(I: p.178)*	**H 1028**
16	**Ulf Grenander,** Brown University, Providence, USA *Strategies for Seeing* Chair: Friedrich Götze	*(I: p.183)*	**H 2032**
18	**Mogens Niss,** Roskilde University, Roskilde, Denmark *Aspects of the nature and the state of research in mathematical education* Chair: Urs Kirchgraber	*(I: p.198)*	**MA 004**

Short Communications and Poster Sessions

Short Communications: Monday, 24 August, 14:00–14:45			
	14:00–14:15	**14:15–14:30**	**14:30–14:45**
Sect.: **03**	LATTICES AND CODES, *Chair: Fei Xu*		
MA 311	**San Ling** *Group algebras and codes (p.41)*	**Katherine S. Roegner** *Computing even, unimodular lattices with complete root systems (p.46)*	**Fei Xu** *Arithmetic Springer Theorem on Quadratic Forms under Field Extensions of Odd Degree (p.48)*
Sect.: **04**	MODULI SPACES AND MATHEMATICAL PHYSICS, *Chair: Ragni Piene*		
MA 042	**Sheldon H. Katz** *Geometric Engineering of Quantum Field Theories (p.55)*	**Alexandre Kabanov** *Intersection theory on the moduli spaces of stable curves (p.54)*	**Tyler J. Jarvis** *Geometry of the Moduli of Higher Spin Curves (p.54)*
Sect.: **07**	REPRESENTATIONS I, *Chair: Carina Boyallian*		
H 112	**Jose I. Liberati** *Quasifinite Highest Weight Modules over the Lie Algebra of Matrix Differential Operators on the Circle (p.107)*	**María L. Barberis** *Quaternionic representations (p.101)*	**Paolo Casati** *α–stratified modules of real reductive groups (p.104)*
Sect.: **08**	SEVERAL COMPLEX VARIABLES, *Chair: Stefan B.A. Jakobsson*		
MA 041	**Yoshihiro Abe** *Universal functions in several variables (p.112)*	**Elias Wegert** *Analytic discs attached to totally real surfaces (p.163)*	**Gabriela Kohr** *Univalent mappings of several complex variables (p.135)*
Sect.: **08**	REAL ANALYSIS, *Chair: Gilbert Helmberg*		
MA 309	**Jan Hejcman** *A description of quasiconvex functions (p.129)*	**Attila Gilányi** *On polynomial functions, monomial functions, and the Dinghas interval derivative (p.125)*	**Joris van der Hoeven** *Proof of a conjecture of Hardy about L-functions (p.161)*
Sect.: **08**	APPROXIMATION THEORY, *Chair: Miguel A. Jimenez*		
MA 043	**Alexander Yakovlevich Radyno** *The degree of rational approximation of a holomorphic function (p.149)*	**Yuri Kryakin** *Polynomial Interpolation and Whitney's Constants (p.138)*	**Miguel A. Jimenez** *The Degree of Best Approximation in the Lipschitz Norm by Trigonometric Polynomials (p.133)*
Sect.: **09**	SINGULARLY PERTURBED SYSTEMS, *Chair: Vladimir Sobolev*		
H 111	**Minoru Nakano** *On the WKB method and Airy functions (p.184)*	**Carmen Rocsoreanu** *Canards in the Fitz-Hugh-Nagumo model (p.188)*	**Vladimir Sobolev** *Canards and black swans (p.192)*
Sect.: **09**	SPECTRAL PROBLEMS AND SMOOTH LINEARIZATION, *Chair: Vjacheslav A. Yurko*		
H 110	**Shunian Zhang** *Stability of neutral delay difference systems (p.197)*	**Samovol Vladimir** *The problem of local smooth linearization of systems of ordinary differential equations (p.189)*	**Vjacheslav A. Yurko** *Inverse spectral problems for ordinary differential equations (p.196)*
Sect.: **11**	GEOMETRY, GENERAL RELATIVITY, *Chair: Akira Asada*		
H 107	**Mohamed Abdel-Megied** *Conformal Singularities (p.227)*	**Paula B. Cohen** *Siegel's Lemma, Padé Approximations and Jacobians (p.230)*	**Akira Asada** *Clifford bundles over mapping spaces (p.228)*
Sect.: **11**	THERMODYNAMICS, HYDRODYNAMICS, NON-LINEAR DYNAMICS II, *Chair: Burkhard J. Schmitt*		
H 1029	**Alexander Zlotnik** *Global weak solutions to the equations of one-dimensional motion of a viscous heat-conducting gas with nonsmooth data (p.247)*	**Yoshimitsu Iwasaki** *Axiomatic theory of the multiple anelastic relaxation in crystalline solids (p.235)*	**George Jaiani** *A Mathematical Model of Bars with Variable Rectangular Cross-section (p.236)*
Sect.: **15**	INVERSE PROBLEMS I, *Chair: Anatoly G. Yagola*		
H 2033	**Gottfried Bruckner** *On the regularization of an inverse vibration problem with noisy data (p.297)*	**Cesar Palencia** *A numerical method for the integration of backward parabolic problems (p.308)*	**Sergii Pereverziev** *An adaptive discretization of third kind Volterra equations with weakly singular kernels (p.309)*
Sect.: **16**	CONTROL OF PROCESSES AND SYSTEMS, *Chair: Mihai M. Vladimirescu*		
H 106	**Juergen Borchardt** *Large-scale Dynamic Process Simulation of Chemical Plants (p.320)*	**Elena I. Lyashenko** *Optimal control of biotechnological process (p.328)*	**Mihai M. Vladimirescu** *Rotative Actuators Robustness (p.333)*
Sect.: **18**	PEDAGOGICAL AND PSYCHOLOGICAL ASPECTS, *Chair: Hans-Joachim Arnold*		
H 2013	**Sou-yung Chiu** *Pedagogical Mathematics Knowledge, PMK and P(PMK)K (p.358)*	**Torsten Fritzlar** *Über Möglichkeiten der Sensibilisierung für die Komplexität von Mathematikunterricht (p.359)*	**Hans-Joachim Arnold** *Geometrische Relationen-Algebra und Piaget'sche Schematheorie (p.357)*

Short Communications: Monday, 24 August, 15:00–15:45

	15:00–15:15	15:15–15:30	15:30–15:45
Sect.: **03**	Diophantine Problems, *Chair: Pieter Moree*		
MA 311	**Arturas Dubickas** *Polynomials vanishing at 1 with high multiplicity and Tarry's problem (p.35)*	**Florian G. Luca** *Equations Involving the Euler ϕ Function (p.42)*	**Pieter Moree** *Distribution of primes having a prescribed primitive root over residue classes (p.43)*
Sect.: **04**	Vector Bundles II, *Chair: Herbert Kurke*		
MA 042	**Hagen Meltzer** *Exceptional vector bundles (p.57)*	**Vasile P. Brinzănescu** *Moduli spaces of stable 2-vector bundles over ruled surfaces (p.51)*	**Elham Izadi** *An embedding of a moduli space of vector bundles (p.54)*
Sect.: **07**	Representations II, *Chair: Jose I. Liberati*		
H 112	**Leandro R. Cagliero** *(K, M)-spherical submodules of the universal enveloping algebra of a real rank one semisimple Lie group $G_\circ$ (p.103)*	**Carina Boyallian** *On Bernstein polynomials for compact Lie groups (p.103)*	**Tuong Ton-That** *I Invariant Theory for some Infinite-Dimensional Lie Groups (p.110)*
Sect.: **08**	Harmonic Functions, *Chair: Elias Wegert*		
MA 041	**Anna Łazińska** *On a class of mappings harmonic in the half-plane, with a normalization at infinity (p.138)*	**Promarz M. Tamrazov** *The solution of Eremenko's extremal problem on harmonic functions (p.159)*	**Eleutherius E. Symeonidis** *The Poisson integral as an appropriate mean value (p.159)*
Sect.: **08**	A New View of Classical Phenomena, *Chair: Gilbert Helmberg*		
MA 309	**Andreas M. Hinz** *Catenaria vera — the true catenary (p.130)*	**J. Marshall Ash** *Nonuniqueness for smooth uniformly bounded orthonormal systems (p.114)*	**Gilbert Helmberg** *A corner-point Gibbs phenomenon for Fourier series in two dimensions (p.129)*
Sect.: **08**	Vector Lattices, *Chair: Jacobus J. Grobler*		
MA 043	**Rodica Mihaela Danet** *The extension of some linear operators (p.121)*	**Nicolae Danet** *Subspaces in directed vector spaces (p.121)*	**Jacobus J. Grobler** *The polar decomposition of disjointness preserving operators (p.127)*
Sect.: **09**	Singularly Perturbed and Control Problems, *Chair: Nikolay N. Nefedov*		
H 111	**Klaus R. Schneider** *Exchange of stabilities in singularly perturbed systems (p.190)*	**Alexander G. Chentsov** *Nonanticipating set-valued mappings and constructions of the programmed iterations method (p.174)*	**Nikolay N. Nefedov** *Asymptotic method of differential inequalities for nonlinear singularly perturbed PDE's with internal layers (p.185)*
Sect.: **09**	Stability of Dynamical Systems, *Chair: Shaobo Gan*		
H 110	**Abdelkader Boucherif** *A free boundary problem for a reaction-diffusion equation (p.172)*	**Juan H. Arredondo** *A geometric approach to the asymptotic of systems of evolution equations (p.171)*	**Shaobo Gan** *Star Systems X^* and a Proof of the C^1 Ω Stability (p.175)*
Sect.: **11**	Symmetries and Mathematical Methods in Physics, *Chair: Vladimir V. Kisil*		
H 107	**C. Martha Banulescu** *Lie Groups in Physics (p.229)*	**Malgorzata Klimek** *Conserved Currents for Linear Equations of Motion in Discrete and Non-commutative Models (p.237)*	**Vladimir V. Kisil** *Feynman Path Integral, Umbral Claculus, and Non-Commutative Combinatorics (p.237)*
Sect.: **11**	Thermodynamics, Hydrodynamics, Non-linear Dynamics III, *Chair: Alexander Zlotnik*		
H 1029	**Burkhard J. Schmitt** *On upper bounds for the energy dissipation rate in turbulent shear flow (p.244)*	**Lev L.D. Pustylnikov** *Poincare models, rigorous justification of the second law of thermodynamics on the basis of mechanics, and the Fermi acceleration mechanism (p.243)*	**Andrey B. Morgulis** Асимптотика высокочастотных колебаний идеальной жидкости, протекающей сквозь канал конечной длины *(p.241)*
Sect.: **15**	Inverse Problems II, *Chair: Sergii Pereverziev*		
H 2033	**Sergiy Georgievich Solodkyy** *Optimization of projection methods for solving linear ill-posed problems (p.314)*	**Anatoly G. Yagola** *Ill-posed problems and a priori information (p.318)*	**Weichung Wang** *Using Preconditioned Conjugate Gradients in Final Iterations of Interior Point Methods (p.317)*
Sect.: **18**	Miscellaneous I, *Chair: Masao Mori*		
H 2013	**Salem A. Sahab** *Mathematics basic skills for grades 1 to 3 (p.363)*	**Josef Nietzsch** *The Study of Mathematics by High School Students at the University (p.363)*	**Masao Mori** *Beginners Confusion and Terminology in Mathematics (p.362)*

Short Communications: Monday, 24 August, 16:15–17:00

	16:15–16:30	16:30–16:45	16:45–17:00
Sect.: **01**	CONSTRUCTIVE MATHEMATICS AND MODELS OF ARITHMETIC, *Chair: Hiloshi Ohno*		
MA 042	**Douglas S. Bridges** *Ideals in constructive ring and Banach algebra theory (p.6)*	**Luminita Simona Dediu** *A constructive extension theorem for ultraweakly continuous linear functionals (p.6)*	**Hiloshi Ohno** *A certain proposition unprovable in number-theoretic formal system (p.9)*
Sect.: **02**	ALGEBRAS II, *Chair: M. Susan Montgomery*		
MA 311	**Mihai I. Cipu** *Multiplicities and pure resolutions for Gorenstein codimension four algebras (p.15)*	**Michael Nüsken** *Unique Tensor Factorization of Algebras (p.26)*	**Andrej A. Zolotykh** *Standard bases for ideals of free algebras over commutative rings (p.32)*
Sect.: **04**	SINGULARITIES II, *Chair: Herbert Kurke*		
MA 309	**Michał Kwieciński** *An algebraic map with nonconstructible topology*		
Sect.: **05**	INTEGRABLE GEODESIC FLOWS AND PERTURBATION PROBLEMS, *Chair: Vladimir S. Matveev*		
MA 041	**Masayuki Igarashi** *On Hermitian-Liouville structures on compact Hermitian surfaces (p.71)*	**Li Ma** *Stable critical point Theory in perturbation problems (p.75)*	**Vladimir S. Matveev** *Geodesic equivalence and integrability (p.76)*
Sect.: **05**	LOCAL DIFFERENTIAL GEOMETRY, *Chair: Jose Miguel Veloso*		
MA 043	**Nikolaus K. Stephanidis** *Über einige Invarianten in der Theorie der Strahlensysteme (p.81)*	**Katerina Polyakova** *Parallel displacements along manifold of osculating planes of a surface (p.78)*	**Jose Miguel Veloso** *Almost pseudo-Hermitian manifolds (p.83)*
Sect.: **06**	MANIFOLDS AND DYNAMICS, *Chair: Tadayoshi Mizutani*		
H 112	**Levan A. Alania** *De Rham cohomology with local coefficients (p.85)*	**Alexander Fel'shtyn** *Reidemeister torsion and dynamical zeta functions in Nielsen theory (p.88)*	**Efthimios Kappos** *Manifolds: Differential Topology: Controllability of Vector Fields (p.90)*
Sect.: **10**	ELLIPTIC EQUATIONS IV (NON-LINEAR PROBLEMS), *Chair: Hwai-Chiuan Wang*		
H 111	**Carsten Ebmeyer** *The p-Laplacian under mixed boundary value conditions in multidimensional polyhedral domains (p.203)*	**Stanislav I. Pohozaev** *Positive solutions of nonlinear Neumann problems. Application of the global fibering method (p.217)*	**Hwai-Chiuan Wang** *Semilinear Elliptic Problems in Interior and Exterior Flask Domains (p.224)*
Sect.: **10**	APPLIED PROBLEMS I, *Chair: Olga S. Rozanova*		
H 110	**Zhiming Chen** *Adaptive Finite Element Methods for Dynamical GL Vortices in Superconductivity (p.200)*	**Olga S. Rozanova** *2-D model of atmosphere dynamics: energy balance and some properties of solutions (p.219)*	**Gregory A. Chechkin** *On Behavior of Perforated Bodies with Rapidly Oscillating Surfaces*
Sect.: **12**	LIAPUNOV EXPONENTS, *Chair: Michael K.R. Scheutzow*		
H 107	**Volker Wihstutz** *Stability Maps for Systems with Noise Induced Stability (p.272)*	**Peter Imkeller** *An explicit description of the Lyapunov exponents of the noisy damped harmonic oscillator (p.254)*	**Michel L.E. Rieutord** *A boundary value problem of mixed type in a spherical shell (p.268)*
Sect.: **12**	EMPIRICAL PROCESSES AND NONPARAMETRIC INFERENCE, *Chair: Michael Nussbaum*		
H 1029	**Samir Ben Hariz** *Uniform CLT for empirical process indexed by classes of functions (p.248)*	**Michael Jaehnisch** *Asymptotic equivalence for a density model with independent but non identically distributed random variables (p.255)*	**Vladimir I. Koltchinskii** *Empirical geometry of multivariate data: a deconvolution approach (p.257)*
Sect.: **13**	CLASSICAL COMBINATORIAL STRUCTURES, *Chair: Stefan Felsner*		
H 106	**Mario-Osvin Pavcevic** *On two series of symmetric designs (p.283)*	**Christian Krattenthaler** *New results in the enumeration of rhombus tilings (p.280)*	**Martin Kochol** *Superposition — a method for constructing graphs without nowhere-zero k-flows (p.280)*
Sect.: **17**	0/1 PROBLEMS, *Chair: Jannet A. Tambieva*		
H 2033	**Friedrich Eisenbrand** *On the Chvátal rank of polytopes in the 0/1 cube (p.339)*	**Anzor D. Kasaev** *Assigment Problem in Consideration of Discounting (p.344)*	**Jannet A. Tambieva** *Research of 4-Cliques Problem (p.351)*
Sect.: **18**	MISCELLANEOUS II, *Chair: Mary E. Morley*		
H 2013	**Ludwig Paditz** *Comparision of the statistic calculators TI-83, EL-9600, and CFX-9850G PLUS (p.363)*	**Mary E. Morley** *Three Response Types for Broadening the Conception of Mathematical Problem Solving in Computer-Graded Tests (p.362)*	**Zhongling Xu** *The Popularization of Mathematical Methods in China (p.364)*

Short Communications: Monday, 24 August, 17:15–18:00

	17:15–17:30	17:30–17:45	17:45–18:00
Sect.: **01**	Recursion Theory and Model Theory, *Chair: Helmut Pfeiffer*		
MA 042	**David Hartz** *Hierarchy Based on Inductive Definitions (p.7)*	**Cyrus F. Nourani** *Functorial Computability And Generic Definable Models (p.8)*	
Sect.: **02**	Hopf Algebras, *Chair: Alexander A. Mikhalev*		
MA 311	**Sorin Dascalescu** *Pointed Hopf algebras by Ore extensions and classification results (p.16)*	**M. Susan Montgomery** *Prime Ideals in Hopf Galois Extensions (p.24)*	**Peter Schauenburg** *Hopf algebras with a weak projection (p.27)*
Sect.: **05**	Homogeneous Spaces, *Chair: Friedbert Prüfer*		
MA 041	**Takashi Koda** *Weakly symmetric property of Riemannian 3-symmetric spaces (p.72)*	**Jan Slovák** *Parabolic Geometries (p.80)*	**Friedbert Prüfer** *Local homogeneity and differential operators (p.79)*
Sect.: **05**	Special Submanifolds/Exterior Differentiation, *Chair: Peter Rögen*		
MA 043	**Iaroslav A. Kopylov** *Normal solvability of the operator of exterior derivation on some surfaces in $\mathbb{R}^N$ (p.73)*	**Yoshio Matsuyama** *On totally real submanifolds in $CP^n(c)$ (p.76)*	**Peter Rögen** *Embedding and knotting of flat surfaces in 3-space (p.79)*
Sect.: **06**	4-Manifolds, *Chair: Alexander D. Mednykh*		
H 112	**J. Scott Carter** *The Diagrammatics of Hopf Categories and Invariants of 4-Dimensional Manifolds (p.86)*	**Nikolai Gusevskii** *Complex hyperbolic surfaces and discrete groups in complex hyperbolic geometry (p.88)*	**Alexander Prishlyak** *Morse function conjugation on 4-manifolds (p.95)*
Sect.: **10**	Hyperbolic Equations III (Conservation Laws & Asymptotic Behavior), *Chair: Armen Shirikyan*		
H 111	**Christian Klingenberg** *Conservation laws with source terms (p.209)*	**Andrzej Rogowski** *Existence of space periodic solutions for semi-linear hyperbolic systems (p.218)*	**Armen Shirikyan** *Asymptotic behaviour of solutions to second-order hyperbolic equations (p.221)*
Sect.: **10**	Reaction-Diffusion Equations, *Chair: Klaus Zacharias*		
H 110	**Gideon A. Ngwa** *The Effects of Boundary Conditions on Reaction Diffusion Equations (p.216)*	**Arnd Scheel** *Essential instability of pulses amd bifurcations to modulated travelling waves (p.220)*	**Klaus Zacharias** *On a reaction–diffusion system modelling chemotaxis (p.225)*
Sect.: **12**	Large Deviations, *Chair: Dmitry Ioffe*		
H 107	**Esa Nummelin** *Large deviations of random vector fields with applications to economics (p.264)*	**Rolando Rebolledo** *Stopping Times and Large-Deviation Principles (p.267)*	**Tzuu-Shuh Chiang** *Large deviation of small diffusions in discontinuous media (p.250)*
Sect.: **12**	Statistics for Stochastic Differential Equations, *Chair: Mikhailo Yadrenko*		
H 1029	**Marianne Huebner** *Nonparametric estimation for stochastic partial differential equations*	**Ruth Pfeiffer** *Statistical Problems for Stochastic Processes with Hysteresis (p.266)*	**Alexander Frolovich Taraskin** *On problems of statistics for SDE (p.270)*
Sect.: **13**	Matrices, Posets, and Lattices, *Chair: Jens Gustedt*		
H 106	**Konrad Engel** *An upper bound for the size of a largest antichain in the poset of partitions of an integer (p.276)*	**Antoni Smoluk** *Fix-point property of finite partially ordered sets (p.284)*	**Christian Bey** *An intersection theorem for the function lattice (p.274)*
Sect.: **17**	Algorithms and Complexity Issues, *Chair: Naum Zuselevich Shor*		
H 2033	**Vitaly A. Perepelitsa** *Fractal Graphs and their Properties (p.347)*	**Elena V. Popova** *Estimates of Complexity of the Vector Ordering Problem (p.348)*	**Naum Zuselevich Shor** *Methods of improving dual bounds with the use of functionally superfluous constraints in polynomial and boolean problems (p.350)*
Sect.: **19**	Non-European Mathematics, *Chair: Shirong Guo*		
H 2013	**Shirong Guo** *Yang Hui's Influence on the Mathematical Tradition of the Ming Dynasty in China (p.367)*	**Osamu Takenouchi** *Summation of a sequence of natural numbers (p.369)*	**Abdelkhalek Cheddadi** *Un problème d'arithmétique et sa résolution par le mathématicien marocain al-Hassar (XIIè s.) (p.365)*

Poster Session: Monday, 24 August, 14:00–15:45

Sect.: **01** MA 144	LOGIC		
	Fariborz Azarpanah *Sum and intersection of summand ideals in* $C(X)$ *(p.5)*	**Grzegorz Bancerek** *Mizar — a work environment for a mathematician: an experiment with continuous lattices (p.6)*	**Peter Michael Schuster** *A Sequence Model for Constructive Nonstandard Analysis (p.10)*
Sect.: **06** MA 144	TOPOLOGY		
	Laura M. Anderson *Matroid bundles and characteristic classes (p.85)*	**Lorena Armas-Sanabria** *3-Pure Braids and Surgery (p.85)*	**Vitali Chatyrko** *On infinite-dimensional Cantor manifolds (p.86)*
	Mario Eudave-Munoz *Incompressible surfaces in the exterior of tunnel number one knots (p.88)*	**Norikazu Hashiguchi** *The surgery formula for the discrete Godbillon-Vey invariant (p.89)*	**Thang T.Q. Le** *On Quantum and Finite Type Invariants of Homology 3-Spheres (p.91)*
	Jouni Luukkainen *The fundamentals of Lipschitz and quasiconformal manifolds (p.92)*	**Leonard Mdzinarishvili** *Partially continuous Alexander-Spanier cohomology theory (p.93)*	**Alexey Rasskazov** *The structure of the canonical fundamental set for the 2-bridge link (p.95)*
	Sascha A. Rogmann *Growth functions of tessellations (p.96)*	**Richard J. Steiner** *Pasting in multiple categories (p.98)*	**Paul R. Turner** *The homology of spaces representing exact cohomology theories (p.99)*

Poster Session: Monday, 24 August, 16:15–18:00

Sect.: **07** MA 144	LIE GROUPS AND LIE ALGEBRAS		
	Helge Glöckner *Scale functions on* p*-adic Lie groups (p.105)*	**Nikolai Gromov** *Nonsemisimple Cayley-Klein groups and its quantization (p.105)*	**Duncan J. Melville** *A survey of quantum deformation results (p.108)*
	Victor M. Petrogradsky *On subalgebras of free Lie algebras (p.108)*	**Jorge Soto-Andrade** *Gel'fand Models, Weil Representations, and Twisted Spherical Functions (p.110)*	
Sect.: **11** MA 144	MATHEMATICAL PHYSICS		
	Jack Asavanant *Free-surface flows past a rectilinear object with stagnation points (p.228)*	**Valery Dryuma** *Integration of Einstein equation for higher-dimensional space (p.232)*	**Nadja Kutz** *Discrete Nonlinear Toda Evolution (p.239)*
	David Natroshvili *Direct and inverse problems of fluid-structure interaction (p.241)*	**Jean Ndimubandi** *The q-Dirac oscillator: the context of radial potentials (p.242)*	**Joachim Rehberg** *A hybrid semiconductor device model including nanostructures (p.243)*
	Ryuichi Sawae *An action of Virasoro algebra on the formal loop group solutions of 2d reduced Einstein equations (p.244)*	**Joseph C. Várilly** *Quantum fields over noncommutative tori (p.246)*	

Special Activities

14:00 – 18:00 **H 104**

Session on Electronic Publishing
Chair: Peter Michor, Vienna, Austria

14:00 – 14:30 **Jane Kister,** Mathematical Reviews
Bernd Wegner, Zentralblatt für Mathematik
The year 2000 Mathematics Subject Classification, MSC2000

14:30 – 15:00 **Judith Plümer,** Universität Osnabrück, Germany
Mathematical Metadata

15:00 – 15:30 **Stephen Buswell,** Stilo Technology, UK
An Introduction to MATHML

15:30 – 15:45 **Discussion**

15:45 – 16:15 **Coffee break**

16:15 – 18:00 **Panel Discussion**
The future of electronic communication, information and publishing
Panelists: N. Calkin, J. Ewing, M. Grötschel, J. Heinze, C. Hutchins, P. Michor, R. Palais
Chair: David Mumford, IMU president

Other Events

17:30 **Urania**

Orm Finnendahl, Berlin, Germany
Konstruktion und musikalischer Sinn: Auswirkungen rekursiver und stochastischer Verfahren in meinen Kompositionen (in German)

19:30 **Urania**

Hans–Magnus Enzensberger, München, Germany
Zugbrücke außer Betrieb, oder die Mathematik im Jenseits der Kultur — eine Außenansicht (in German)