**International Congress of Mathematicians Berlin, Germany August 18–27, 1998**

# Program

## Acknowledgements

ICM'98 is held under the aegis of *Bundespräsident Roman Herzog,* the auspices of the *International Mathematical Union,* and the sponsorship of the *Deutsche Mathematiker–Vereinigung.*

The ICM'98 Organizing Committee is greatly indebted to all those who have supported the Congress, either by monetary contribution, or by donating goods and services. Without these generous donations it would have been impossible to launch ICM'98 and carry it through.

### List of Donors

We would like to thank the following sponsors cordially:

**Public and Academic Bodies**

- Bundesministerium für Bildung, Wissenschaft, Forschung und Technologie
- Senat von Berlin
- Deutsche Forschungsgemeinschaft
- Sächsisches Staatsministerium für Wissenschaft und Kunst
- Alexander von Humboldt–Stiftung
- Berlin–Brandenburgische Akademie der Wissenschaften

- International Mathematical Union
- Deutsche Mathematiker–Vereinigung
- European Mathematical Society
- Deutsche Gesellschaft für Versicherungsmathematik
- Berliner Mathematische Gesellschaft

**Private Corporations and Foundations**

- Allianz Lebensversicherungs–AG
- Siemens AG
- Stemmler–Stiftung
- Möllgard–Stiftung
- Silicon Graphics
- Deutsche Telekom
- StorageTek
- Herlitz AG
- Deutsche Bank AG
- Springer–Verlag
- Nikkei Culture
- Walter und Eva Andrejewski–Stiftung
- Minolta
- Sender Freies Berlin
- SUN Microsystems
- Berliner Verkehrsbetriebe
- Daimler–Benz–Stiftung
- T–Mobil

**Individuals and Mathematical Institutes**

The organization of a congress depends — to a very large extent — on the dedication, time, and energy of many volunteers. Colleagues, too many to mention them here individually, from the Berlin Universities and Mathematical Research Institutes and from Mathematical Institutions throughout Germany have worked very hard for ICM'98; they covered their expenses from their own or other sources. The Organizing Committee would like to thank all persons and institutions involved.

Donations have been given by many mathematicians from all over the world, who particularly contributed to the funds for the support programs for mathematicians from developing countries and Eastern Europe. The Organizing Committee is grateful for these donations and would like to thank, in particular, the members of the German Mathematical Society, who generously responded to the ICM'98 fund drive.

**International Congress of Mathematicians Berlin, Germany August 18–27, 1998**

Welcome to ICM'98!

For a mathematician, it seems natural that there is an ICM every four years; but periodic world congresses covering all aspects of a scientific discipline are very rare among the sciences. Mathematics is an exception.

The ICMs have started at the turn of the last century at the suggestion of a number of leading mathematicians. Among them were two influential German "mathematical organizers": Georg Cantor, the founder and first president of the German Mathematical Society, and Felix Klein. Since then the International Congresses have grown into the most important series of mathematical conferences — worldwide.

Those who attend an ICM gather to obtain, from leading experts, summaries of the achievements of the last few years, to take snapshots of the current state-of-the art, and to speculate about future trends. They also participate to meet old friends, to get into contact with colleagues from other fields of mathematics, and to make new friends.

ICM'98 would not have come to life without the generous support of the Federal Government of Germany and of the City of Berlin. Institutional, industrial, and private sponsors have made an exceptionally broad program possible — also for the general public. The Local Organizing Committee has done its best to provide a suitable setting for ICM'98. We hope you will enjoy the Congress!

Welcome to Berlin! We wish you a successful conference and a pleasant stay.

(Martin Grötschel)
President of the ICM'98–Organizing Committee

# Contents

# A. Schedule of Events — Day by Day Overview

**How to read the day by day program:** The Plenary and Invited Lectures are grouped by day and by time slot. For each lecture, you find the speaker (with affiliation), the title of the talk, and the chairperson. For each Invited Lecture, the number in front of the speaker refers to the Section Number. Some lectures belong to two sections, e.g., **04 & 11**.

The lecture rooms are listed (in bold) on the right-hand side. Rooms whose numbers start with **H**, such as **H 105**, are located in the Main Building of TU Berlin, see map on page 185. Room numbers starting with **MA**, such as **MA 001**, refer to lecture rooms in the Math Building, see page 186.

The italic numbers in parentheses on the right-hand side of each title refer to the page of the abstract book where the abstract can be found. Note that there are two volumes of abstracts. A code such as *(I: p.19)* refers to the volume **Abstracts of Plenary and Invited Lectures** (*I* stands for Invited), while a (short) label such as *(p.85)* means that the corresponding abstract can be found on page 85 of the volume **Abstracts of Short Communications and Poster Sessions**. For Short Communications and Poster Sessions, all numbers, room codes, etc. are analogous.

**Please note:** For reasons of conciseness and uniformity in appearance only one author of a presentation is listed, even if there are several coauthors. The reader is kindly asked to refer to the abstract books for the names of all authors of a contribution.

# Tuesday, 18 August

## Opening Ceremony

**10:00–12:30** **International Congress Center**

*W. A. Mozart, Clarinet Quintet K. 581, Movement 4*

**David Mumford**, President of the International Mathematical Union
**Martin Grötschel**, President of the ICM'98 Organizing Committee
**Karl-Heinz Hoffmann**, President of the German Mathematical Society
**Friedrich Hirzebruch**, Honorary President of the ICM'98 Organizing Committee

*Paul Hindemith, Clarinet Quintet Op. 30, Movement 3–5*

**Wilhelm Staudacher**, Head of the Office of the Federal President and State Secretary
*Words of Welcome of the Federal President Roman Herzog*
**Jürgen Rüttgers**, Federal Minister of Education, Science, Research, and Technology
**Eberhard Diepgen**, Governing Mayor of Berlin
**Hans-Jürgen Ewers**, President of the Technical University Berlin
**Hansgeorg Hauser**, Parliamentary State Secretary at the Federal Ministry of Finance
*Presentation of a Commemorative Stamp on the Occasion of ICM'98*

*W. A. Mozart, Divertimento K. 287, Movement 6*

**Presentation of the Fields Medals and a Special Tribute**
**Yuri Manin**, Chairman of the Fields Medal Committee
**Presentation of the Nevanlinna Prize**
**David Mumford**, Chairman of the Nevanlinna Prize Committee

(Music performed by soloists of the Ensemble Oriol Berlin)



## Opening Reception

**12:30–14:30** **International Congress Center**

This complimentary opening reception is offered to all participants of the Opening Ceremony. A light buffet lunch and beverages are served.

## Laudationes

**14:30–16:00** **International Congress Center**

Addresses on the work of the Fields medalists and the Nevanlinna Prize winner.

## Plenary Lecture

**16:15 – 17:15** **International Congress Center**

**Jürgen Moser,** ETH Zürich, Zürich, Switzerland
*Dynamical Systems — Past and Present* *(I: p.17)*
Chair: Friedrich Hirzebruch, Max-Planck-Institut für Mathematik, Bonn, Germany

# 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<br>*Geometry on the Group of Hamiltonian Diffeomorphisms*<br>Chair: Helmut H.W. Hofer | *(I: p.77)* | **MA 001** |
| **06** | **Robert A. Oliver,** Université Paris-Nord, Villetaneuse, France<br>*Vector bundles over classifying spaces*<br>Chair: Charles B. Thomas | *(I: p.84)* | **MA 004** |
| **07** | **Minoru Wakimoto,** Kyushu University, Fukuoka, Japan<br>*Representation theory of affine superalgebras at the critical level*<br>Chair: Richard E. Borcherds | *(I: p.96)* | **MA 005** |
| **09** | **Zhihong Xia,** Northwestern University, Evanston, USA<br>*Arnold diffusion and variational construction of connecting orbits*<br>Chair: Klaus Kirchgässner | *(I: p.120)* | **H 1012** |
| **11** | **Gian Michele Graf,** ETH Zürich, Zürich, Switzerland<br>*Stability of matter in classical and quantized fields*<br>Chair: Volker Bach | *(I: p.134)* | **H 1028** |
| **14** | **Joan Feigenbaum,** AT&T Labs Research, Florham Park, USA<br>*Games, Complexity Classes, and Approximation Algorithms*<br>Chair: Hans J. Prömel | *(I: p.167)* | **H 2032** |

**15:00 – 15:45**

| | | | |
|---|---|---|---|
| **05** | **Yongbin Ruan,** University of Wisconsin-Madison, Madison, USA<br>*Quantum cohomology and its applications*<br>Chair: Helmut H.W. Hofer | *(I: p.77)* | **MA 001** |
| **06** | **Ronald A. Fintushel,** Michigan State University, East Lansing, USA<br>**Ronald J. Stern,** University of California, Irvine, USA<br>*Knot Surgery on 4-Manifolds*<br>Chair: Ulrich Koschorke | *(I: p.86)* | **MA 004** |
| **07** | **Kari Vilonen,** Brandeis University, Waltham, USA<br>*Topological Methods in Representation Theory*<br>Chair: Wolfgang Soergel | *(I: p.95)* | **MA 005** |

| | | | | |
|---|---|---|---|---|
| 09 | **Welington de Melo,** IMPA, Rio de Janeiro, Brazil<br>*Renormalization and Rigidity in one dimensional smooth dynamical systems*<br>Chair: Bernold Fiedler | *(I: p.112)* | **H 1012** |
| 11 | **Barry McCoy,** State University of New York, Stony Brook, USA<br>*Rogers-Ramanujan identities: A Century of progress from mathematics to physics*<br>Chair: Robert Schrader | *(I: p.135)* | **H 1028** |
| 14 | **Toniann Pitassi,** University of Arizona, Tucson, USA<br>*Combinatorial and algebraic techniques in proof complexity*<br>Chair: Helmut Alt | *(I: p.171)* | **H 2032** |

**16:15 – 17:00**

| | | | |
|---|---|---|---|
| 04 & 11 | **Robbert Dijkgraaf,** University of Amsterdam, Amsterdam, The Netherlands<br>*The Mathematics of Fivebranes*<br>Chair: Fedor Smirnov | *(I: p.62)* | **MA 005** |
| 07 | **Laurent Lafforgue,** Université Paris-Sud, Orsay, France<br>*Chtoucas de Drinfeld et applications*<br>Chair: James Arthur | *(I: p.92)* | **MA 004** |
| 08 | **Michael T. Lacey,** Georgia Institute of Technology, Atlanta, USA<br>*On the Bilinear Hilbert Transform*<br>Chair: Elias M. Stein | *(I: p.99)* | **MA 001** |
| 10 | **Fabrice Bethuel,** Université Paris-Sud, Orsay, France<br>*Recent results for Ginzburg-Landau models*<br>Chair: Dmitri Yafaev | *(I: p.121)* | **H 1012** |
| 12 | **David John Aldous,** University of California, Berkeley, USA<br>*Stochastic Coalescence*<br>Chair: Friedrich Götze | *(I: p.140)* | **H 1028** |
| 17 | **Jorge Nocedal,** Northwestern University, Evanston, USA<br>*Nonlinear Optimization: The Interplay Between Mathematical Characterizations and Algorithms*<br>Chair: Margaret H. Wright | *(I: p.193)* | **H 2032** |

**17:15 – 18:00**

| | | | |
|---|---|---|---|
| 04 | **Johan de Jong,** Princeton University, Princeton, USA<br>*Barsotti-Tate groups and crystals*<br>Chair: Gerard van der Geer | *(I: p.61)* | **MA 005** |
| 07 | **Robert Edward Kottwitz,** University of Chicago, Chicago, USA<br>*Harmonic analysis on semisimple p-adic Lie algebras*<br>Chair: Michael Rapoport | *(I: p.91)* | **MA 004** |
| 08 | **Kristian Seip,** Norwegian University of Science and Technology, Trondheim, Norway<br>*Developments from Nonharmonic Fourier Series*<br>Chair: Klaus D. Bierstedt | *(I: p.105)* | **MA 001** |
| 10 | **Robert R. Jensen,** Loyola University of Chicago, Chicago, USA<br>*Viscosity solutions of elliptic partial differential equations*<br>Chair: Stefan Müller | *(I: p.122)* | **H 1012** |
| 12 | **Jayanta Kumar Ghosh,** Indian Statistical Institute, Calcutta, India and Purdue University, West Lafayette, USA<br>*Bayesian Density Estimation*<br>Chair: Vladimir I. Koltchinskii | *(I: p.143)* | **H 1028** |
| 17 | **Jochem Zowe,** Universität Erlangen, Erlangen, Germany<br>*What is the Best Material? — The Answer of a Mathematician*<br>Chair: Josef Stoer | *(I: p.196)* | **H 2032** |

## 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 $L^\infty$ 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**<br>*Cohomologies of right-symmetric algebras and Novikov algebras (p.17)* | **Ekaterina A. Vasilieva**<br>*Involutive Bases of Free Algebras (p.31)* | **Alexander A Totok**<br>*Actions of Hopf algebras on noncommutative algebras* |
| Sect.: **03** | Additive Number Theory, *Chair: Doytchin Tolev* | | |
| MA 311 | **Mariano Garcia**<br>*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**<br>*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**<br>*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**<br>*Non-commutative Bloch theory (p.128)* | **Evgenij V. Troitsky**<br>*Kuiper and Dixmier-Douady theorems for $C^*$-Hilbert modules and K-theory (p.160)* | **Alexander Ya. Helemskii**<br>*Description of projective Hilbert modules over $C^*$-algebras (p.129)* |
| Sect.: **08** | Spaces of Analytic Functions, *Chair: Peter Duren* | | |
| MA 309 | **Mitsuo Morimoto**<br>*Reproducing kernels related to the complex sphere (p.142)* | **Romeo Meštrović**<br>*Topologies on Some $F$-algebras of Holomorphic Functions (p.141)* | **William E. Hornor**<br>*Properties of isometry-inducing maps of the unit disc (p.130)* |
| Sect.: **08** | Wavelet Transforms, *Chair: Boris Rubin* | | |
| MA 043 | **Charles N. Moore**<br>*Distribution function inequalities for sums of wavelets (p.142)* | **John Schmeelk**<br>*Wavelet Transforms in Generalized Fock Spaces (p.154)* | **Boris Rubin**<br>*Fractional Calculus and Wavelet Transforms in Integral Geometry (p.152)* |
| Sect.: **10** | A Priori Estimates & Asymptotics, *Chair: Shuji Watanabe* | | |
| H 111 | **Sergey Frolovitchev**<br>*Multiplicative solution asymptotics for Kolmogorov-Feller equation and asymptotics of the boundary value problems (p.203)* | **Annegret Glitzky**<br>*Electro–reaction–diffusion systems in heterostructures (p.204)* | **Shuji Watanabe**<br>*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**<br>*Stability Problems in Turbo Compressors (p.220)* | **Lizabeth V. Rachele**<br>*Inverse Problems for Elastic Media (p.218)* | |
| Sect.: **12** | Random Walks, Discrete Structures, *Chair: Klaus Fleischmann* | | |
| H 107 | **Boris L. Granovsky**<br>*Spectral gap of certain continuous-time Markov processes (p.252)* | **Rainer Siegmund-Schultze**<br>*Level Crossing Probabilities for Random Walks (p.269)* | |
| Sect.: **12** | Distribution Theory, *Chair: Lutz Mattner* | | |
| H 1029 | **Tea-Yuan Hwang**<br>*On some characterizations of population distributions (p.254)* | **Papa Ngom**<br>*Aspect bayésien des $a$-distributions et application (p.263)* | **Lutz Mattner**<br>*What are cumulants? (p.261)* |
| Sect.: **15** | Ordinary Differential Equations II, *Chair: Tatiana Anatolyevna Vasilyeva* | | |
| H 2013 | **Felix Schwitzer**<br>*Linearly implicit Runge-Kutta discretizations of semilinear parabolic problems near equilibria (p.312)* | **Sergei Yu. Pilyugin**<br>*Shadowing and perturbation of attractors in discretized parabolic equations (p.310)* | **Tatiana Anatolyevna Vasilyeva**<br>*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**<br>*On the Computation of Systems of Linear Algebraic Equations for Monolithic Microwave Integrated Circuits (p.332)* | **Hüsnü Ata Erbay**<br>*A numerical study of the complex modified Korteweg-de Vries equation (p.323)* | **Georg Hebermehl**<br>*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**<br>*Shape optimisation of geometrically nonlinear 3d beams and shells (p.336)* | **Raja Dziri**<br>*Dynamical shape optimazation in Navier-Stokes equations (p.339)* | **Michael Hinze**<br>*On the construction of feedback controllers for parabolic equations with an application to the control of fluid flow (p.343)* |

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

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

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

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

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

| Sect.: **04** MA 144 | Algebraic Geometry | | |
|---|---|---|---|
| | **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** MA 144 | Analysis | | |
| | **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** MA 144 | Applications | | |
|---|---|---|---|
| | **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

# 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** | LATTICES AND UNIVERSAL ALGEBRA, *Chair: Marcus A. Kracht* | | |
| MA 042 | **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** | CYCLOTOMY, *Chair: Stanley J. Gurak* | | |
| MA 311 | **Grzegorz, M. Banaszak** *Wild kernel for higher K-groups and arithmetic of square rings (p.34)* | **Mónica del Pilar Canales** *Higher levels of $Z/p^l Z$ 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** | SPECIAL SUBMANIFOLDS I, *Chair: Takashi Okayasu* | | |
| MA 041 | **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** | GAUGE THEORY AND LOW DIMENSIONAL TOPOLOGY, *Chair: Ronald J. Stern* | | |
| H 112 | **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** | CHAOTIC DYNAMICAL SYSTEMS, *Chair: Mohamed Houssni* | | |
| H 111 | **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** | PERIODIC SOLUTIONS OF DIFFERENTIAL EQUATIONS, *Chair: Mohammad Jahanshahi* | | |
| H 110 | **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** | INTEGRABLE SYSTEMS I, *Chair: Renat Z. Zhdanov* | | |
| H 107 | **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** | MATHEMATICAL ASPECTS OF COMPUTER SCIENCE I, *Chair: Stefan Felsner* | | |
| MA 043 | **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** | APPROXIMATION I, *Chair: Jozsef Grof* | | |
| H 2033 | **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** | PARTIAL DIFFERENTIAL EQUATIONS I, *Chair: Vladimir V. Shaidurov* | | |
| H 2013 | **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** | NON-LINEAR WAVE PROPAGATION, *Chair: Lokenath Debnath* | | |
| H 106 | **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** | Function Fields and Curves I, *Chair: Franck Leprévost* | | |
| MA 311 | **Florian Heß**<br>*Effective construction of Riemann-Roch spaces in global function fields (p.38)* | **Ryutaro Horiuchi**<br>*On Weierstrass Points of the Fermat Curve (p.38)* | **Franck Leprévost**<br>*On some elliptic surfaces and elliptic curves related to discriminants of cubic or quartic polynomials (p.41)* |
| Sect.: **05** | Special Submanifolds II, *Chair: Ivko M. Dimitric* | | |
| MA 041 | **Valentin Gabriel Cristea**<br>*Totally umbilical graded submanifolds (p.66)* | **S.M.B. Kashani**<br>*Cohomogeneity One Revolution Hypersurfaces of the Euclidean Space (p.72)* | **Ivko M. Dimitric**<br>*Low-type submanifolds of non-flat complex space forms (p.67)* |
| Sect.: **06** | Knots and 3-Manifolds, *Chair: Jonathan A. Hillman* | | |
| H 112 | **Joel Hass**<br>*The number of Reidemeister Moves Needed for Unknotting (p.89)* | **Cherry Kearton**<br>*Alexander ideals of classical knots (p.90)* | **Michelangelo Vaccaro**<br>*Unicity of the topological type of the simply connected 3-manifolds (p.99)* |
| Sect.: **09** | Boundary Value Problems Related to FDE, *Chair: Zhanyuan Hou* | | |
| H 111 | **Manuel J. Alves**<br>К вопросу о разрешимости двухточечной краевой задачи для сингулярного функционально-дифференциального уравнения *(p.169)* | **Sergei A. Brykalov**<br>*Solution sets of problems with nonlinear functional boundary conditions (p.173)* | **Zhanyuan Hou**<br>*$L^p$-Perturbation of Linear Functional Differential Equations (p.176)* |
| Sect.: **09** | Periodic Solutions of FDE, *Chair: Mustapha Yebdri* | | |
| H 110 | **Nataliya Bantsur**<br>*Existence and stability of the periodic and almost periodic solutions of differential equations with maxima (p.171)* | **Joao S.P. Munembe**<br>*Computationally verifiable conditions of the existence of stabilizable solutions for linear differential systems with periodic parameters (p.184)* | **Mustapha Yebdri**<br>*The linear stability of slowly oscillating periodic solutions of a delay differential equation (p.195)* |
| Sect.: **11** | Statistical Mechanics, *Chair: Ali E Özlük* | | |
| H 107 | **Daniel Marinov Danchev**<br>*FSS Properties of an Exactly Solvable Quantum Model (p.231)* | **Valentina Goloubeva**<br>*On algebraic similarity of Calogero and Sutherland models (p.234)* | **Ali E Özlük**<br>*A Farey Fraction Spin Chain (p.242)* |
| Sect.: **14** | Mathematical Aspects of Computer Science II, *Chair: Clemens Gröpl* | | |
| MA 043 | **Guy Merlin Mbakop**<br>*An Efficient Algorithm for Solving Real Polynomial Equations: The Complete Intersection Case (p.294)* | **Bernard Mourrain**<br>*Multivariate polynomial equations and duality (p.294)* | **Emil J Volcheck**<br>*Computing with algebraic curves: a survey of recent results (p.295)* |
| Sect.: **15** | Approximation II, *Chair: Alexei A. Mailybaev* | | |
| H 2033 | **Alois Heinz**<br>*Efficient function approximation by tree-structured neural networks (p.302)* | **Peter Kirrinnis**<br>*Fast algorithms for partial fractions (p.305)* | **Alexei A. Mailybaev**<br>*Transformation of Families of Matrices to Normal Forms (p.306)* |
| Sect.: **15** | Partial Differential Equations II, *Chair: Jürgen Fuhrmann* | | |
| H 2013 | **Bodo Erdmann**<br>*Mesh Controlling Strategy for Solving Nonlinear Evolution Problems (p.299)* | **Christian Wieners**<br>*Adaptive multigrid methods for Prandtl-Reuß-plasticity (p.318)* | **Jürgen Fuhrmann**<br>*Numerically Stable Finite Volume Discretizations for Nonlinear Parabolic Problems (p.300)* |
| Sect.: **16** | Geophysical and Environmental Models, *Chair: Jinqiao Duan* | | |
| H 106 | **Verdiana Grace Masanja**<br>*A Mathematical Model and Simulation of Transport of Dust Particles in Dar es Salaam City (p.329)* | **Vitaly G. Il'ichev**<br>*Delta-functions and analysis of ecological interactions in a variable environment (p.324)* | **Jinqiao Duan**<br>*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** | Noetherian Rings, *Chair: Kurt Rosenbaum* | | |
| MA 311 | **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** | Toric Varieties, *Chair: Klaus Altmann* | | |
| MA 042 | **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* $H^n(\mathbf{C}^n \backslash V, \mathbf{C})$ *(p.56)* |
| Sect.: **07** | Symmetric Spaces, *Chair: Walter J. Michaelis* | | |
| H 112 | **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** | Sobolev- and Function Spaces, *Chair: Michal Wojciechowky* | | |
| H 110 | **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** | Integral Transforms I, *Chair: Vakhtang M. Kokilashvili* | | |
| MA 041 | **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** | Variational Problems, *Chair: Julian P. Revalski* | | |
| MA 309 | **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** | Topological Vector Spaces and Algebras, *Chair: Wieslaw Zelazko* | | |
| MA 043 | **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** | Systems I, *Chair: Yakov Krasnov* | | |
| H 111 | **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** | Interacting Particle Systems, *Chair: Hans-Otto Georgii* | | |
| H 107 | **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** | Limit Theorems, *Chair: Ludwig Paditz* | | |
| H 1029 | **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** | Combinatorics of Words, *Chair: Emo Welzl* | | |
| H 106 | **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** | Wavelets II (organized by Andreas Rathsfeld), *Chair: Jacques Liandrat* | | |
| H 2013 | **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** | Nonlinear Optimization I, *Chair: Jürgen Guddat* | | |
| H 2033 | **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** | Rings and Modules I, *Chair: Sylvia M. Wiegand* | | |
| MA 311 | **Toma Albu**<br>*Global Krull dimension and global dual Krull dimension of rings (p.12)* | **Jilyana Cazaran**<br>*Sufficient conditions for finite commutative rings to be principal ideal rings and an application to error-correcting codes (p.14)* | **Reinhard Börger**<br>*Infinitary Linear Combinations in Cotorsion Modules (p.14)* |
| Sect.: **04** | Singularities I, *Chair: Gert-Martin W. Greuel* | | |
| MA 042 | **Sabir M. Gusein-Zade**<br>*On the index of a gradient vector field at an isolated complete intersection singularity (p.53)* | **Ludwig Balke**<br>*Open book fibrations of lens spaces and deformations of cyclic quotient singularities (p.50)* | **Claus Hertling**<br>*Variational Torelli result for hypersurface singularities (p.53)* |
| Sect.: **07** | Lie Groups, *Chair: Adam Koranyi* | | |
| H 112 | **Dietrich Burde**<br>*Affine and projective structures on Lie groups (p.103)* | **Michael Wüstner**<br>*Lie groups with surjective exponential function (p.111)* | **Walter J. Michaelis**<br>*The exponential matrices of non-commuting matrices may commute (p.108)* |
| Sect.: **08** | Analytic Functions I, *Chair: Žarko Pavićević* | | |
| H 110 | **Shigeyoshi Owa**<br>*Some Properties for Convulutions (p.146)* | **Yaroslav Ya. Prytula**<br>*Generalization of Lindelöf Theorem (p.149)* | **Žarko Pavićević**<br>*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** | Operator Algebras, *Chair: Huzihiro Araki* | | |
| MA 041 | **Grigori Amosov**<br>*Cocycle conjugacy classes of Powers' semiflow of shifts (p.113)* | **Alexandr V. Kosyak**<br>*On von Neumann algebras, generated by regular representations of infinite-dimensional groups (p.137)* | **Huzihiro Araki**<br>*Factor types of infrared representations of the XY-model (p.114)* |
| Sect.: **08** | Convexity, Semigroups, and Blocking, *Chair: Karl-Goswin Grosse-Erdmann* | | |
| MA 309 | **Farhad V. Hüsseinov**<br>*Closedness of convex hull and its applications (p.131)* | **Nobuhisa Sakakibara**<br>*Perfectness of conelike $*$-semigroups in $Q^k$ (p.153)* | **Karl-Goswin Grosse-Erdmann**<br>*The blocking technique and the weighted Hardy inequality (p.127)* |
| Sect.: **08** | Orthogonal Polynomials and Wavelets, *Chair: Thomas C. Kriecherbauer* | | |
| MA 043 | **Mohsen Taghavi**<br>*Exact values of the autocorrelation coefficients of the Rudin-Shapiro polynomials (p.159)* | **Ahmed I Zayed**<br>*Wavelets in Closed Forms (p.166)* | **Thomas C. Kriecherbauer**<br>*Asymptotics of Orthogonal Polynomials via Integrable Methods (p.137)* |
| Sect.: **10** | Fluids, *Chair: Mitsuo Morimoto* | | |
| H 111 | **Song Jiang**<br>*Large-time behavior of solutions to the equations of a one-dimensional viscous polytropic ideal gas in unbounded domains (p.207)* | **Anatoli Merzon**<br>*A complete solution of the Ursell problem (p.213)* | **Hiroko Morimoto**<br>*On the Existence of Steady Navier-Stokes Flow in 2D Tube-like Domain under General Outflow Condition (p.214)* |
| Sect.: **12** | Particle Approximations, Stochastic Evolutions, *Chair: Alfred Liemant* | | |
| H 107 | **Terry J. Lyons**<br>*Branching particle approximations to smoothing and filtering (p.259)* | **Krystyna Twardowska**<br>*Applications of support theorems to invariance measure theory (p.270)* | **Wolfgang Wagner**<br>*Stochastic particle systems approximating the stationary Boltzmann equation (p.271)* |
| Sect.: **12** | Limit Theorems, Inequalities, and Martingales, *Chair: Sergei Nagaev* | | |
| H 1029 | **Anatoly N. Kochubei**<br>*Limit Theorems for Sums of $p$-Adic Random Variables (p.257)* | **Toshitada Shintani**<br>*Uniform integrability of $L^1$-bounded matingales (p.269)* | **Sergei Nagaev**<br>*Probability inequalities for sums of dependent Banach space valued random variables (p.263)* |
| Sect.: **13** | Independent Sets and Coloring, *Chair: Heinz Adolf Jung* | | |
| H 106 | **Stephan Brandt**<br>*Pach's Theorem on triangle-free graphs revisited (p.274)* | **Kevin A. Broughan**<br>*Computing the minimal colouring of large graphs (p.274)* | **Ebadollah S. Mahmoodian**<br>*Defining sets in graph colorings (p.281)* |
| Sect.: **15** | Differential Algebraic Systems, *Chair: Ulrich Nowak* | | |
| H 2013 | **Rainald Ehrig**<br>*Recent advances in extrapolation methods for large scale differential algebraic problems (p.299)* | **Friedrich Grund**<br>*Sparse-Matrix-Techniken für Parallelrechner (p.301)* | **Tatyana Shtykel**<br>*On the criterion of asymptotical stability for index-1 tractable DAE (p.313)* |
| Sect.: **17** | Convex Optimization, *Chair: Bernd Kummer* | | |
| H 2033 | **Anatoly Antipin**<br>*To Solving of Equilibrium Programming Problems (p.335)* | **Evgeny G. Belousov**<br>*On Hausdorff continuity of convex polynomial mappings (p.336)* | **Patrick L. Combettes**<br>*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**<br>*Nilpotent Leibniz algebras of low dimension* (p.13) | **Valerii Vaclavovich Benyash-Krivetz**<br>*On decomposing some finitely generated groups into amalgamated free products* (p.13) | **Matyas Domokos**<br>*Determinantal ideals of certain subspace arrangements* (p.16) |
| **Kiyomitsu Horiuchi**<br>*An expansion of lattice* (p.19) | **Andrei Marcus**<br>*Derived equivalences and Dade's conjectures* (p.22) | **Shigeki Matsumoto**<br>*Solutions of Sylvester Equations $AX - XB = C$ whose coefficients matrices $A$ and $B$ may have common eigenvalues* (p.23) |
| **Marek Niezgoda**<br>*An unified approach to some majorization inequalities* (p.25) | **Yasushi Ninomiya**<br>*Group algebras and nilpotency indices of their radicals* (p.25) | **Carlos Renteria-Marquez**<br>*The $a$-invariant of some Reed-Muller codes* (p.26) |
| **Constatin I. Sonin**<br>*Krull Dimension of Malcev-Neumann Rings* (p.29) | **Christophe Soulé**<br>*Filtrations on Higher Algebraic K-theory* (p.29) | **Masamichi Tokizawa**<br>*Set product residue semigroups* (p.30) |
| **Roman Zapatrin**<br>*Duality and set representations for partially ordered sets* (p.32) | **Konstantin A. Zubrilin**<br>*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**<br>*Closed formulas for representing primes by binary quadratic forms* (p.35) | **Herbert Gangl**<br>*Polylogarithmic identities in cubical higher Chow groups* (p.36) | **Noriaki Kimura**<br>*A simple proof of Carlitz's congruence of Vandiver type* (p.39) |
| **Tatsuya Okada**<br>*Explicit formulas for a generalized digital sum problem* (p.44) | **Margaret M. Robinson**<br>*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

# Friday, 21 August

## Plenary Lectures

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

**Helmut H.W. Hofer,** Courant Institute, New York University, New York, USA
*Dynamics, Topology, and Holomorphic Curves* *(I: p.8)*
Chair: Vladimir Arnold, Steklov Mathematical Institute, Moscow, Russia

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

**Vladimir Voevodsky,** Northwestern University, Evanston, USA
*Homotopy Theory of Algebraic Varieties* *(I: p.28)*
Chair: Eric Mark Friedlander, Northwestern University, Evanston, USA

## Invited Lectures

**14:00 – 14:45**

**04** **Mikhail M. Kapranov,** Northwestern University, Evanston, USA **MA 005**
*Operads and algebraic geometry* *(I: p.65)*
Chair: Enrico Arbarello

**05** **Simon K. Donaldson,** Stanford University, Stanford, USA **MA 001**
*Positive line bundles in symplectic geometry* *(I: p.69)*
Chair: Ulrich Pinkall

**06** **Alexander N. Dranishnikov,** University of Florida, Gainesville, USA and Steklov Math. Institute, Moscow, Russia **MA 004**
*Dimension theory and large Riemannian manifolds* *(I: p.79)*
Chair: Alexander S. Mishchenko

**09** **Shuhei Hayashi,** Waseda University, Tokyo, Japan **H 1012**
*Hyperbolicity, stability and the creation of homoclinic points* *(I: p.113)*
Chair: Jack Carr

**11** **Fedor Smirnov,** CNRS, LPTHE, Université Pierre et Marie Curie, Paris, France **H 1028**
*Space of local fields in integrable field theory and deformed Abelian integrals* *(I: p.137)*
Chair: Andreas Fring

**14** **Emo Welzl,** ETH Zürich, Zürich, Switzerland **H 2032**
*Halving Point Sets* *(I: p.175)*
Chair: Helmut Alt

**15:00 – 15:45**

**04** **Victor Vadimovich Batyrev,** Universität Tübingen, Tübingen, Germany **MA 005**
*Mirror symmetry and toric geometry* *(I: p.60)*
Chair: Yujiro Kawamata

**05** **François Labourie,** Université Paris-Sud, Orsay, France **MA 001**
*Large Group Actions on Manifolds* *(I: p.73)*
Chair: Ulrich Pinkall

**06** **Michael Hartley Freedman,** Microsoft Corporation, Redmond, USA **MA 004**
*Topological views of computational complexity* *(I: p.80)*
Chair: Robert D. Edwards

| | | | | |
|---|---|---|---|---|
| 09 | **Michael Herman,** CNRS, Université Denis Diderot / Paris 7, Paris, France<br>*Some open problems in dynamical systems*<br>Chair: Thomas Bartsch | *(I: p.114)* | **H 1012** |
| 11 | **Roberto Schonmann,** UCLA, Los Angeles, USA<br>*Metastability and the Ising model*<br>Chair: Christian Borgs | *(I: p.136)* | **H 1028** |
| 14 | **Miklós Ajtai,** IBM Almaden Research Center, San Jose, USA<br>*Worst-case Complexity, Average-case Complexity, and Lattice Problems*<br>Chair: Helmut Alt | *(I: p.165)* | **H 2032** |

**16:15 – 17:00**

| | | | |
|---|---|---|---|
| 02 | **William M. Kantor,** University of Oregon, Eugene, USA<br>*Simple Groups in Computational Group Theory*<br>Chair: Charles C. Sims | *(I: p.41)* | **MA 005** |
| 07 | **Vera Serganova,** University of California, Berkeley, USA<br>*On representations of Lie superalgebras*<br>Chair: Olivier Mathieu | *(I: p.95)* | **MA 004** |
| 08 | **Michael Christ,** University of California, Berkeley, USA<br>*Singularity and Regularity — Local and Global*<br>Chair: Daryl Geller | *(I: p.97)* | **MA 001** |
| 10 | **Gustavo Alberto Ponce,** University of California, Santa Barbara, USA<br>*On nonlinear dispersive equations*<br>Chair: Mikhail Shubin | *(I: p.125)* | **H 1012** |
| 12 | **Mark Freidlin,** University of Maryland, College Park, USA<br>*Random and Deterministic Perturbations of Nonlinear Oscillators*<br>Chair: Jürgen Gärtner | *(I: p.141)* | **H 1028** |
| 16<br>&<br>17 | **William J. Cook,** Rice University, Houston, USA<br>*The Traveling Salesman Problem*<br>Chair: Günter M. Ziegler | *(I: p.186)* | **H 2032** |

August 21

**17:15 – 18:00**

| | | | |
|---|---|---|---|
| 02 | **Aleksandr Pukhlikov,** Institute for Systems Analysis, Moscow, Russia<br>*Birational automorphisms of algebraic varieties*<br>Chair: Victor Vadimovich Batyrev | *(I: p.42)* | **MA 005** |
| 07 | **Shahar Mozes,** Hebrew University, Jerusalem, Israel<br>*Products of trees, lattices and simple groups*<br>Chair: Peter Sarnak | *(I: p.93)* | **MA 004** |
| 08 | **Hart F. Smith,** University of Washington, Seattle, USA<br>*Wave Equations with Low Regularity Coefficients*<br>Chair: Gerald B. Folland | *(I: p.107)* | **MA 001** |
| 10 | **Frédéric Hélein,** CMLA, ENS-Cachan, Cachan, France<br>*Phenomena of compensation and estimates for partial differential equations*<br>Chair: Gunther A. Uhlmann | *(I: p.121)* | **H 1012** |
| 12 | **Jean-François Le Gall,** DMI — École Normale Supérieure, Paris, France<br>*Branching processes, random trees and superprocesses*<br>Chair: Donald Dawson | *(I: p.147)* | **H 1028** |
| 17 | **Jan C. Willems,** University of Groningen, Groningen, The Netherlands<br>*Open Dynamical Systems and their Control*<br>Chair: Fritz Colonius | *(I: p.195)* | **H 2032** |

## Short Communications and Poster Sessions

| Short Communications: Friday, 21 August, 14:00–14:45 | | | |
|---|---|---|---|
| | **14:00–14:15** | **14:15–14:30** | **14:30–14:45** |
| Sect.: **01** MA 042 | CATEGORIES: LOGIC AND TOPOLOGY, *Chair: Gerhard Preuß* | | |
| | **Michel Hebert** *Syntactic view on locally generated categories: abstract and concrete cases (p.7)* | **Dieter Leseberg** *Filterconvergence as a convenient concept for Topology (p.8)* | |
| Sect.: **02** MA 311 | GROUPS II, *Chair: Mikhail H. Klin* | | |
| | **Hubert Kiechle** *Frobenius groups with many involutions (p.20)* | **Anatolii S. Kondratiev** *Finite linear groups of small degree (p.20)* | **Wujie Shi** *A new classification of groups (p.28)* |
| Sect.: **07** H 112 | QUANTUM GROUPS AND VERTEX OPERATOR ALGEBRAS, *Chair: Gerald Höhn* | | |
| | **Kailash C. Misra** *Demazure Crystals for quantum affine Lie algebras (p.108)* | **Naihuan Jing** *Quantized Kac-Moody algebras and symmetric functions (p.106)* | **Gerald Höhn** *Vertex Operator Algebras and 3-Dimensional Topological Quantum Field Theories (p.105)* |
| Sect.: **08** MA 041 | UNIVALENT FUNCTIONS I, *Chair: Ruben A. Hidalgo* | | |
| | **Bruce O'Neill** *Boundary Behavior of Conformal Mappings Associated with Singular Measures (p.145)* | **Teodor Bulboacă** *Differential subordinations and univalent integral operators (p.119)* | **Om Parkash Ahuja** *On Meromorphic Starlike and Convex Functions (p.113)* |
| Sect.: **08** MA 309 | INTEGRAL TRANSFORMS II, *Chair: Kun Soo Chang* | | |
| | **Yukio Kuribayashi** *On pseudofourier transforms (p.138)* | **Rama Rawat** *Pompeiu problem and $L^p$ analogues of Wiener-Tauberian for certain homogeneous spaces (p.151)* | **Kun Soo Chang** *Integral transform and convolution of analytic funtionals on abstract Wiener space (p.120)* |
| Sect.: **08** MA 043 | BANACH SPACES, *Chair: David Yost* | | |
| | **Parviz Azimi** *A class of hereditarily complementably $\ell_p$ Banach spaces (p.115)* | **Robb C. Fry** *Smooth Bump Functions on Banach Spaces (p.124)* | **David Yost** *Twisted sums of classical Banach spaces (p.165)* |
| Sect.: **10** H 111 | ELLIPTIC EQUATIONS II (SINGULARITIES & INDEX THEORY), *Chair: Vladimir S. Rabinovich* | | |
| | **Vladimir Borisovich Vasil'ev** *Wave factorization of elliptic symbols (p.223)* | **Igor I. Skrypnik** *Degree of densely defined $(S)_+$ operators and applications (p.222)* | **Vladimir S. Rabinovich** *Elliptic boundary value problems in domains with non-Lipschitz singular points (p.218)* |
| Sect.: **10** H 110 | HYPERBOLIC EQUATIONS I (INTEGRABLE EQUATIONS), *Chair: Jiahong Wu* | | |
| | **Igor Anders** *Long-time asymptotic behaviour of non-decaying solutions of KP-type equations (p.198)* | **Tariel Kiguradze** *On periodic solutions of nonlinear second order hyperbolic equations (p.209)* | **Jiahong Wu** *Zero dissipation limits of wave equations (p.225)* |
| Sect.: **12** H 107 | STOCHASTIC PROCESSES I, *Chair: Michael K.R. Scheutzow* | | |
| | **Yuriy V. Kolomiets** *On behavior of solutions of evolution equations perturbed by random processes (p.257)* | **Vassily A. Yaroshevsky** *Estimation of large deviations of dynamic system phase (p.273)* | **Anna V. Naydonova** *Analysis of Stochastic Recurrent Algorithms with the Random Reaction Time and Applications for Some Queueing Models (p.263)* |
| Sect.: **12** H 1029 | BAYESIAN METHODS, *Chair: Michael Nussbaum* | | |
| | **Ammar Sarhan** *Empirical Bayes Estimators of Indexed Parameters of Exponential Families* | **Olaf Bunke** *Asymptotic behauviour of Bayes estimates under possibly incorrect models* | |
| Sect.: **16** H 106 | MATHEMATICAL MODELS IN BIOLOGY, *Chair: Satoshi Takahashi* | | |
| | **Andrej Yu. Dubinsky** *Mathematical Modelling of electron and proton Transport in Chloroplasts (p.322)* | **Miguel Lara-Aparicio** *Some mathematical aspects of the simulation of the motor circadian rhythm in crayfish (p.327)* | **Satoshi Takahashi** *The oscillation of lateral asymmetry in scale-eating fish (p.333)* |
| Sect.: **17** H 2033 | OPTIMALITY CONDITIONS I, *Chair: Bernd Kugelmann* | | |
| | **Vassili Dikoussar** *Optimal Control with Control-State Constraints (p.339)* | | **Olga O. Vasilieva** *Optimality Conditions of Singular Controls (p.354)* |
| Sect.: **17** H 2013 | VARIATIONAL INEQUALITIES/FRACTAL GRAPHS, *Chair: Walter Gomez Bofill* | | |
| | **Walter Gomez Bofill** *On the regularity of one-parametric variational inequalities (p.341)* | **Olga A. Zinchenko** *The extreme graphs problems (p.356)* | **Anatolii Ivanovich Perov** *Discrete matrix Lur'e equation (singular case) (p.347)* |

## Short Communications: Friday, 21 August, 15:00–15:45

| | 15:00–15:15 | 15:15–15:30 | 15:30–15:45 |
|---|---|---|---|
| Sect.: **01** | Set Theoretic Topology, *Chair: Dieter Leseberg* | | |
| MA 042 | **Gerhard Preuß** *Convenient Topology — A New Branch of Topology (p.9)* | **Harald Nusser** *Completions of probabilistic semiuniform convergence spaces (p.8)* | |
| Sect.: **02** | Groups III, *Chair: Andrew J. Woldar* | | |
| MA 311 | **Vahagn H. Mikaelian** *Embeddings of countable groups into 2-generator groups with additional properties (p.31)* | **Igor Ya. Subbotin** *On groups with many periodic factor-groups (p.30)* | **Leonid A. Kurdachenko** *On some infinite dimensional linear groups (p.21)* |
| Sect.: **07** | Quantum Groups and Poisson Homogeneous Spaces, *Chair: Kailash C. Misra* | | |
| H 112 | **Pu Zhang** *Ringel-Hall algebras and quantum groups (p.111)* | **Ho Hai Phung** *Rational representations of matrix quantum groups of type $A_n$ (p.109)* | **Eugene A. Karolinsky** *A classification of Poisson homogeneous spaces of complex reductive Poisson-Lie groups (p.106)* |
| Sect.: **08** | Quasiconformal Maps, *Chair: Bruce O'Neill* | | |
| MA 041 | **Alexander Jur'evich Vasil'ev** *Two point distortion theorems for quasi-conformal mappings (p.162)* | **Evsei M. Dynkin** *Smoothness of quasiconformal mappings at a point (p.122)* | **Vo Dang Thao** *Area Problem for quasiconformal mappings (p.160)* |
| Sect.: **08** | Sobolev Classes and Matrix Functions, *Chair: Ilya M. Spitkovsky* | | |
| MA 309 | **Serguei Vodop'yanov** *On open and discrete mappings of Sobolev classes with integrable dilatation (p.162)* | **Vladimir V. Peller** *Regularity conditions for vectorial stationary processes (p.147)* | **Ilya M. Spitkovsky** *Almost periodic factorization and its applications (p.157)* |
| Sect.: **08** | C*-Algebras, *Chair: George A. Elliott* | | |
| MA 043 | **Martin Mathieu** *A simple local multiplier algebra (p.140)* | **Michael Frank** *Conditional expectations of finite index and discrete group actions (p.124)* | **George A. Elliott** *An abstract Weyl–von Neumann theorem (p.123)* |
| Sect.: **10** | PDE and Mathematical Physics, *Chair: Roland Potthast* | | |
| H 111 | **Johannes Elschner** *Existence, uniqueness, and regularity for solutions of the conical diffraction problem (p.203)* | **Frank Jochmann** *Existence and asymptotic behavior of weak solutions of the drift diffusion equations for semiconductors (p.207)* | **Roland Potthast** *On mixed reciprocity relations in inverse scattering (p.217)* |
| Sect.: **10** | Navier-Stokes Equations, *Chair: Takeyuki Nagasawa* | | |
| H 110 | **Mikhail E. Bogovskii** *The problem of global smooth solutions for multidimensional Navier-Stokes equations solved (p.199)* | **Soichiro Katayama** *Some semilinear wave equations with non-linear damping terms (p.208)* | **Takeyuki Nagasawa** *A new energy inequality and partial regularity for weak solutions of Navier-Stokes equations (p.215)* |
| Sect.: **12** | Stochastic Processes II, *Chair: Peter Imkeller* | | |
| H 107 | **Andrzej Makagon** *Periodically Correlated Processes and Mackey's Imprimitivity Theorem (p.259)* | **Boris G. Martchenko** *Concerning on a theorem for periodic in Slutskiy sense linear random processes (p.260)* | **Andrew Ya. Olenko** *On some properties of correlation and spectral functions (p.264)* |
| Sect.: **12** | Stochastic Algorithms, *Chair: Peter Mathé* | | |
| H 1029 | **Grigori Milstein** *The probability approach to numerical solution of nonlinear parabolic equations (p.261)* | **Vadim I. Arkin** *Optimal stopping problems with restrictions (p.248)* | **Peter Mathé** *Efficiency of Monte Carlo Integration Using Markov Chains (p.260)* |
| Sect.: **16** | Game Theory and Mathematical Economics, *Chair: Paul J. Campbell* | | |
| H 106 | **Fausto Mignanego** *Rationality of players and credibility of strategies in leader-follower games (p.330)* | **Serguei Z. Levendorski** *Generalizations of the Black-Scholes Formula for a Class of Truncated Lévy Processes (p.327)* | **Paul J. Campbell** *Klondike solitaire (p.321)* |
| Sect.: **17** | Controllability and Nonlinear Systems, *Chair: Shanjian Tang* | | |
| H 2033 | **Serikbai A. Aisagaliev** *Theory and constructive methods of solving the boundary problems of controllability processes (p.335)* | **Zbigniew J. Bartosiewicz** *Local observability, ideals, and finiteness conditions (p.336)* | **Shanjian Tang** *Brockett's problem of classification of finite-dimensional estimation algebras for Nonlinear Filtering Systems (p.352)* |
| Sect.: **17** | Multiobjective Optimization, *Chair: Jan-J. Ruckmann* | | |
| H 2013 | **Jürgen Guddat** *New Embeddings for Nonlinear Multiobjective Optimization Problems I (p.342)* | **Stefan M. Mititelu** *Optimality and duality in nonsmooth vector programming (p.345)* | |

## Short Communications: Friday, 21 August, 16:15–17:00

| | 16:15–16:30 | 16:30–16:45 | 16:45–17:00 |
|---|---|---|---|
| Sect.: **03** | Algebraic Geometry I, *Chair: Jürgen Wolfart* | | |
| MA 311 | **Emmanuel Peyre** *Heights and Tamagawa measures (p.44)* | **Valentin E. Voskresenskii** *Stably rational algebraic tori (p.46)* | **Jürgen Wolfart** *Riemann surfaces with many automorphisms (p.47)* |
| Sect.: **04** | D-Modules/Vector Bundles I, *Chair: Sabir M. Gusein-Zade* | | |
| MA 042 | **Aleksandr G. Aleksandrov** *Gauß-Manin-Zusammenhang und logarithmische Picard-Fuchs-Systeme (p.49)* | **Vladimir Bavula** *The Simple Holonomic Modules over the Ring of Differential Operators on a Smooth Algebraic Surface (p.50)* | **Ushadevi N. Bhosle** *Moduli spaces of torsion-free sheaves on nodal curves (p.51)* |
| Sect.: **06** | Geometric Topology, *Chair: Alexander N. Dranishnikov* | | |
| H 112 | **Dusan Repovs** *On Banach-Mazur compacta and their geometric properties (p.96)* | **Washington Mio** *On the geometric topology of homology manifolds (p.94)* | **Arkady Skopenkov** *A Generalization of The Haefliger-Weber Theorem on Embeddings of Manifolds in* $\mathbb{R}^m$ *(p.97)* |
| Sect.: **09** | Stability Theory of FDE, *Chair: Géza Makay* | | |
| H 111 | **Meirong Zhang** *The Fučik Spectrum and its Generalization for Asymptotically Positively Homogeneous Systems of Differential Equations (p.197)* | **Mark R. Liberzon** *Inners and Absolute Stability of Time-Lag Systems (p.181)* | |
| Sect.: **09** | Dynamical Properties of Mechanical Systems, *Chair: Dmitriy A. Chebanov* | | |
| H 110 | **Daniel Massart** *On the convexity of the action of a Lagrangian (p.182)* | **Natalia Valeryevna Tkachenko** *About some new solutions in a problem about motion of a body in a magnetic field (p.193)* | **Dmitriy A. Chebanov** *New exact solutions of the problem about motion of Lagrange's gyroscopes system (p.173)* |
| Sect.: **11** | Spectral Analysis I, *Chair: George D. Raikov* | | |
| H 107 | **Hermann Schulz-Baldes** *Quantum dynamics in presence of fractal spectra (p.245)* | **Michael Demuth** *Stable absolutely and singularly continuous spectra due to integral conditions (p.232)* | **George D. Raikov** *Eigenvalue asymptotics for the Dirac operator in strong constant magnetic fields (p.243)* |
| Sect.: **11** | Thermodynamcis, Hydrodynamcis, Non-linear Dynamics I, *Chair: Volodymyr Kotlyarov* | | |
| H 1029 | **Xinyu He** *A probabilistic method for vortex motion in turbulent fluids (p.235)* | **Vladyslav V. Danishevs'kyy** *A New Asymptotic Technique for Nonlinear Dynamic Boundary Value Problems (p.231)* | **Volodymyr Kotlyarov** *Scattering problem for compatible ordinary differential equations and nonlinear Schrödinger equation on the semi-axis (p.238)* |
| Sect.: **13** | Paths and Cycles, *Chair: Stephan Brandt* | | |
| H 106 | **Angeles Carmona** *On the Shortest Paths in a Distance Regular Graph (p.275)* | **Min Aung** *A lower bound for the circumference of a graph in terms of connectivity and minimum degree (p.283)* | **Henda Swart** *Generalised Measures of Distance in Graphs (p.286)* |
| Sect.: **14** | Mathematical Aspects of Computer Science III, *Chair: Clemens Gröpl* | | |
| MA 043 | **Barbu Gheorghe** *A method for Computer Generation of Random Vectors (p.289)* | **Sven Hartmann** *New results on the consistency of cardinality constraints (p.292)* | **Stefan Felsner** *The Linear-Extension-Diameter (p.291)* |
| Sect.: **15** | Wavelets III (organized by Andreas Rathsfeld), *Chair: Pierre Gilles Lemarié-Rieusset* | | |
| H 2033 | **Siegfried Prößdorf** *Boundary element methods using multiwavelets (p.310)* | **Jörg Schult** *Stability condition for spline and multiwavelet collocation (p.312)* | **Marie Farge** *How to compute and model two-dimensional turbulent flows using wavelets?* |

## Short Communications: Friday, 21 August, 17:15–18:00

| | 17:15–17:30 | 17:30–17:45 | 17:45–18:00 |
|---|---|---|---|
| Sect.: **03** | Modular Forms, *Chair: Yoichi Uetake* | | |
| MA 311 | **Werner Hoffmann** *Spectral estimates for noncompact quotients* (p.38) | **Wladimir de Azevedo Pribitkin** *Bol's identity, fractional differentiation, and automorphic integrals* (p.45) | **Yoichi Uetake** *A weak resolvent representation of a scattering matrix for automorphic functions* (p.46) |
| Sect.: **04** | Deformations and Degenerations, *Chair: Aleksandr G. Aleksandrov* | | |
| MA 042 | **Kimio Miyajima** *CR construction of the semi-universal family of normal isolated singularities* (p.57) | **Eduardo S. Esteves** *Degenerations of Weierstrass points* (p.52) | **Diego Paccagnan** *Maximum number of cusps on algebraic plane curves and nodes on surfaces* (p.59) |
| Sect.: **06** | Hyperbolic 3-Manifolds, *Chair: Nikolai Gusevskii* | | |
| H 112 | **Vitalii S. Makarov** *Regular maps and hyperbolic 3-manifolds* (p.92) | **Alexander D. Mednykh** *The volumes and isometries of Heegaard genus two hyperbolic three manifolds* (p.93) | **Andrei Yu. Vesnin** *On 3-manifolds with cyclic symmetry* (p.100) |
| Sect.: **09** | Invariant Measures and Random Dynamics II, *Chair: Gerhard Keller* | | |
| H 111 | **Raphael Albrecht** *Periodic data, intersection types, and conjugacy of profinite surface automorphisms* (p.169) | **Roman Hric** *Chaos and Topological Entropy in Onedimensional Dynamics* (p.177) | **Gerhard Keller** *Spectral stability of transfer operators under non-small perturbations* (p.178) |
| Sect.: **09** | Multifrequence Systems and Invariant Tori, *Chair: Anatolij M. Samoilenko* | | |
| H 110 | **Chong-Qing Cheng** *Aboundance of Lower Dimensional Invariant Tori in Hamiltonian Systems* (p.174) | **Miklós Rontó** *A numerical-analytic method for parametrized BVPs* (p.188) | **Anatolij M. Samoilenko** *Investigation of $m$-frequency oscillatory systems* (p.189) |
| Sect.: **11** | Spectral Analysis II, *Chair: Andrey V. Tchourkin* | | |
| H 107 | **Mark M. Malamud** *Inverse spectral analysis for first order systems* (p.240) | **Richard L. Hall** *Geometric spectral inversion* (p.235) | **Andrey V. Tchourkin** *Quantum stochastic model of gravitational wave interferometer detector* (p.246) |
| Sect.: **14** | Mathematical Aspects of Computer Science IV, *Chair: Stefan Felsner* | | |
| MA 043 | **Svetlana Asmuss** *On optimal algorithms of approximation under imprecise information* (p.289) | **Clemens Gröpl** *Random OBDDs* (p.292) | **Andrew Adamatzky** *On computation universality of excitable lattices* |
| Sect.: **15** | Partial Differential Equations III, *Chair: Jianping Zhu* | | |
| H 2033 | **P. Sobolevskii** *The "counter-example" to W. Littman's counter-example of $L_p$-energetical inequality for wave equation* (p.314) | **Ilja Schmelzer** *Grid Generation with Contravariant Geometry Description* (p.311) | |
| Sect.: **16** | Interaction of Non-linear Waves, *Chair: Brian T. Hayes* | | |
| H 106 | **Motlatsi Pius Ramollo** *On the motion of a bore across a barrier* (p.331) | **Saadet Erbay** *Nonlinear interaction between long and short waves in a generalized elastic solid* (p.323) | **Brian T. Hayes** *Stress-Controlled and Velocity-Controlled Shear Waves in a Saturated Granular Medium* (p.323) |

August 21

## Poster Session: Friday, 21 August, 14:00–15:45

| | | | |
|---|---|---|---|
| Sect.: **08** | Analysis | | |
| MA 144 | **Jelena Ausekle** *Compactness of Operators Acting in the Lorentz and Orlicz Sequence Spaces* (p.115) | **Prodipeswar Bhattacharyya** *On the domain of normality in iteration theory* (p.117) | **Davor Butkovic** *Transformations of regular almost convergent sequences* (p.119) |
| | **Rainis Haller** *$M(r,s)$-inequality and reflexivity* (p.128) | **Katsunori Iwasaki** *Polyhedral harmonic functions and invariant theory* (p.132) | **Volodymyr M. Kadets** *The Lyapunov property of certain Banach spaces* (p.133) |
| | **Shuichi Ohno** *Topological structure of the space of composition operators on $H^\infty$* (p.145) | **Eve Oja** *Lifting approximation properties and ideals of compact and approximable operators* (p.145) | **Zdzislaw Otachel** *Cone Preorders in Measurable Function Spaces* (p.145) |
| | **Märt Põldvere** *On subspaces of Banach spaces having Phelps' uniqueness property* (p.148) | **Sen-Yen Shaw** *Convergence rates of regularized approximation processes* (p.156) | **Panagiotis D. Stratigos** *On general measure repleteness and completeness* (p.158) |
| Sect.: **13** | Combinatorics | | |
| MA 144 | **André Kündgen** *Turán problems for weighted graphs* (p.280) | **Frank H. Lutz** *Combinatorial manifolds with vertex-transitive automorphism group* (p.281) | **Slobodan K. Simić** *On graphs whose second largest eigenvalue does not exceed the golden section* (p.284) |
| | **Indulis Strazdins** *Universal classification of Boolean functions by the affine and linear groups* (p.285) | **Kai-Yao Xiang** *The Minimal Group with Graph and Its Permutation Elements* (p.287) | **Tomoyuki Yoshida** *Exponential formulas and Krull-Schmidt categories* (p.288) |

## Poster Session: Friday, 21 August, 16:15–18:00

| | | | |
|---|---|---|---|
| Sect.: **05** | DIFFERENTIAL GEOMETRY AND GLOBAL ANALYSIS | | |
| MA 144 | **Philip P. Boalch**<br>*Symplectic geometry and isomonodromic deformations* (p.65) | **Ilia A. Bogaevski**<br>*Singularities of convex hulls of closed hypersurfaces* (p.65) | **Cristina Draper**<br>*Algebras related to Lie triple systems and applications to differential geometry* (p.67) |
| | **Birte Feix**<br>*Hyperkähler metrics on cotangent bundles* (p.68) | **Lew Friedland**<br>*Spectral geometry on almost Hermitian manifolds* (p.69) | **Vladimir A. Geyler**<br>*Periodic point interactions on a Riemannian manifold* (p.251) |
| | **Valery Konnov**<br>*Differential geometry of algebraic manifolds* (p.73) | **Alexei G. Kovalev**<br>*Gluing theorems for anti-self-dual metrics* (p.73) | **Vasily Olegovich Manturov**<br>*Vertical Atoms, Chord Diagrams, and Knots* (p.76) |
| | **Stana Nikcevic**<br>*Curvature Homogeneous Spaces and Related Topics* (p.77) | **Marc Pauly**<br>*Singular monopoles on compact 3-manifolds* (p.77) | **Vyacheslav D. Sedykh**<br>*On classes of convex curves in projective spaces* (p.80) |
| | **Mamuka Shubladze**<br>*The topology of hypersurface singularities with codimension one* (p.80) | **Peter Topalov**<br>*A family of 3-integrable metrics* (p.83) | **Paweł Walczak**<br>*Foliations, finitely generated groups, and pseudogroups of transformations of manifolds carry some dynamics* (p.83) |
| | **Zuoling Zhou**<br>*The Hausdorff measures of Sierpinski gasket and Koch curve* (p.84) | | |

## 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 H. Maddocks** and **Randy C. Paffenroth,** EPF Lausanne, Switzerland
*VBM*

14:40 – 15:10 **Horst G. Zimmer et. al.,** Universität Saarbrücken, Germany
*SIMATH*

15:15 – 15:45 **Karim Belabas,** Université Paris–Sud, Orsay, France
*PARI / GP*

15:45 – 16:15 **Break**

16:15 – 16:45 **Christian Wieners et. al.,** Universität Stuttgart, Germany
*UG*

16:50 – 17:20 **Elias Deeba,** University of Houston–Downtown, Texas, USA
*Learning Linear Algebra Using an Interactive Text*

17:30 – 18:00 **David M. Gay** and **Robert Fourer,** Murray Hill, N.J., USA
*AMPL*

**19:30 – 21:00** **H 104**

**Events and policies: Effects on women in mathematics**
Panel discussion organized by women from the Association for Women in Mathematics (AWM), the European Women in Mathematics (EWM), and the Committee on Women and Mathematics of the European Mathematical Society

**21:15 – 22:00** **H 104**

**Women and mathematics across cultures**
Film, directed by Marjatta Näätänen (Helsinki, Finland) in collaboration with Bodil Branner (Lyngby, Denmark), Kari Hag (Trondheim, Norway), and Caroline Series (Warwick, UK)

## Other Events

**17:30** **Urania**

**Klaus Becker,** Klieve, Germany
*From Stone–Sculpturing to Mathematics: Approximating the Inscribed Ball of Regular Polyhedra*

**18:00** **Urania**

**Movie**
*N is a Number — a Portrait of Paul Erdős*

**19:30** **Urania**

**Phil Davis,** Brown University, Providence, USA
*The Prospects of Mathematics in a Multimedia Civilization*

**20:00** **Urania**

**VideoMath Festival**
*The "VideoMath Reel", the 24 best contributions to the VideoMath competition*

# Saturday, 22 August

## Plenary Lecture

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

**Wolfgang Hackbusch,** Universität Kiel, Kiel, Germany
*From Classical Numerical Mathematics to Scientific Computing* *(I: p.6)*
Chair: Willi Jäger, Universität Heidelberg, Heidelberg, Germany

## Invited Lectures

**14:00 – 14:45**

**03** **Vladimir Berkovich,** Weizmann Institute of Science, Rehovot, Israel **MA 005**
*p-adic analytic spaces* *(I: p.48, electronic version)*
Chair: Norbert Schappacher

**07** **James Greig Arthur,** University of Toronto, Toronto, Canada **MA 004**
*Towards a stable trace formula* *(I: p.87)*
Chair: Michael Rapoport

**08** **Kari Astala,** University of Jyväskylä, Jyväskylä, Finland **MA 001**
*Analytic aspects of quasiconformality* *(I: p.97)*
Chair: Frederick W. Gehring

**09** **Yuri Kifer,** Hebrew University of Jerusalem, Jerusalem, Israel **H 1012**
*Random Dynamics and its Applications* *(I: p.114)*
Chair: Ludwig Arnold

**13** **Béla Bollobás,** University of Memphis, Memphis, USA and University of Cambridge, Cambridge, UK **H 2032**
*Hereditary properties of graphs: asymptotic enumeration, global structure, and colouring* *(I: p.153)*
Chair: Hans J. Prömel

**16** **Thomas Yizhao Hou,** California Institute of Technology, Pasadena, USA **H 1028**
*Numerical Study of Free Interface Problems Using Boundary Integral Methods* *(I: p.189)*
Chair: Vladimir V. Shaidurov

**15:00 – 15:45**

**03** **Pierre Colmez,** CNRS, ENS, and Institut de Mathématiques de Jussieu, Paris, France **MA 005**
*$(\varphi,\Gamma)$-modules and Iwasawa theory of $p$-adic representations* *(I: p.49)*
Chair: Christophe Soulé

**07** **Ivan V. Cherednik,** The University of North Carolina at Chapel Hill, Chapel Hill, USA **MA 004**
*From double Hecke algebra to analysis* *(I: p.89)*
Chair: Olivier Mathieu

**08** **Detlef H. Müller,** Universität Kiel, Kiel, Germany **MA 001**
*$L^p$-functional calculus on Lie groups and estimates for wave equations* *(I: p.102)*
Chair: N.N.

**09** **Curtis Tracy McMullen,** Harvard University, Cambridge, USA **H 1012**
*Rigidity and inflexibility in conformal dynamics* *(I: p.119)*
Chair: Joerg Schmeling

13 **Harald Niederreiter,** Austrian Academy of Sciences, Vienna, Austria **H 2032**
*Nets, $(t, s)$-sequences, and algebraic curves over finite fields with many rational points* *(I: p.159)*
Chair: Dieter Jungnickel

16 **Leslie Frederick Greengard,** Courant Institute, New York University, New York, USA **H 1028**
*A new version of the fast Gauss transform* *(I: p.189)*
Chair: Gregory Beylkin

**16:15 – 17:00**

02 **Eric Mark Friedlander,** Northwestern University, Evanston, USA **MA 005**
*Geometry of Infinitesimal Group Schemes* *(I: p.36)*
Chair: Uwe Jannsen

04 & 11 **Paul S. Aspinwall,** Duke University, Durham, USA **H 1028**
*Geometry and String Duality* *(I: p.59)*
Chair: Pelham M.H. Wilson

05 **Dominic Joyce,** Lincoln College, Oxford, UK **MA 001**
*Compact Riemannian manifolds with exceptional holonomy* *(I: p.73)*
Chair: Boris Dubrovin

06 **William Gerard Dwyer,** University of Notre Dame, Notre Dame, USA **MA 004**
*Lie groups and p-compact groups* *(I: p.79)*
Chair: Albrecht Dold

10 **Gunther A. Uhlmann,** University of Washington, Seattle, USA **H 1012**
*Inverse Boundary Value Problems for Partial Differential Equations* *(I: p.127)*
Chair: Bert-Wolfgang Schulze

17 **William R. Pulleyblank,** IBM T.J. Watson Research Center, Yorktown Heights, USA **H 2032**
*Advances in Solving Airline Crew Pairing Optimization Problems* *(I: p.194)*
Chair: Rolf H. Möhring

**17:15 – 18:00**

!!! **Lecture by a Fields Medalist** **H 2032**
*– to be announced –*
Chair: N.N.

02 **Gunter Malle,** Universität Heidelberg, Heidelberg, Germany **MA 005**
*Spetses* *(I: p.41)*
Chair: John S. Wilson

05 **Sylvestre Gallot,** U.M.P.A., École Normale Supérieure de Lyon, Lyon, France **MA 001**
*Curvature-decreasing maps are volume-decreasing* *(I: p.71)*
Chair: Boris Dubrovin

06 **Mark Mahowald,** Northwestern University, Evanston, USA **MA 004**
*Toward a global understanding of $\pi_*(S^n)$* *(I: p.81)*
Chair: Albrecht Dold

10 **Mikhail Vasilevich Safonov,** University of Minnesota, Minneapolis, USA **H 1012**
*Estimates near the boundary for solutions of second order parabolic equations* *(I: p.126)*
Chair: Heinz O. Cordes

11 **Pierre Collet,** CNRS, École Polytechnique, Palaiseau, France **H 1028**
*Extended Dynamical Systems* *(I: p.130)*
Chair: Roberto Schonmann

## 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** | Commutative Rings, *Chair: Peter Draexler* | | |
| MA 311 | **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** | Riemann Surfaces/Linear Systems, *Chair: Anette A'Campo-Neuen* | | |
| MA 042 | **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** | Curves, *Chair: Joachim Giesen* | | |
| MA 041 | | **Kazuyuki Enomoto** *Total absolute curvature of nonclosed curves (p.67)* | **Joachim Giesen** *Geometry of One-Manifolds (p.69)* |
| Sect.: **06** | Algebraic Topology II, *Chair: Daniel H. Gottlieb* | | |
| H 112 | **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** | Hyperbolic Equations II (Shocks, Blow-up, and Other Singular Phenomena), *Chair: Ya-Guang Wang* | | |
| H 111 | **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** | Diffusion Processes, *Chair: Natalia I. Grinberg* | | |
| H 110 | **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** | Field Theory II, *Chair: Robert W. Carroll* | | |
| H 107 | **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** | Mathematical Aspects of Computer Science VI, *Chair: Andreas Brieden* | | |
| MA 043 | **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** | Partial Differential Equations V, *Chair: Cesar Palencia* | | |
| H 2033 | **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** | Stochastic Control/Controllability, *Chair: Galina A. Timofeeva* | | |
| H 2013 | **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 $\mathrm{Diff}^{\,\omega}(S^1)$: 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** | ANALYTIC NUMBER THEORY I, *Chair: Jin Nakagawa* | | |
| MA 311 | **Antanas Laurincikas**<br>*Value-distribution theorems on Lerch zeta-functions (p.40)* | **Roberto J. Miatello**<br>*Estimates for Kloosterman sums for totally real number fields (p.42)* | **Jin Nakagawa**<br>*Ohno conjecture on the zeta functions associated with the space of binary cubic forms (p.43)* |
| Sect.: **04** | CURVES AND SURFACES/HIGHER-DIMENSIONAL VARIETIES I, *Chair: Rolf-Peter Holzapfel* | | |
| MA 042 | **Viktor S. Kulikov**<br>*On Chisini's Conjecture (p.55)* | **Kazuhisa Maehara**<br>*Deformation of function fields (p.56)* | **Dan Avritzer**<br>*The Hilbert scheme component of the intersection of two quadrics (p.50)* |
| Sect.: **07** | AMENABLE GROUPS, *Chair: Grigori L. Litvinov* | | |
| H 112 | **Wolfgang Reinhold Bergmann**<br>*Amenable Groups and Generalized Cuntz Algebras (p.102)* | **Alexander I. Shtern [Chtern]**<br>*Quasi-Symmetry and Amenability (p.110)* | |
| Sect.: **08** | HILBERT AND KREIN SPACES, *Chair: Vladimir Strauss* | | |
| H 110 | **Elias Flytzanis**<br>*An invariance property of quadratic forms (p.123)* | **Michael Gebel**<br>*Spectral Theory of Adjointable Operators in Spaces with two Metrics (p.125)* | **Vladimir Strauss**<br>*On a model representation for a normal operator in Krein space (p.158)* |
| Sect.: **08** | MULTIVALUED MAPPINGS, WEIGHTED INEQUALITIES, AND MEANS, *Chair: Lars-Erik Persson* | | |
| MA 041 | **B.K. Sharma**<br>*A Strong Convergence Theorem for Multi-valued Nonexpansive Mappings (p.155)* | **Zheng Liu**<br>*Inequalities for Some Means (p.139)* | **Lars-Erik Persson**<br>*Sharp multidimensional multiplicative inequalities for weighted Lebegue spaces (p.147)* |
| Sect.: **08** | DUNKL OPERATORS AND HYPERFUNCTIONS, *Chair: Dohan Kim* | | |
| MA 309 | **Margit Rösler**<br>*Positivity of Dunkl's intertwining operator (p.152)* | **Stevan Pilipović**<br>*Suppleness of Some Quotient Spaces of Microfunctions (p.147)* | **Dohan Kim**<br>*Moment problem for hyperfunctions and the heat kernel method (p.134)* |
| Sect.: **08** | MEASURE PROBLEMS, *Chair: Jiří Jarník* | | |
| MA 043 | **Raymond J. Grinnell**<br>*Two real functions associated with convolutions of measures (p.127)* | **Daniar H. Mushtari**<br>*Orthomodular posets of projections on linear spaces and signed measures on them (p.143)* | **Jiří Jarník**<br>*Convergence theorem for Henstock–Kurzweil integral based on the convergence of primitives (p.132)* |
| Sect.: **09** | COMPLEX DIFFERENTIAL EQUATIONS, *Chair: Bruno Scardua* | | |
| H 111 | **Ljudmila A. Bordag**<br>*Projective differential geometrical structure of the Painlevé equations (p.172)* | **Alexei A. Glutsuk**<br>*Stokes phenomena via generic perturbation (p.176)* | **Bruno Scardua**<br>*Integration of Complex Differential Equations (p.190)* |
| Sect.: **12** | TEACHING IN PROBABILITY, *Chair: Murad S. Taqqu* | | |
| H 107 | **Natalya V. Vinogradova**<br>*Classical Definition of Probability (p.271)* | **Yuliya Stepanovna Mishura**<br>*Generalized stochastic integrals with application to fractional Brownian motion* | |
| Sect.: **13** | CODES AND CRYPTOGRAPHY, *Chair: A. Donald Keedwell* | | |
| H 106 | **Gerhard R. Paseman**<br>*A different approach to Hadamard's maximum determinant problem (p.283)* | **Gholamrega B. Khosronshahi**<br>*On trades and their codes (p.279)* | **A. Donald Keedwell**<br>*Crossed-inverse quasigroups and their use in cryptography (p.278)* |
| Sect.: **17** | NONLINEAR OPTIMIZATION II, *Chair: Leon A. Petrosjan* | | |
| H 2033 | **Alexei V. Blinov**<br>*The combined methods of centers with using reduced gradient for solving nonlinear optimization problems (p.337)* | **R. Enkhbat**<br>*Global Optimality Conditions for some class of Nonconvex Optimization Problems (p.340)* | **Leon A. Petrosjan**<br>*Time-consistancy problem in differential games (p.348)* |
| Sect.: **18** | GEOMETRY IN THE CLASSROOM, *Chair: F. Rudolf Fritsch* | | |
| H 2013 | **Klaus-D. Graf**<br>*Distance learning fördert die Kreativität im Mathematikunterricht (p.360)* | **Bernd Zimmermann**<br>*Al Sijzi on problemsolving and creativity in elementary geometry (p.364)* | **F. Rudolf Fritsch**<br>*Remarks on quadrangles (p.359)* |

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

| | | | |
|---|---|---|---|
| Sect.: **12** | Probability and Statistics | | |
| MA 144 | **Jaap Geluk**<br>*Second order regular variation and the domain of attraction* (p.251) | **Werner S. Hurlimann**<br>*Comparison between extremal distributions: a conjecture and a partial proof* (p.253) | **Takeshi Ishikawa**<br>*On modified maximum likelihood estimation for Rayleigh distribution* (p.254) |
| | **Dionis Lica**<br>$\chi^2$*-Test for Markov Chains* (p.258) | **Alfred Liemant**<br>*Hopping transport of charge carriers on a disordered lattice* (p.259) | **Elina M. Moldavskaya**<br>*Minimum Contrast Estimators of Parameter of Spectral Density of Random Fields in Continuous Case* (p.261) |
| | **Hans-Joachim Mucha**<br>*Classification based on adaptive distances* (p.262) | **Marcus L.G. Nilsson**<br>*Finite Probability Sequences of Large Entropy* (p.264) | **Jörg Polzehl**<br>*Adaptive Image Denoising with Applications to MRI* (p.266) |
| | **Tiberiu V. Postelnicu**<br>*Specific Statistical Method for Binary Data* (p.266) | **Grzegorz A. Rempala**<br>*Random permanents of increasing degree* (p.267) | **Mikhailo Yadrenko**<br>*Extrapolation and filtering problems for isotropic random fields* (p.273) |
| Sect.: **18** | Teaching and Popularization of Mathematics | | |
| MA 144 | **Gloria L.M. Alves**<br>*Modernization of Basic Disciplines in Engineering Courses at IME* (p.357) | **Gerhard Brecht**<br>*Do Mathematical Standards Concern Mathematics?* (p.357) | **Cecilia Crespo Crespo**<br>*Thinking about Geometry Teaching* (p.358) |
| | **Paul Fjelstad**<br>*A Picture for Real Arithmetic* (p.359) | **Peter Kortesi**<br>*Junior Mathematical Congress — Challenge for Future Mathematicians* (p.360) | **Elena Vladimirovna Kuragina**<br>*Methodical support for a programming-methodical complex of study methods of optimization* (p.361) |
| | **Julia M. Moshnikova**<br>*Correspondence School of Mathematics in Karelia* (p.362) | **Yasuhiro Ozaki**<br>*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**<br>*From TQFT to TQCT* (p.293) | **Roman Matuszewski**<br>*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**<br>*A Class of Generalized Trapezoidal Formulas for the Integration of y'=f(x, y)* (p.296) | **Mehmet Bozer**<br>*The composite grids method of increased accuracy in solving the mixed boundary value problem for the Laplace equation* (p.297) | **Chin-Yun Chen**<br>*VANI: A package for Validated, Adaptive Numerical Integration in one and more dimensions* (p.297) |
| | **Adigezal Dosiyev**<br>*A block-grid method for solving Laplace's boundary value problem with singularities* (p.298) | **Bratislav Iricanin**<br>*On the modification of Euler-Maclaurin summation formula connected with the Chebyshev quadrature formulae* (p.302) | **Anna Kamont**<br>*Ditzian — Totik moduli of smoothness, spline systems and generalized Hölder spaces* (p.303) |
| | **Ivan G. Kazantsev**<br>*Tomographic reconstruction from arbitrary directions* (p.304) | **Ingemar Kinnmark**<br>*Overdetermined Differential Equation Problems* (p.304) | **Peeter Oja**<br>*Adaptive by monotonicity interpolating splines* (p.307) |
| | **Arvet Pedas**<br>*Collocation method for weakly singular integral equations* (p.309) | **Gerd Reinhardt**<br>*Schnelle Algorithmen zum Clustern großer Datenmengen* (p.311) | **Mayumi Shoji**<br>*Bifurcation structure of steady, deep-water gravity waves with constant vorticity* (p.313) |
| | **Svetlana N. Sytova**<br>*Mathematical Modelling of X-ray Dynamical Diffraction by Non-Stationary Deformed Crystals* (p.315) | **Zoltan Istvan Szabo**<br>*Root-finding Inclusion Algorithms Based on Tangential Lines and Parabolas* (p.315) | **Svetlana B. Zaitseva**<br>*On sharp error estimates in* $L_2$*-norm for methods of solving the heat equation in non-smooth data classes* (p.318) |
| | **Aihui Zhou**<br>*Multiparameter error resolution for finite elements* (p.319) | | |

## Special Activities

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

**Emmy Noether Lecture:**
**Cathleen Synge Morawetz,** Courant Institute, New York University, New York, USA
*Variations on Conservation Laws for the Wave Equation*
Chair: Irene M. Gamba, Austin, Texas, USA

**14:00 – 18:00** **H 104**

**Berlin as a Centre of Mathematical Activity**
A workshop organized by G. Israel (Rome, Italy) and E. Knobloch (Berlin, Germany)

14:00 – 14:15 **G. Israel,** University of Rome, Italy
*Introduction*

14:15 – 14:45 **David Rowe,** Universität Mainz, Germany
*The Berlin-Göttingen Rivalry, 1870-1920*

14:45 – 15:00 **Discussion**

15:00 – 15:30 **Ivor Grattan-Guinness,** Middlesex University, England
*Weierstrassian analysis and Cantorian set theory in Britain and the USA, 1890-1910*

15:30 – 15:45 **Discussion**

15:45 – 16:15 **Coffee break**

16:15 – 16:45 **U. Bottazzini,** Centro Linceo Interdisciplinare "B. Segre" Accademia dei Lincei, Rome, Italy
*Weierstrass' school of analysis and its influence on Italian mathematics*

16:45 – 16:50 **Discussion**

16:50 – 17:20 **S. Demidov,** Russian Academy of Sciences, Moscow, Russia
*Russian mathematicians in Berlin in the second half of the XIXth until the beginning of the XXth century*

17:20 – 17:25 **Discussion**

17:25 – 17:55 **A. Dahan,** CNRS Paris, France
*Images croisées des centres mathématiques de Paris et de Berlin, dans les années 1860/80*

17:55 – 18:00 **Discussion**

## Other Events

**18:00** **Urania**

**Movie**
*Errors aren't Forever / Law of Least Effort / The new Shepherd's Lamp*

**19:30** **Urania**

**Jacobus van Lint,** Eindhoven, Netherlands
*The Mathematics of the CD–Player*

**20:00** **Urania**

**VideoMath Festival**
*The "VideoMath Reel", the 24 best contributions to the VideoMath competition*

# Sunday, 23 August

**11:00** **Urania**

**Piano Recital Tamara Kokilashvili**
W.A. Mozart: Fantasia c-moll
R. Schumann: 10 Klavierstücke aus "Bunte Blätter"
R. Schumann: Sonate fis-moll
A. Skriabin: Sonate Nr. 4

**19:30** **Deutsche Oper Berlin**

**Opera "Die Zauberflöte" — "The Magic Flute"**

# 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<br>*On the Burnside problem for groups of even exponent*<br>Chair: Otto H. Kegel | *(I: p.38)* | **MA 005** |
| 05 | **Ulrich Pinkall,** TU Berlin, Berlin, Germany<br>*Quaternionic line bundles and the differential geometry of surfaces*<br>Chair: Dirk Ferus | *(I: p.75)* | **MA 001** |
| 10 | **Dmitri Yafaev,** Université Rennes-1, Rennes, France<br>*Scattering theory: some old and new problems*<br>Chair: Volker Enß | *(I: p.127)* | **H 1012** |
| 12 | **Friedrich Götze,** Universität Bielefeld, Bielefeld, Germany<br>*Lattice Point Problems and the Central Limit Theorem in Euclidean Spaces*<br>Chair: Richard M. Dudley | *(I: p.143)* | **H 1028** |
| 13 | **András Frank,** Eötvös Lorand University, Budapest, Hungary<br>*Applications of Relaxed Submodularity*<br>Chair: Alexander Schrijver | *(I: p.155)* | **H 2032** |
| 19 | **Jeremy John Gray,** The Open University, Milton Keynes, England<br>*The Riemann-Roch Theorem and Geometry, 1854-1914*<br>Chair: Umberto Bottazzini | *(I: p.208)* | **MA 004** |

**15:00 – 15:45**

| | | | |
|---|---|---|---|
| 02 | **Idun Reiten,** Norwegian University of Science and Technology, Trondheim, Norway<br>*Tilting Theory and Quasitilted algebras*<br>Chair: Claus Michael Ringel | *(I: p.43)* | **MA 005** |
| 05 | **Tobias Holck Colding,** Courant Institute, New York University, New York, USA<br>*Manifolds and spaces with Ricci curvature bounds*<br>Chair: Dirk Ferus | *(I: p.68)* | **MA 001** |
| 10 | **Hans Lindblad,** University of California at San Diego, La Jolla, USA<br>*Minimal regularity solutions of nonlinear wave equations*<br>Chair: Konrad Gröger | *(I: p.122)* | **H 1012** |

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

**16:15 – 17:00**

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

**17:15 – 18:00**

| | | | |
|---|---|---|---|
| 03 | **William Duke,** Rutgers University, New Brunswick, USA<br>*Bounds for arithmetic multiplicities*<br>Chair: Per Salberger | *(I: p.50)* | **MA 005** |
| 08 | **Vitali Milman,** Tel Aviv University, Tel Aviv, Israel<br>*Randomness and Pattern in Convex Geometric Analysis*<br>Chair: Hermann König | *(I: p.101)* | **MA 001** |
| 09 | **Sergei B. Kuksin,** Steklov Institute, Moscow, Russia and Heriot-Watt University, Edinburgh, UK<br>*Towards a Qualitative Theory of Hamiltonian PDEs*<br>Chair: Jürgen Moser | *(I: p.116)* | **H 1012** |
| 15 | **Gregory Beylkin,** University of Colorado at Boulder, Boulder, USA<br>*On multiresolution methods in numerical analysis*<br>Chair: Siegfried Prößdorf | *(I: p.178)* | **H 1028** |
| 16 | **Ulf Grenander,** Brown University, Providence, USA<br>*Strategies for Seeing*<br>Chair: Friedrich Götze | *(I: p.183)* | **H 2032** |
| 18 | **Mogens Niss,** Roskilde University, Roskilde, Denmark<br>*Aspects of the nature and the state of research in mathematical education*<br>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**<br>*Group algebras and codes (p.41)* | **Katherine S. Roegner**<br>*Computing even, unimodular lattices with complete root systems (p.46)* | **Fei Xu**<br>*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**<br>*Geometric Engineering of Quantum Field Theories (p.55)* | **Alexandre Kabanov**<br>*Intersection theory on the moduli spaces of stable curves (p.54)* | **Tyler J. Jarvis**<br>*Geometry of the Moduli of Higher Spin Curves (p.54)* |
| Sect.: **07** | Representations I, *Chair: Carina Boyallian* | | |
| H 112 | **Jose I. Liberati**<br>*Quasifinite Highest Weight Modules over the Lie Algebra of Matrix Differential Operators on the Circle (p.107)* | **María L. Barberis**<br>*Quaternionic representations (p.101)* | **Paolo Casati**<br>*$\alpha$–stratified modules of real reductive groups (p.104)* |
| Sect.: **08** | Several Complex Variables, *Chair: Stefan B.A. Jakobsson* | | |
| MA 041 | **Yoshihiro Abe**<br>*Universal functions in several variables (p.112)* | **Elias Wegert**<br>*Analytic discs attached to totally real surfaces (p.163)* | **Gabriela Kohr**<br>*Univalent mappings of several complex variables (p.135)* |
| Sect.: **08** | Real Analysis, *Chair: Gilbert Helmberg* | | |
| MA 309 | **Jan Hejcman**<br>*A description of quasiconvex functions (p.129)* | **Attila Gilányi**<br>*On polynomial functions, monomial functions, and the Dinghas interval derivative (p.125)* | **Joris van der Hoeven**<br>*Proof of a conjecture of Hardy about L-functions (p.161)* |
| Sect.: **08** | Approximation Theory, *Chair: Miguel A. Jimenez* | | |
| MA 043 | **Alexander Yakovlevich Radyno**<br>*The degree of rational approximation of a holomorphic function (p.149)* | **Yuri Kryakin**<br>*Polynomial Interpolation and Whitney's Constants (p.138)* | **Miguel A. Jimenez**<br>*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**<br>*On the WKB method and Airy functions (p.184)* | **Carmen Rocsoreanu**<br>*Canards in the Fitz-Hugh-Nagumo model (p.188)* | **Vladimir Sobolev**<br>*Canards and black swans (p.192)* |
| Sect.: **09** | Spectral Problems and Smooth Linearization, *Chair: Vjacheslav A. Yurko* | | |
| H 110 | **Shunian Zhang**<br>*Stability of neutral delay difference systems (p.197)* | **Samovol Vladimir**<br>*The problem of local smooth linearization of systems of ordinary differential equations (p.189)* | **Vjacheslav A. Yurko**<br>*Inverse spectral problems for ordinary differential equations (p.196)* |
| Sect.: **11** | Geometry, General Relativity, *Chair: Akira Asada* | | |
| H 107 | **Mohamed Abdel-Megied**<br>*Conformal Singularities (p.227)* | **Paula B. Cohen**<br>*Siegel's Lemma, Padé Approximations and Jacobians (p.230)* | **Akira Asada**<br>*Clifford bundles over mapping spaces (p.228)* |
| Sect.: **11** | Thermodynamics, Hydrodynamics, Non-linear Dynamics II, *Chair: Burkhard J. Schmitt* | | |
| H 1029 | **Alexander Zlotnik**<br>*Global weak solutions to the equations of one-dimensional motion of a viscous heat-conducting gas with nonsmooth data (p.247)* | **Yoshimitsu Iwasaki**<br>*Axiomatic theory of the multiple anelastic relaxation in crystalline solids (p.235)* | **George Jaiani**<br>*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**<br>*On the regularization of an inverse vibration problem with noisy data (p.297)* | **Cesar Palencia**<br>*A numerical method for the integration of backward parabolic problems (p.308)* | **Sergii Pereverziev**<br>*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**<br>*Large-scale Dynamic Process Simulation of Chemical Plants (p.320)* | **Elena I. Lyashenko**<br>*Optimal control of biotechnological process (p.328)* | **Mihai M. Vladimirescu**<br>*Rotative Actuators Robustness (p.333)* |
| Sect.: **18** | Pedagogical and Psychological Aspects, *Chair: Hans-Joachim Arnold* | | |
| H 2013 | **Sou-yung Chiu**<br>*Pedagogical Mathematics Knowledge, PMK and P(PMK)K (p.358)* | **Torsten Fritzlar**<br>*Über Möglichkeiten der Sensibilisierung für die Komplexität von Mathematikunterricht (p.359)* | **Hans-Joachim Arnold**<br>*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**<br>*Polynomials vanishing at 1 with high multiplicity and Tarry's problem (p.35)* | **Florian G. Luca**<br>*Equations Involving the Euler $\phi$ Function (p.42)* | **Pieter Moree**<br>*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**<br>*Exceptional vector bundles (p.57)* | **Vasile P. Brinzănescu**<br>*Moduli spaces of stable 2-vector bundles over ruled surfaces (p.51)* | **Elham Izadi**<br>*An embedding of a moduli space of vector bundles (p.54)* |
| Sect.: **07** | REPRESENTATIONS II, *Chair: Jose I. Liberati* | | |
| H 112 | **Leandro R. Cagliero**<br>*$(K, M)$-spherical submodules of the universal enveloping algebra of a real rank one semisimple Lie group $G_o$ (p.103)* | **Carina Boyallian**<br>*On Bernstein polynomials for compact Lie groups (p.103)* | **Tuong Ton-That**<br>*I Invariant Theory for some Infinite-Dimensional Lie Groups (p.110)* |
| Sect.: **08** | HARMONIC FUNCTIONS, *Chair: Elias Wegert* | | |
| MA 041 | **Anna Łazińska**<br>*On a class of mappings harmonic in the half-plane, with a normalization at infinity (p.138)* | **Promarz M. Tamrazov**<br>*The solution of Eremenko's extremal problem on harmonic functions (p.159)* | **Eleutherius E. Symeonidis**<br>*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**<br>*Catenaria vera — the true catenary (p.130)* | **J. Marshall Ash**<br>*Nonuniqueness for smooth uniformly bounded orthonormal systems (p.114)* | **Gilbert Helmberg**<br>*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**<br>*The extension of some linear operators (p.121)* | **Nicolae Danet**<br>*Subspaces in directed vector spaces (p.121)* | **Jacobus J. Grobler**<br>*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**<br>*Exchange of stabilities in singularly perturbed systems (p.190)* | **Alexander G. Chentsov**<br>*Nonanticipating set-valued mappings and constructions of the programmed iterations method (p.174)* | **Nikolay N. Nefedov**<br>*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**<br>*A free boundary problem for a reaction-diffusion equation (p.172)* | **Juan H. Arredondo**<br>*A geometric approach to the asymptotic of systems of evolution equations (p.171)* | **Shaobo Gan**<br>*Star Systems $X^*$ and a Proof of the $C^1$ $\Omega$ Stability (p.175)* |
| Sect.: **11** | SYMMETRIES AND MATHEMATICAL METHODS IN PHYSICS, *Chair: Vladimir V. Kisil* | | |
| H 107 | **C. Martha Banulescu**<br>*Lie Groups in Physics (p.229)* | **Malgorzata Klimek**<br>*Conserved Currents for Linear Equations of Motion in Discrete and Non-commutative Models (p.237)* | **Vladimir V. Kisil**<br>*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**<br>*On upper bounds for the energy dissipation rate in turbulent shear flow (p.244)* | **Lev L.D. Pustylnikov**<br>*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**<br>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**<br>*Optimization of projection methods for solving linear ill-posed problems (p.314)* | **Anatoly G. Yagola**<br>*Ill-posed problems and a priori information (p.318)* | **Weichung Wang**<br>*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**<br>*Mathematics basic skills for grades 1 to 3 (p.363)* | **Josef Nietzsch**<br>*The Study of Mathematics by High School Students at the University (p.363)* | **Masao Mori**<br>*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**<br>*Ideals in constructive ring and Banach algebra theory (p.6)* | **Luminita Simona Dediu**<br>*A constructive extension theorem for ultraweakly continuous linear functionals (p.6)* | **Hiloshi Ohno**<br>*A certain proposition unprovable in number-theoretic formal system (p.9)* |
| Sect.: **02** | Algebras II, *Chair: M. Susan Montgomery* | | |
| MA 311 | **Mihai I. Cipu**<br>*Multiplicities and pure resolutions for Gorenstein codimension four algebras (p.15)* | **Michael Nüsken**<br>*Unique Tensor Factorization of Algebras (p.26)* | **Andrej A. Zolotykh**<br>*Standard bases for ideals of free algebras over commutative rings (p.32)* |
| Sect.: **04** | Singularities II, *Chair: Herbert Kurke* | | |
| MA 309 | **Michał Kwieciński**<br>*An algebraic map with nonconstructible topology* | | |
| Sect.: **05** | Integrable Geodesic Flows and Perturbation Problems, *Chair: Vladimir S. Matveev* | | |
| MA 041 | **Masayuki Igarashi**<br>*On Hermitian-Liouville structures on compact Hermitian surfaces (p.71)* | **Li Ma**<br>*Stable critical point Theory in perturbation problems (p.75)* | **Vladimir S. Matveev**<br>*Geodesic equivalence and integrability (p.76)* |
| Sect.: **05** | Local Differential Geometry, *Chair: Jose Miguel Veloso* | | |
| MA 043 | **Nikolaus K. Stephanidis**<br>*Über einige Invarianten in der Theorie der Strahlensysteme (p.81)* | **Katerina Polyakova**<br>*Parallel displacements along manifold of osculating planes of a surface (p.78)* | **Jose Miguel Veloso**<br>*Almost pseudo-Hermitian manifolds (p.83)* |
| Sect.: **06** | Manifolds and Dynamics, *Chair: Tadayoshi Mizutani* | | |
| H 112 | **Levan A. Alania**<br>*De Rham cohomology with local coefficients (p.85)* | **Alexander Fel'shtyn**<br>*Reidemeister torsion and dynamical zeta functions in Nielsen theory (p.88)* | **Efthimios Kappos**<br>*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**<br>*The p-Laplacian under mixed boundary value conditions in multidimensional polyhedral domains (p.203)* | **Stanislav I. Pohozaev**<br>*Positive solutions of nonlinear Neumann problems. Application of the global fibering method (p.217)* | **Hwai-Chiuan Wang**<br>*Semilinear Elliptic Problems in Interior and Exterior Flask Domains (p.224)* |
| Sect.: **10** | Applied Problems I, *Chair: Olga S. Rozanova* | | |
| H 110 | **Zhiming Chen**<br>*Adaptive Finite Element Methods for Dynamical GL Vortices in Superconductivity (p.200)* | **Olga S. Rozanova**<br>*2-D model of atmosphere dynamics: energy balance and some properties of solutions (p.219)* | **Gregory A. Chechkin**<br>*On Behavior of Perforated Bodies with Rapidly Oscillating Surfaces* |
| Sect.: **12** | Liapunov Exponents, *Chair: Michael K.R. Scheutzow* | | |
| H 107 | **Volker Wihstutz**<br>*Stability Maps for Systems with Noise Induced Stability (p.272)* | **Peter Imkeller**<br>*An explicit description of the Lyapunov exponents of the noisy damped harmonic oscillator (p.254)* | **Michel L.E. Rieutord**<br>*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**<br>*Uniform CLT for empirical process indexed by classes of functions (p.248)* | **Michael Jaehnisch**<br>*Asymptotic equivalence for a density model with independent but non identically distributed random variables (p.255)* | **Vladimir I. Koltchinskii**<br>*Empirical geometry of multivariate data: a deconvolution approach (p.257)* |
| Sect.: **13** | Classical Combinatorial Structures, *Chair: Stefan Felsner* | | |
| H 106 | **Mario-Osvin Pavcevic**<br>*On two series of symmetric designs (p.283)* | **Christian Krattenthaler**<br>*New results in the enumeration of rhombus tilings (p.280)* | **Martin Kochol**<br>*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**<br>*On the Chvátal rank of polytopes in the 0/1 cube (p.339)* | **Anzor D. Kasaev**<br>*Assigment Problem in Consideration of Discounting (p.344)* | **Jannet A. Tambieva**<br>*Research of 4-Cliques Problem (p.351)* |
| Sect.: **18** | Miscellaneous II, *Chair: Mary E. Morley* | | |
| H 2013 | **Ludwig Paditz**<br>*Comparision of the statistic calculators TI-83, EL-9600, and CFX-9850G PLUS (p.363)* | **Mary E. Morley**<br>*Three Response Types for Broadening the Conception of Mathematical Problem Solving in Computer-Graded Tests (p.362)* | **Zhongling Xu**<br>*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**<br>*Hierarchy Based on Inductive Definitions (p.7)* | **Cyrus F. Nourani**<br>*Functorial Computability And Generic Definable Models (p.8)* | |
| Sect.: **02** | Hopf Algebras, *Chair: Alexander A. Mikhalev* | | |
| MA 311 | **Sorin Dascalescu**<br>*Pointed Hopf algebras by Ore extensions and classification results (p.16)* | **M. Susan Montgomery**<br>*Prime Ideals in Hopf Galois Extensions (p.24)* | **Peter Schauenburg**<br>*Hopf algebras with a weak projection (p.27)* |
| Sect.: **05** | Homogeneous Spaces, *Chair: Friedbert Prüfer* | | |
| MA 041 | **Takashi Koda**<br>*Weakly symmetric property of Riemannian 3-symmetric spaces (p.72)* | **Jan Slovák**<br>*Parabolic Geometries (p.80)* | **Friedbert Prüfer**<br>*Local homogeneity and differential operators (p.79)* |
| Sect.: **05** | Special Submanifolds/Exterior Differentiation, *Chair: Peter Rögen* | | |
| MA 043 | **Iaroslav A. Kopylov**<br>*Normal solvability of the operator of exterior derivation on some surfaces in* $\mathbb{R}^N$ *(p.73)* | **Yoshio Matsuyama**<br>*On totally real submanifolds in* $CP^n(c)$ *(p.76)* | **Peter Rögen**<br>*Embedding and knotting of flat surfaces in 3-space (p.79)* |
| Sect.: **06** | 4-Manifolds, *Chair: Alexander D. Mednykh* | | |
| H 112 | **J. Scott Carter**<br>*The Diagrammatics of Hopf Categories and Invariants of 4-Dimensional Manifolds (p.86)* | **Nikolai Gusevskii**<br>*Complex hyperbolic surfaces and discrete groups in complex hyperbolic geometry (p.88)* | **Alexander Prishlyak**<br>*Morse function conjugation on 4-manifolds (p.95)* |
| Sect.: **10** | Hyperbolic Equations III (Conservation Laws & Asymptotic Behavior), *Chair: Armen Shirikyan* | | |
| H 111 | **Christian Klingenberg**<br>*Conservation laws with source terms (p.209)* | **Andrzej Rogowski**<br>*Existence of space periodic solutions for semi-linear hyperbolic systems (p.218)* | **Armen Shirikyan**<br>*Asymptotic behaviour of solutions to second-order hyperbolic equations (p.221)* |
| Sect.: **10** | Reaction-Diffusion Equations, *Chair: Klaus Zacharias* | | |
| H 110 | **Gideon A. Ngwa**<br>*The Effects of Boundary Conditions on Reaction Diffusion Equations (p.216)* | **Arnd Scheel**<br>*Essential instability of pulses amd bifurcations to modulated travelling waves (p.220)* | **Klaus Zacharias**<br>*On a reaction–diffusion system modelling chemotaxis (p.225)* |
| Sect.: **12** | Large Deviations, *Chair: Dmitry Ioffe* | | |
| H 107 | **Esa Nummelin**<br>*Large deviations of random vector fields with applications to economics (p.264)* | **Rolando Rebolledo**<br>*Stopping Times and Large-Deviation Principles (p.267)* | **Tzuu-Shuh Chiang**<br>*Large deviation of small diffusions in discontinuous media (p.250)* |
| Sect.: **12** | Statistics for Stochastic Differential Equations, *Chair: Mikhailo Yadrenko* | | |
| H 1029 | **Marianne Huebner**<br>*Nonparametric estimation for stochastic partial differential equations* | **Ruth Pfeiffer**<br>*Statistical Problems for Stochastic Processes with Hysteresis (p.266)* | **Alexander Frolovich Taraskin**<br>*On problems of statistics for SDE (p.270)* |
| Sect.: **13** | Matrices, Posets, and Lattices, *Chair: Jens Gustedt* | | |
| H 106 | **Konrad Engel**<br>*An upper bound for the size of a largest antichain in the poset of partitions of an integer (p.276)* | **Antoni Smoluk**<br>*Fix-point property of finite partially ordered sets (p.284)* | **Christian Bey**<br>*An intersection theorem for the function lattice (p.274)* |
| Sect.: **17** | Algorithms and Complexity Issues, *Chair: Naum Zuselevich Shor* | | |
| H 2033 | **Vitaly A. Perepelitsa**<br>*Fractal Graphs and their Properties (p.347)* | **Elena V. Popova**<br>*Estimates of Complexity of the Vector Ordering Problem (p.348)* | **Naum Zuselevich Shor**<br>*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**<br>*Yang Hui's Influence on the Mathematical Tradition of the Ming Dynasty in China (p.367)* | **Osamu Takenouchi**<br>*Summation of a sequence of natural numbers (p.369)* | **Abdelkhalek Cheddadi**<br>*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** | LOGIC | | |
| MA 144 | **Fariborz Azarpanah**<br>*Sum and intersection of summand ideals in $C(X)$ (p.5)* | **Grzegorz Bancerek**<br>*Mizar — a work environment for a mathematician: an experiment with continuous lattices (p.6)* | **Peter Michael Schuster**<br>*A Sequence Model for Constructive Nonstandard Analysis (p.10)* |
| Sect.: **06** | TOPOLOGY | | |
| MA 144 | **Laura M. Anderson**<br>*Matroid bundles and characteristic classes (p.85)* | **Lorena Armas-Sanabria**<br>*3-Pure Braids and Surgery (p.85)* | **Vitali Chatyrko**<br>*On infinite-dimensional Cantor manifolds (p.86)* |
| | **Mario Eudave-Munoz**<br>*Incompressible surfaces in the exterior of tunnel number one knots (p.88)* | **Norikazu Hashiguchi**<br>*The surgery formula for the discrete Godbillon-Vey invariant (p.89)* | **Thang T.Q. Le**<br>*On Quantum and Finite Type Invariants of Homology 3-Spheres (p.91)* |
| | **Jouni Luukkainen**<br>*The fundamentals of Lipschitz and quasi-conformal manifolds (p.92)* | **Leonard Mdzinarishvili**<br>*Partially continuous Alexander-Spanier cohomology theory (p.93)* | **Alexey Rasskazov**<br>*The structure of the canonical fundamental set for the 2-bridge link (p.95)* |
| | **Sascha A. Rogmann**<br>*Growth functions of tessellations (p.96)* | **Richard J. Steiner**<br>*Pasting in multiple categories (p.98)* | **Paul R. Turner**<br>*The homology of spaces representing exact cohomology theories (p.99)* |

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

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

# Tuesday, 25 August

## Plenary Lectures

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

**George C. Papanicolaou,** Stanford University, Stanford, USA
*Mathematical Problems in Geophysical Wave Propagation* *(I: p.17)*
Chair: John Ball, Oxford University, Oxford, UK

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

**Tetsuji Miwa,** RIMS, Kyoto University, Kyoto, Japan
*Algebraic Analysis of Solvable Lattice Models* *(I: p.16)*
Chair: Yuri Manin, Max-Planck-Institut für Mathematik, Bonn, Germany

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

**Gilles Pisier,** Université Paris 6, Paris, France and Texas A&M University, College Station, USA
*Operator Spaces and Similarity Problems* *(I: p.18)*
Chair: Joram Lindenstrauss, Hebrew University, Jerusalem, Israel

## Invited Lectures

**14:00 – 14:45**

**03** **Loïc Merel,** Université Paris 7 - Denis Diderot, Paris, France **MA 005**
*Determination of rational points using Dirichlet series* *(I: p.52)*
Chair: Wilhelm Zink

**08** **Nicole Tomczak-Jaegermann,** University of Alberta, Edmonton, Canada **MA 001**
*From finite- to infinite-dimensional phenomena in Geometric Functional Analysis, on local and asymptotic levels* *(I: p.108)*
Chair: W. Timothy Gowers

**12** **Alain-Sol Sznitman,** ETH Zürich, Zürich, Switzerland **H 1028**
*Brownian motion and random obstacles* *(I: p.149)*
Chair: Terry J. Lyons

**15** **Percy Alec Deift,** Courant Institute, New York University, New York, USA **H 1012**
*Uniform asymptotics for orthogonal polynomials* *(I: p.179)*
Chair: Tom H. Koornwinder

**16** **Andreas W.M. Dress,** Universität Bielefeld, Bielefeld, Germany **H 2032**
*The Tree of Life and Other Affine Buildings* *(I: p.186)*
Chair: Hanfried Lenz

**18** **Mariolina Bartolini Bussi,** Università di Modena, Modena, Italy **H 104**
*Drawing instruments: the theory of a practice from history to didactics* *(I: p.197)*
Chair: Klaus-D. Graf

**15:00 – 15:45**

**!!!** **Lecture by a Fields Medalist** **MA 001**
*— to be announced —*
Chair: N.N.

**03** **Shinichi Mochizuki,** RIMS, Kyoto University, Kyoto, Japan **MA 005**
*The Intrinsic Hodge Theory of p-adic Hyperbolic Curves* *(I: p.53)*
Chair: Helmut Koch

**12** **Peter Gavin Hall,** Australian National University, Canberra, Australia **H 1028**
*Applications of Intentionally Biased Bootstrap Methods* *(I: p.144)*
Chair: Olaf Bunke

**15** **Jan-Olov Strömberg,** Royal Institute of Technology, Stockholm, Sweden **H 1012**
*Apriori estimates for approximation by wavelets in higher dimensions* *(I: p.180)*
Chair: Peter Maaß

**16** **Bonnie Berger,** Massachusetts Institute of Technology, Cambridge, USA **H 2032**
*Sequence-based Methods for Protein Folding* *(I: p.185)*
Chair: Michiel Hazewinkel

**18** **James Stigler,** University of California, Los Angeles, USA **H 104**
*Classroom Mathematics Instruction in Three Cultures: An Introduction to the TIMSS Video Study* *(I: p.200)*
Chair: Thomas Jahnke

**16:15 – 17:00**

**01** **Matthew Foreman,** University of California, Irvine, USA **H 1012**
*Generic Large Cardinals: New Axioms for Mathematics?* *(I: p.30)*
Chair: Peter G. Koepke

**02** **Aner Shalev,** The Hebrew University, Jerusalem, Israel **MA 005**
*Simple groups, permutation groups, and probability* *(I: p.45)*
Chair: Bernhard H. Neumann

**05** **Boris Dubrovin,** International School for Advanced Studies, Trieste, Italy and Steklov Math. Institute, Moscow, Russia **MA 001**
*Geometry and analytic theory of Frobenius manifolds* *(I: p.69)*
Chair: Alexander I. Bobenko

**11** **Eugene Bogomolny,** Université Paris Sud, Orsay, France **H 1028**
*Spectral Statistics* *(I: p.129)*
Chair: Pierre Collet

**13** **Neil J.A. Sloane,** AT&T Research Labs, Florham Park, USA **H 2032**
*Recent developments on the sphere-packing problem* *(I: p.161)*
Chair: Martin Aigner

**16:15 – 18:00**

**18** **George Eyre Andrews,** Pennsylvania State University, University Park, USA **H 104**
**D.J. Lewis (moderator),** NSF, Arlington, USA
**David Alexander Smith,** Duke University, Durham, USA
*Collegiate Mathematics Instruction for the 21st Century — A Panel Discussion* *(I: p.200)*

**17:15 – 18:00**

**01** **Ludomir Newelski,** University of Wrocław, Wrocław and Polish Academy of Sciences, Poland **H 1012**
*Meager forking and m-independence* *(I: p.33)*
Chair: Alex James Wilkie

**02** **Jeremy C. Rickard,** University of Bristol, Bristol, England **MA 005**
*The abelian defect group conjecture* *(I: p.45)*
Chair: Dieter Happel

**11** **Horng-Tzer Yau,** Courant Institute, New York University, New York, USA **H 1028**
*Scaling Limit of Particle Systems, Incompressible Navier-Stokes Equation, and Boltzmann Equation* *(I: p.138)*
Chair: Ruedi Seiler

**13** **Joseph Adolphe François Thas,** University of Gent, Gent, Belgium **H 2032**
*Finite Geometries, Varieties and Codes* *(I: p.161)*
Chair: Theo Grundhöfer

**16** **Rolf Rannacher,** Universität Heidelberg, Heidelberg, Germany **MA 001**
*Mathematics in Numerical Flow Simulation* *(I: p.192)*
Chair: Rolf Jeltsch

## Short Communications and Poster Sessions

### Short Communications: Tuesday, 25 August, 14:00–14:45

| | 14:00–14:15 | 14:15–14:30 | 14:30–14:45 |
|---|---|---|---|
| Sect.: **01** | SET THEORY AND RECURSION THEORY, *Chair: Robert Fittler* | | |
| MA 042 | **Philip D. Welch** *The Length of Infinite Time Turing Machine Computations* (p.11) | **Martin Zeman** *◇ at Mahlo Cardinals* (p.11) | **Marat-M. Arslanov** *The enumeration degree structures* (p.5) |
| Sect.: **02** | RINGS AND MODULES II, *Chair: Christine Bessenrodt* | | |
| MA 311 | **Sergey P. Strunkov** *On $p$-blocks of minimal defect in a finite group and Gelfand pairs* (p.29) | **Johannes H. Meyer** *Forcing Linearity Numbers* (p.23) | **Hossein Zand** *Duality in radicals of associative rings* (p.32) |
| Sect.: **05** | AFFINE DIFFERENTIAL GEOMETRY, *Chair: Salvador D.R. Gigena* | | |
| MA 041 | **Kurt Leichtweiß** *On the infinitesimal affine rigidity of ellipsoids in the $n$-space* (p.74) | **Christine Scharlach** *Affine Hyperspheres* (p.79) | **Salvador D.R. Gigena** *On Affine Hypersurfaces with Constant Sectional Curvature* (p.70) |
| Sect.: **05** | GENERAL GEOMETRIC STRUCTURES ON MANIFOLDS, *Chair: Lutz Weimann* | | |
| MA 043 | **Sergey V. Zuev** *Analytic continuations of $SU(2n)$-invariant Ricci-flat Kähler metric* | **Claudio Gorodski** *Contact Sub-Riemannian Symmetric Spaces* (p.70) | **Artur E. Fischer** *The Adjoint Formulation and Symplectic Reduction* (p.68) |
| Sect.: **06** | 2-MANIFOLDS AND RELATED QUESTIONS, *Chair: Carl-Friedrich Bödigheimer* | | |
| H 112 | **José-Luis Estévez** *A presentation for the mapping class group of a non-rientable surface from Hatcher and Thurston's* (p.87) | **Dmitri V. Millionshikov** *Krichever-Novikov algebras* (p.93) | **Andreas Zastrow** *Planar Sets are Aspherical* (p.100) |
| Sect.: **09** | LARGE-TIME BEHAVIOR, *Chair: Martin Brokate* | | |
| H 111 | **Ivan Kiguradze** *On explosive kneser solutions of nonlinear ordinary differential equations* (p.179) | **Matthias Wolfrum** *A geometrical description for the attractors of semilinear parabolic PDE* (p.194) | **Martin Brokate** *On a rate independent variational inequality* (p.173) |
| Sect.: **09** | TOPOLOGICAL DYNAMICS, *Chair: Fritz Boese* | | |
| H 110 | **Sergey Bezuglyi** *Full groups of minimal homeomorphisms of Cantor sets* (p.171) | **Fritz Boese** *Unilluminable Rooms* (p.171) | |
| Sect.: **11** | q-DEFORMATION, QUANTIZATION, *Chair: Markus J. Pflaum* | | |
| H 107 | **Hitoshi Konno** *Elliptic quantum groups* (p.237) | **Andreas Ruffing** *On Schrödinger-Hermite Operators in Lattice Quantum Mechanics* (p.243) | **Markus J. Pflaum** *Remarks on the quantization of stratified symplectic manifolds* (p.242) |
| Sect.: **11** | MATHEMATICAL METHODS IN PHYSICS I, *Chair: Mikhail Brodsky* | | |
| H 1029 | **Boris V. Loginov** *Bifurcation theory methods in the problem about capillary-gravity waves in spatial layer of floating fluid* (p.239) | **Nina F. Golovanova** *Eiconal expansion solution for T-matrix equation and the unitarity condition* (p.234) | **Anton A. Golovanov** *Solution of the T-matrixs equation by the eikonal expansion method* (p.234) |
| Sect.: **13** | SUBGRAPHS, *Chair: Béla Bollobás* | | |
| H 106 | **Oliver M Riordan** *Spanning subgraphs of random graphs* (p.284) | **Diane M. Spresser** *Graphs with degree sets of maximal cardinality II* (p.285) | **Andrew G. Thomason** *Hereditary hypergraph properties* (p.286) |
| Sect.: **17** | DISTRIBUTED PARAMETER SYSTEMS II, *Chair: Mikhail Zelikin* | | |
| H 2033 | **Andrzej Just** *A Non-linear Hyperbolic Control Problem with Dirichlet Boundary Condition — Convergence of Galerkin Approximation* (p.343) | **Dan Tiba** *Recent Progress in the Analysis and Optimization of Plates* (p.352) | **Mikhail Zelikin** *Riccati-type PDE and Multidimensional Calculus of Variations* (p.356) |
| Sect.: **19** | 19TH CENTURY, *Chair: Herbert A. David* | | |
| H 2013 | **Mircea Radu** *Justus Grassmann's Account of Synthesis in Mathematics: between Schelling and Kant* (p.368) | **Heiner Lichtenberg** *The decoding of the Callippian Cycle in the Gregorian Calendar for the period between 1900 and 2099* (p.367) | **Herbert A. David** *Early sample measures of variability* (p.366) |

## Short Communications: Tuesday, 25 August, 15:00–15:45

| | 15:00–15:15 | 15:15–15:30 | 15:30–15:45 |
|---|---|---|---|
| Sect.: **01** | Model Theory and Recursion Theory, *Chair: Andreas Baudisch* | | |
| MA 042 | **Mikhail Peretyat'kin**<br>*Expressive possibilities of finitely axiomatizable theories (p.9)* | **Niandong Shi**<br>*Universal graph problem and model theory (p.10)* | **Helmut Schwichtenberg**<br>*Ramification, Modality, and Linearity in Higher Type Recursion (p.10)* |
| Sect.: **02** | Miscellaneous, *Chair: Corinna Wiedorn* | | |
| MA 311 | **Martin Goldstern**<br>*Interpolation of monotone functions in lattices (p.18)* | **Ming-Chang Kang**<br>*Rationality of Some Projective Linear Actions (p.19)* | **Vyacheslav A. Artamonov**<br>*Quantum polynomial algebra is a multiparameter deformation of an algebra of polynomials, i.e. it is the algebra of regular functions on a quantum affine space (p.12)* |
| Sect.: **05** | Geodesics and Distance, *Chair: Jin-ichi Itoh* | | |
| MA 041 | **Minoru M.T. Tanaka**<br>*Sard Theorem for the distance function (p.82)* | **Lilia Del Riego**<br>*Exponential map for general sprays and connections (p.66)* | **Jin-ichi Itoh**<br>*The Lipschitz continuity of the distance function to the cut locus (p.72)* |
| Sect.: **05** | Lorentz Manifolds, *Chair: Franki Dillen* | | |
| MA 043 | **Andrzej Krolak**<br>*Cauchy Horizon Endpoints and Differentiability (p.74)* | **Angel L. Garrido Bullon**<br>*Foliations of Lorentz manifolds (p.66)* | **Franki Dillen**<br>*Ruled Weingarten surfaces in Minkowski space (p.66)* |
| Sect.: **06** | Algebraic Topology III, *Chair: Leonard Mdzinarishvili* | | |
| H 112 | **Ivan Ivansic**<br>*Borsuk's Index and Pointed Movability for Projective Movable Continua (p.89)* | **Sibe Mardesic**<br>*Strong shape for topological spaces (p.92)* | **Mihkail M. Postnikov**<br>*Totality versus naturality (p.95)* |
| Sect.: **08** | Miscellaneous, *Chair: Eberhard Kirchberg* | | |
| MA 309 | **Eberhard Kirchberg**<br>*Classification of non-simple nuclear C*-algebras* | **Volodymyr K. Maslyuchenko**<br>*Separately continuous mappings: Van Vleck spaces and inverse problems* | |
| Sect.: **09** | Holomorphic and Symbolic Dynamics, *Chair: Mitsuhiro Shishikura* | | |
| H 111 | **Dierk Schleicher**<br>*On iterated exponential maps (p.190)* | **George Osipenko**<br>*Applied Symbolic Dynamics (p.185)* | **Mitsuhiro Shishikura**<br>*Rigidity of complex quadratic polynomials and the universal Teichmüller space (p.191)* |
| Sect.: **11** | Integrable Systems II, *Chair: Karl-Georg Schlesinger* | | |
| H 107 | **Vitaly Tarasov**<br>*$q$-Hypergeometric solutions of the quantized Knizhnik-Zamolodchikov equation (p.245)* | **Vladimir Dragovic**<br>*Integrable generalizations of classical mechanical systems (p.232)* | **Karl-Georg Schlesinger**<br>*Quantum geometry by non-abelian cohomology (p.244)* |
| Sect.: **11** | Mathematical Methods in Physics II, *Chair: Boris V. Loginov* | | |
| H 1029 | **Mikhail Brodsky**<br>*A Physicist's Definition of the Schwarz Function (p.229)* | **Joyati Debnath**<br>*Associated Transforms Through a Mathematical Software System (p.231)* | **Andrei Khrennikov**<br>*$p$-adic realization of negative probabilities and Einstein-Podolsky-Rosen paradox (p.236)* |
| Sect.: **13** | Finite Groups and Cayley Graphs, *Chair: Andreas W.M. Dress* | | |
| H 106 | **Reinaldo Giudici**<br>*Cayley's Graphs of order 12 (p.276)* | **Cai-Heng Li**<br>*On Isomorphisms of Finite Cayley Graphs (p.280)* | **Mikhail H. Klin**<br>*On transitive permutation groups without semi-regular subgroups (p.279)* |
| Sect.: **17** | Stochastic Programming I, *Chair: Werner Römisch* | | |
| H 2033 | **Vladimir Norkin**<br>*Stochastic optimization of discontinuous functions (p.346)* | **Nicole Groewe-Kuska**<br>*Confidence intervals for optimal values of simple recourse models (p.341)* | **Rüdiger Schultz**<br>*Mixed-Integer Linear Programming under Uncertainty (p.350)* |
| Sect.: **19** | Data Bases, *Chair: Patrick D.F. Ion* | | |
| H 2013 | **June E. Barrow-Green**<br>*Mathematics in Britain 1860-1940: a database for the World Wide Web (p.365)* | **Harry B. Coonce**<br>*The Genealogy Project for Mathematicians (p.365)* | **Patrick D.F. Ion**<br>*The symbolism of mathematics: from pasigraphy in 1897 to MathML in 1998 (p.367)* |

## Short Communications: Tuesday, 25 August, 16:15–17:00

| | 16:15–16:30 | 16:30–16:45 | 16:45–17:00 |
|---|---|---|---|
| Sect.: **03** | Arithmetic Functions, *Chair: Yasutoshi Nomura* | | |
| MA 311 | **Philippe Ph. Elbaz-Vincent** *On Poly(ana)logs (p.35)* | **Arne Winterhof** *On Incomplete Character Sums (p.47)* | **Yasutoshi Nomura** *Arithmetic functions associated with arithmetic-geometric mean quotients (p.44)* |
| Sect.: **04** | Surfaces/Higher-Dimensional Varieties II, *Chair: Vasile P. Brinzănescu* | | |
| MA 042 | **Alberto Conte** *On the unirationality of quartic hypersurfaces (p.52)* | **Fabrizio M.E. Catanese** *Bidouble covers and surface geography (p.51)* | **Remo Gattazzo** *Almost factorial quartic surfaces in $\mathbb{P}^3_{\mathbb{C}}$ with a tacnodal point (p.52)* |
| Sect.: **07** | Various Topics I, *Chair: Michael Forger* | | |
| H 112 | **Lizhen Ji** *The trace class conjecture in the Selberg trace formula (p.106)* | **Alexander Baranov** *Finitary simple Lie algebras (p.101)* | **Michael Forger** *Symmetry and Symmetry Breaking: An Algebraic Approach to the Genetic Code (p.104)* |
| Sect.: **08** | Hilbert Spaces, Wavelets, and Fractals, *Chair: Gerald S. Goodman* | | |
| H 110 | **Kofi V.S. Assiamoua** *A product of sesquilinear mappings on Hilbert spaces (p.114)* | **Raquel-Garcia Catalan** *From MRA to Tight Frames (p.120)* | **Gerald S. Goodman** *Dilation equations and Hutchinson fractals (p.126)* |
| Sect.: **08** | Real and Complex Approximation, *Chair: Mirela Kohr* | | |
| MA 041 | **Nikolai Ya. Radyno** *Some elements of a General Spectral Theory of Banach modules and their applications (p.150)* | **Oxana V. Motornaya** *On the Approximation of the Functions by Algebraic Polynomials (p.142)* | **Andrey Olegovich Matveev** *Error estimates for scattered data interpolation* |
| Sect.: **08** | Spectral Analysis and Operator Algebras, *Chair: Sa Ge Lee* | | |
| MA 309 | **Antoine-A.P. Bredimas** *Schlicht functions and exotic sprectral analysis: Applications to some conjectures and problems in analysis (p.118)* | **Valentyn Ja. Golodets** *Dynamical entropy and quantum K-systems (p.126)* | **Sa Ge Lee** *The generalized normal state space and unital normal completely positive map (p.139)* |
| Sect.: **08** | Matrix and Operator Functions, *Chair: George N. Khimshiashvili* | | |
| MA 043 | **Marcin J. Zygmunt** *Matrix Moment Problem (p.167)* | **Frank-Olme Speck** *Relations between convolution type operators on intervals and on the half-line (p.157)* | **George N. Khimshiashvili** *Homotopy classes of elliptic boundary problems (p.134)* |
| Sect.: **10** | Elliptic Equations V (Fourier and Harmonic Analysis), *Chair: Pawel Strzelecki* | | |
| H 111 | **Alip Mohammed** *Riemann problem related to the Shilov boundary (p.214)* | **Dian K. Palagachev** *Oblique derivative problem for uniformly elliptic operators with VMO coefficients and applications (p.216)* | **Paweł Strzelecki** *Regularity for subelliptic $p$-harmonic maps and the ghost of Hardy spaces (p.222)* |
| Sect.: **12** | Brownian Motion I, *Chair: Jean-Pierre Imhof* | | |
| H 107 | **Frank B. Knight** *On the moments of the area functional of Brownian bridge (p.256)* | **Andrei Nikolaevich Borodin** *Distributions of functionals of a particular non-Markov process (p.249)* | **Peter Mörters** *Pathwise Kallianpur Robbins laws for planar Brownian motion (p.262)* |
| Sect.: **12** | Time Series Analysis, *Chair: Alexander Frolovich Taraskin* | | |
| H 1029 | **Mirta Benšić** *Asymptotic properties of the least square estimators in regression models with singular errors (p.248)* | **Uwe Hassler** *When Do Polynomial Regressions of Nonstationary Fractionally Integrated Processes Make Sense? (p.252)* | **Pavel S. Knopov** *Asymptotic Properties of Non-Linear Estimators for Some Non-Stationary Regression Models (p.256)* |
| Sect.: **15** | Partial Differential Equations VI, *Chair: Ivanka P. Nikolova* | | |
| H 2033 | **Ivanka P. Nikolova** *Modeling of Fluid Flows with Strong Non-Linearity (p.307)* | **Christian von Törne** *Method of Transport — A Multidimensional Scheme for Nonlinear Hyperbolic Systems (p.317)* | **Nicolai von Schroeders** *Die numerische Lösung der schwachen Formulierung des Stokes-Systems im Außenraumgebiet (p.317)* |
| Sect.: **16** | Applications in Mechanics, *Chair: Vadim D. Potapov* | | |
| H 106 | **Mikhail Dmitrievich Kovalev** *Stability of hinged schemes and frameworks (p.326)* | **Xing Li** *Doubly Periodic Punctured Plane Elasticity Problem with Relative Displacement (p.327)* | **Vadim D. Potapov** *Stability of systems under stochastic parametric excitation (p.331)* |
| Sect.: **17** | Game Theory, *Chair: Hans Josef Pesch* | | |
| H 2013 | **Arkadii A. Chikrii** *— to be announced — (p.338)* | **Greta Tsolakovna Chikrii** *Linear Differential Games with Variable Delay of Information (p.337)* | **Victor V. Zakharov** *Subcore and reduced cooperative games (p.355)* |

August 25

## Short Communications: Tuesday, 25 August, 17:15–18:00

| | 17:15–17:30 | 17:30–17:45 | 17:45–18:00 |
|---|---|---|---|
| Sect.: **03** MA 311 | Analytic Number Theory II, *Chair: Jan-Christoph Puchta* | | |
| | **Julio Alcantara-Bode** *Reorderings of some divergent series and applications (p.34)* | **Michel L. Lapidus** *Complex Dimensions of Fractal Strings and Oscillatory Phenomena in Fractal Geometry and Arithmetic (p.40)* | **Jan-Christoph Puchta** *Estimating Dirichlet $L$-serieses close to the line $1+it$ (p.45)* |
| Sect.: **04** MA 042 | Surfaces/Higher-Dimensional Varieties III, *Chair: Fabrizio M.E. Catanese* | | |
| | **Marina R. Marchisio** *Some new examples of smooth unirational quartic threefolds (p.56)* | **Uwe Nagel** *Characterization of projective subschemes by locally free resolutions (p.57)* | **Tomasz Szemberg** *Higher order embeddings and Seshadri constants of abelian varieties (p.61)* |
| Sect.: **07** H 112 | Various Topics II, *Chair: Alexander Baranov* | | |
| | **Thomas Bouetou** *About Bol algebras (p.102)* | **Lyudmyla L. Barannyk** *On an algorithm for classifying subalgebras of the Poincaré algebra $AP(2,n)$* | |
| Sect.: **08** H 110 | Analytic Functions II, *Chair: Mohamed Abdel-Megied* | | |
| | **Gueorgui S. Litvinchuk** *On solvability theory of Hilbert boundary value problem with a Carleman shift (p.139)* | **Mirela Kohr** *A direct boundary integral formulation for a Stokes flow problem (p.135)* | **Rauno Aulaskari** *$Q_p$-spaces on Riemann surfaces (p.115)* |
| Sect.: **08** MA 041 | Nonlinear Operators, *Chair: Richard M. Dudley* | | |
| | **Radoje Šćepanović** *On Solvability of Some Nonlinear Equations in Hilbert Spaces (p.154)* | **Vladilen A. Trenogin** *Parameter continuation method and solvability of nonlinear equations (p.160)* | **Richard M. Dudley** *Differentiability of six nonlinear operators on nonsmooth functions (p.122)* |
| Sect.: **08** MA 309 | Convexity, Banach Spaces, and Isometries, *Chair: Themistocles M. Rassias* | | |
| | **Alexander Ya. Kruger** *On extremality of set systems (p.137)* | **Ryszard Grząślewicz** *Quasi-interior points for convex sets (p.128)* | **Themistocles M. Rassias** *On the Mazur-Ulam Theorem and the Aleksandrov Problem of Conservative Distances (p.151)* |
| Sect.: **08** MA 043 | Sequence and Function Spaces, *Chair: Jan H. Fourie* | | |
| | **Abdul J. Badiozzaman** *On a Tauberian Theorem of G.M. Petersen for Abel Summability (p.116)* | **Detlef Seydel** *Matrix Maps of Quasiconvex Null Sequences (p.155)* | **Jan H. Fourie** *On convergence of sections of weakly $p$-summable sequences (p.123)* |
| Sect.: **10** H 111 | Parabolic Equations, *Chair: Nicolay Draganov Kutev* | | |
| | **Helmut Koch** *Large time regularity of solutions to the porous medium equation (p.210)* | **Bernd Kawohl** *Image processing and anisotropic diffusion (p.208)* | **Nicolay Draganov Kutev** *Maximum and comparison principle for anisotropic diffusion (p.212)* |
| Sect.: **12** H 107 | Brownian Motion II, *Chair: Frank B. Knight* | | |
| | **Viet Ha Hoang** *Singularly perturbed Dirichlet problems in randomly perforated domains (p.253)* | **Vesna Perisic** *On some energy inequalities (p.265)* | |
| Sect.: **12** H 1029 | Statistics for Random Fields, *Chair: Alexander Frolovich Taraskin* | | |
| | **Nikolai Leonenko** *Parameter identification for stochastic Burgers flows via parabolic rescaling (p.258)* | **Nadiya Zinchenko** *Asymptotic Properties of Stable Processes and Fields (p.273)* | **Molisen M. Mohammadzadeh** *Spectral Approximation to the Likelihood for an Intrinsic Gaussian Random Field* |
| Sect.: **15** H 2033 | Partial Differential Equations VII, *Chair: Ursula van Rienen* | | |
| | **Maxim A. Olshanskii** *Iterative method for generalized Stokes problem (p.308)* | **Chi-Wang Shu** *High Order Weighted ENO Schemes for Unstructured Meshes (p.314)* | **Ursula van Rienen** *Efficient Algorithms in Electromagnetic Field Computation (p.316)* |
| Sect.: **17** H 2013 | Optimality Conditions II, *Chair: Henrikas Pragarauskas* | | |
| | **Oleg I. Nikonov** *Methods of Guaranteed Control Theory in Finance (p.345)* | **Oleg Vladimirovich Vasiliev** *High quality computational methods for optimal control problems (p.353)* | **Henrikas Pragarauskas** *Integrodifferential Bellman equations (p.348)* |

## Poster Session: Tuesday, 25 August, 14:00–15:45

| | | | |
|---|---|---|---|
| Sect.: **10** | PARTIAL DIFFERENTIAL EQUATIONS | | |
| MA 144 | **Faina S. Berezovskaya**<br>*About solutions Ltraveling waves of Lienard equation cross-diffusion updatings (p.198)* | **Roland Duduchava**<br>*Asymptotics of solutions to crack–type and mixed problems (p.202)* | **Atsuhiko Eida**<br>*Harmonic Analysis of Functions (p.203)* |
| | **Kenji Hasegawa**<br>*Boundedness of Pseudodifferential Operators (p.206)* | **Toshio Horiuchi**<br>*Removable singularities for quasilinear degenerate elliptic equations with absorption terms (p.206)* | **Jaan Janno**<br>*Inverse problems for determining weakly singular kernels in partial integrodifferential equations (p.207)* |
| | **Akisato Kubo**<br>*Global existence of a classical solution to* $\Box u - \mu u + au^m = 0$ *(p.212)* | **Tokumori Nanbu**<br>*On solutions of some nonlinear degenerate parabolic equations (p.215)* | **Dmitry Shepelsky**<br>*Inverse problem for a stratified uniaxial bianisotropic medium (p.220)* |
| | **Yuming Shi**<br>*A Foias-Saut type of expansion for a dissipative wave equation (p.221)* | **Georgi V. Smirnov**<br>*A Periodic Knitting Problem for the Helmholtz Equation (p.222)* | **Anna Surkova**<br>*On the localization of the surface states for some class of the discrete Schrödinger oparators with surface potential* |
| | **Kiyoshi Takeuchi**<br>*Higher-codimensional boundary value problems for D-modules (p.222)* | **Jan Turo**<br>*Solution of first order stochastic functional partial differential equations via integral contractors (p.223)* | **Leonid Volevich**<br>*Stable and unstable manifolds for elliptic equations with parameter (p.223)* |

## Poster Session: Tuesday, 25 August, 16:15–18:00

| | | | |
|---|---|---|---|
| Sect.: **09** | ORDINARY DIFFERENTIAL EQUATIONS AND DYNAMICAL SYSTEMS | | |
| MA 144 | **Alina Gleska**<br>*Comparison theorems for the asymptotic behavior of solutions of difference equations (p.176)* | **Renato Iturriaga**<br>*Lagrangian Graphs, Minimizing Measures, and Mañe's Critical Values (p.178)* | **Géza Makay**<br>*Marachkov type stability results for functional differential equations (p.181)* |
| | **Malgorzata Migda**<br>*On the asymptotic behavior of solutions of nonlinear difference equation (p.183)* | **Norihiro Misaki**<br>*Application of Apparent Monodromy Groups (p.183)* | **Hiroe Oka**<br>*Connectivity of iso-topological entropy curve for symmetric PL bimodal maps (p.185)* |
| | **S. Mary Rees**<br>*Using Teichmüller Geometry (p.187)* | **Johannes Riedl**<br>*On Crossed Renormalization of Quadratic Polynomials (p.187)* | **Stefan Siegmund**<br>*Normal Forms for Nonautonomous Differential Equations of Carathéodory Type (p.191)* |
| | **Jarosław Werbowski**<br>*Oscillatory solutions of functional equations (p.194)* | **Inna Sergeevna Yemelyanova**<br>*Emmy Noether theorem assimilation in classical dynamics (p.195)* | **Piotr Zgliczynski**<br>*Sharkovskii theorem for multidimensional perturbations of 1-dim maps (p.196)* |



## Special Activities

**19:30 – 21:00** **H 104**

**International Comparison of Mathematical Studies, University Degrees, and Professional Perspectives**

Round table, organized by Ina Kersten (Bielefeld, Germany), among the panelists are: D. Cioranescu, K.-H. Hoffmann, J. Netzel, A. Pelczar, M. Primicerio

## Other Events

**14:00 – 15:45** **MA 004**

**Mathematics in the Third Reich and Racial and Political Persecution**

A forum with lectures by Joel Lebowitz (Rutgers University, USA): "Victims, Oppressors, Activists, and Bystanders: Scientists' Response to Racial and Political Persecution" and by Herbert Mehrtens (Universität Braunschweig, Germany): "Mathematics and Mathematicians in Nazi Germany. History and Memory" and a discussion chaired by Jochen Brüning (HU Berlin, Germany).

**16:00** **Urania**

**Mathematics and Art**
The best entries by high-school students will be honored, and some math videos will be shown.

**17:30** **Urania**

**Gero von Randow,** Hamburg, Germany
*Geisterfahrer des Journalismus — Wie kommt die Mathematik in die Zeitung?* (in German)

**18:00** **Urania**

**Movie**
*Seeing is Believing / Hotel Hilbert*

**19:30** **Urania**

**Walter Schachermayer,** Wien, Austria
*The Role of Mathematics in Financial Markets.* The lecture is followed by a round-table discussion involving R. Dantschke, H. Föllmer (chair), A. Gruber, G. Stahl.

**20:00** **Urania**

**VideoMath Festival**
*The "VideoMath Reel", the 24 best contributions to the VideoMath competition, and the Award Ceremony*

# Wednesday, 26 August

## Plenary Lectures

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

**Christopher Deninger,** Universität Münster, Münster, Germany
*Some Analogies Between Number Theory and Dynamical Systems on Foliated Spaces* *(I: p.5)*
Chair: Gerd Faltings, Max-Planck-Institut für Mathematik, Bonn, Germany

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

**Giovanni Gallavotti,** Universitá La Sapienza, Roma, Italy
*The Chaotic Hypothesis and Universal Large Deviations Properties* *(I: p.6)*
Chair: Rudolf Seiler, Technische Universität, Berlin, Germany

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

**Jean-Michel Bismut,** Université Paris-Sud, Orsay, France
*Local Index Theory and Higher Analytic Torsion* *(I: p.5)*
Chair: Jean-Pierre Bourguignon, Inst. des Hautes Etudes Scientifques, Bures-sur-Yvette, France

## Invited Lectures

**14:00 – 14:45**

01 **Stevo B. Todorcevic,** CNRS, Université de Paris 7, Paris, France, Mathematicki Institut, Beograd, Yugoslavia, and University of Toronto, Toronto, Canada **MA 005**
*Basis Problems in Combinatorial Set Theory* *(I: p.35)*
Chair: Martin Goldstern

05 **Dmitri Burago,** Pennsylvania State University, University Park, USA **MA 001**
*Hard Balls Gas and Alexandrov Spaces of Curvature Bounded Above* *(I: p.68)*
Chair: Frank Duzaar

11 **Antonio Giorgilli,** Università degli Studi di Milano, Milano, Italy **H 1028**
*On the problem of stability for near to integrable Hamiltonian systems* *(I: p.132)*
Chair: Johannes Kellendonk

13 **Alain Lascoux,** CNRS, Université de Marne La Vallée, Noisy-le-Grand, France **H 2032**
*Ordering the symmetric group: Why use Iwahori-Hecke algebras?* *(I: p.157)*
Chair: Andrei Zelevinsky

15 **Lloyd N. Trefethen,** Oxford University, Oxford, UK **H 1012**
*Schwarz–Christoffel Mapping in the Computer Era* *(I: p.181)*
Chair: Peter J. Deuflhard

18 **Michèle Artigue (speaker),** Université de Paris 7, Paris, France **H 104**
*De la compréhension des processus d'appretissage*
*à la conception de processus d'enseighement* *(I:p.202)*
**Hans-Georg Steiner (respondent),** Universität Bielefeld, Bielefeld, Germany
*"From the Understanding of Learning Processes*
*to the Design of Teaching Processes"* *(I: p.203)*
Chair: Hans-Christian Reichel

**15:00 – 15:45**

03 **Takeshi Tsuji,** RIMS, Kyoto University, Kyoto, Japan **MA 005**
*p-adic Hodge Theory in the semi-stable reduction case* *(I: p.55)*
Chair: Helmut Koch

05 **Gerhard Huisken,** Universität Tübingen, Tübingen, Germany **MA 001**
*Evolving hypersurfaces by their curvature* *(I: p.72)*
Chair: Frank Duzaar

12 **David Oliver Siegmund,** Stanford University, Stanford, USA **H 1028**
*Genetic linkage analysis: an irregular statistical problem* *(I: p.148)*
Chair: Uwe Küchler

13 **Andrei V. Zelevinsky,** Northeastern University, Boston, USA **H 2032**
*Multisegment duality, canonical bases and total positivity* *(I: p.163)*
Chair: Mikhail M. Kapranov

15 **Bjorn Erik Engquist,** UCLA, Los Angeles, USA **H 1012**
*Wavelet Based Numerical Homogenization* *(I: p.179)*
Chair: Ralf Kornhuber

**16:15 – 17:00**

| | | | |
|---|---|---|---|
| 01 | **Gregory Hjorth,** UCLA, Los Angeles, USA<br>*When is an equivalence relation classifiable?*<br>Chair: Ronald B. Jensen | *(I: p.32)* | **H 1012** |
| 03 | **Shou-Wu Zhang,** Columbia University, New York City, USA<br>*Small points, Heegner points, and Arakelov theory*<br>Chair: Jürg Kramer | *(I: p.57)* | **MA 005** |
| 08 | **Pertti Mattila,** University of Jyväskylä, Jyväskylä, Finland<br>*Rectifiability, analytic capacity, and singular integrals*<br>Chair: Srishti (S.D.) Chatterji | *(I: p.100)* | **MA 001** |
| 12 | **Boris Tsirelson,** Tel Aviv University, Tel Aviv, Israel<br>*Within and beyond the reach of Brownian innovation*<br>Chair: Yuri Kifer | *(I: p.149)* | **H 1028** |
| 16 | **Frank Hoppensteadt,** Arizona State University, Tempe, USA<br>*Canonical Models in Mathematical Neuroscience*<br>Chair: Karl Sigmund | *(I: p.187)* | **H 2032** |

**16:15 – 18:00**

| | | | |
|---|---|---|---|
| 18 | **Miguel de Guzman,** Universidad Complutense de Madrid, Madrid, Spain<br>**Bernard R. Hodgson,** Université Laval, Québec, Canada<br>**Aline Robert,** IUFM de Versailles, France<br>**Vinicio Villani (moderator),** Università di Pisa, Pisa, Italy<br>Round table on: *Difficulties in the Passage from Secondary to Tertiary Education* | *(I: p.204)* | **H 104** |

**17:15 – 18:00**

| | | | |
|---|---|---|---|
| 01 | **Alex James Wilkie,** University of Oxford, Oxford, England<br>*O-minimality*<br>Chair: Anand Pillay | *(I: p.35)* | **H 1012** |
| 03 | **Hans Peter Schlickewei,** Universität Marburg, Marburg, Germany<br>*The Absolute Subspace Theorem and Applications*<br>Chair: Alfred J. van der Poorten | *(I: p.54)* | **MA 005** |
| 08 | **Stefan Müller,** Max-Planck-Inst. für Math. in den Naturwissenschaften, Leipzig, Germany<br>*Unexpected solutions of first and second order partial differential equations*<br>Chair: John M. Ball | *(I: p.104)* | **MA 001** |
| 12 | **Iain Murray Johnstone,** Stanford University, Stanford, USA<br>*Oracle Inequalities and Nonparametric Function Estimation*<br>Chair: Persi W. Diaconis | *(I: p.146)* | **H 1028** |
| 16 | **Charles S. Peskin,** Courant Institute, New York University, New York, USA<br>*How to Catch and Transport a Chromosome*<br>Chair: Willi Jäger | *(I: p.188)* | **H 2032** |

## Short Communications and Poster Sessions

### Short Communications: Wednesday, 26 August, 14:00–14:45

| | 14:00–14:15 | 14:15–14:30 | 14:30–14:45 |
|---|---|---|---|
| Sect.: **03** | Function Fields and Curves II, *Chair: Dmitry Logachev* | | |
| MA 311 | **Sudhir R. Ghorpade**<br>*Number of Points of Singular Varieties over Finite Fields (p.37)* | **Seman Wong**<br>*On the density of elliptic curves (p.47)* | **Dmitry Logachev**<br>*Mazur–Bloch method for Siegel threefolds (p.41)* |
| Sect.: **04** | Surfaces/Higher-Dimensional Varieties IV, *Chair: Viktor S. Kulikov* | | |
| MA 042 | **Yuri G. Prokhorov**<br>*Mori contractions of relative dimension 1 (p.59)* | **Maria Cristina Ronconi**<br>*Algebraic threefolds with* $\mathbf{q_1 = q_2 = p_g = 0, P_{2i} = 1}$, *and* $\mathbf{P_{2i+1} = 0}$ *(p.60)* | **Ezio Stagnaro**<br>*Pluricanonical maps of two general type threefolds with* $\mathbf{p_g = 0}$ *(p.60)* |
| Sect.: **06** | Algebraic Topology of Manifolds, *Chair: Lawrence W. Conlon* | | |
| H 112 | **Ulrich Koschorke**<br>$\mu$*-invariants of link maps in arbitrary manifolds (p.90)* | **Yuri V. Muranov**<br>*Surgery and splitting obstruction groups for one-sided submanifolds (p.94)* | **Gerard A. Venema**<br>*Representing homology classes of 4-manifolds (p.99)* |
| Sect.: **08** | Special Functions, *Chair: Promarz M. Tamrazov* | | |
| MA 041 | **Raoul R.F.G. Gloden**<br>*Propriétés des polynômes orthogonaux. Développements de cas particuliers (p.126)* | **Kathy A. Driver**<br>*Zeros of Hypergeometric Functions (p.121)* | **Momčilo Bjelica**<br>*Asymptotic of means (p.117)* |
| Sect.: **08** | Metrizable Spaces, Riesz Spaces, and Integral Representations, *Chair: Paul Ressel* | | |
| MA 309 | **Shozo Koshi**<br>*Partially ordered linear space (p.136)* | **Luis M. Sánchez Ruiz**<br>*On Metrizable Barreled Spaces, Cardinals and Dimensionality (p.153)* | **Paul Ressel**<br>*Semigroup representations, positive definite functions, and abelian C*-algebras (p.152)* |
| Sect.: **08** | Operator Algebras and Systems, *Chair: Palle E.T. Jorgensen* | | |
| MA 043 | **B.V. Rajarama Bhat**<br>*Minimal dilation of quantum dynamical semigroups to semigroups of endomorphisms (p.116)* | **Wend Werner**<br>*Operator Systems without Unit (p.163)* | **Palle E.T. Jorgensen**<br>*Ruelle operators: Functions which are harmonic with respect to a transfer operator (p.133)* |
| Sect.: **10** | PDE and Dynamical Systems, *Chair: Alexandre Kometch* | | |
| H 111 | **Andrey Yu. Goritsky**<br>*Integral manifolds with exponential tracking (p.204)* | **Jörg Härterich**<br>*Heteroclinic Orbits Between Rotating Waves in Hyperbolic Balance Laws (p.205)* | **Alexandre Kometch**<br>*Attractors for Hamiltonian Nonlinear Wave Equations (p.210)* |
| Sect.: **10** | Non-linear Theory, *Chair: Masafumi Yoshino* | | |
| H 110 | **Vladimir Kozlov**<br>*Singularities of solutions of nonlinear elliptic equations (p.211)* | **Sidi Mohammed Bouguima**<br>*Free boundary problem in the plane (p.199)* | **Masafumi Yoshino**<br>*Global solvability of fully nonlinear equations and Toeplitz operators (p.225)* |
| Sect.: **12** | Gaussian Processes, *Chair: Manfred Breger* | | |
| H 107 | **Krzysztof Dębicki**<br>*Asymptotic of the tail distribution of supremum from a Gaussian process (p.250)* | **Tudor Sireteanu**<br>*An extension of Gaussian equivalent linearization (p.270)* | **Victoria Parkhomenko**<br>*Spectral representation of the scaling limit solutions of the Burgers' equation with random data (p.265)* |
| Sect.: **12** | Nonparametric Curve Estimation, *Chair: Joerg Polzehl* | | |
| H 1029 | **Renfang Jiang**<br>*The mean sum of squared error of a wavelet based multinomial density estimator (p.255)* | **Eva Herrmann**<br>*Visualization of empirical test results for pseudorandom number generators (p.253)* | **Hua Liang**<br>*Partially linear errors-in-variables model (p.258)* |
| Sect.: **16** | Optimization, *Chair: Uwe T. Zimmermann* | | |
| H 106 | **Ludwig Cromme**<br>*Optimization of a Production Line in Brown Coal Industry (p.321)* | **Ludwig Kohaupt**<br>*Optimization for an Exhaust Emission Problem by the Simplex Method — A Report on Work from the Automotive Industry - (p.326)* | **Uwe T. Zimmermann**<br>*Hard Integer Programming Problems from Railroad Planning (p.334)* |
| Sect.: **17** | Stochastic Programming II, *Chair: Vladimir Norkin* | | |
| H 2033 | **René Henrion**<br>*Quantitative stability of convex stochastic programs with probabilistic constraints (p.342)* | **Werner Römisch**<br>*Perturbation Analysis of Stochastic Programming Problems (p.349)* | **Roger Fandom Noubiap**<br>*A Minimax Algorithm for Calculating Statistical Tests under Generalized Moment Conditions (p.340)* |
| Sect.: **17** | Miscellaneous I, *Chair: Mohamed Ali Hammami* | | |
| H 2013 | **Tomáš Roubíček**<br>*Relaxation in optimization theory and variational calculus* | **Mohamed Ali Hammami**<br>*Stabilization of a certain class of nonlinear systems via an observer* | |

## Short Communications: Wednesday, 26 August, 15:00–15:45

| | 15:00–15:15 | 15:15–15:30 | 15:30–15:45 |
|---|---|---|---|
| Sect.: **02** | ALGEBRAS III, *Chair: Shavkat A. Ayupov* | | |
| MA 311 | **Bernhard Drabant**<br>*Cross Product Bialgebras (p.17)* | **Alexander A. Mikhalev**<br>*Free Leibniz algebras (p.23)* | **Daouda Sangare**<br>*Hilbert quasi-polynomial functions and generalized analytic spread (p.27)* |
| Sect.: **02** | CATEGORIES, *Chair: Reinhard Börger* | | |
| MA 042 | **Hvedri Inassaridze**<br>*Karoubi's Conjecture for polynomial extensions of stable C*-algebras (p.19)* | **Fred E.J. Linton**<br>*Banach Spaces Monadic over Free Pointed Cones (p.22)* | **Siaka Kante Bamba**<br>*On quadratic modules (p.13)* |
| Sect.: **06** | LUSTERNIK-SHNIRELMANN CATEGORY, *Chair: Hans Scheerer* | | |
| H 112 | **Jean-Michel Lemaire**<br>*Rational Lusternik-Schnirelmann category of Poincaré complexes (p.91)* | **Yuli B. Rudyak**<br>*Lusternik–Schnirelmann category of symplectic manifolds and the Arnold conjecture (p.96)* | |
| Sect.: **08** | KLEINIAN GROUPS, *Chair: Alexander Jur'evich Vasil'ev* | | |
| MA 041 | **Ruben A. Hidalgo**<br>*$\mathcal{A}_4$, $\mathcal{A}_5$, and $\mathcal{S}_4$ of Schottky Type (p.130)* | **Weiqi Yang**<br>*Discrete groups and dense groups (p.164)* | **Javier Pérez**<br>*Harmonic differentials on Klein Surfaces (p.147)* |
| Sect.: **08** | ANALYTIC FUNCTIONS AND TOEPLITZ OPERATORS, *Chair: Marek Ptak* | | |
| MA 309 | **Ali Abkar**<br>*A comparison theorem concerning hyperinvariant subspaces on finitely connected domains (p.113)* | **Slavko Simic**<br>*Entire Functions of Finite Order and Regularly Varying Sequences (p.156)* | **Marek Ptak**<br>*Toeplitz operators; dichotomy of reflexivity and transitivity (p.149)* |
| Sect.: **08** | OPERATOR ALGEBRAS AND ALGEBRAS OF OPERATORS, *Chair: Vladimir Manuilov* | | |
| MA 043 | **Raphael S. Ponge**<br>*Wodzicki Residue for Heisenberg Manifolds (p.148)* | **Georgios F. Nassopoulos**<br>*Coproducts and projective presentations of operator algebras (p.144)* | **Vladimir Manuilov**<br>*Almost representations of discrete groups and $K$-theory (p.140)* |
| Sect.: **09** | NONLINEAR EVOLUTION EQUATIONS, *Chair: Michael V. Pomazanov* | | |
| H 1029 | **Valery A. Gaiko**<br>*Global bifurcation theory and multiple limit cycles* | **Samuel S. Okoya**<br>*A criterion for solutions of a model quasilinear parabolic equation* | **Michael V. Pomazanov**<br>*About the structure of some typical singularities in implicit ordinary differential equations* |
| Sect.: **10** | HYPERBOLIC EQUATIONS IV (GENERAL THEORY), *Chair: Pavel A. Krutitskii* | | |
| H 111 | **Ludmila S. Pulkina**<br>*A nonlocal problem for the hyperbolic equation (p.217)* | **Peetta Kandy Ratnakumar**<br>*Wave Equation for the Hermite Operator (p.218)* | **Pavel A. Krutitskii**<br>*Initial-boundary value problems in multiply connected domains for an equation of composite type (p.212)* |
| Sect.: **10** | APPLIED PROBLEMS II (ELASTICITY & FUSION), *Chair: Juan Francisco Padial* | | |
| H 110 | **Alexander A. Kosmodemyanskii**<br>*On the location of fail points in Torsion Problem (p.211)* | **Juan Francisco Padial**<br>*Some mathematical models related to nuclear fusion (p.216)* | |
| Sect.: **11** | ALGEBRAIC METHODS IN PHYSICS, *Chair: Victor V. Zharinov* | | |
| H 107 | **Andrej V. Bulinskij**<br>*On dynamical semigroups compatible with states of von Neumann algebras (p.229)* | **Fernando F. Lledó**<br>*On some algebraic properties of massless free nets (p.239)* | **Victor V. Zharinov**<br>*On derivations of the Heisenberg algebra (p.246)* |
| Sect.: **16** | NUMERICAL APPLICATIONS OF MATRIX THEORY, *Chair: Dmitrii O. Logofet* | | |
| H 106 | **Igor N. Lyashenko**<br>О неотрицательных решениях межотраслевой модели Леонтьева-Форда (p.329) | **Dmitrii O. Logofet**<br>*When matrix "flowers" help proving theorems on stability (p.328)* | **Gennady Victorovich Alferov**<br>*Motion Planning for Multi — Agent Systems in the Time — Varying Environments* |
| Sect.: **17** | SEMI-INFINITE AND SEMI-DEFINITE OPTIMIZATION, *Chair: René Henrion* | | |
| H 2033 | **Jan-J. Ruckmann**<br>*On Generalized Semi-infinite Optimization Problems (p.349)* | **Oliver Stein**<br>*On level sets of marginal functions (p.351)* | **Ivo Nowak**<br>*Bézier-Semidefinite Relaxations of nonconvex quadratic programs over a simplex (p.346)* |
| Sect.: **17** | MISCELLANEOUS II, *Chair: Roland Wessäly* | | |
| H 2013 | **Ingo Bremer**<br>*Experiences with the Optimization of Batch Distillation Processes* | **Rafail Gabasov**<br>*Synthesis of optimal dynamical systems* | **Roland Wessäly**<br>*New inequalities for a capacitated survivable network design problem (p.355)* |

## Short Communications: Wednesday, 26 August, 16:15–17:00

| | 16:15–16:30 | 16:30–16:45 | 16:45–17:00 |
|---|---|---|---|
| Sect.: **02** | LINEAR ALGEBRA AND QUADRATIC FORMS, *Chair: Stefan Heiss* | | |
| MA 311 | **Herbert Möller**<br>*New central algorithms in linear algebra (p.23)* | **Dilip N. Sheth**<br>*Completion of a unimodular vector to an invertible matrix (p.28)* | **Ulf Rehmann**<br>*Higher anisotropic kernels of quadratic forms (p.26)* |
| Sect.: **04** | ALGEBRAIC CYCLES, *Chair: Yuri G. Prokhorov* | | |
| MA 042 | **Manfred F.G. Streit**<br>*Field of Definition and Galois Orbits of some Non–Congruence Subgroups (p.61)* | **Serguei G. Tankeev**<br>*Algebraic cycles of small codimension on simple $2p$- or $4p$-dimensional abelian variety (p.62)* | **Johannes Huisman**<br>*Uniformization of real algebraic curves and complex analytic coordinates on Teichmüller spaces (p.54)* |
| Sect.: **05** | ANALYSIS ON MANIFOLDS, *Chair: Marian Gidea* | | |
| MA 041 | **Yuri G. Borisovich**<br>*Methods of global analysis in problems of solvability of nonlinear equations and inclusions (p.65)* | **Sylvie Paycha**<br>*Regularization as a Geometric and Stochastic Tool in Infinite Dimensions (p.78)* | **Marian Gidea**<br>*Non-Smooth Dynamical Systems that Exhibit Hyperbolic Behavior (p.69)* |
| Sect.: **05** | POLYHEDRA/WEBS, *Chair: Hakki Ismail Erdogan* | | |
| MA 043 | | **Anatoly D. Milka**<br>*Linear isometric deformations of polyhedra (p.77)* | **Hakki Ismail Erdogan**<br>*On a class of hexagonal-surface-web of spheres (p.68)* |
| Sect.: **09** | COMPLEX DYNAMICAL SYSTEMS, *Chair: John C. Mayer* | | |
| H 111 | **Toshiyuki Sugawa**<br>*An explicit bound for uniform perfectness of Julia sets (p.193)* | **Hiroki Sumi**<br>*Dynamics of rational semigroups and Hausdorff dimension of the Julia sets (p.193)* | **John C. Mayer**<br>*Invariant subcontinua in Siegel and Cremer Julia sets of polynomials (p.183)* |
| Sect.: **09** | IMPULSIVE SYSTEMS, *Chair: Anatoli Myshkis* | | |
| H 110 | **Dariusz Idczak**<br>*Stability in semilinear problems (p.177)* | **Cristian Dascalu**<br>*Antiplane Shear Instability in Elastodynamics with Slip Dependent Friction (p.174)* | **Anatoli Myshkis**<br>*Autonomous impulsive-differential equations (p.184)* |
| Sect.: **11** | FIELD THEORY III, *Chair: Henrik Petersson* | | |
| H 107 | **Robert Fittler**<br>*Nonstandard Quantumelectrodynamics (p.233)* | **Takashi Kimura**<br>*Cohomological Field Theories and Tautological Classes (p.236)* | **Henrik Petersson**<br>*Properties of analytical maps on infinite dimensional locally convex spaces (p.242)* |
| Sect.: **13** | COMBINATORIAL CONSTRUCTIONS, *Chair: Mark Kayll* | | |
| H 106 | **Abdelkader Khelladi**<br>*Some Results on the Fiber Product of Graphs (p.278)* | **Andrew J. Woldar**<br>*General properties of algebraically defined graphs (p.287)* | **Mark Kayll**<br>*Stochastic independence properties of hard-core distributions (p.278)* |
| Sect.: **15** | WAVELETS IV (organized by Andreas Rathsfeld), *Chair: Andreas Rathsfeld* | | |
| H 2033 | **Jürgen Prestin**<br>*Polynomial wavelets* | **Andreas Rathsfeld**<br>*Piecewise linear wavelet collocation for boundary element methods (p.310)* | |
| Sect.: **19** | MISCELLANEOUS, *Chair: Seemanapalli V. Sastry* | | |
| H 2013 | **Seemanapalli V. Sastry**<br>*History of Mathematics: Yesterday, Today, and Tomorrow (p.368)* | | |

## Short Communications: Wednesday, 26 August, 17:15–18:00

| | 17:15–17:30 | 17:30–17:45 | 17:45–18:00 |
|---|---|---|---|
| Sect.: **02** | Groups IV, *Chair: Bettina Wilkens* | | |
| MA 311 | **Alexei N. Krasilnikov**<br>*Identities in metanilpotent groups (p.21)* | **Ernest B. Vinberg**<br>*On a generalization of Coxeter groups* | **Munibur Rahman Chowdhury**<br>*A commutativity theorem for groups (p.15)* |
| Sect.: **05** | Differential Equations on Manifolds, *Chair: Congming Li* | | |
| MA 041 | **Atsushi Tachikawa**<br>*A Nonexistence Result of Harmonic Maps between Hadamard Manifolds (p.82)* | **Asya Vasilyevna Aminova**<br>*The pseudo-Riemannian manifolds with common geodesics (p.64)* | **Congming Li**<br>*Prescribing Scalar Curvature on $S^n$ (p.74)* |
| Sect.: **09** | Invariant Manifolds and Normal Forms, *Chair: Pei Yu* | | |
| H 111 | **Alexander Ya. Kopanskii**<br>*Normal forms of vector fields satisfying certain geometric conditions (p.180)* | **Alexander M. Kovalev**<br>*The equations of invariant and oriented manifolds of dynamical systems (p.180)* | **Pei Yu**<br>*Simplest Normal Forms of Differential Equations (p.196)* |
| Sect.: **09** | Boundary Value Problems, *Chair: Guiseppe Anichini* | | |
| H 110 | **Nusrat Rajabov**<br>*Linear conjugate boundary value problems for the second order linear ordinary differential equation with super–singular coefficients (p.186)* | **Masashi Kisaka**<br>*On the Connnected Components of Julia Sets of Transcendental Entire Functions (p.180)* | **Guiseppe Anichini**<br>*Boundary value problems for implicit ODE's in a singular case (p.170)* |
| Sect.: **11** | Thermodynamics, Hydrodynamics, Non-linear Dynamics IV, *Chair: Juan M. Alvaro Vilumbrales* | | |
| H 107 | **Sergei Fedotov**<br>*Travelling Waves in a Reaction-Diffusion System with KPP-kinetics (p.233)* | **Alexander A Alexeyev**<br>*Superposition principles for nonlinear partial differential equations in (1+1) dimension (p.227)* | **Juan M. Alvaro Vilumbrales**<br>*Cylindrical and spherical problems of Stefan: analytical solutions and numerical estimates (p.228)* |
| Sect.: **13** | Geometry IV, *Chair: Yuri Grigoriyevich Stoyan* | | |
| H 106 | **Alexei A. Tuzhilin**<br>*Planar Local Minimal Networks with Convex Boundaries (p.286)* | **Alexandr O. Ivanov**<br>*Linear Networks in Euclidean Spaces $R^n$ (p.277)* | **Yuri Grigoriyevich Stoyan**<br>*Properties of combinatorial set images into the arithmatic Euclidean spaces (p.285)* |

## Poster Session: Wednesday, 26 August, 14:00–15:45

| | | | |
|---|---|---|---|
| Sect.: **08** | Analysis | | |
| MA 144 | **Ants Aasma**<br>*Summability with speed and comparison of orders of approximation of Fourier expansions by different matrix methods of summability (p.112)* | **El Hassan E.H. El Kinani**<br>*$q$-Derivation, Sine algebra, and $Ut(sl(2))$ (p.123)* | **Stefan B.A. Jakobsson**<br>*Applications of weighted Hele-Shaw flow and kernel function techniques to Green functions for weighted biharmonic operators (p.132)* |
| | **Volodymyr M. Kolodyazhniy**<br>*Nonlinear Identification Problem Solution Using the Wavelets of the Atomic Functions (p.136)* | **Hrvoje Kraljevic**<br>*Landau's type inequalities for contraction cosine functions (p.137)* | **Carlos Lizama**<br>*A Characterization of Uniform Continuity for Volterra Equations in Hilbert Spaces (p.140)* |
| | **Igor-Ya. Novikov**<br>*Time-frequency localization of modified Daubechies wavelets (p.144)* | **Alan L. Schwartz**<br>*Hypergroups and their maximum subgroup (p.154)* | **Katsunori Shimomura**<br>*On the transformations which preserve polytemperatures (p.156)* |
| | **Feng-Yu Wang**<br>*Harnack inequality for heat semigroups and log-Sobolev inequalities (p.163)* | **Oxana A. Ziza**<br>*On absolute summability of orthogonal series (p.167)* | |
| Sect.: **19** | History of Mathematics | | |
| MA 144 | **Carlos Gomez Bermudez**<br>*Le système des nombres chez G. Cantor (p.366)* | **Harald Gropp**<br>*Levi, Steinitz, Zacharias, and configurations –Three German mathematicians in the $20^{th}$ century and a combinatorial structure (p.366)* | **Aleksandar T. Lipkovski**<br>*Rational curves with elliptic arcs — Serret's solution of Legendre's problem (p.368)* |
| | **Man-Keung Siu**<br>*On the myth of an ancient Chinese theorem about primality (p.369)* | | |

| Poster Session: Wednesday, 26 August, 16:15–18:00 | | | |
|---|---|---|---|
| Sect.: **17** | Control Theory and Optimization | | |
| MA 144 | **Shamsha A. Aipanov**<br>*The solutions of some problems of optimal control of spacecraft (p.335)* | **Vladimir Borisov**<br>*Bundles with chattering extremals (p.337)* | **Anna Debinska-Nagorska**<br>*A Non-linear Hyperbolic Control Problem with Neumann Boundary Condition — Convergence of Galerkin Approximation (p.338)* |
| | **Roland Hildebrand**<br>*Optimal synthesis of controlled systems near a focus (p.343)* | **Christian Schulz**<br>*Optimal scheduling of a chemical batch plant (p.350)* | **Zdzislaw Stempien**<br>*On the Optimal Control of Nonlinear Hyperbolic System — Approximation (p.351)* |
| | **Pierre von Mouche**<br>*Sur deux problèmes géométriques dans la théorie des jeux (p.354)* | **Olga Winzer**<br>*Complexity of vector spanning trees problems with topological criteria (p.355)* | **Stanislav T. Zavalishchin**<br>*Dynamic impulse systems. Optimization problems in fluid mechanics (p.356)* |

## Other Events

**17:30** **Urania**

**Peter Hoffmann,** IRCAM Paris, France
*Mathematische Tonerzeugung: Stochastische Verfahren bei Iannis Xenakis* (in German)

**18:00 – 23:00** **University Campus behind the Math Building**

**ICM'98 Party**

August 27

# Thursday, 27 August

## Plenary Lectures

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

**Marcelo Viana,** IMPA, Rio de Janeiro, Brazil
*Dynamics: A Probabilistic and Geometric Perspective* *(I: p.25)*
Chair: Jacob Palis, IMPA, Rio de Janeiro, Brazil

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

**Stéphane Mallat,** École Polytechnique, CMAP, Palaiseau, France and Courant Institute, New York University, New York, USA
*Applied Mathematics Meet Signal Processing* *(I: p.13)*
Chair: David Mumford, Brown University, Providence, USA

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

**Peter Sarnak,** Princeton University, Princeton, USA
*Zeta and L-Functions* *(I: p.19)*
Chair: John Coates, University of Cambridge, Cambridge, UK

**14:00 – 15:00** **Auditorium Maximum H 105**

**Persi Diaconis,** Mathematics and ORIE, Cornell University, Ithaca, USA and Departments of Mathematics and Statistics, Stanford University, Stanford, USA
*From Shuffling Cards to Walking Around the Building* *(I: p.6)*
Chair: David Siegmund, Stanford University, Stanford, USA

## Closing Ceremony

**15:00 – 16:00** **Auditorium Maximum H 105**

Program to be announced

## Other Events

**17:30** **Urania**

**Klaus Becker,** Klieve, Germany
*Von der Steinbildhauerei zur Mathematik: Eine Annäherunng an die einbeschriebenen Kugeln regelmäßiger Polyeder* (in German)

**18:00** **Urania**

**Movie**
*Qubba for Al–Kashi / Arabesques and Geometry / Animato*

**19:30** **Urania**

**Heinz-Otto Peitgen,** Bremen, Germany
*Mathematik und Medizin — Computerunterstützung in der Leberchirurgie und Früherkennung von Brustkrebs* (in German)

**20:00** **Urania**

**VideoMath Festival**
*The "VideoMath Reel", the 24 best contributions to the VideoMath competition*

## B. Plenary Lectures

**For all lectures taking place in the Auditorium Maximum H 105, there will be a video transmission to the room H 104.**

**Tuesday, 18 August** — **International Congress Center**

16:15 – 17:15 **Jürgen Moser,** ETH Zürich, Zürich, Switzerland
*Dynamical Systems — Past and Present* *(I: p.17)*
Chair: Friedrich Hirzebruch, Max-Planck-Institut für Mathematik, Bonn, Germany

**Wednesday, 19 August** — **Auditorium Maximum H 105**

9:30 – 10:30 **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 **Ehud Hrushovski,** Hebrew University of Jerusalem, Jerusalem, Israel
*Geometric Model Theory* *(I: p.9)*
Chair: Ronald Jensen, Humboldt–Universität Berlin, Berlin, Germany

**Thursday, 20 August** — **Auditorium Maximum H 105**

9:30 – 10:30 **Dusa McDuff,** SUNY Stony Brook, USA
*Fibrations in Symplectic Topology* *(I: p.16)*
Chair: Yakov Eliashberg, Stanford University, Stanford, USA

11:00 – 12:00 **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

**Friday, 21 August** — **Auditorium Maximum H 105**

9:30 – 10:30 **Helmut H.W. Hofer,** Courant Institute, New York University, New York, USA
*Dynamics, Topology, and Holomorphic Curves* *(I: p.8)*
Chair: Vladimir Arnold, Steklov Mathematical Institute, Moscow, Russia

11:00 – 12:00 **Vladimir Voevodsky,** Northwestern University, Evanston, USA
*Homotopy Theory of Algebraic Varieties* *(I: p.28)*
Chair: Eric Mark Friedlander, Northwestern University, Evanston, USA

**Saturday, 22 August** — **Auditorium Maximum H 105**

9:30 – 10:30 **Wolfgang Hackbusch,** Universität Kiel, Kiel, Germany
*From Classical Numerical Mathematics to Scientific Computing* *(I: p.6)*
Chair: Willi Jäger, Universität Heidelberg, Heidelberg, Germany

**Monday, 24 August** **Auditorium Maximum H 105**

9:00 – 10:00 **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 **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 **Cumrun Vafa,** Harvard University, Cambridge, USA and Tehran, Iran
*Geometric Physics* *(I: p.25)*
Chair: Maxim Kontsevich, IHES, Bures-sur-Yvette, France

**Tuesday, 25 August** **Auditorium Maximum H 105**

9:00 – 10:00 **George C. Papanicolaou,** Stanford University, Stanford, USA
*Mathematical Problems in Geophysical Wave Propagation* *(I: p.17)*
Chair: John Ball, Oxford University, Oxford, UK

10:15 – 11:15 **Tetsuji Miwa,** RIMS, Kyoto University, Kyoto, Japan
*Algebraic Analysis of Solvable Lattice Models* *(I: p.16)*
Chair: Yuri Manin, Max-Planck-Institut für Mathematik, Bonn, Germany

11:45 – 12:45 **Gilles Pisier,** Université Paris 6, Paris, France and Texas A&M University, College Station, USA
*Operator Spaces and Similarity Problems* *(I: p.18)*
Chair: Joram Lindenstrauss, Hebrew University, Jerusalem, Israel

**Wednesday, 26 August** **Auditorium Maximum H 105**

9:00 – 10:00 **Christopher Deninger,** Universität Münster, Münster, Germany
*Some Analogies Between Number Theory and Dynamical Systems on Foliated Spaces* *(I: p.5)*
Chair: Gerd Faltings, Max-Planck-Institut für Mathematik, Bonn, Germany

10:15 – 11:15 **Giovanni Gallavotti,** Universitá La Sapienza, Roma, Italy
*The Chaotic Hypothesis and Universal Large Deviations Properties* *(I: p.6)*
Chair: Rudolf Seiler, Technische Universität Berlin, Berlin, Germany

11:45 – 12:45 **Jean-Michel Bismut,** Université Paris-Sud, Orsay, France
*Local Index Theory and Higher Analytic Torsion* *(I: p.5)*
Chair: Jean-Pierre Bourguignon, Inst. des Hautes Etudes Scientifques, Bures-sur-Yvette, France

**Thursday, 27 August** **Auditorium Maximum H 105**

9:00 – 10:00 **Marcelo Viana,** IMPA, Rio de Janeiro, Brazil
*Dynamics: A Probabilistic and Geometric Perspective* *(I: p.25)*
Chair: Jacob Palis, IMPA, Rio de Janeiro, Brazil

10:15 – 11:15 **Stéphane Mallat,** École Polytechnique, CMAP, Palaiseau, France and Courant Institute, New York University, New York, USA
*Applied Mathematics Meet Signal Processing* *(I: p.13)*
Chair: David Mumford, Brown University, Providence, USA

11:45 – 12:45 **Peter Sarnak,** Princeton University, Princeton, USA
*Zeta and L-Functions* *(I: p.19)*
Chair: John Coates, University of Cambridge, Cambridge, UK

14:00 – 15:00 **Persi Diaconis,** Mathematics and ORIE, Cornell University, Ithaca, USA and Departments of Mathematics and Statistics, Stanford University, Stanford, USA
*From Shuffling Cards to Walking Around the Building* *(I: p.6)*
Chair: David Siegmund, Stanford University, Stanford, USA

# C. Schedule of Sections 1–19

## Section 01: Logic

### Invited Lectures

**Tuesday, 25 August** **H 1012**

16:15 – 17:00 **Matthew Foreman,** University of California, Irvine, USA
*Generic Large Cardinals: New Axioms for Mathematics?* *(I: p.30)*
Chair: Peter G. Koepke

17:15 – 18:00 **Ludomir Newelski,** University of Wrocław, Wrocław and Polish Academy of Sciences, Poland
*Meager forking and m-independence* *(I: p.33)*
Chair: Alex James Wilkie

**Wednesday, 26 August** **MA 005**

14:00 – 14:45 **Stevo B. Todorcevic,** CNRS, Université de Paris 7, Paris, France, Mathematicki Institut, Beograd, Yugoslavia, and University of Toronto, Toronto, Canada
*Basis Problems in Combinatorial Set Theory* *(I: p.35)*
Chair: Martin Goldstern

**Wednesday, 26 August** **H 1012**

16:15 – 17:00 **Gregory Hjorth,** UCLA, Los Angeles, USA
*When is an equivalence relation classifiable?* *(I: p.32)*
Chair: Ronald B. Jensen

17:15 – 18:00 **Alex James Wilkie,** University of Oxford, Oxford, England
*O-minimality* *(I: p.35)*
Chair: Anand Pillay

### Short Communications and Poster Sessions

**Short Communications** **Thursday, 20 August**

**Lattices and Universal Algebra** **MA 042**
Chair: Marcus A. Kracht

14:00 – 14:15 **Isabella C. Burger,** Rand Afrikaans University, Auckland Park (Johannesburg), South Africa
*Boolean algebras and information-dependent entailment relations* *(p.6)*
14:15 – 14:30 **Dietmar Dorninger,** Technische Universität Wien, Wien, Austria
*On ring-like structures occurring in axiomatic quantum mechanics* *(p.7)*
14:30 – 14:45 **Philippe Niederkorn,** Université de Liège, Liège, Belgium
*Natural dualities for finitely generated varieties of MV-algebras* *(p.8)*

## Short Communications — Friday, 21 August

| Categories: Logic and Topology | | MA 042 |
|---|---|---|
| Chair: Gerhard Preuß | | |
| 14:00 – 14:15 | **Michel Hebert,** The American University in Cairo, Cairo, Egypt<br>*Syntactic view on locally generated categories: abstract and concrete cases* | (p.7) |
| 14:15 – 14:30 | **Dieter Leseberg,** TU Braunschweig, Braunschweig, Germany<br>*Filterconvergence as a convenient concept for Topology* | (p.8) |

| Set Theoretic Topology | | MA 042 |
|---|---|---|
| Chair: Dieter Leseberg | | |
| 15:00 – 15:15 | **Gerhard Preuß,** Freie Universität, Berlin, Germany<br>*Convenient Topology — A New Branch of Topology* | (p.9) |
| 15:15 – 15:30 | **Harald Nusser,** Freie Universität, Berlin, Germany<br>*Completions of probabilistic semiuniform convergence spaces* | (p.8) |

## Short Communications — Monday, 24 August

| Constructive Mathematics and Models of Arithmetic | | MA 042 |
|---|---|---|
| Chair: Hiloshi Ohno | | |
| 16:15 – 16:30 | **Douglas S. Bridges,** University of Waikato, Hamilton, New Zealand<br>*Ideals in constructive ring and Banach algebra theory* | (p.6) |
| 16:30 – 16:45 | **Luminita Simona Dediu,** University of Waikato, Hamilton, New Zealand<br>*A constructive extension theorem for ultraweakly continuous linear functionals* | (p.6) |
| 16:45 – 17:00 | **Hiloshi Ohno,** Kashiwa, Japan<br>*A certain proposition unprovable in number-theoretic formal system* | (p.9) |

| Recursion Theory and Model Theory | | MA 042 |
|---|---|---|
| Chair: Helmut Pfeiffer | | |
| 17:15 – 17:30 | **David Hartz,** College of St. Benedict, St. Joseph, MN, USA<br>*Hierarchy Based on Inductive Definitions* | (p.7) |
| 17:30 – 17:45 | **Cyrus F. Nourani,** METAAI and UCSB, Cardiff By The Sea, CA, USA<br>*Functorial Computability And Generic Definable Models* | (p.8) |

## Short Communications — Tuesday, 25 August

| Set Theory and Recursion Theory | | MA 042 |
|---|---|---|
| Chair: Robert Fittler | | |
| 14:00 – 14:15 | **Philip D. Welch,** Kobe University, Kobe, Japan<br>*The Length of Infinite Time Turing Machine Computations* | (p.11) |
| 14:15 – 14:30 | **Martin Zeman,** Math. Inst., Humboldt–Universität, Berlin, Germany<br>$\diamond$ *at Mahlo Cardinals* | (p.11) |
| 14:30 – 14:45 | **Marat-M. Arslanov,** Kazan-State-University, Kazan, Russia<br>*The enumeration degree structures* | (p.5) |

| Model Theory and Recursion Theory | | MA 042 |
|---|---|---|
| Chair: Andreas Baudisch | | |
| 15:00 – 15:15 | **Mikhail Peretyat'kin,** Institute of Pure and Applied Mathematics, Almaty, Kazakhstan<br>*Expressive possibilities of finitely axiomatizable theories* | (p.9) |
| 15:15 – 15:30 | **Niandong Shi,** Dept. of Mathematics, East Stroudsburg, PA, USA<br>*Universal graph problem and model theory* | (p.10) |
| 15:30 – 15:45 | **Helmut Schwichtenberg,** Universität München, München, Germany<br>*Ramification, Modality, and Linearity in Higher Type Recursion* | (p.10) |

| **Poster Session** | **Monday, 24 August** |
|---|---|
| **14:00 – 15:45** | **MA 144** |

**Fariborz Azarpanah,** University of Chamran, Ahvaz, Iran
*Sum and intersection of summand ideals in $C(X)$* *(p.5)*

**Grzegorz Bancerek,** University of Białystok, Białystok, Poland
*Mizar — a work environment for a mathematician: an experiment with continuous lattices* *(p.6)*

**Peter Michael Schuster,** Ludwig-Maximilians-Universität München, München, Germany
*A Sequence Model for Constructive Nonstandard Analysis* *(p.10)*

# Section 02: Algebra

## Invited Lectures

| **Friday, 21 August** | | **MA 005** |
|---|---|---|
| 16:15 – 17:00 | **William M. Kantor,** University of Oregon, Eugene, USA<br>*Simple Groups in Computational Group Theory*<br>Chair: Charles C. Sims | *(I: p.41)* |
| 17:15 – 18:00 | **Aleksandr Pukhlikov,** Institute for Systems Analysis, Moscow, Russia<br>*Birational automorphisms of algebraic varieties*<br>Chair: Victor Vadimovich Batyrev | *(I: p.42)* |

| **Saturday, 22 August** | | **MA 005** |
|---|---|---|
| 16:15 – 17:00 | **Eric Mark Friedlander,** Northwestern University, Evanston, USA<br>*Geometry of Infinitesimal Group Schemes*<br>Chair: Uwe Jannsen | *(I: p.36)* |
| 17:15 – 18:00 | **Gunter Malle,** Universität Heidelberg, Heidelberg, Germany<br>*Spetses*<br>Chair: John S. Wilson | *(I: p.41)* |

| **Monday, 24 August** | | **MA 005** |
|---|---|---|
| 14:00 – 14:45 | **Sergei Ivanov,** University of Illinois, Urbana, USA<br>*On the Burnside problem for groups of even exponent*<br>Chair: Otto H. Kegel | *(I: p.38)* |
| 15:00 – 15:45 | **Idun Reiten,** Norwegian University of Science and Technology, Trondheim, Norway<br>*Tilting Theory and Quasitilted algebras*<br>Chair: Claus Michael Ringel | *(I: p.43)* |

| **Tuesday, 25 August** | | **MA 005** |
|---|---|---|
| 16:15 – 17:00 | **Aner Shalev,** The Hebrew University, Jerusalem, Israel<br>*Simple groups, permutation groups, and probability*<br>Chair: Bernhard H. Neumann | *(I: p.45)* |
| 17:15 – 18:00 | **Jeremy C. Rickard,** University of Bristol, Bristol, England<br>*The abelian defect group conjecture*<br>Chair: Dieter Happel | *(I: p.45)* |

## Short Communications and Poster Sessions

### Short Communications — Wednesday, 19 August

**Rings** — **MA 042**
Chair: Toma Albu

| | | |
|---|---|---|
| 14:00 – 14:15 | **Hyoung J. Ko,** Yonsei University, Seoul, Korea, Republic of<br>*Some complete intersection and their minimal prime ideals* | *(p.20)* |
| 14:15 – 14:30 | **Takasi Nagahara,** Okayama Univ., Okayama-Ken, Japan<br>*Classification of rings satisfying some generalized Herstein's condition* | *(p.24)* |
| 14:30 – 14:45 | **Sylvia Chin-Pi Lu,** University of Colorado, Denver, Colorado, USA<br>*The Zariski topology on the prime spectrum of a module* | *(p.22)* |

**Algebras I** — **MA 042**
Chair: Alexandre V. Mikhalev

| | | |
|---|---|---|
| 15:00 – 15:15 | **Askar Dzhumadil'daev,** Institute of Mathematics, Almaty, Kazakhstan<br>*Cohomologies of right-symmetric algebras and Novikov algebras* | *(p.17)* |
| 15:15 – 15:30 | **Ekaterina A. Vasilieva,** Moscow State University, Moscow, Russia<br>*Involutive Bases of Free Algebras* | *(p.31)* |
| 15:30 – 15:45 | **Alexander A Totok,** Moscow State University, Moscow, Russia<br>*Actions of Hopf algebras on noncommutative algebras* | |

**Semigroups** — **MA 311**
Chair: Hans-Jürgen Vogel

| | | |
|---|---|---|
| 16:15 – 16:30 | **Olga Macedonska,** Silesian Technical University, Gliwice, Poland<br>*On semigroup identities in groups* | *(p.22)* |
| 16:30 – 16:45 | **Boris M. Schein,** University of Arkansas, Fayetteville, AR, USA<br>*A new construction for free inverse semigroups* | *(p.28)* |
| 16:45 – 17:00 | **Vučić Dašić,** Univerzitet Crne Gore, Podgorica, Yugoslavia<br>*Hyperrings and hypernear-rings of the multivalied mappings* | *(p.16)* |

**Topological Algebra** — **MA 042**
Chair: Karl-Heinrich Hofmann

| | | |
|---|---|---|
| 16:15 – 16:30 | **Nouzha El Yacoubi,** Dept. Maths & Info. Faculty of Sciences, Rabat, Morocco<br>*J-Generalized topological divisors of zero in topological Jordan algebras* | *(p.18)* |
| 16:30 – 16:45 | **Rumara Jewett,** SUNY-Albany, Dept. of Mathematics, Albany, NY, USA<br>*Almost Convexity of a Certain Nilpotent Group* | *(p.19)* |
| 16:45 – 17:00 | **Mary Nailevna Sabitova,** Kazan State University, Kazan, Russia<br>*The automorphisms of affine spaces and polynomial manifolds* | *(p.27)* |

**Groups I** — **MA 311**
Chair: Wujie Shi

| | | |
|---|---|---|
| 17:15 – 17:30 | **Herbert Abels,** Fakultät für Mathematik, Universität Bielefeld, Bielefeld, Germany<br>*Reductive groups as metric spaces* | *(p.12)* |
| 17:30 – 17:45 | **Oleg I. Tavgen,** Belorussian State University, Minsk, Republic of Belarus<br>*The free product of cyclic groups in the group* $\mathrm{PSL}_2(\mathbb{C})$ | *(p.30)* |
| 17:45 – 18:00 | **Matthias Trittler,** Universität Ulm, Ulm, Germany<br>*Normalteiler symplektischer Gruppen* | *(p.30)* |

**Semirings/groups and Algebras** — **MA 042**
Chair: Boris M. Schein

| | | |
|---|---|---|
| 17:15 – 17:30 | **Irena I. Artamonova,** Moscow State University, Moscow, Russia<br>*We consider semirings with* $1 \neq 0$ | *(p.12)* |
| 17:30 – 17:45 | **Godwin Ekhaguere,** Association of African Universities, Accra, Ghana<br>*Algebraic representation theory of partial algebras* | *(p.17)* |
| 17:45 – 18:00 | **Miroslav, D. Ćirić,** University of Niš, Niš, Yugoslavia<br>*Atomic decompositions of algebras and structures* | |

## Short Communications — Thursday, 20 August

| Noetherian Rings<br>Chair: Kurt Rosenbaum | | MA 311 |
|---|---|---|
| 16:15 – 16:30 | **Vijay Kodiyalam,** The Institute of Mathematical Sciences, Chennai, India<br>*Asymptotic behaviour of Castelnuovo-Mumford regularity* | (p.20) |
| 16:30 – 16:45 | **Syed Tariq Rizvi,** The Ohio State University, Lima, USA<br>*On noetherian and artinian rings* | (p.26) |
| 16:45 – 17:00 | **Sylvia M. Wiegand,** University of Nebraska, Lincoln, USA<br>*Building Noetherian domains using completions* | (p.31) |

| Rings and Modules I<br>Chair: Sylvia M. Wiegand | | MA 311 |
|---|---|---|
| 17:15 – 17:30 | **Toma Albu,** University of Wisconsin-Milwaukee, Milwaukee, Wisconsin, USA<br>*Global Krull dimension and global dual Krull dimension of rings* | (p.12) |
| 17:30 – 17:45 | **Jilyana Cazaran,** University of Tasmania, Hobart, Australia<br>*Sufficient conditions for finite commutative rings to be principal ideal rings and an application to error-correcting codes* | (p.14) |
| 17:45 – 18:00 | **Reinhard Börger,** FernUniversität Hagen, Hagen, Germany<br>*Infinitary Linear Combinations in Cotorsion Modules* | (p.14) |

## Short Communications — Friday, 21 August

| Groups II<br>Chair: Mikhail H. Klin | | MA 311 |
|---|---|---|
| 14:00 – 14:15 | **Hubert Kiechle,** Zentrum Mathematik, TU München, München, Germany<br>*Frobenius groups with many involutions* | (p.20) |
| 14:15 – 14:30 | **Anatolii S. Kondratiev,** Institute of Mathematics and Mechanics, Ekaterinburg, Russia<br>*Finite linear groups of small degree* | (p.20) |
| 14:30 – 14:45 | **Wujie Shi,** Southwest-China Normal University, Chongqing, China, Peoples Republic of<br>*A new classification of groups* | (p.28) |

| Groups III<br>Chair: Andrew J. Woldar | | MA 311 |
|---|---|---|
| 15:00 – 15:15 | **Vahagn H. Mikaelian,** Math. Institut, Uni. Würzburg, Würzburg, Germany<br>*Embeddings of countable groups into 2-generator groups with additional properties* | (p.31) |
| 15:15 – 15:30 | **Igor Ya. Subbotin,** National University, Inglewood, CA, USA<br>*On groups with many periodic factor-groups* | (p.30) |
| 15:30 – 15:45 | **Leonid A. Kurdachenko,** University of Dnepropetrovsk, Dnepropetrovsk, Ukraine<br>*On some infinite dimensional linear groups* | (p.21) |

## Short Communications — Saturday, 22 August

| Representations of Groups<br>Chair: Alexander S. Kleshchev | | MA 311 |
|---|---|---|
| 14:00 – 14:15 | **Mohammad Reza Darafsheh,** University of Tehran, Tehran, Iran<br>*The character table of the group $GL_2(q)$ when extended by a certain group of order two* | (p.15) |
| 14:15 – 14:30 | **Anna Helversen-Pasotto,** Laboratoire "Jean-Alexandre Dieudonné", Nice, France<br>*Représentations de $GL(n, F_q)$ et sommes de Gauss* | (p.18) |
| 14:30 – 14:45 | **Alexei Davydov,** Moscow State University, Department of Math., Moscow, Russia<br>*Drinfel'd theory and representations of finite groups* | (p.16) |

| Commutative Rings<br>Chair: Peter Draexler | | MA 311 |
|---|---|---|
| 15:00 – 15:15 | **Alexander Levin,** The Catholic Univ. of America, Washington, D.C., USA<br>*Multivariable dimension polynomials and their invariants* | *(p.21)* |
| 15:15 – 15:30 | **Venkat Murali,** Rhodes University, Grahamstown, South Africa<br>*On Krull Intersection Theorem of Fuzzy Ideals* | *(p.24)* |
| 15:30 – 15:45 | **Cornelia G. Naude,** University of South Africa, Pretoria, South Africa<br>*Asymptotic behaviour of attached primes* | *(p.25)* |

## Short Communications — Monday, 24 August

| Algebras II<br>Chair: M. Susan Montgomery | | MA 311 |
|---|---|---|
| 16:15 – 16:30 | **Mihai I. Cipu,** Institute of Mathematics, Bucharest, Romania<br>*Multiplicities and pure resolutions for Gorenstein codimension four algebras* | *(p.15)* |
| 16:30 – 16:45 | **Michael Nüsken,** Universität Konstanz, Konstanz, Germany<br>*Unique Tensor Factorization of Algebras* | *(p.26)* |
| 16:45 – 17:00 | **Andrej A. Zolotykh,** Moscow State University, Moscow, Russia<br>*Standard bases for ideals of free algebras over commutative rings* | *(p.32)* |

| Hopf Algebras<br>Chair: Alexander A. Mikhalev | | MA 311 |
|---|---|---|
| 17:15 – 17:30 | **Sorin Dascalescu,** University of Bucharest, Bucharest, Romania<br>*Pointed Hopf algebras by Ore extensions and classification results* | *(p.16)* |
| 17:30 – 17:45 | **M. Susan Montgomery,** University of Southern California, Los Angeles, CA, USA<br>*Prime Ideals in Hopf Galois Extensions* | *(p.24)* |
| 17:45 – 18:00 | **Peter Schauenburg,** Universität München, München, Germany<br>*Hopf algebras with a weak projection* | *(p.27)* |

## Short Communications — Tuesday, 25 August

| Rings and Modules II<br>Chair: Christine Bessenrodt | | MA 311 |
|---|---|---|
| 14:00 – 14:15 | **Sergey P. Strunkov,** Dept. of Crptol. and Discr. Math., Moscow, Russia<br>*On p-blocks of minimal defect in a finite group and Gelfand pairs* | *(p.29)* |
| 14:15 – 14:30 | **Johannes H. Meyer,** University of the Orange Free State, Bloemfontein, South Africa<br>*Forcing Linearity Numbers* | *(p.23)* |
| 14:30 – 14:45 | **Hossein Zand,** The Open University, Milton Keynes, England<br>*Duality in radicals of associative rings* | *(p.32)* |

| Miscellaneous<br>Chair: Corinna Wiedorn | | MA 311 |
|---|---|---|
| 15:00 – 15:15 | **Martin Goldstern,** Technische Universität Wien, Wien, Austria<br>*Interpolation of monotone functions in lattices* | *(p.18)* |
| 15:15 – 15:30 | **Ming-Chang Kang,** National Taiwan University, Taipei, China, Taiwan<br>*Rationality of Some Projective Linear Actions* | *(p.19)* |
| 15:30 – 15:45 | **Vyacheslav A. Artamonov,** Moscow State University, Moscow, Russia<br>*Quantum polynomial algebra is a multiparameter deformation of an algebra of polynomials, i.e. it is the algebra of regular functions on a quantum affine space* | *(p.12)* |

## Short Communications — Wednesday, 26 August

### Algebras III — MA 311
Chair: Shavkat A. Ayupov

| | | |
|---|---|---|
| 15:00 – 15:15 | **Bernhard Drabant,** Department of Applied Mathematics, Cambridge, Great Britain<br>*Cross Product Bialgebras* | *(p.17)* |
| 15:15 – 15:30 | **Alexander A. Mikhalev,** Moscow State University, Moscow, Russia<br>*Free Leibniz algebras* | *(p.23)* |
| 15:30 – 15:45 | **Daouda Sangare,** Université de Caen, Hérouville Saint Clair, France<br>*Hilbert quasi-polynomial functions and generalized analytic spread* | *(p.27)* |

### Categories — MA 042
Chair: Reinhard Börger

| | | |
|---|---|---|
| 15:00 – 15:15 | **Hvedri Inassaridze,** A. Razmadze Mathematical Institute, Tbilisi, Georgia<br>*Karoubi's Conjecture for polynomial extensions of stable $C^*$-algebras* | *(p.19)* |
| 15:15 – 15:30 | **Fred E.J. Linton,** Wesleyan University, New Haven, CT, USA<br>*Banach Spaces Monadic over Free Pointed Cones* | *(p.22)* |
| 15:30 – 15:45 | **Siaka Kante Bamba,** Université de Cocody, Abidjan, Ivory Coast<br>*On quadratic modules* | *(p.13)* |

### Linear Algebra and Quadratic Forms — MA 311
Chair: Stefan Heiss

| | | |
|---|---|---|
| 16:15 – 16:30 | **Herbert Möller,** University of Münster, Münster, Germany<br>*New central algorithms in linear algebra* | *(p.23)* |
| 16:30 – 16:45 | **Dilip N. Sheth,** Sir Parashurambhau College, Pune, India<br>*Completion of a unimodular vector to an invertible matrix* | *(p.28)* |
| 16:45 – 17:00 | **Ulf Rehmann,** Universität Bielefeld, Bielefeld, Germany<br>*Higher anisotropic kernels of quadratic forms* | *(p.26)* |

### Groups IV — MA 311
Chair: Bettina Wilkens

| | | |
|---|---|---|
| 17:15 – 17:30 | **Alexei N. Krasilnikov,** Moscow Pedagogical State University, Moscow, Russia<br>*Identities in metanilpotent groups* | *(p.21)* |
| 17:30 – 17:45 | **Ernest B. Vinberg,** Universität Bielefeld, Bielefeld, Germany<br>*On a generalization of Coxeter groups* | |
| 17:45 – 18:00 | **Munibur Rahman Chowdhury,** University of Dhaka, Dhaka, Bangladesh<br>*A commutativity theorem for groups* | *(p.15)* |

## Poster Session — Thursday, 20 August

**14:00 – 15:45** — **MA 144**

**Shavkat A. Ayupov,** Institute of Mathematics, Tashkent, Republik of Uzbekistan
*Nilpotent Leibniz algebras of low dimension* *(p.13)*

**Valerii Vaclavovich Benyash-Krivetz,** Institute of Mathematics, Minsk, Belarus
*On decomposing some finitely generated groups into amalgamated free products* *(p.13)*

**Matyas Domokos,** Hungarian Academy of Sciences, Budapest, Hungary
*Determinantal ideals of certain subspace arrangements* *(p.16)*

**Kiyomitsu Horiuchi,** Konan University, Kobe, Japan
*An expansion of lattice* *(p.19)*

**Andrei Marcus,** Babeș-Bolyai, Cluj-Napoca, Romania
*Derived equivalences and Dade's conjectures* *(p.22)*

**Shigeki Matsumoto,** Konan University, Kobe, Japan
*Solutions of Sylvester Equations $AX - XB = C$ whose coefficients matrices $A$ and $B$ may have common eigenvalues* *(p.23)*

**Marek Niezgoda,** Institute of Applied Mathematics, Agric. Univ. of Lublin, Lublin, Poland
*An unified approach to some majorization inequalities* *(p.25)*

**Yasushi Ninomiya,** Shinshu University, Matsumoto, Japan
*Group algebras and nilpotency indices of their radicals* *(p.25)*

**Carlos Renteria-Marquez,** Instituto Politecnico Nacional, Mexico City, Mexico
*The $a$-invariant of some Reed-Muller codes* *(p.26)*

**Constatin I. Sonin,** Moscow State University, Moscow, Russia
*Krull Dimension of Malcev-Neumann Rings* *(p.29)*

**Christophe Soulé,** IHES, Bures-sur-Yvette, France
*Filtrations on Higher Algebraic K-theory* *(p.29)*

**Masamichi Tokizawa,** Chuo University, Tokyo, Japan
*Set product residue semigroups* *(p.30)*

**Roman Zapatrin,** E&F University, St. Petersburg, Russian Federation
*Duality and set representations for partially ordered sets* *(p.32)*

**Konstantin A. Zubrilin,** Moscow State University, Moscow, Russian Federation
*The structure theory of algebras that satisfy Capelli identities* *(p.33)*

# Section 03: Number Theory and Arithmetic Algebraic Geometry

## Invited Lectures

### Saturday, 22 August — MA 005

14:00 – 14:45 **Vladimir Berkovich,** Weizmann Institute of Science, Rehovot, Israel
*$p$-adic analytic spaces* *(I: p.48, electronic version)*
Chair: Norbert Schappacher

15:00 – 15:45 **Pierre Colmez,** CNRS, ENS, and Institut de Mathématiques de Jussieu, Paris, France
*$(\varphi,\Gamma)$-modules and Iwasawa theory of $p$-adic representations* *(I: p.49)*
Chair: Christophe Soulé

### Monday, 24 August — MA 005

16:15 – 17:00 **François Gramain,** Université Jean Monnet Saint-Etienne, Saint-Etienne, France
*Some results of algebraic independence* *(I: p.51)*
Chair: Michel Waldschmidt

17:15 – 18:00 **William Duke,** Rutgers University, New Brunswick, USA
*Bounds for arithmetic multiplicities* *(I: p.50)*
Chair: Per Salberger

### Tuesday, 25 August — MA 005

14:00 – 14:45 **Loïc Merel,** Université Paris 7 - Denis Diderot, Paris, France
*Determination of rational points using Dirichlet series* *(I: p.52)*
Chair: Wilhelm Zink

| | | |
|---|---|---|
| 15:00 – 15:45 | **Shinichi Mochizuki,** RIMS, Kyoto University, Kyoto, Japan<br>*The Intrinsic Hodge Theory of p-adic Hyperbolic Curves*<br>Chair: Helmut Koch | *(I: p.53)* |

**Wednesday, 26 August** **MA 005**

| | | |
|---|---|---|
| 15:00 – 15:45 | **Takeshi Tsuji,** RIMS, Kyoto University, Kyoto, Japan<br>*p-adic Hodge Theory in the semi-stable reduction case*<br>Chair: Helmut Koch | *(I: p.55)* |
| 16:15 – 17:00 | **Shou-Wu Zhang,** Columbia University, New York City, USA<br>*Small points, Heegner points, and Arakelov theory*<br>Chair: Jürg Kramer | *(I: p.57)* |
| 17:15 – 18:00 | **Hans Peter Schlickewei,** Universität Marburg, Marburg, Germany<br>*The Absolute Subspace Theorem and Applications*<br>Chair: Alfred J. van der Poorten | *(I: p.54)* |

## Short Communications and Poster Sessions

**Short Communications** **Wednesday, 19 August**

**Computational Number Theory** **MA 311**
Chair: Michael E. Pohst

| | | |
|---|---|---|
| 14:00 – 14:15 | **Claus Fieker,** Technische Universität Berlin, Berlin, Germany<br>*On Constructive Class Field Theory* | *(p.36)* |
| 14:15 – 14:30 | **István Gaál,** KLTE, Institute of Mathematics, Debrecen, Hungary<br>*Power integral bases in algebraic number fields* | *(p.36)* |
| 14:30 – 14:45 | **Jürgen Klüners,** Universität Heidelberg, Heidelberg, Germany<br>*Explicit Galois realization of transitive groups of degree up to 15* | *(p.40)* |

**Additive Number Theory** **MA 311**
Chair: Doytchin Tolev

| | | |
|---|---|---|
| 15:00 – 15:15 | **Mariano Garcia,** Touro College, N.Y. City, USA<br>*New type $(i, 1)$ amicable pairs with greatest common factor a power of 2 or a prime times a power of 2* | *(p.37)* |
| 15:15 – 15:30 | **Nazir M. Khan,** GIK Institute of Engg. Sc. & Tech., Topi-Swabi, Pakistan<br>*The Numbers that Can Be Represented as the Sum of Four Squares (One Repeating Itself Three Times), in Three Different Ways* | *(p.39)* |
| 15:30 – 15:45 | **Doytchin Tolev,** University of Plovdiv, Plovdiv, Bulgaria<br>*Additive problem with prime numbers of a special type* | *(p.46)* |

**Short Communications** **Thursday, 20 August**

**Cyclotomy** **MA 311**
Chair: Stanley J. Gurak

| | | |
|---|---|---|
| 14:00 – 14:15 | **Grzegorz, M. Banaszak,** Wydzial Matematyki i Informatyki, Univ., Poznan, Poland<br>*Wild kernel for higher K-groups and arithmetic of square rings* | *(p.34)* |
| 14:15 – 14:30 | **Mónica del Pilar Canales,** Universidad Austral de Chile, Valdivia, Chile<br>*Higher levels of $Z/p^l Z$ and cyclotomy* | *(p.34)* |
| 14:30 – 14:45 | **Stanley J. Gurak,** University of San Diego, San Diego CA, USA<br>*On the factors $\Phi^{(j\delta/m)}(x)$ of the period polynomial for finite fields* | *(p.37)* |

Section 03

| Function Fields and Curves I | | MA 311 |
|---|---|---|
| Chair: Franck Leprévost | | |
| 15:00 – 15:15 | **Florian Heß,** TU Berlin, Berlin, Germany<br>*Effective construction of Riemann-Roch spaces in global function fields* | *(p.38)* |
| 15:15 – 15:30 | **Ryutaro Horiuchi,** Doshisha University, Kyotanabe-shi, Japan<br>*On Weierstrass Points of the Fermat Curve* | *(p.38)* |
| 15:30 – 15:45 | **Franck Leprévost,** Technische Universität Berlin, Berlin, Germany<br>*On some elliptic surfaces and elliptic curves related to discriminants of cubic or quartic polynomials* | *(p.41)* |

## Short Communications — Friday, 21 August

| Algebraic Geometry I | | MA 311 |
|---|---|---|
| Chair: Jürgen Wolfart | | |
| 16:15 – 16:30 | **Emmanuel Peyre,** Université de Strasbourg, Strasbourg, France<br>*Heights and Tamagawa measures* | *(p.44)* |
| 16:30 – 16:45 | **Valentin E. Voskresenskii,** Samara State University, Samara, Russia<br>*Stably rational algebraic tori* | *(p.46)* |
| 16:45 – 17:00 | **Jürgen Wolfart,** Universität Frankfurt, Frankfurt, Germany<br>*Riemann surfaces with many automorphisms* | *(p.47)* |

| Modular Forms | | MA 311 |
|---|---|---|
| Chair: Yoichi Uetake | | |
| 17:15 – 17:30 | **Werner Hoffmann,** Institute for Advanced Study, Princeton NJ, USA<br>*Spectral estimates for noncompact quotients* | *(p.38)* |
| 17:30 – 17:45 | **Wladimir de Azevedo Pribitkin,** Max Planck Institute for Mathematics, Bonn, Germany<br>*Bol's identity, fractional differentiation, and automorphic integrals* | *(p.45)* |
| 17:45 – 18:00 | **Yoichi Uetake,** Adam Mickiewicz University, Poznań, Poland<br>*A weak resolvent representation of a scattering matrix for automorphic functions* | *(p.46)* |

## Short Communications — Saturday, 22 August

| Integral Matrices | | MA 311 |
|---|---|---|
| Chair: Jean-Louis Nicolas | | |
| 16:15 – 16:30 | **Shashikant Katre,** University of Pune, Pune, India<br>*Matrices over orders in algebraic number fields as sums of $k$-th powers* | *(p.39)* |
| 16:30 – 16:45 | **Dmitri Malinin,** Byelorussian State Pedagogical University, Minsk, Belarus<br>*Integral representations of finite groups* | *(p.42)* |
| 16:45 – 17:00 | **Jean-Louis Nicolas,** Universite Claude Bernard, Villeurbanne, France<br>*On the maximum order of torsion elements in $GL(n, \mathbb{Z})$* | *(p.43)* |

| Algebraic Geometry II | | MA 042 |
|---|---|---|
| Chair: Jörg Wildeshaus | | |
| 16:15 – 16:30 | **Jörg Wildeshaus,** Math. Inst. der Univ. Münster, Münster, Germany<br>*Degeneration of Shimura Polylogarithms* | |

| Analytic Number Theory I | | MA 311 |
|---|---|---|
| Chair: Jin Nakagawa | | |
| 17:15 – 17:30 | **Antanas Laurincikas,** Vilnius University, Vilnius, Lithuania<br>*Value-distribution theorems on Lerch zeta-functions* | *(p.40)* |
| 17:30 – 17:45 | **Roberto J. Miatello,** University Nac. Cordoba, Cordoba, Argentina<br>*Estimates for Kloosterman sums for totally real number fields* | *(p.42)* |
| 17:45 – 18:00 | **Jin Nakagawa,** Jeotsu University of Education, Joetsu, Japan<br>*Ohno conjecture on the zeta functions associated with the space of binary cubic forms* | *(p.43)* |

## Short Communications — Monday, 24 August

| **Lattices and Codes**<br>Chair: Fei Xu | | **MA 311** |
|---|---|---|
| 14:00 – 14:15 | **San Ling,** National University of Singapore, Singapore, Singapore<br>*Group algebras and codes* | *(p.41)* |
| 14:15 – 14:30 | **Katherine S. Roegner,** Technische Universität Berlin, Berlin, Germany<br>*Computing even, unimodular lattices with complete root systems* | *(p.46)* |
| 14:30 – 14:45 | **Fei Xu,** Mathematisches Institut Universität Münster, Münster, Germany<br>*Arithmetic Springer Theorem on Quadratic Forms under Field Extensions of Odd Degree* | *(p.48)* |

| **Diophantine Problems**<br>Chair: Pieter Moree | | **MA 311** |
|---|---|---|
| 15:00 – 15:15 | **Arturas Dubickas,** Vilnius University, Vilnius, Lithuania<br>*Polynomials vanishing at 1 with high multiplicity and Tarry's problem* | *(p.35)* |
| 15:15 – 15:30 | **Florian G. Luca,** Syracuse University, Syracuse NY, USA<br>*Equations Involving the Euler $\phi$ Function* | *(p.42)* |
| 15:30 – 15:45 | **Pieter Moree,** Max-Planck-Institut, Bonn, Germany<br>*Distribution of primes having a prescribed primitive root over residue classes* | *(p.43)* |

## Short Communications — Tuesday, 25 August

| **Arithmetic Functions**<br>Chair: Yasutoshi Nomura | | **MA 311** |
|---|---|---|
| 16:15 – 16:30 | **Philippe Ph. Elbaz-Vincent,** CNRS, Montpellier, France<br>*On Poly(ana)logs* | *(p.35)* |
| 16:30 – 16:45 | **Arne Winterhof,** Institut für Algebra und Zahlentheorie, Braunschweig, Germany<br>*On Incomplete Character Sums* | *(p.47)* |
| 16:45 – 17:00 | **Yasutoshi Nomura,** Okayama University of Science, Okayama, Japan<br>*Arithmetic functions associated with arithmetic-geometric mean quotients* | *(p.44)* |

| **Analytic Number Theory II**<br>Chair: Jan-Christoph Puchta | | **MA 311** |
|---|---|---|
| 17:15 – 17:30 | **Julio Alcantara-Bode,** PUCP, IMCA, Lima, Peru<br>*Reorderings of some divergent series and applications* | *(p.34)* |
| 17:30 – 17:45 | **Michel L. Lapidus,** University of California, Riverside, CA, USA<br>*Complex Dimensions of Fractal Strings and Oscillatory Phenomena in Fractal Geometry and Arithmetic* | *(p.40)* |
| 17:45 – 18:00 | **Jan-Christoph Puchta,** Budapest, Hungary<br>*Estimating Dirichlet L-serieses close to the line $1 + it$* | *(p.45)* |

## Short Communications — Wednesday, 26 August

| **Function Fields and Curves II**<br>Chair: Dmitry Logachev | | **MA 311** |
|---|---|---|
| 14:00 – 14:15 | **Sudhir R. Ghorpade,** Indian Institute of Technology, Bombay, India<br>*Number of Points of Singular Varieties over Finite Fields* | *(p.37)* |
| 14:15 – 14:30 | **Seman Wong,** Brown University, Providence, Rhode Island, USA<br>*On the density of elliptic curves* | *(p.47)* |
| 14:30 – 14:45 | **Dmitry Logachev,** MIRAN Section of Algebra, Moscow, Russia<br>*Mazur–Bloch method for Siegel threefolds* | *(p.41)* |

**Poster Session** **Thursday, 20 August**
**16:15 – 18:00** **MA 144**

**Francis W. Clarke,** University of Wales Swansea, Swansea, Great Britain
*Closed formulas for representing primes by binary quadratic forms* *(p.35)*

**Herbert Gangl,** MPI für Mathematik, Bonn, Germany
*Polylogarithmic identities in cubical higher Chow groups* *(p.36)*

**Noriaki Kimura,** Nihon University, Narashino, Japan
*A simple proof of Carlitz's congruence of Vandiver type* *(p.39)*

**Tatsuya Okada,** Fukushima Medical College, Fukushima, Japan
*Explicit formulas for a generalized digital sum problem* *(p.44)*

**Margaret M. Robinson,** Mount Holyoke College, South Hadley, USA
*Igusa local zeta functions* *(p.45)*

# Section 04:
# Algebraic Geometry

## Invited Lectures

**Wednesday, 19 August** **MA 005**

16:15 – 17:00 **Robbert Dijkgraaf (also Section 11),** University of Amsterdam, Amsterdam, The Netherlands
*The Mathematics of Fivebranes* *(I: p.62)*
Chair: Fedor Smirnov

17:15 – 18:00 **Johan de Jong,** Princeton University, Princeton, USA
*Barsotti-Tate groups and crystals* *(I: p.61)*
Chair: Gerard van der Geer

**Thursday, 20 August** **MA 005**

14:00 – 14:45 **Mark L. Green,** UCLA, Los Angeles, USA
*Higher Abel-Jacobi Maps* *(I: p.62)*
Chair: Frank Schreyer

15:00 – 15:45 **Maurizio Cornalba,** Università di Pavia, Pavia, Italy
*Cohomology of moduli spaces of stable curves* *(I: p.61)*
Chair: Alberto Conte

**Friday, 21 August** **MA 005**

14:00 – 14:45 **Mikhail M. Kapranov,** Northwestern University, Evanston, USA
*Operads and algebraic geometry* *(I: p.65)*
Chair: Enrico Arbarello

15:00 – 15:45 **Victor Vadimovich Batyrev,** Universität Tübingen, Tübingen, Germany
*Mirror symmetry and toric geometry* *(I: p.60)*
Chair: Yujiro Kawamata

**Saturday, 22 August** **H 1028**

16:15 – 17:00 **Paul S. Aspinwall (also Section 11),** Duke University, Durham, USA
*Geometry and String Duality* *(I: p.59)*
Chair: Pelham M.H. Wilson

## Short Communications and Poster Sessions

### Short Communications — Thursday, 20 August

**Toric Varieties** — **MA 042**
Chair: Klaus Altmann

| | | |
|---|---|---|
| 16:15 – 16:30 | **Anette A'Campo-Neuen,** Universität Konstanz, Konstanz, Germany<br>*Quasi–Projective Reduction of Toric Varieties* | *(p.49)* |
| 16:30 – 16:45 | **Jürgen Hausen,** Universität Konstanz, Konstanz, Germany<br>*Toric Quotients* | *(p.53)* |
| 16:45 – 17:00 | **Evgeni Nikolaevich Materov,** Krasnoyarsk State University, Krasnoyarsk, Russia<br>*One estimate for dimension of* $H^n(\mathbf{C}^n \backslash V, \mathbf{C})$ | *(p.56)* |

**Singularities I** — **MA 042**
Chair: Gert-Martin W. Greuel

| | | |
|---|---|---|
| 17:15 – 17:30 | **Sabir M. Gusein-Zade,** Moscow State University, Moscow, Russia<br>*On the index of a gradient vector field at an isolated complete intersection singularity* | *(p.53)* |
| 17:30 – 17:45 | **Ludwig Balke,** Universität Bonn, Bonn, Germany<br>*Open book fibrations of lens spaces and deformations of cyclic quotient singularities* | *(p.50)* |
| 17:45 – 18:00 | **Claus Hertling,** Universität Bonn, Bonn, Germany<br>*Variational Torelli result for hypersurface singularities* | *(p.53)* |

### Short Communications — Friday, 21 August

**D-Modules/Vector Bundles I** — **MA 042**
Chair: Sabir M. Gusein-Zade

| | | |
|---|---|---|
| 16:15 – 16:30 | **Aleksandr G. Aleksandrov,** Institute of Control Sciences, Moscow, Russian Federation<br>*Gauß-Manin-Zusammenhang und logarithmische Picard-Fuchs-Systeme* | *(p.49)* |
| 16:30 – 16:45 | **Vladimir Bavula,** University of Edinburgh, Edinburgh, UK<br>*The Simple Holonomic Modules over the Ring of Differential Operators on a Smooth Algebraic Surface* | *(p.50)* |
| 16:45 – 17:00 | **Ushadevi N. Bhosle,** Tata Institute of Fundamental Research, Mumbat, India<br>*Moduli spaces of torsion-free sheaves on nodal curves* | *(p.51)* |

**Deformations and Degenerations** — **MA 042**
Chair: Aleksandr G. Aleksandrov

| | | |
|---|---|---|
| 17:15 – 17:30 | **Kimio Miyajima,** Dept. of Math. and Comp. Science, Kagoshima City, Japan<br>*CR construction of the semi-universal family of normal isolated singularities* | *(p.57)* |
| 17:30 – 17:45 | **Eduardo S. Esteves,** IMPA, Rio de Janeiro, Brazil<br>*Degenerations of Weierstrass points* | *(p.52)* |
| 17:45 – 18:00 | **Diego Paccagnan,** Universitá di Padova, Padova, Italy<br>*Maximum number of cusps on algebraic plane curves and nodes on surfaces* | *(p.59)* |

### Short Communications — Saturday, 22 August

**Affine Algebraic Geometry** — **MA 042**
Chair: Marko Roczen

| | | |
|---|---|---|
| 14:00 – 14:15 | **Tatsuji Kambayashi,** Tokyo Denki University, Saitama-Ken, Japan<br>*A Nullstellensatz for Pro-Affine Algebras* | *(p.55)* |
| 14:15 – 14:30 | **Vladimir Shpilrain,** The University of Hong Kong, Hong Kong, P.R. of China<br>*Embeddings of curves in the plane* | *(p.60)* |
| 14:30 – 14:45 | **Jie-Tai Yu,** The University of Hong Kong, Hong Kong, P.R. of China<br>*Polynomial Retracts and the Jacobian Conjecture* | *(p.63)* |

| **Riemann Surfaces/Linear Systems**<br>Chair: Anette A'Campo-Neuen | | **MA 042** |
|---|---|---|
| 15:00 – 15:15 | **Sergei Natanzon,** Independent University of Moscow, Moscow, Russia<br>*Topological structure of spaces of holomorphic morphisms* | *(p.58)* |
| 15:15 – 15:30 | **Masahiro Ohno,** Waseda University, Dept. of Math., Tokyo, Japan<br>*On nef values of determinants of ample vector bundles* | *(p.59)* |
| 15:30 – 15:45 | **Siye Wu,** The University of Adelaide, Adelaide, SA, Australia<br>*On the instanton complex of holomorphic Morse theory* | *(p.62)* |

| **Curves and Surfaces/Higher-Dimensional Varieties I**<br>Chair: Rolf-Peter Holzapfel | | **MA 042** |
|---|---|---|
| 17:15 – 17:30 | **Viktor S. Kulikov,** Steklov Mathematical Institute, Moscow, Russia<br>*On Chisini's Conjecture* | *(p.55)* |
| 17:30 – 17:45 | **Kazuhisa Maehara,** Tokyo Institute of Polytechnics, Tokyo, Japan<br>*Deformation of function fields* | *(p.56)* |
| 17:45 – 18:00 | **Dan Avritzer,** Universidade Federal de Minas Gerais, Belo Horizonte, Brazil<br>*The Hilbert scheme component of the intersection of two quadrics* | *(p.50)* |

## Short Communications — Monday, 24 August

| **Moduli Spaces and Mathematical Physics**<br>Chair: Ragni Piene | | **MA 042** |
|---|---|---|
| 14:00 – 14:15 | **Sheldon H. Katz,** Oklahoma State University, Stillwater, OK, USA<br>*Geometric Engineering of Quantum Field Theories* | *(p.55)* |
| 14:15 – 14:30 | **Alexandre Kabanov,** Michigan State University, East Lansing, MI, USA<br>*Intersection theory on the moduli spaces of stable curves* | *(p.54)* |
| 14:30 – 14:45 | **Tyler J. Jarvis,** Brigham Young University, Provo-UT, USA<br>*Geometry of the Moduli of Higher Spin Curves* | *(p.54)* |

| **Vector Bundles II**<br>Chair: Herbert Kurke | | **MA 042** |
|---|---|---|
| 15:00 – 15:15 | **Hagen Meltzer,** Technische Universität Chemnitz, Chemnitz, Germany<br>*Exceptional vector bundles* | *(p.57)* |
| 15:15 – 15:30 | **Vasile P. Brinzănescu,** Institute of Mathematics, Bucharest, Romania<br>*Moduli spaces of stable 2-vector bundles over ruled surfaces* | *(p.51)* |
| 15:30 – 15:45 | **Elham Izadi,** University of Georgia, Athens, Georgia, USA<br>*An embedding of a moduli space of vector bundles* | *(p.54)* |

| **Singularities II**<br>Chair: Herbert Kurke | | **MA 309** |
|---|---|---|
| 16:15 – 16:30 | **Michał Kwieciński,** Jagiellonian University, Kraków, Poland<br>*An algebraic map with nonconstructible topology* | |

## Short Communications — Tuesday, 25 August

| **Surfaces/Higher-Dimensional Varieties II**<br>Chair: Vasile P. Brinzănescu | | **MA 042** |
|---|---|---|
| 16:15 – 16:30 | **Alberto Conte,** Università di Torino, Torino, Italy<br>*On the unirationality of quartic hypersurfaces* | *(p.52)* |
| 16:30 – 16:45 | **Fabrizio M.E. Catanese,** G.A. Universität Göttingen, Göttingen, Germany<br>*Bidouble covers and surface geography* | *(p.51)* |
| 16:45 – 17:00 | **Remo Gattazzo,** Università di Padova, Padova, Italy<br>*Almost factorial quartic surfaces in $\mathbb{P}^3_{\mathbb{C}}$ with a tacnodal point* | *(p.52)* |

| **Surfaces/Higher-Dimensional Varieties III** Chair: Fabrizio M.E. Catanese | | **MA 042** |
|---|---|---|
| 17:15 – 17:30 | **Marina R. Marchisio,** Università di Torino, Torino, Italy<br>*Some new examples of smooth unirational quartic threefolds* | *(p.56)* |
| 17:30 – 17:45 | **Uwe Nagel,** University-GH Paderborn, Paderborn, Germany<br>*Characterization of projective subschemes by locally free resolutions* | *(p.57)* |
| 17:45 – 18:00 | **Tomasz Szemberg,** Jagiellonian University, Cracow, Poland<br>*Higher order embeddings and Seshadri constants of abelian varieties* | *(p.61)* |

## Short Communications — Wednesday, 26 August

| **Surfaces/Higher-Dimensional Varieties IV** Chair: Viktor S. Kulikov | | **MA 042** |
|---|---|---|
| 14:00 – 14:15 | **Yuri G. Prokhorov,** Moscow State University, Moscow, Russia<br>*Mori contractions of relative dimension* 1 | *(p.59)* |
| 14:15 – 14:30 | **Maria Cristina Ronconi,** Università degli Studi di Padova, Padova, Italy<br>*Algebraic threefolds with* $\mathbf{q_1 = q_2 = p_g = 0, P_{2i} = 1}$, *and* $\mathbf{P_{2i+1} = 0}$ | *(p.60)* |
| 14:30 – 14:45 | **Ezio Stagnaro,** Università di Padova, Padova, Italy<br>*Pluricanonical maps of two general type threefolds with* $\mathbf{p_g = 0}$ | *(p.60)* |

| **Algebraic Cycles** Chair: Yuri G. Prokhorov | | **MA 042** |
|---|---|---|
| 16:15 – 16:30 | **Manfred F.G. Streit,** Johann Wolfgang Goethe Universität, Frankfurt, Germany<br>*Field of Definition and Galois Orbits of some Non–Congruence Subgroups* | *(p.61)* |
| 16:30 – 16:45 | **Serguei G. Tankeev,** Vladimir State University, Vladimir, Russia<br>*Algebraic cycles of small codimension on simple* 2*p*- *or* 4*p*-*dimensional abelian variety* | *(p.62)* |
| 16:45 – 17:00 | **Johannes Huisman,** Institut Mathematique de Rennes, Rennes, France<br>*Uniformization of real algebraic curves and complex analytic coordinates on Teichmüller spaces* | *(p.54)* |

## Poster Session — Wednesday, 19 August

**14:00 – 15:45** **MA 144**

**Jacqueline Arancibia,** Departmento de Matemática, UFPB, Joao Pessoa, Brasil
*Canonical Curves in* $P^3$ *(p.49)*

**Isidro P. Nieto,** Universidad Michoacana de SNH, Morelia, Mexico
$H_{2,2}$*-Kummer surfaces associated to polarized abelian surfaces of type (1,3)* *(p.58)*

**Niranjan Ramachandran,** University of Michigan, Ann Arbor, MI, USA
*A conjecture of Deligne* *(p.59)*

**Rudi Weikard,** University of Alabama at Birmingham, Birmingham, AL, USA
*Algebro-geometric Differential Operators* *(p.62)*

**Katsuaki Yoshida,** Nihon University, Funabashi, Japan
*Klein's surface of genus three and associated theta constants* *(p.62)*

**Rupert W.T. Yu,** Université de Poitiers, Poitiers, France
*Lattice polytopes for certain Demazure modules of* $sl_{n+1}$ *(p.63)*

Section 04

# Section 05: Differential Geometry and Global Analysis

## Invited Lectures

**Wednesday, 19 August** **MA 001**

14:00 – 14:45 **Leonid Polterovich,** Tel Aviv University, Tel Aviv, Israel
*Geometry on the Group of Hamiltonian Diffeomorphisms* *(I: p.77)*
Chair: Helmut H.W. Hofer

15:00 – 15:45 **Yongbin Ruan,** University of Wisconsin-Madison, Madison, USA
*Quantum cohomology and its applications* *(I: p.77)*
Chair: Helmut H.W. Hofer

**Thursday, 20 August** **MA 001**

16:15 – 17:00 **Joachim Lohkamp,** Universität Augsburg, Augsburg, Germany
*Curvature Contents of Geometric Spaces* *(I: p.75)*
Chair: Jean-Pierre Bourguignon

17:15 – 18:00 **Yakov Eliashberg,** Stanford University, Stanford, USA
*Invariants in Contact Topology* *(I: p.70)*
Chair: Jean-Pierre Bourguignon

**Friday, 21 August** **MA 001**

14:00 – 14:45 **Simon K. Donaldson,** Stanford University, Stanford, USA
*Positive line bundles in symplectic geometry* *(I: p.69)*
Chair: Ulrich Pinkall

15:00 – 15:45 **François Labourie,** Université Paris-Sud, Orsay, France
*Large Group Actions on Manifolds* *(I: p.73)*
Chair: Ulrich Pinkall

**Saturday, 22 August** **MA 001**

16:15 – 17:00 **Dominic Joyce,** Lincoln College, Oxford, UK
*Compact Riemannian manifolds with exceptional holonomy* *(I: p.73)*
Chair: Boris Dubrovin

17:15 – 18:00 **Sylvestre Gallot,** U.M.P.A., École Normale Supérieure de Lyon, Lyon, France
*Curvature-decreasing maps are volume-decreasing* *(I: p.71)*
Chair: Boris Dubrovin

**Monday, 24 August** **MA 001**

14:00 – 14:45 **Ulrich Pinkall,** TU Berlin, Berlin, Germany
*Quaternionic line bundles and the differential geometry of surfaces* *(I: p.75)*
Chair: Dirk Ferus

15:00 – 15:45 **Tobias Holck Colding,** Courant Institute, New York University, New York, USA
*Manifolds and spaces with Ricci curvature bounds* *(I: p.68)*
Chair: Dirk Ferus

**Tuesday, 25 August** **MA 001**

16:15 – 17:00 **Boris Dubrovin,** International School for Advanced Studies, Trieste, Italy and Steklov Math. Institute, Moscow, Russia
*Geometry and analytic theory of Frobenius manifolds* *(I: p.69)*
Chair: Alexander I. Bobenko

**Wednesday, 26 August** **MA 001**

14:00 – 14:45 **Dmitri Burago,** Pennsylvania State University, University Park, USA
*Hard Balls Gas and Alexandrov Spaces of Curvature Bounded Above* *(I: p.68)*
Chair: Frank Duzaar

15:00 – 15:45 **Gerhard Huisken,** Universität Tübingen, Tübingen, Germany
*Evolving hypersurfaces by their curvature* *(I: p.72)*
Chair: Frank Duzaar

## Short Communications and Poster Sessions

**Short Communications** **Wednesday, 19 August**

**Kähler Manifolds** **MA 041**
Chair: Bill Watson

16:15 – 16:30 **Keizo Hasegawa,** Niigata University, Niigata, Japan
*A class of compact Kählerian solvmanifolds and a general conjecture* *(p.71)*

16:30 – 16:45 **Toyoko Kashiwada,** Saitama College, Tokyo, Japan
*The integrability of almost generalized Hopf manifolds* *(p.72)*

16:45 – 17:00 **Bill Watson,** St. John's University, Jamaica, USA
*The Goldberg Conjecture is true for the four-dimensional total space of an almost Hermitian submersion* *(p.84)*

**Topology of Manifolds** **MA 041**
Chair: Sebastian Goette

17:15 – 17:30 **Christina Sormani,** Johns Hopkins University, Baltimore, Maryland, USA
*The Topology of Noncompact Manifolds with Positive Ricci Curvature* *(p.80)*

17:30 – 17:45 **Gerald M. Lodder,** New Mexico State University, Las Cruces, NM, USA
*Leibniz Cohomology for Differentiable Manifolds* *(p.75)*

17:45 – 18:00 **Sebastian Goette,** Universität Freiburg, Freiburg, Germany
*Equivariant $\eta$-invariants and $\eta$-forms* *(p.70)*

**Miscellaneous Topics** **MA 043**
Chair: Zheng-Chao Han

17:30 – 17:45 **Margaret F. Symington,** University of Texas at Austin, Austin, TX, USA
*Symplectic rational blowdowns* *(p.81)*

17:45 – 18:00 **Zheng-Chao Han,** Rutgers University, Piscataway, NJ, USA
*New existence results on conformal metrics with constant interior scalar curvature and constant boundary mean curvature* *(p.71)*

## Short Communications — Thursday, 20 August

**Special Submanifolds I** — **MA 041**
Chair: Takashi Okayasu

| | | |
|---|---|---|
| 14:00 – 14:15 | **Vladimir G. Tkachev,** Volgograd State University, Volgrograd, Russia<br>*Upper estimates of volume growth for minimal quasigraphs* | *(p.82)* |
| 14:15 – 14:30 | **Liu Ximin,** Dalian University of Technology, Dalian, P.R. China<br>*Positively curved totally complex submanifolds in the Cayley projective space* | *(p.75)* |
| 14:30 – 14:45 | **Takashi Okayasu,** Toyama University, Toyama, Japan<br>*A Bernstein result for minimal graphs of higher codimension* | *(p.77)* |

**Special Submanifolds II** — **MA 041**
Chair: Ivko M. Dimitric

| | | |
|---|---|---|
| 15:00 – 15:15 | **Valentin Gabriel Cristea,** Technical University of Budapest, Budapest, Hungary<br>*Totally umbilical graded submanifolds* | *(p.66)* |
| 15:15 – 15:30 | **S.M.B. Kashani,** Tarbiat Madarres University, Tehran, Iran<br>*Cohomogeneity One Revolution Hypersurfaces of the Euclidean Space* | *(p.72)* |
| 15:30 – 15:45 | **Ivko M. Dimitric,** Pennsylvania State University, Uniontown PA, USA<br>*Low-type submanifolds of non-flat complex space forms* | *(p.67)* |

## Short Communications — Saturday, 22 August

**Surface Theory** — **MA 041**
Chair: John M. Sullivan

| | | |
|---|---|---|
| 14:00 – 14:15 | **Udo J. Hertrich-Jeromin,** TU, Berlin, Germany<br>*Transformations of Isothermic surfaces* | *(p.71)* |
| 14:15 – 14:30 | **Bernd Ammann,** Math. Institut der Uni Freiburg, Freiburg, Germany<br>*New estimates for the Laplace and Dirac spectrum of 2-Tori*<br>*and applications to the Willmore functional* | *(p.64)* |
| 14:30 – 14:45 | **John M. Sullivan,** University of Illinois, Urbana, IL, USA<br>*Triunduloids: Embedded Constant-Mean-Curvature Surfaces with Three Ends* | *(p.81)* |

**Curves** — **MA 041**
Chair: Joachim Giesen

| | | |
|---|---|---|
| 15:15 – 15:30 | **Kazuyuki Enomoto,** Science University of Tokyo, Oshamambe, Hokkaido, Japan<br>*Total absolute curvature of nonclosed curves* | *(p.67)* |
| 15:30 – 15:45 | **Joachim Giesen,** ETH Zürich, Zürich, Switzerland<br>*Geometry of One-Manifolds* | *(p.69)* |

## Short Communications — Monday, 24 August

**Integrable Geodesic Flows and Perturbation Problems** — **MA 041**
Chair: Vladimir S. Matveev

| | | |
|---|---|---|
| 16:15 – 16:30 | **Masayuki Igarashi,** Science University of Tokyo, Yamakoshi-gun, Japan<br>*On Hermitian-Liouville structures on compact Hermitian surfaces* | *(p.71)* |
| 16:30 – 16:45 | **Li Ma,** Tsinghua University, Beijing, China, Peoples Republic of<br>*Stable critical point Theory in perturbation problems* | *(p.75)* |
| 16:45 – 17:00 | **Vladimir S. Matveev,** Max-Planck-Institut für Mathematik, Bonn, Germany<br>*Geodesic equivalence and integrability* | *(p.76)* |

| **Local Differential Geometry** Chair: Jose Miguel Veloso | | **MA 043** |
|---|---|---|
| 16:15 – 16:30 | **Nikolaus K. Stephanidis,** Aristoteles University, Thessaloniki, Greece *Über einige Invarianten in der Theorie der Strahlensysteme* | *(p.81)* |
| 16:30 – 16:45 | **Katerina Polyakova,** Kaliningrad State University, Kaliningrad, Russia *Parallel displacements along manifold of osculating planes of a surface* | *(p.78)* |
| 16:45 – 17:00 | **Jose Miguel Veloso,** Universidade Federal Do Para, Belem-PA, Brazil *Almost pseudo-Hermitian manifolds* | *(p.83)* |

| **Homogeneous Spaces** Chair: Friedbert Prüfer | | **MA 041** |
|---|---|---|
| 17:15 – 17:30 | **Takashi Koda,** Toyama University, Toyama, Japan *Weakly symmetric property of Riemannian 3-symmetric spaces* | *(p.72)* |
| 17:30 – 17:45 | **Jan Slovák,** Department of Algebra and Geometry, Masaryk Univesity, Brno, Czech Republic *Parabolic Geometries* | *(p.80)* |
| 17:45 – 18:00 | **Friedbert Prüfer,** Universität Leipzig, Leipzig, Germany *Local homogeneity and differential operators* | *(p.79)* |

| **Special Submanifolds/Exterior Differentiation** Chair: Peter Rögen | | **MA 043** |
|---|---|---|
| 17:15 – 17:30 | **Iaroslav A. Kopylov,** Sobolev Institute of Mathematics, Novosibirsk, Russia *Normal solvability of the operator of exterior derivation on some surfaces in* $\mathbb{R}^N$ | *(p.73)* |
| 17:30 – 17:45 | **Yoshio Matsuyama,** Department of Mathematics, Chuo Univ., Tokyo, Japan *On totally real submanifolds in* $CP^n(c)$ | *(p.76)* |
| 17:45 – 18:00 | **Peter Rögen,** Technical University of Denmark, Lyngby, Denmark *Embedding and knotting of flat surfaces in 3-space* | *(p.79)* |

## Short Communications — Tuesday, 25 August

| **Affine Differential Geometry** Chair: Salvador D.R. Gigena | | **MA 041** |
|---|---|---|
| 14:00 – 14:15 | **Kurt Leichtweiß,** Professor Emeritus, Universität Stuttgart, Stuttgart, Germany *On the infinitesimal affine rigidity of ellipsoids in the n-space* | *(p.74)* |
| 14:15 – 14:30 | **Christine Scharlach,** FB Mathematik, TU, Berlin, Germany *Affine Hyperspheres* | *(p.79)* |
| 14:30 – 14:45 | **Salvador D.R. Gigena,** Universidad Nacional de Rosario, Rosario, Argentina *On Affine Hypersurfaces with Constant Sectional Curvature* | *(p.70)* |

| **General Geometric Structures on Manifolds** Chair: Lutz Weimann | | **MA 043** |
|---|---|---|
| 14:00 – 14:15 | **Sergey V. Zuev,** Penza State Pedagogical University, Penza, Russia *Analytic continuations of* $SU(2n)$*-invariant Ricci-flat Kähler metric* | |
| 14:15 – 14:30 | **Claudio Gorodski,** University of São Paulo, São Paulo, Brazil *Contact Sub-Riemannian Symmetric Spaces* | *(p.70)* |
| 14:30 – 14:45 | **Artur E. Fischer,** University of California, Santa Cruz CA, USA *The Adjoint Formulation and Symplectic Reduction* | *(p.68)* |

| **Geodesics and Distance** Chair: Jin-ichi Itoh | | **MA 041** |
|---|---|---|
| 15:00 – 15:15 | **Minoru M.T. Tanaka,** Tokai University, Hiratsuka, Japan *Sard Theorem for the distance function* | *(p.82)* |
| 15:15 – 15:30 | **Lilia Del Riego,** Facultad de Ciencias, UASLP, San Luis Potosí, México *Exponential map for general sprays and connections* | *(p.66)* |
| 15:30 – 15:45 | **Jin-ichi Itoh,** Kumamoto University, Kumamoto, Japan *The Lipschitz continuity of the distance function to the cut locus* | *(p.72)* |

| **Lorentz Manifolds** Chair: Franki Dillen | | **MA 043** |
|---|---|---|
| 15:00 – 15:15 | **Andrzej Krolak,** Max-Planck-Institute for Gravitational Physics, Potsdam, Germany<br>*Cauchy Horizon Endpoints and Differentiability* | *(p.74)* |
| 15:15 – 15:30 | **Angel L. Garrido Bullon,** Departamento de Matematicas, Alcorcon (Madrid), Spain<br>*Foliations of Lorentz manifolds* | *(p.66)* |
| 15:30 – 15:45 | **Franki Dillen,** Kuleuven, Heverlee, Belgium<br>*Ruled Weingarten surfaces in Minkowski space* | *(p.66)* |

## Short Communications — Wednesday, 26 August

| **Analysis on Manifolds** Chair: Marian Gidea | | **MA 041** |
|---|---|---|
| 16:15 – 16:30 | **Yuri G. Borisovich,** Voronezh State University, Voronezh, Russia<br>*Methods of global analysis in problems of solvability of nonlinear equations and inclusions* | *(p.65)* |
| 16:30 – 16:45 | **Sylvie Paycha,** Université Blaise Pascal, Aubiere, France<br>*Regularization as a Geometric and Stochastic Tool in Infinite Dimensions* | *(p.78)* |
| 16:45 – 17:00 | **Marian Gidea,** Loyola University of Chicago, Chicago, U.S.A.<br>*Non-Smooth Dynamical Systems that Exhibit Hyperbolic Behavior* | *(p.69)* |

| **Polyhedra/Webs** Chair: Hakki Ismail Erdogan | | **MA 043** |
|---|---|---|
| 16:30 – 16:45 | **Anatoly D. Milka,** Institute for Low Temperature Physics, Kharkov, Ukraine<br>*Linear isometric deformations of polyhedra* | *(p.77)* |
| 16:45 – 17:00 | **Hakki Ismail Erdogan,** Istanbul Technical University, Istanbul, Turkey<br>*On a class of hexagonal-surface-web of spheres* | *(p.68)* |

| **Differential Equations on Manifolds** Chair: Congming Li | | **MA 041** |
|---|---|---|
| 17:15 – 17:30 | **Atsushi Tachikawa,** Science University of Tokyo, Chiba-ken, Japan<br>*A Nonexistence Result of Harmonic Maps between Hadamard Manifolds* | *(p.82)* |
| 17:30 – 17:45 | **Asya Vasilyevna Aminova,** Kazan State University, Kazan, Russia<br>*The pseudo-Riemannian manifolds with common geodesics* | *(p.64)* |
| 17:45 – 18:00 | **Congming Li,** Dept. of Applied Math., Univ. of Colorado, Boulder CO, USA<br>*Prescribing Scalar Curvature on $S^n$* | *(p.74)* |

## Poster Session — Friday, 21 August

**16:15 – 18:00** **MA 144**

**Philip P. Boalch,** Wadham College, Oxford, Great Britain
*Symplectic geometry and isomonodromic deformations* *(p.65)*

**Ilia A. Bogaevski,** Independent University of Moscow, Moscow, Russian Federation
*Singularities of convex hulls of closed hypersurfaces* *(p.65)*

**Cristina Draper,** Universidad de la Rioja, Lagrono, Spain
*Algebras related to Lie triple systems and applications to differential geometry* *(p.67)*

**Birte Feix,** University of Cambridge, Cambridge, Great Britain
*Hyperkähler metrics on cotangent bundles* *(p.68)*

**Lew Friedland,** State University of New York, Geneseo, NY, USA
*Spectral geometry on almost Hermitian manifolds* *(p.69)*

**Vladimir A. Geyler,** Mordovian State University, Saransk, Russia
*Periodic point interactions on a Riemannian manifold* *(p.251)*

# Section 06:
# Topology

## Invited Lectures

### Wednesday, 19 August — MA 004

14:00 – 14:45 **Robert A. Oliver,** Université Paris-Nord, Villetaneuse, France
*Vector bundles over classifying spaces* *(I: p.84)*
Chair: Charles B. Thomas

15:00 – 15:45 **Ronald A. Fintushel,** Michigan State University, East Lansing, USA
**Ronald J. Stern,** University of California, Irvine, USA
*Knot Surgery on 4-Manifolds* *(I: p.86)*
Chair: Ulrich Koschorke

### Thursday, 20 August — MA 004

16:15 – 17:00 **Tomotada Ohtsuki,** Tokyo Institute of Technology, Tokyo, Japan
*A filtration of the set of integral homology 3-spheres* *(I: p.82)*
Chair: W.B. Raymond Lickorish

17:15 – 18:00 **Clifford Henry Taubes,** Harvard University, Cambridge, USA
*The Geometry of the Seiberg-Witten Invariants* *(I: p.86)*
Chair: Dieter Kotschick

**Friday, 21 August** **MA 004**

14:00 – 14:45 **Alexander N. Dranishnikov,** University of Florida, Gainesville, USA and Steklov Math. Institute, Moscow, Russia
*Dimension theory and large Riemannian manifolds* *(I: p.79)*
Chair: Alexander S. Mishchenko

15:00 – 15:45 **Michael Hartley Freedman,** Microsoft Corporation, Redmond, USA
*Topological views of computational complexity* *(I: p.80)*
Chair: Robert D. Edwards

**Saturday, 22 August** **MA 004**

16:15 – 17:00 **William Gerard Dwyer,** University of Notre Dame, Notre Dame, USA
*Lie groups and p-compact groups* *(I: p.79)*
Chair: Albrecht Dold

17:15 – 18:00 **Mark Mahowald,** Northwestern University, Evanston, USA
*Toward a global understanding of* $\pi_*(S^n)$ *(I: p.81)*
Chair: Albrecht Dold

## Short Communications and Poster Sessions

**Short Communications** **Wednesday, 19 August**

**Group Actions** **H 112**
Chair: Reinhard E. Schultz

| | | |
|---|---|---|
| 16:15 – 16:30 | **Charles B. Thomas,** University of Cambridge, Cambridge, Great Britain<br>*Contact structure and spherical space forms* | *(p.98)* |
| 16:30 – 16:45 | **Harald Biller,** Universität Stuttgart, Stuttgart, Germany<br>*Actions of large compact Lie groups on spheres* | *(p.85)* |
| 16:45 – 17:00 | **Takashi Tsuboi,** University of Tokyo, Tokyo, Japan<br>*On the group of area preserving homeomorphisms* | *(p.99)* |

**Knots** **H 112**
Chair: Hitoshi Murakami

| | | |
|---|---|---|
| 17:15 – 17:30 | **Alan H. Durfee,** Mount Holyoke College, South Hadley, MA, USA<br>*Polynomial representations of knots* | *(p.87)* |
| 17:30 – 17:45 | **Hugh R. Morton,** University of Liverpool, Liverpool, Great Britain<br>*The Burau matrix and Fiedler's invariant for closed braids* | *(p.94)* |
| 17:45 – 18:00 | **Vladimir V. Vershinin,** Sobolev Institute of Mathematics, Novosibirsk, Russia<br>*Generalizations of Braids: Homology and Vassiliev Invariants* | *(p.100)* |

**Short Communications** **Thursday, 20 August**

**Gauge Theory and Low Dimensional Topology** **H 112**
Chair: Ronald J. Stern

| | | |
|---|---|---|
| 14:00 – 14:15 | **Yong S. Cho,** Ewha Women's University, Seoul, Korea, Republic of<br>*Finite Group Actions and Seiberg-Witten Invariants* | *(p.87)* |
| 14:15 – 14:30 | **Nikolai Saveliev,** University of Michigan, Ann Arbor, MI, USA<br>*Casson invariant and surface singularities* | *(p.97)* |
| 14:30 – 14:45 | **Louis H. Kauffmann,** University of Illinois, Chicago, USA<br>*Functional Integrals and the Kontsevich Integral* | *(p.90)* |

| **Knots and 3-Manifolds**<br>Chair: Jonathan A. Hillman | | **H 112** |
|---|---|---|
| 15:00 – 15:15 | **Joel Hass,** University of California, Davis, CA, USA<br>*The number of Reidemeister Moves Needed for Unknotting* | *(p.89)* |
| 15:15 – 15:30 | **Cherry Kearton,** University of Durham, Durham, Great Britain<br>*Alexander ideals of classical knots* | *(p.90)* |
| 15:30 – 15:45 | **Michelangelo Vaccaro,** Roma, Italy<br>*Unicity of the topological type of the simply connected 3-manifolds* | *(p.99)* |

## Short Communications — Friday, 21 August

| **Geometric Topology**<br>Chair: Alexander N. Dranishnikov | | **H 112** |
|---|---|---|
| 16:15 – 16:30 | **Dusan Repovs,** University of Ljubljana, Ljubljana, Slovenia<br>*On Banach-Mazur compacta and their geometric properties* | *(p.96)* |
| 16:30 – 16:45 | **Washington Mio,** Florida State University, Tallahassee, FL, USA<br>*On the geometric topology of homology manifolds* | *(p.94)* |
| 16:45 – 17:00 | **Arkady Skopenkov,** Dept. of Mathematics, Kolmogorov College, Moscow, Russia<br>*A Generalization of The Haefliger-Weber Theorem on Embeddings of Manifolds in* $\mathbb{R}^m$ | *(p.97)* |

| **Hyperbolic 3-Manifolds**<br>Chair: Nikolai Gusevskii | | **H 112** |
|---|---|---|
| 17:15 – 17:30 | **Vitalii S. Makarov,** Univ. Drujb. Narod., Moscow, Russia<br>*Regular maps and hyperbolic 3-manifolds* | *(p.92)* |
| 17:30 – 17:45 | **Alexander D. Mednykh,** Sobolev Institute of Mathematics, Novosibirsk, Russia<br>*The volumes and isometries of Heegaard genus two hyperbolic three manifolds* | *(p.93)* |
| 17:45 – 18:00 | **Andrei Yu. Vesnin,** Sobolev Institute of Mathematics, Novosibirsk, Russia<br>*On 3-manifolds with cyclic symmetry* | *(p.100)* |

## Short Communications — Saturday, 22 August

| **Algebraic Topology I**<br>Chair: Jean-Michel Lemaire | | **H 112** |
|---|---|---|
| 14:00 – 14:15 | **Igor Kriz,** University of Michigan, Ann Arbor, Michigan, U.S.A.<br>*Real-oriented homotopy theory* | *(p.91)* |
| 14:15 – 14:30 | **Carlos Prieto,** Instituto de Matematicas, Mexico, D.F., Mexico<br>*Quasifibrations and Bott periodicity* | *(p.95)* |
| 14:30 – 14:45 | **Alexander S. Mishchenko,** Moscow State University, Moscow, Russia<br>*Local combinatorial Hirzebruch formula* | *(p.94)* |

| **Algebraic Topology II**<br>Chair: Daniel H. Gottlieb | | **H 112** |
|---|---|---|
| 15:00 – 15:15 | **Carles Casacuberta,** Universitat Autònoma de Barcelona, Bellaterra, Spain<br>*A universal space for plus-constructions* | *(p.86)* |
| 15:15 – 15:30 | **Samson Saneblidze,** A. Razmadze Mathematical Institute, Tbilisi, Georgia<br>*Adams Cobar Construction as a Cubical Complex* | *(p.97)* |
| 15:30 – 15:45 | **Hirotaka Tamanoi,** University of California Santa Cruz, Santa Cruz, USA<br>*BP cohomology theory and* $v_n$*-series* | *(p.98)* |

## Short Communications — Monday, 24 August

| **Manifolds and Dynamics** Chair: Tadayoshi Mizutani | | **H 112** |
|---|---|---|
| 16:15 – 16:30 | **Levan A. Alania,** Moscow St. Univ., Dept. of Mech. & Math, Moscow, Russia<br>*De Rham cohomology with local coefficients* | *(p.85)* |
| 16:30 – 16:45 | **Alexander Fel'shtyn,** E.-M.-Arndt-Universität Greifswald, Greifswald, Germany<br>*Reidemeister torsion and dynamical zeta functions in Nielsen theory* | *(p.88)* |
| 16:45 – 17:00 | **Efthimios Kappos,** University of Sheffield, Sheffield, England<br>*Manifolds: Differential Topology: Controllability of Vector Fields* | *(p.90)* |

| **4-Manifolds** Chair: Alexander D. Mednykh | | **H 112** |
|---|---|---|
| 17:15 – 17:30 | **J. Scott Carter,** University South Alabama, Mobile, AL, United States of America<br>*The Diagrammatics of Hopf Categories and Invariants of 4-Dimensional Manifolds* | *(p.86)* |
| 17:30 – 17:45 | **Nikolai Gusevskii,** Universidade Federal de Minas Gerais, Belo Horizonte, Brazil<br>*Complex hyperbolic surfaces and discrete groups in complex hyperbolic geometry* | *(p.88)* |
| 17:45 – 18:00 | **Alexander Prishlyak,** Taras Shevchenko Kiev University, Kiev, Ukraine<br>*Morse function conjugation on 4-manifolds* | *(p.95)* |

## Short Communications — Tuesday, 25 August

| **2-Manifolds and Related Questions** Chair: Carl-Friedrich Bödigheimer | | **H 112** |
|---|---|---|
| 14:00 – 14:15 | **José-Luis Estévez,** Universidad Nacional de Educación a Distancia, Madrid, Spain<br>*A presentation for the mapping class group of a non-rientable surface from Hatcher and Thurston's* | *(p.87)* |
| 14:15 – 14:30 | **Dmitri V. Millionshikov,** Moscow State University, Moscow, Russia<br>*Krichever-Novikov algebras* | *(p.93)* |
| 14:30 – 14:45 | **Andreas Zastrow,** Ruhr-Universität Bochum, Bochum, Germany<br>*Planar Sets are Aspherical* | *(p.100)* |

| **Algebraic Topology III** Chair: Leonard Mdzinarishvili | | **H 112** |
|---|---|---|
| 15:00 – 15:15 | **Ivan Ivansic,** Faculty of Electrical Engeneering, University of Zagreb, Zagreb, Croatia<br>*Borsuk's Index and Pointed Movability for Projective Movable Continua* | *(p.89)* |
| 15:15 – 15:30 | **Sibe Mardesic,** Department of Mathematics, University of Zagreb, Zagreb, Croatia<br>*Strong shape for topological spaces* | *(p.92)* |
| 15:30 – 15:45 | **Mihkail M. Postnikov,** Steklov Math. Inst., Moscow, Russian Federation<br>*Totality versus naturality* | *(p.95)* |

## Short Communications — Wednesday, 26 August

| **Algebraic Topology of Manifolds** Chair: Lawrence W. Conlon | | **H 112** |
|---|---|---|
| 14:00 – 14:15 | **Ulrich Koschorke,** Universität-Gesamthochschule Siegen, Siegen, Germany<br>*$\mu$-invariants of link maps in arbitrary manifolds* | *(p.90)* |
| 14:15 – 14:30 | **Yuri V. Muranov,** Vladimir State University, Vladimir, Russia<br>*Surgery and splitting obstruction groups for one-sided submanifolds* | *(p.94)* |
| 14:30 – 14:45 | **Gerard A. Venema,** Calvin College, Grand Rapide, Michigan, USA<br>*Representing homology classes of 4-manifolds* | *(p.99)* |

| **Lusternik-Shnirelmann Category** | | **H 112** |
|---|---|---|
| Chair: Hans Scheerer | | |
| 15:00 – 15:15 | **Jean-Michel Lemaire,** CNRS/SPM, Paris, France | |
| | *Rational Lusternik-Schnirelmann category of Poincaré complexes* | *(p.91)* |
| 15:15 – 15:30 | **Yuli B. Rudyak,** Universität-GH Siegen, Siegen, Germany | |
| | *Lusternik–Schnirelmann category of symplectic manifolds and the Arnold conjecture* | *(p.96)* |

## Poster Session — Monday, 24 August

**14:00 – 15:45** **MA 144**

**Laura M. Anderson,** Texas A&M University, College Station, TX, USA
*Matroid bundles and characteristic classes* *(p.85)*

**Lorena Armas-Sanabria,** Instituto de Matematicas, UNAM, Mexico D.F., Mexico
*3-Pure Braids and Surgery* *(p.85)*

**Vitali Chatyrko,** Linköping Univertitet, Linköping, Sweden
*On infinite-dimensional Cantor manifolds* *(p.86)*

**Mario Eudave-Munoz,** Instituto de Matematicas, UNAM, Mexico, D.F., Mexico
*Incompressible surfaces in the exterior of tunnel number one knots* *(p.88)*

**Norikazu Hashiguchi,** Nihon University, Tokyo, Japan
*The surgery formula for the discrete Godbillon-Vey invariant* *(p.89)*

**Thang T.Q. Le,** SUNY Buffalo, Buffalo, NY, USA
*On Quantum and Finite Type Invariants of Homology 3-Spheres* *(p.91)*

**Jouni Luukkainen,** University of Helsinki, Helsinki, Finland
*The fundamentals of Lipschitz and quasiconformal manifolds* *(p.92)*

**Leonard Mdzinarishvili,** Georgian Technical University, Tbilisi, Georgia
*Partially continuous Alexander-Spanier cohomology theory* *(p.93)*

**Alexey Rasskazov,** Novosibirsk State University, Novosibirsk, Russia
*The structure of the canonical fundamental set for the 2-bridge link* *(p.95)*

**Sascha A. Rogmann,** Heinrich-Heine-Universität Düsseldorf, Uedemerbruch, Germany
*Growth functions of tessellations* *(p.96)*

**Richard J. Steiner,** University of Glasgow, Glasgow, Great Britain
*Pasting in multiple categories* *(p.98)*

**Paul R. Turner,** University of Aberdeen, Aberdeen, Great Britain
*The homology of spaces representing exact cohomology theories* *(p.99)*

# Section 07:
# Lie Groups and Lie Algebras

## Invited Lectures

**Wednesday, 19 August** **MA 005**

14:00 – 14:45 **Minoru Wakimoto,** Kyushu University, Fukuoka, Japan
*Representation theory of affine superalgebras at the critical level* *(I: p.96)*
Chair: Richard E. Borcherds

15:00 – 15:45 **Kari Vilonen,** Brandeis University, Waltham, USA
*Topological Methods in Representation Theory* *(I: p.95)*
Chair: Wolfgang Soergel

**Wednesday, 19 August** **MA 004**

16:15 – 17:00 **Laurent Lafforgue,** Université Paris-Sud, Orsay, France
*Chtoucas de Drinfeld et applications* *(I: p.92)*
Chair: James Arthur

17:15 – 18:00 **Robert Edward Kottwitz,** University of Chicago, Chicago, USA
*Harmonic analysis on semisimple p-adic Lie algebras* *(I: p.91)*
Chair: Michael Rapoport

**Thursday, 20 August** **MA 004**

14:00 – 14:45 **Alexander Eskin,** University of Chicago, Chicago, USA
*Counting problems and semisimple groups* *(I: p.91)*
Chair: Peter Sarnak

15:00 – 15:45 **Joseph Bernstein,** Tel Aviv University, Tel Aviv, Israel
*Analytic structures on representation spaces of reductive groups* *(I: p.88)*
Chair: Wolfgang Soergel

**Friday, 21 August** **MA 004**

16:15 – 17:00 **Vera Serganova,** University of California, Berkeley, USA
*On representations of Lie superalgebras* *(I: p.95)*
Chair: Olivier Mathieu

17:15 – 18:00 **Shahar Mozes,** Hebrew University, Jerusalem, Israel
*Products of trees, lattices and simple groups* *(I: p.93)*
Chair: Peter Sarnak

**Saturday, 22 August** **MA 004**

14:00 – 14:45 **James Greig Arthur,** University of Toronto, Toronto, Canada
*Towards a stable trace formula* *(I: p.87)*
Chair: Michael Rapoport

15:00 – 15:45 **Ivan V. Cherednik,** The University of North Carolina at Chapel Hill, Chapel Hill, USA
*From double Hecke algebra to analysis* *(I: p.89)*
Chair: Olivier Mathieu

## Short Communications and Poster Sessions

### Short Communications — Thursday, 20 August

**Symmetric Spaces** — **H 112**
Chair: Walter J. Michaelis

| | | |
|---|---|---|
| 16:15 – 16:30 | **Sergei S. Platonov,** Petrozavodsk State University, Petrozavodsk, Russia<br>*Invariant subspaces of some function spaces on symmetric spaces* | (p.109) |
| 16:30 – 16:45 | **Shigeru Aoki,** Takushoku University, Hachioji-shi, Tokyo, Japan<br>*Invariant Eigendistributions on* $U(1,2)/(U(1,1)\times U(1,1))$ | (p.101) |
| 16:45 – 17:00 | **Adam Koranyi,** Lehman College, Tenafly, NY, USA<br>*Equivariant differential operators on homogeneous vector bundles over* $G/MAN$ | (p.107) |

**Lie Groups** — **H 112**
Chair: Adam Koranyi

| | | |
|---|---|---|
| 17:15 – 17:30 | **Dietrich Burde,** University of Düsseldorf, Düsseldorf, Germany<br>*Affine and projective structures on Lie groups* | (p.103) |
| 17:30 – 17:45 | **Michael Wüstner,** Technische Universität Darmstadt, Darmstadt, Germany<br>*Lie groups with surjective exponential function* | (p.111) |
| 17:45 – 18:00 | **Walter J. Michaelis,** University of New Orleans, LA, USA<br>*The exponential matrices of non-commuting matrices may commute* | (p.108) |

### Short Communications — Friday, 21 August

**Quantum Groups and Vertex Operator Algebras** — **H 112**
Chair: Gerald Höhn

| | | |
|---|---|---|
| 14:00 – 14:15 | **Kailash C. Misra,** North Carolina State University, Raleigh, NC, USA<br>*Demazure Crystals for quantum affine Lie algebras* | (p.108) |
| 14:15 – 14:30 | **Naihuan Jing,** North Carolina State University, Raleigh, NC, USA<br>*Quantized Kac-Moody algebras and symmetric functions* | (p.106) |
| 14:30 – 14:45 | **Gerald Höhn,** Universität Freiburg, Freiburg, Germany<br>*Vertex Operator Algebras and 3-Dimensional Topological Quantum Field Theories* | (p.105) |

**Quantum Groups and Poisson Homogeneous Spaces** — **H 112**
Chair: Kailash C. Misra

| | | |
|---|---|---|
| 15:00 – 15:15 | **Pu Zhang,** Univ. of Sci. and Tech. of China, Hefei, PR China<br>*Ringel-Hall algebras and quantum groups* | (p.111) |
| 15:15 – 15:30 | **Ho Hai Phung,** International Centre for Theoretical Physics, Trieste, Italy<br>*Rational representations of matrix quantum groups of type* $A_n$ | (p.109) |
| 15:30 – 15:45 | **Eugene A. Karolinsky,** Kharkov State University, Kharkov, Ukraine<br>*A classification of Poisson homogeneous spaces of complex reductive Poisson-Lie groups* | (p.106) |

### Short Communications — Saturday, 22 August

**Topological Groups** — **H 112**
Chair: Wolfgang Reinhold Bergmann

| | | |
|---|---|---|
| 16:15 – 16:30 | **Boris S. Khots,** Compressor Controls Corporation, Des Moines, Iowa, USA<br>*Fifth Hilbert problem and infinite-dimensional P-groups* | (p.106) |
| 16:30 – 16:45 | **Grigori Lazarevich Litvinov,** International Sophus Lie Center, Moscow, Russian Federation<br>*Group algebras and nonunitary representations of smooth groups* | (p.107) |
| 16:45 – 17:00 | **Julio Cesar Rebelo,** Pontifical Catholic University of Rio de Janeiro, Rio de Janeiro, Brazil<br>*Associating vector fields to certain subgroups of* $\mathrm{Diff}^{w}(S^1)$*: applications to ergodicity and rigidity* | (p.109) |

| **Amenable Groups** Chair: Grigori L. Litvinov | | **H 112** |
|---|---|---|
| 17:15 – 17:30 | **Wolfgang Reinhold Bergmann,** Università della Basilicata, Potenza, Italy<br>*Amenable Groups and Generalized Cuntz Algebras* | *(p.102)* |
| 17:30 – 17:45 | **Alexander I. Shtern [Chtern],** Moscow State University, Moscow, Russia<br>*Quasi-Symmetry and Amenability* | *(p.110)* |

## Short Communications — Monday, 24 August

| **Representations I** Chair: Carina Boyallian | | **H 112** |
|---|---|---|
| 14:00 – 14:15 | **Jose I. Liberati,** MIT, Cambridge, USA<br>*Quasifinite Highest Weight Modules over the Lie Algebra of Matrix Differential Operators on the Circle* | *(p.107)* |
| 14:15 – 14:30 | **María L. Barberis,** FaMAF — Universidad Nacional, Córdoba, Argentina<br>*Quaternionic representations* | *(p.101)* |
| 14:30 – 14:45 | **Paolo Casati,** University of Milan, Milan, Italy<br>*$\alpha$–stratified modules of real reductive groups* | *(p.104)* |

| **Representations II** Chair: Jose I. Liberati | | **H 112** |
|---|---|---|
| 15:00 – 15:15 | **Leandro R. Cagliero,** Fa.M.A.F. — Univ. Nac. de Cordoba, Cordoba, Argentina<br>*$(K, M)$-spherical submodules of the universal enveloping algebra of a real rank one semisimple Lie group $G_\circ$* | *(p.103)* |
| 15:15 – 15:30 | **Carina Boyallian,** MIT-Math. Dept., Cambridge, MA, USA<br>*On Bernstein polynomials for compact Lie groups* | *(p.103)* |
| 15:30 – 15:45 | **Tuong Ton-That,** University of Iowa, Iowa City, USA<br>*I Invariant Theory for some Infinite-Dimensional Lie Groups* | *(p.110)* |

## Short Communications — Tuesday, 25 August

| **Various Topics I** Chair: Michael Forger | | **H 112** |
|---|---|---|
| 16:15 – 16:30 | **Lizhen Ji,** University of Michigan, Ann Arbor, MI, USA<br>*The trace class conjecture in the Selberg trace formula* | *(p.106)* |
| 16:30 – 16:45 | **Alexander Baranov,** Inst. Math. Acad. Sci. Belarus, Minsk, Belarus<br>*Finitary simple Lie algebras* | *(p.101)* |
| 16:45 – 17:00 | **Michael Forger,** Universidade de São Paulo, São Paulo, Brazil<br>*Symmetry and Symmetry Breaking: An Algebraic Approach to the Genetic Code* | *(p.104)* |

| **Various Topics II** Chair: Alexander Baranov | | **H 112** |
|---|---|---|
| 17:15 – 17:30 | **Thomas Bouetou,** Université de Yaounde I, Yaounde, Cameroun<br>*About Bol algebras* | *(p.102)* |
| 17:30 – 17:45 | **Lyudmyla L. Barannyk,** National Academy of Sciences of Ukraine, Kyiv, Ukraine<br>*On an algorithm for classifying subalgebras of the Poincaré algebra $AP(2, n)$* | |

**Poster Session** **Monday, 24 August**

**16:15 – 18:00** **MA 144**

**Helge Glöckner,** Technische Universität Darmstadt, Darmstadt, Germany
*Scale functions on p-adic Lie groups* *(p.105)*

**Nikolai Gromov,** Komi Science Center RAS, Syktyvkar, Russia
*Nonsemisimple Cayley-Klein groups and its quantization* *(p.105)*

**Duncan J. Melville,** St. Lawrence University, Canton, NY, USA
*A survey of quantum deformation results* *(p.108)*

**Victor M. Petrogradsky,** Ulyanovsk State University, Ulyanovsk, Russia
*On subalgebras of free Lie algebras* *(p.108)*

**Jorge Soto-Andrade,** University of Chile, Santiago, Chile
*Gel'fand Models, Weil Representations, and Twisted Spherical Functions* *(p.110)*

# Section 08: Analysis

## Invited Lectures

**Wednesday, 19 August** **MA 001**

16:15 – 17:00 **Michael T. Lacey,** Georgia Institute of Technology, Atlanta, USA
*On the Bilinear Hilbert Transform* *(I: p.99)*
Chair: Elias M. Stein

17:15 – 18:00 **Kristian Seip,** Norwegian University of Science and Technology, Trondheim, Norway
*Developments from Nonharmonic Fourier Series* *(I: p.105)*
Chair: Klaus D. Bierstedt

**Thursday, 20 August** **MA 001**

14:00 – 14:45 **Sergey Ivanovich Pinchuk,** Indiana University, Bloomington, USA and Chelyabinsk State Univ. of Technology, Chelyabinsk, Russia
*Reflection Principle in Higher Dimensions* *(I: p.104)*
Chair: Jürgen Leiterer

15:00 – 15:45 **Nigel David Higson,** Pennsylvania State University, University Park, USA
*The Baum-Connes Conjecture* *(I: p.98)*
Chair: Joachim Cuntz

**Friday, 21 August** **MA 001**

16:15 – 17:00 **Michael Christ,** University of California, Berkeley, USA
*Singularity and Regularity — Local and Global* *(I: p.97)*
Chair: Daryl Geller

17:15 – 18:00 **Hart F. Smith,** University of Washington, Seattle, USA
*Wave Equations with Low Regularity Coefficients* *(I: p.107)*
Chair: Gerald B. Folland

**Saturday, 22 August** **MA 001**

14:00 – 14:45 **Kari Astala,** University of Jyväskylä, Jyväskylä, Finland
*Analytic aspects of quasiconformality* *(I: p.97)*
Chair: Frederick W. Gehring

15:00 – 15:45 **Detlef H. Müller,** Universität Kiel, Kiel, Germany
*$L^p$-functional calculus on Lie groups and estimates for wave equations* *(I: p.102)*
Chair: N.N.

**Monday, 24 August** **MA 001**

16:15 – 17:00 **Stephen Wainger,** University of Wisconsin, Madison, USA
*Discrete Analogues of Singular and Maximal Radon Transforms* *(I: p.109)*
Chair: Detlef H. Müller

17:15 – 18:00 **Vitali Milman,** Tel Aviv University, Tel Aviv, Israel
*Randomness and Pattern in Convex Geometric Analysis* *(I: p.101)*
Chair: Hermann König

**Tuesday, 25 August** **MA 001**

14:00 – 14:45 **Nicole Tomczak-Jaegermann,** University of Alberta, Edmonton, Canada
*From finite- to infinite-dimensional phenomena in Geometric Functional Analysis, on local and asymptotic levels* *(I: p.108)*
Chair: W. Timothy Gowers

**Wednesday, 26 August** **MA 001**

16:15 – 17:00 **Pertti Mattila,** University of Jyväskylä, Jyväskylä, Finland
*Rectifiability, analytic capacity, and singular integrals* *(I: p.100)*
Chair: Srishti (S.D.) Chatterji

17:15 – 18:00 **Stefan Müller,** Max-Planck-Inst. für Math. in den Naturwissenschaften, Leipzig, Germany
*Unexpected solutions of first and second order partial differential equations* *(I: p.104)*
Chair: John M. Ball

## Short Communications and Poster Sessions

**Short Communications** **Wednesday, 19 August**

**Function Spaces and Operators** **MA 041**
Chair: Jose Bonet

14:00 – 14:15 **Silke Holtmanns,** Universität-Gesamthochschule, Paderborn, Germany
*An operator representation for weighted spaces of vector valued holomorphic functions* *(p.130)*

14:15 – 14:30 **Klaus D. Bierstedt,** Universität-Gesamthochschule, Paderborn, Germany
*An operator representation for weighted inductive limits of spaces of vector valued holomorphic functions* *(p.117)*

14:30 – 14:45 **Jose Bonet,** Universidad Politécnica de Valencia, Valencia, Spain
*Hypercyclic operators on non-normable Fréchet spaces* *(p.118)*

**Iteration, Composition, Clifford Structure** **MA 309**
Chair: Mario Bonk

| | | |
|---|---|---|
| 14:00 – 14:15 | **Chung-Cun Yang,** The Hong Kong University of Sci. & Tech., Hong Kong, China, P.R. of<br>*Some recent results on factorization of meromorphic functions* | *(p.165)* |
| 14:15 – 14:30 | **Eugen J. Ionascu,** Dept. of Math., University of Georgia, Athens, GA, USA<br>*Wandering sets for a class of Borel isomorphisms of* $[0,1)$ *(joint work with Dr. Edward Azoff, UGA, Athens, USA)* | *(p.131)* |
| 14:30 – 14:45 | **Enrique Ramirez-De-Arellano,** Dept. of Mathematics — Cinvestav, Mexico City, Mexico<br>*Almost-Clifford structures on manifolds* | *(p.150)* |

**Fractional Differentiation** **MA 043**
Chair: A. Eduardo Gatto

| | | |
|---|---|---|
| 14:00 – 14:15 | **Evelyn Buckwar,** FB Mathematik und Informatik, FU, Berlin, Germany<br>*Application of the Lie group of scaling transformations to the fractional diffusion-wave equation* | *(p.119)* |
| 14:15 – 14:30 | **Yuri Luchko,** Dept. of Mathematics and Computer Science, Freie Universität, Berlin, Germany<br>*Lie group analysis of a partial differential equation of fractional order* | *(p.140)* |
| 14:30 – 14:45 | **A. Eduardo Gatto,** Depaul University, Chicago, USA<br>*Fractional Calculus, Sobolev Spaces, and Related Rules on Spaces of Homogeneous Type* | *(p.124)* |

**C*-Algebras and Modules** **MA 041**
Chair: Alexander Ya. Helemskii

| | | |
|---|---|---|
| 15:00 – 15:15 | **Michael J. Gruber,** Humboldt–Universität, Berlin, Germany<br>*Non-commutative Bloch theory* | *(p.128)* |
| 15:15 – 15:30 | **Evgenij V. Troitsky,** Moscow State University, Moscow, Russia<br>*Kuiper and Dixmier-Douady theorems for* $C^*$*-Hilbert modules and K-theory* | *(p.160)* |
| 15:30 – 15:45 | **Alexander Ya. Helemskii,** Moscow State University, Moscow, Russia<br>*Description of projective Hilbert modules over* $C^*$*-algebras* | *(p.129)* |

**Spaces of Analytic Functions** **MA 309**
Chair: Peter Duren

| | | |
|---|---|---|
| 15:00 – 15:15 | **Mitsuo Morimoto,** International Christian University, Mitaka-City, Japan<br>*Reproducing kernels related to the complex sphere* | *(p.142)* |
| 15:15 – 15:30 | **Romeo Meštrović,** Univerzitet Crne Gore, Kotor, Yugoslavia<br>*Topologies on Some* $F$*-algebras of Holomorphic Functions* | *(p.141)* |
| 15:30 – 15:45 | **William E. Hornor,** University of Southern Mississippi, Hattiesburg, Mississippi, USA<br>*Properties of isometry-inducing maps of the unit disc* | *(p.130)* |

**Wavelet Transforms** **MA 043**
Chair: Boris Rubin

| | | |
|---|---|---|
| 15:00 – 15:15 | **Charles N. Moore,** Department of Mathematics, Galway, Ireland<br>*Distribution function inequalities for sums of wavelets* | *(p.142)* |
| 15:15 – 15:30 | **John Schmeelk,** Virginia Commonwealth University, Richmond, Virginia, USA<br>*Wavelet Transforms in Generalized Fock Spaces* | *(p.154)* |
| 15:30 – 15:45 | **Boris Rubin,** Hebrew University, Jerusalem, Israel<br>*Fractional Calculus and Wavelet Transforms in Integral Geometry* | *(p.152)* |

**Short Communications** **Thursday, 20 August**

**Sobolev- and Function Spaces** **H 110**
Chair: Michal Wojciechowky

| | |
|---|---|
| 16:15 – 16:30 | **Ritva Hurri-Syrjanen,** University of Helsinki, Helsinki, Finland<br>*Generalizations of Poincaré inequality* *(p.131)* |
| 16:30 – 16:45 | **Evgueni M. Semenov,** Voronezh State University, Voronezh, Russia<br>*Disjoint Systems and Complemented Subspaces in Rearrangement Invariant Spaces* *(p.155)* |
| 16:45 – 17:00 | **Michal Wojciechowky,** Instytut Matematyczny Pan, Warszawa, Poland<br>*The multidimensional Marcinkiewicz multiplier theorem for $H^1$ spaces on product domains* *(p.164)* |

**Integral Transforms I** **MA 041**
Chair: Vakhtang M. Kokilashvili

| | |
|---|---|
| 16:15 – 16:30 | **Jagdish N. Pandey,** Carleton University, Ottawa, Canada<br>*The Hilbert Transform of Almost Periodic Functions and Distributions* *(p.146)* |
| 16:30 – 16:45 | **Alexander N. Meskhi,** A. Razmadze Mathematical Institute, Tbilisi, Georgia<br>*Solution of some weight problems for the Riemann-Liouville and Weyl operators defined on SHT* *(p.141)* |
| 16:45 – 17:00 | **Vakhtang M. Kokilashvili,** A. Razmadze Mathematical Institute, Tbilisi, Georgia<br>*Solutions of Two-Weight Problems on Boundedness and Compactness for Integral Transforms* *(p.135)* |

**Variational Problems** **MA 309**
Chair: Julian P. Revalski

| | |
|---|---|
| 16:15 – 16:30 | **Hong-Kun, H.K. Xu,** University of Durban-Westville, Durban, South Africa<br>*Asymptotic behavior of a gradient flow* *(p.164)* |
| 16:30 – 16:45 | **Mikhail A. Sytchev,** Sobolev Institute of Mathematics, Novosibirsk, Russia<br>*Characterization of homogeneous scalar variational problems solvable for all boundary data* *(p.158)* |
| 16:45 – 17:00 | **Julian P. Revalski,** Institute of Mathematics and Informatics, Sofia, Bulgaria<br>*Porosity and variational principles* *(p.152)* |

**Topological Vector Spaces and Algebras** **MA 043**
Chair: Wieslaw Zelazko

| | |
|---|---|
| 16:15 – 16:30 | **Aboubakr Bayoumi,** King Saud University College of Science, Riyadh, Saudi Arabia<br>*Quasi-Differentiability and Applications in Locally Bounded Spaces* *(p.116)* |
| 16:30 – 16:45 | **Mati Abel,** University of Tartu, Tartu, Estonia<br>*Structure of locally pseudoconvex algebras* *(p.112)* |
| 16:45 – 17:00 | **Wieslaw Zelazko,** Mathematical Institute, Warszawa, Poland<br>*A supersimple algebra* *(p.166)* |

**Analytic Functions I** **H 110**
Chair: Žarko Pavićević

| | |
|---|---|
| 17:15 – 17:30 | **Shigeyoshi Owa,** Kinki University, Higashi-Osaka, Japan<br>*Some Properties for Convulutions* *(p.146)* |
| 17:30 – 17:45 | **Yaroslav Ya. Prytula,** Lviv State University, Lviv, Ukraine<br>*Generalization of Lindelöf Theorem* *(p.149)* |
| 17:45 – 18:00 | **Žarko Pavićević,** Univerzitet Crne Gore, Podgorica, Yugoslavia<br>*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)* |

| Operator Algebras | | MA 041 |
|---|---|---|
| Chair: Huzihiro Araki | | |
| 17:15 – 17:30 | **Grigori Amosov,** Moscow Institute of Physics and Technology, Dolgopzudni, Russia<br>*Cocycle conjugacy classes of Powers' semiflow of shifts* | *(p.113)* |
| 17:30 – 17:45 | **Alexandr V. Kosyak,** Institute of Mathematics, Kiev, Ukraine<br>*On von Neumann algebras, generated by regular representations of infinite-dimensional groups* | *(p.137)* |
| 17:45 – 18:00 | **Huzihiro Araki,** Dept. Math., Science University of Tokyo, Kyoto, Japan<br>*Factor types of infrared representations of the XY-model* | *(p.114)* |

| Convexity, Semigroups, and Blocking | | MA 309 |
|---|---|---|
| Chair: Karl-Goswin Grosse-Erdmann | | |
| 17:15 – 17:30 | **Farhad V. Hüsseinov,** Economics Department, Bilkent University, Ankara, Turkey<br>*Closedness of convex hull and its applications* | *(p.131)* |
| 17:30 – 17:45 | **Nobuhisa Sakakibara,** Faculty of Engineering, Ibaraki University, Hitachi, Japan<br>*Perfectness of conelike $*$-semigroups in $Q^k$* | *(p.153)* |
| 17:45 – 18:00 | **Karl-Goswin Grosse-Erdmann,** FernUniversität Hagen, Hagen, Germany<br>*The blocking technique and the weighted Hardy inequality* | *(p.127)* |

| Orthogonal Polynomials and Wavelets | | MA 043 |
|---|---|---|
| Chair: Thomas C. Kriecherbauer | | |
| 17:15 – 17:30 | **Mohsen Taghavi,** Shiraz University, College of Sc., Shiraz, Iran<br>*Exact values of the autocorrelation coefficients of the Rudin-Shapiro polynomials* | *(p.159)* |
| 17:30 – 17:45 | **Ahmed I Zayed,** University of Central Florida, Orlando, Florida, USA<br>*Wavelets in Closed Forms* | *(p.166)* |
| 17:45 – 18:00 | **Thomas C. Kriecherbauer,** Universität München, München, Germany<br>*Asymptotics of Orthogonal Polynomials via Integrable Methods* | *(p.137)* |

## Short Communications — Friday, 21 August

| Univalent Functions I | | MA 041 |
|---|---|---|
| Chair: Ruben A. Hidalgo | | |
| 14:00 – 14:15 | **Bruce O'Neill,** The American University in Cairo, Cairo, Egypt<br>*Boundary Behavior of Conformal Mappings Associated with Singular Measures* | *(p.145)* |
| 14:15 – 14:30 | **Teodor Bulboacă,** Babeș-Bolyai University, Cluj-Napoca, Romania<br>*Differential subordinations and univalent integral operators* | *(p.119)* |
| 14:30 – 14:45 | **Om Parkash Ahuja,** Nanyang Technological University, Singapore, Republic of Singapore<br>*On Meromorphic Starlike and Convex Functions* | *(p.113)* |

| Integral Transforms II | | MA 309 |
|---|---|---|
| Chair: Kun Soo Chang | | |
| 14:00 – 14:15 | **Yukio Kuribayashi,** Faculty of Education, Tottori University, Tottori, Japan<br>*On pseudofourier transforms* | *(p.138)* |
| 14:15 – 14:30 | **Rama Rawat,** Bar-Ilan University, Ramat Gan, Israel<br>*Pompeiu problem and $L^p$ analogues of Wiener-Tauberian for certain homogeneous spaces* | *(p.151)* |
| 14:30 – 14:45 | **Kun Soo Chang,** Yonsei University, Seoul, Korea, Republic of<br>*Integral transform and convolution of analytic funtionals on abstract Wiener space* | *(p.120)* |

| Banach Spaces | | MA 043 |
|---|---|---|
| Chair: David Yost | | |
| 14:00 – 14:15 | **Parviz Azimi,** University of Sistan and Baluchestan, Zahedan, Iran<br>*A class of hereditarily complementably $\ell_p$ Banach spaces* | *(p.115)* |
| 14:15 – 14:30 | **Robb C. Fry,** University of Northern British Columbia, Prince George, Canada<br>*Smooth Bump Functions on Banach Spaces* | *(p.124)* |
| 14:30 – 14:45 | **David Yost,** Chulalongkorn University, Bangkok, Thailand<br>*Twisted sums of classical Banach spaces* | *(p.165)* |

| **Quasiconformal Maps** Chair: Bruce O'Neill | | **MA 041** |
|---|---|---|
| 15:00 – 15:15 | **Alexander Jur'evich Vasil'ev,** Universidad de Los Andes, Santafe de Bogota, D.C., Colombia<br>*Two point distortion theorems for quasiconformal mappings* | *(p.162)* |
| 15:15 – 15:30 | **Evsei M. Dynkin,** Dept. of Math., Technion, Haifa, Israel<br>*Smoothness of quasiconformal mappings at a point* | *(p.122)* |
| 15:30 – 15:45 | **Vo Dang Thao,** University of Ho Chi Minh City, Ho Chi Minh City, Vietnam<br>*Area Problem for quasiconformal mappings* | *(p.160)* |

| **Sobolev Classes and Matrix Functions** Chair: Ilya M. Spitkovsky | | **MA 309** |
|---|---|---|
| 15:00 – 15:15 | **Serguei Vodop'yanov,** Sobolev Institute of Mathematics, Novosibirsk, Russia<br>*On open and discrete mappings of Sobolev classes with integrable dilatation* | *(p.162)* |
| 15:15 – 15:30 | **Vladimir V. Peller,** Department of Mathematics, Manhattan, USA<br>*Regularity conditions for vectorial stationary processes* | *(p.147)* |
| 15:30 – 15:45 | **Ilya M. Spitkovsky,** The College of William and Mary, Williamsburg, USA<br>*Almost periodic factorization and its applications* | *(p.157)* |

| **C*-Algebras** Chair: George A. Elliott | | **MA 043** |
|---|---|---|
| 15:00 – 15:15 | **Martin Mathieu,** Department of Mathematics, Maynooth, Co. Kildare, Ireland<br>*A simple local multiplier algebra* | *(p.140)* |
| 15:15 – 15:30 | **Michael Frank,** Dept. Mathematics, University of Houston, Houston, Texas, USA<br>*Conditional expectations of finite index and discrete group actions* | *(p.124)* |
| 15:30 – 15:45 | **George A. Elliott,** University of Toronto, Toronto, Canada<br>*An abstract Weyl–von Neumann theorem* | *(p.123)* |

## Short Communications — Saturday, 22 August

| **Univalent Functions II** Chair: Arne Stray | | **H 110** |
|---|---|---|
| 16:15 – 16:30 | **Peter Duren,** Department of Mathematics, Ann Arbor, Michigan, USA<br>*Hyperbolic Capacity and its Distortion under Conformal Mapping* | *(p.122)* |
| 16:30 – 16:45 | **Ilgiz G. Kayumov,** Inst. of Math. and Mech., Kazan University, Kazan, Russia<br>*Asymptotical behaviour of logarithmic coefficients of univalent functions* | *(p.134)* |
| 16:45 – 17:00 | **Dmitri V. Prokhorov,** Saratov State University, Saratov, Russian Federation<br>*Estimates of linear functionals for bounded univalent functions* | *(p.149)* |

| **Inequalities and Interpolation** Chair: Vladimir I. Ovchinnikov | | **MA 041** |
|---|---|---|
| 16:15 – 16:30 | **Vladislav F. Babenko,** Dnepropetrovsk State University, Dnepropetrovsk, Ukraine<br>*Inequalities of Landau–Kolmogorov–Nagy Type* | *(p.115)* |
| 16:30 – 16:45 | **Vladimir Alexandrovich Kofanov,** Dnepropetrovsk State University, Dnepropetrovsk, Ukraine<br>*Exact Inequalities of Kolmogorov Type for Periodic Functions of Small Smoothness* | *(p.135)* |
| 16:45 – 17:00 | **Vladimir I. Ovchinnikov,** Voronezh State University, Voronezh, Russia<br>*Nonclassical Interpolation Theorems in Spaces of Smooth Functions* | *(p.146)* |

| **Measure and Integration** Chair: Carmen D. Vlad | | **MA 309** |
|---|---|---|
| 16:15 – 16:30 | **Alexandre V. Mikhalev,** Moscow State University, Moscow, Russia<br>*Solution of Riesz-Radon problem* | *(p.141)* |
| 16:30 – 16:45 | **Valeriy Konstantinovich Zakharov,** Saint Petersburg State University of Technology and Design, Saint Petersburg, Russia<br>*A solution of the general Riesz-Radon problem for a Hausdorff space* | *(p.166)* |
| 16:45 – 17:00 | **Carmen D. Vlad,** Pace University, New York, NY, USA<br>*Outer measures and countably additivity of measures* | *(p.162)* |

| **Banach Algebras and Fredholm Maps** | | **MA 043** |
|---|---|---|
| Chair: Kari E. Ylinen | | |
| 16:15 – 16:30 | **Victor G. Zvyagin,** Voronezh State University, Voronezh, Russia<br>*Topological methods in the theory of perturbations of Fredholm maps and applications* | *(p.167)* |
| 16:30 – 16:45 | **Hans-Olav I. Tylli,** Department of Mathematics, University of Helsinki, Finland<br>*Rigidity of commutators and elementary operators on Calkin algebras* | *(p.161)* |
| 16:45 – 17:00 | **Kari E. Ylinen,** University of Turku, Turku, Finland<br>*Positive definite operator functions on groups and related multilinear operators on products of Banach-$^*$-algebras* | *(p.165)* |

| **Hilbert and Krein Spaces** | | **H 110** |
|---|---|---|
| Chair: Vladimir Strauss | | |
| 17:15 – 17:30 | **Elias Flytzanis,** Athens University of Economics and Business, Athens, Greece<br>*An invariance property of quadratic forms* | *(p.123)* |
| 17:30 – 17:45 | **Michael Gebel,** Inst. Angew. Mathem. I, TU Bergakademie, Freiberg, Germany<br>*Spectral Theory of Adjointable Operators in Spaces with two Metrics* | *(p.125)* |
| 17:45 – 18:00 | **Vladimir Strauss,** Departamento de Matemáticas, U.S.B., Caracas, Venezuela<br>*On a model representation for a normal operator in Krein space* | *(p.158)* |

| **Multivalued Mappings, Weighted Inequalities, and Means** | | **MA 041** |
|---|---|---|
| Chair: Lars-Erik Persson | | |
| 17:15 – 17:30 | **B.K. Sharma,** Pt. Ravishankar Shukla University, Raipur, India<br>*A Strong Convergence Theorem for Multivalued Nonexpansive Mappings* | *(p.155)* |
| 17:30 – 17:45 | **Zheng Liu,** Anshan Institute of Iron and Steel, Anshan, China, Peoples Republic of<br>*Inequalities for Some Means* | *(p.139)* |
| 17:45 – 18:00 | **Lars-Erik Persson,** Luleå University, Luleå, Sweden<br>*Sharp multidimensional multiplicative inequalities for weighted Lebegue spaces* | *(p.147)* |

| **Dunkl Operators and Hyperfunctions** | | **MA 309** |
|---|---|---|
| Chair: Dohan Kim | | |
| 17:15 – 17:30 | **Margit Rösler,** Technische Universität München, München, Germany<br>*Positivity of Dunkl's intertwining operator* | *(p.152)* |
| 17:30 – 17:45 | **Stevan Pilipović,** University of Novi Sad, Novi Sad, Yugoslavia<br>*Suppleness of Some Quotient Spaces of Microfunctions* | *(p.147)* |
| 17:45 – 18:00 | **Dohan Kim,** Dept. of Math., Seoul National Univ., Seoul, Korea, Republic of<br>*Moment problem for hyperfunctions and the heat kernel method* | *(p.134)* |

| **Measure Problems** | | **MA 043** |
|---|---|---|
| Chair: Jiří Jarník | | |
| 17:15 – 17:30 | **Raymond J. Grinnell,** University of the West Indies, Bridgetown, Barbados<br>*Two real functions associated with convolutions of measures* | *(p.127)* |
| 17:30 – 17:45 | **Daniar H. Mushtari,** Inst. of Math. and Mech., Kazan University, Kazan, Russia<br>*Orthomodular posets of projections on linear spaces and signed measures on them* | *(p.143)* |
| 17:45 – 18:00 | **Jiří Jarník,** Pedagogicka Fakulta UK, Praha, Czech Republic<br>*Convergence theorem for Henstock–Kurzweil integral based on the convergence of primitives* | *(p.132)* |

## Short Communications — Monday, 24 August

| **Several Complex Variables** | | **MA 041** |
|---|---|---|
| Chair: Stefan B.A. Jakobsson | | |
| 14:00 – 14:15 | **Yoshihiro Abe,** Toyama University, Yokohama, Japan<br>*Universal functions in several variables* | *(p.112)* |
| 14:15 – 14:30 | **Elias Wegert,** TU Bergakademie Freiberg, Freiberg, Germany<br>*Analytic discs attached to totally real surfaces* | *(p.163)* |
| 14:30 – 14:45 | **Gabriela Kohr,** Babeş-Bolyai University, Cluj-Napoca, Romania<br>*Univalent mappings of several complex variables* | *(p.135)* |

| **Real Analysis** | | **MA 309** |
|---|---|---|
| Chair: Gilbert Helmberg | | |
| 14:00 – 14:15 | **Jan Hejcman,** University of Education, Hradec Králové, Praha, Czech Republic<br>*A description of quasiconvex functions* | *(p.129)* |
| 14:15 – 14:30 | **Attila Gilányi,** Lajos Kossuth University, Debrecen, Hungary<br>*On polynomial functions, monomial functions, and the Dinghas interval derivative* | *(p.125)* |
| 14:30 – 14:45 | **Joris van der Hoeven,** École Polytechnique, Paris, France<br>*Proof of a conjecture of Hardy about L-functions* | *(p.161)* |

| **Approximation Theory** | | **MA 043** |
|---|---|---|
| Chair: Miguel A. Jimenez | | |
| 14:00 – 14:15 | **Alexander Yakovlevich Radyno,** Belarusian State University, Minsk, Belarus<br>*The degree of rational approximation of a holomorphic function* | *(p.149)* |
| 14:15 – 14:30 | **Yuri Kryakin,** Odessa State Polytechnic University, Odessa, Ukraine<br>*Polynomial Interpolation and Whitney's Constants* | *(p.138)* |
| 14:30 – 14:45 | **Miguel A. Jimenez,** BUAP Puebla, Puebla, Mexico<br>*The Degree of Best Approximation in the Lipschitz Norm by Trigonometric Polynomials* | *(p.133)* |

| **Harmonic Functions** | | **MA 041** |
|---|---|---|
| Chair: Elias Wegert | | |
| 15:00 – 15:15 | **Anna Łazińska,** University of Łódź, Łódź, Poland<br>*On a class of mappings harmonic in the half-plane, with a normalization at infinity* | *(p.138)* |
| 15:15 – 15:30 | **Promarz M. Tamrazov,** Inst. of Math. of National Acad. of Sci. of Ukraine, Kiev, Ukraine<br>*The solution of Eremenko's extremal problem on harmonic functions* | *(p.159)* |
| 15:30 – 15:45 | **Eleutherius E. Symeonidis,** Katholische Universität Eichstätt, Eichstätt, Germany<br>*The Poisson integral as an appropriate mean value* | *(p.159)* |

| **A New View of Classical Phenomena** | | **MA 309** |
|---|---|---|
| Chair: Gilbert Helmberg | | |
| 15:00 – 15:15 | **Andreas M. Hinz,** Technische Universität München, München, Germany<br>*Catenaria vera — the true catenary* | *(p.130)* |
| 15:15 – 15:30 | **J. Marshall Ash,** DePaul University, Chicago, USA<br>*Nonuniqueness for smooth uniformly bounded orthonormal systems* | *(p.114)* |
| 15:30 – 15:45 | **Gilbert Helmberg,** Institut f. Math. u. Geometrie, Universität Innsbruck, Innsbruck, Austria<br>*A corner-point Gibbs phenomenon for Fourier series in two dimensions* | *(p.129)* |

| **Vector Lattices** | | **MA 043** |
|---|---|---|
| Chair: Jacobus J. Grobler | | |
| 15:00 – 15:15 | **Rodica Mihaela Danet,** Technical University of Bucharest, Bucharest, Romania<br>*The extension of some linear operators* | *(p.121)* |
| 15:15 – 15:30 | **Nicolae Danet,** Technical University of Bucharest, Bucharest, Romania<br>*Subspaces in directed vector spaces* | *(p.121)* |
| 15:30 – 15:45 | **Jacobus J. Grobler,** Potchefstroom University for CHE, Potchefstroom, South Africa<br>*The polar decomposition of disjointness preserving operators* | *(p.127)* |

## Short Communications — Tuesday, 25 August

| **Miscellaneous** | **MA 309** |
|---|---|
| Chair: Eberhard Kirchberg | |
| 15:00 – 15:15 | **Eberhard Kirchberg,** Humboldt–Universität, Berlin, Germany<br>*Classification of non-simple nuclear $C^*$-algebras* |
| 15:15 – 15:30 | **Volodymyr K. Maslyuchenko,** Chernivtsi University, Chernivtsi, Ukraine<br>*Separately continuous mappings: Van Vleck spaces and inverse problems* |

| **Hilbert Spaces, Wavelets, and Fractals** | | **H 110** |
|---|---|---|
| Chair: Gerald S. Goodman | | |
| 16:15 – 16:30 | **Kofi V.S. Assiamoua,** Université du Bénin, Lomé, Togo<br>*A product of sesquilinear mappings on Hilbert spaces* | *(p.114)* |
| 16:30 – 16:45 | **Raquel-Garcia Catalan,** University of Zaragoza, Zaragoza, Spain<br>*From MRA to Tight Frames* | *(p.120)* |
| 16:45 – 17:00 | **Gerald S. Goodman,** University of Florence, Florence, Italy<br>*Dilation equations and Hutchinson fractals* | *(p.126)* |

| **Real and Complex Approximation** | | **MA 041** |
|---|---|---|
| Chair: Mirela Kohr | | |
| 16:15 – 16:30 | **Nikolai Ya. Radyno,** Institute of Mathematics, Minsk, Belarus<br>*Some elements of a General Spectral Theory of Banach modules and their applications* | *(p.150)* |
| 16:30 – 16:45 | **Oxana V. Motornaya,** Dnepropetrovsk State University, Dnepropetrovsk, Ukraine<br>*On the Approximation of the Functions by Algebraic Polynomials* | *(p.142)* |
| 16:45 – 17:00 | **Andrey Olegovich Matveev,** Institute of Mathematics and Mechanics, Ekaterinburg, Russia<br>*Error estimates for scattered data interpolation* | |

| **Spectral Analysis and Operator Algebras** | | **MA 309** |
|---|---|---|
| Chair: Sa Ge Lee | | |
| 16:15 – 16:30 | **Antoine-A.P. Bredimas,** University Paris 7, Paris, France<br>*Schlicht functions and exotic sprectral analysis: Applications to some conjectures and problems in analysis* | *(p.118)* |
| 16:30 – 16:45 | **Valentyn Ja. Golodets,** Institute for Low Temperature Physics, Kharkov, Ukraine<br>*Dynamical entropy and quantum K-systems* | *(p.126)* |
| 16:45 – 17:00 | **Sa Ge Lee,** Seoul National University, Seoul, Korea, Republic of<br>*The generalized normal state space and unital normal completely positive map* | *(p.139)* |

| **Matrix and Operator Functions** | | **MA 043** |
|---|---|---|
| Chair: George N. Khimshiashvili | | |
| 16:15 – 16:30 | **Marcin J. Zygmunt,** Institute of Mathematics PAN, Krakow, Poland<br>*Matrix Moment Problem* | *(p.167)* |
| 16:30 – 16:45 | **Frank-Olme Speck,** Universidade Técnica de Lisboa, Lisboa, Portugal<br>*Relations between convolution type operators on intervals and on the half-line* | *(p.157)* |
| 16:45 – 17:00 | **George N. Khimshiashvili,** University of Łódź, Łódź, Poland<br>*Homotopy classes of elliptic boundary problems* | *(p.134)* |

| **Analytic Functions II** | | **H 110** |
|---|---|---|
| Chair: Mohamed Abdel-Megied | | |
| 17:15 – 17:30 | **Gueorgui S. Litvinchuk,** Universidade da Madeira, Funchal, Portugal<br>*On solvability theory of Hilbert boundary value problem with a Carleman shift* | *(p.139)* |
| 17:30 – 17:45 | **Mirela Kohr,** Babeș-Bolyai University, Cluj-Napoca, Romania<br>*A direct boundary integral formulation for a Stokes flow problem* | *(p.135)* |
| 17:45 – 18:00 | **Rauno Aulaskari,** University of Joensuu, Joensuu, Finland<br>$Q_p$*-spaces on Riemann surfaces* | *(p.115)* |

| **Nonlinear Operators** | | **MA 041** |
|---|---|---|
| Chair: Richard M. Dudley | | |
| 17:15 – 17:30 | **Radoje Šćepanović,** Univerzitet Crne Gore, Podgorica, Yugoslavia<br>*On Solvability of Some Nonlinear Equations in Hilbert Spaces* | *(p.154)* |
| 17:30 – 17:45 | **Vladilen A. Trenogin,** Moscow State Steel & Alloys Institute, Moscow, Russia<br>*Parameter continuation method and solvability of nonlinear equations* | *(p.160)* |
| 17:45 – 18:00 | **Richard M. Dudley,** MIT, Cambridge, MA, USA<br>*Differentiability of six nonlinear operators on nonsmooth functions* | *(p.122)* |

| **Convexity, Banach Spaces, and Isometries** | | **MA 309** |
|---|---|---|
| Chair: Themistocles M. Rassias | | |
| 17:15 – 17:30 | **Alexander Ya. Kruger,** International Institute of Labour and Social Relations, Minsk, Belarus | |
| | *On extremality of set systems* | *(p.137)* |
| 17:30 – 17:45 | **Ryszard Grząślewicz,** Wrocław University of Technology, Wrocław, Poland | |
| | *Quasi-interior points for convex sets* | *(p.128)* |
| 17:45 – 18:00 | **Themistocles M. Rassias,** National Technical University of Athens, Athens, Greece | |
| | *On the Mazur-Ulam Theorem and the Aleksandrov Problem of Conservative Distances* | *(p.151)* |

| **Sequence and Function Spaces** | | **MA 043** |
|---|---|---|
| Chair: Jan H. Fourie | | |
| 17:15 – 17:30 | **Abdul J. Badiozzaman,** Chamran University, Ahvaz, Iran | |
| | *On a Tauberian Theorem of G.M. Petersen for Abel Summability* | *(p.116)* |
| 17:30 – 17:45 | **Detlef Seydel,** FH-Braunschweig/Wolfenbüttel, Wolfsburg, Germany | |
| | *Matrix Maps of Quasiconvex Null Sequences* | *(p.155)* |
| 17:45 – 18:00 | **Jan H. Fourie,** Potchefstroom University, Potchefstroom, South Africa | |
| | *On convergence of sections of weakly p-summable sequences* | *(p.123)* |

## Short Communications — Wednesday, 26 August

| **Special Functions** | | **MA 041** |
|---|---|---|
| Chair: Promarz M. Tamrazov | | |
| 14:00 – 14:15 | **Raoul R.F.G. Gloden,** Cours Universitaires, Luxembourg, Luxembourg | |
| | *Propriétés des polynômes orthogonaux. Développements de cas particuliers* | *(p.126)* |
| 14:15 – 14:30 | **Kathy A. Driver,** University of Witwatersrand, Johannesburg, South Africa | |
| | *Zeros of Hypergeometric Functions* | *(p.121)* |
| 14:30 – 14:45 | **Momčilo Bjelica,** University of Novi Sad, Zrenjanin, Yugoslavia | |
| | *Asymptotic of means* | *(p.117)* |

| **Metrizable Spaces, Riesz Spaces, and Integral Representations** | | **MA 309** |
|---|---|---|
| Chair: Paul Ressel | | |
| 14:00 – 14:15 | **Shozo Koshi,** Hokkaido Institute of Technology, Sapporo, Japan | |
| | *Partially ordered linear space* | *(p.136)* |
| 14:15 – 14:30 | **Luis M. Sánchez Ruiz,** Universidad Politécnica de Valencia, Valencia, Spain | |
| | *On Metrizable Barreled Spaces, Cardinals and Dimensionality* | *(p.153)* |
| 14:30 – 14:45 | **Paul Ressel,** Kath. Universität Eichstätt, Eichstätt, Germany | |
| | *Semigroup representations, positive definite functions, and abelian $C^*$-algebras* | *(p.152)* |

| **Operator Algebras and Systems** | | **MA 043** |
|---|---|---|
| Chair: Palle E.T. Jorgensen | | |
| 14:00 – 14:15 | **B.V. Rajarama Bhat,** Indian Statistical Institute, Bangalore, India | |
| | *Minimal dilation of quantum dynamical semigroups to semigroups of endomorphisms* | *(p.116)* |
| 14:15 – 14:30 | **Wend Werner,** Universität Paderborn, Paderborn, Germany | |
| | *Operator Systems without Unit* | *(p.163)* |
| 14:30 – 14:45 | **Palle E.T. Jorgensen,** The University of Iowa, Iowa City, IA, USA | |
| | *Ruelle operators: Functions which are harmonic with respect to a transfer operator* | *(p.133)* |

| **Kleinian Groups** | | **MA 041** |
|---|---|---|
| Chair: Alexander Jur'evich Vasil'ev | | |
| 15:00 – 15:15 | **Ruben A. Hidalgo,** UTFSM, Valparaiso Casilla, Chile | |
| | *$\mathcal{A}_4$, $\mathcal{A}_5$, and $\mathcal{S}_4$ of Schottky Type* | *(p.130)* |
| 15:15 – 15:30 | **Weiqi Yang,** Beijing Institute of Technology, Beijing, P.R. of China | |
| | *Discrete groups and dense groups* | *(p.164)* |
| 15:30 – 15:45 | **Javier Pérez,** Universidad Nacional de Educación a Distancia, Madrid, Spain | |
| | *Harmonic differentials on Klein Surfaces* | *(p.147)* |

| **Analytic Functions and Toeplitz Operators** Chair: Marek Ptak | | **MA 309** |
|---|---|---|
| 15:00 – 15:15 | **Ali Abkar,** Lund University, Lund, Sweden<br>*A comparison theorem concerning hyperinvariant subspaces on finitely connected domains* | *(p.113)* |
| 15:15 – 15:30 | **Slavko Simic,** Belgrade, Yugoslavia<br>*Entire Functions of Finite Order and Regularly Varying Sequences* | *(p.156)* |
| 15:30 – 15:45 | **Marek Ptak,** University of Agriculture, Kraków, Poland<br>*Toeplitz operators; dichotomy of reflexivity and transitivity* | *(p.149)* |

| **Operator Algebras and Algebras of Operators** Chair: Vladimir Manuilov | | **MA 043** |
|---|---|---|
| 15:00 – 15:15 | **Raphael S. Ponge,** Univ. Paris-Sud, Dpt. of Math., Orsay, France<br>*Wodzicki Residue for Heisenberg Manifolds* | *(p.148)* |
| 15:15 – 15:30 | **Georgios F. Nassopoulos,** University of Athens, Athens, Greece<br>*Coproducts and projective presentations of operator algebras* | *(p.144)* |
| 15:30 – 15:45 | **Vladimir Manuilov,** Moscow State University, Moscow, Russia<br>*Almost representations of discrete groups and $K$-theory* | *(p.140)* |

## Poster Session — Wednesday, 19 August

**14:00 – 15:45** **MA 144**

**Aldric L. Brown,** The Pnajab University, Chandigarh, India
*Operator convex functions of two variables* *(p.118)*

**Mao-Ting Chien,** Soochow University, Taipei, Taiwan
*A parametrization of the c-numerical ranges of certain matrices* *(p.120)*

**William C. Connett,** University of Missouri, St. Louis, MO, USA
*Measure algebras that have oblate spheroidal wave functions as characters* *(p.121)*

**Sonja Mouton,** University of Stellenbosch, Matieland, South Africa
*Some spectral properties in ordered Banach algebras* *(p.143)*

**Marjatta Näätänen,** University of Helsinki, Helsinki, Finland
*Arithmetic Fuchsian groups of signature (0; a, b, c, oo)* *(p.143)*

**Samyon R. Nasyrov,** Kazan State University, Kazan, Russia
*Robin capacity and lift of infinitely thin airfoils* *(p.144)*

**David L. Salinger,** University of Leeds, Leeds, Great Britain
*Lifting the Difference Spectrum* *(p.153)*

**Ajit Iqbal Singh,** Ohio University, Athens, Ohio, USA
*Maximal quotient rings of algebras of functions and operators* *(p.156)*

**Arne Stray,** University of Bergen, Kristiansand, Norway
*Polynomial approximation of analytic functions with finite Dirichlet integral* *(p.158)*

**Chia-Chi Tung,** Mankato State University, Mankato, MN, USA
*A Note on the Hilbert Nullstellen Satz* *(p.161)*

**Dmitri Zaitsev,** Universität Tübingen, Tübingen, Germany
*On holomorphic boundary extensions, web theory, and invariants of Grassmanians* *(p.165)*

**Jaroslav Zemánek,** Polish Academy of Sciences, Warszawa, Poland
*Powers and resolvents* *(p.167)*

**Poster Session** **Friday, 21 August**

**14:00 – 15:45** **MA 144**

**Jelena Ausekle,** Tartu University, Tartu, Estonia
*Compactness of Operators Acting in the Lorentz and Orlicz Sequence Spaces* *(p.115)*

**Prodipeswar Bhattacharyya,** Indian Institute of Technology, Chennai, India
*On the domain of normality in iteration theory* *(p.117)*

**Davor Butkovic,** University of Zagreb, Zagreb, Croatia
*Transformations of regular almost convergent sequences* *(p.119)*

**Rainis Haller,** Tartu University, Tartu, Estonia
$M(r,s)$*-inequality and reflexivity* *(p.128)*

**Katsunori Iwasaki,** Kyushu University, Fukuoka, Japan
*Polyhedral harmonic functions and invariant theory* *(p.132)*

**Volodymyr M. Kadets,** Kharkov State University, Kharkov, Ukraine
*The Lyapunov property of certain Banach spaces* *(p.133)*

**Shuichi Ohno,** Nippon Institute of Technology, Miyashiro Saitama, Japan
*Topological structure of the space of composition operators on* $H^\infty$ *(p.145)*

**Eve Oja,** Tartu University, Tartu, Estonia
*Lifting approximation properties and ideals of compact and approximable operators* *(p.145)*

**Zdzislaw Otachel,** Inst. of Appl. Math. Agric. Univ. of Lublin, Lublin, Poland
*Cone Preorders in Measurable Function Spaces* *(p.145)*

**Märt Põldvere,** Tartu University, Tartu, Estonia
*On subspaces of Banach spaces having Phelps' uniqueness property* *(p.148)*

**Sen-Yen Shaw,** National Central University, Chung-Li, China, Taiwan
*Convergence rates of regularized approximation processes* *(p.156)*

**Panagiotis D. Stratigos,** Long Island University, Brooklyn, N.Y., USA
*On general measure repleteness and completeness* *(p.158)*

**Poster Session** **Wednesday, 26 August**

**14:00 – 15:45** **MA 144**

**Ants Aasma,** Tallinn Pedagogical University, Tallinn, Estonia
*Summability with speed and comparison of orders of approximation of Fourier expansions by different matrix methods of summability* *(p.112)*

**El Hassan E.H. El Kinani,** Faculté des Sciences Mohammed V, Errachidia, Morocco
$q$*-Derivation, Sine algebra, and* $Ut(sl(2))$ *(p.123)*

**Stefan B.A. Jakobsson,** University of Lund, Lund, Sweden
*Applications of weighted Hele-Shaw flow and kernel function techniques to Green functions for weighted biharmonic operators* *(p.132)*

**Volodymyr M. Kolodyazhniy,** Kharkiv Aviation Institute, Kharkiv, Ukraine
*Nonlinear Identification Problem Solution Using the Wavelets of the Atomic Functions* *(p.136)*

**Hrvoje Kraljevic,** University of Zagreb, Zagreb, Croatia
*Landau's type inequalities for contraction cosine functions* *(p.137)*

**Carlos Lizama,** Universidad de Santiago de Chile, Santiago Correo, Chile
*A Characterization of Uniform Continuity for Volterra Equations in Hilbert Spaces* *(p.140)*

**Igor-Ya. Novikov,** Voronezh State University, Voronezh, Russia
*Time-frequency localization of modified Daubechies wavelets* *(p.144)*

**Alan L. Schwartz,** University of Missouri-St. Louis, St. Louis, MO, USA
*Hypergroups and their maximum subgroup* *(p.154)*

**Katsunori Shimomura,** Ibaraki University, Mito, Japan
*On the transformations which preserve polytemperatures* *(p.156)*

**Feng-Yu Wang,** Beijing Normal University, Beijing, P.R. China
*Harnack inequality for heat semigroups and log-Sobolev inequalities* *(p.163)*

**Oxana A. Ziza,** Moscow State Institute of Electronics and Mathematics, Moscow, Russia
*On absolute summability of orthogonal series* *(p.167)*

# Section 09:
# Ordinary Differential Equations and Dynamical Systems

## Invited Lectures

**Wednesday, 19 August** **H 1012**

14:00 – 14:45 **Zhihong Xia,** Northwestern University, Evanston, USA
*Arnold diffusion and variational construction of connecting orbits* *(I: p.120)*
Chair: Klaus Kirchgässner

15:00 – 15:45 **Welington de Melo,** IMPA, Rio de Janeiro, Brazil
*Renormalization and Rigidity in one dimensional smooth dynamical systems* *(I: p.112)*
Chair: Bernold Fiedler

**Thursday, 20 August** **H 1012**

16:15 – 17:00 **Krystyna M. Kuperberg,** Auburn University, Auburn, USA
*Counterexamples to the Seifert Conjecture* *(I: p.117)*
Chair: Urs Kirchgraber

17:15 – 18:00 **Håkan Eliasson,** Royal Institute of Technology, Stockholm, Sweden
*Reducibility and point spectrum for linear quasi-periodic skew-products* *(I: p.112)*
Chair: Reiner Lauterbach

**Friday, 21 August** **H 1012**

14:00 – 14:45 **Shuhei Hayashi,** Waseda University, Tokyo, Japan
*Hyperbolicity, stability and the creation of homoclinic points* *(I: p.113)*
Chair: Jack Carr

15:00 – 15:45 **Michael Herman,** CNRS, Université Denis Diderot / Paris 7, Paris, France
*Some open problems in dynamical systems* *(I: p.114)*
Chair: Thomas Bartsch

**Saturday, 22 August** **H 1012**

14:00 – 14:45 **Yuri Kifer,** Hebrew University of Jerusalem, Jerusalem, Israel
*Random Dynamics and its Applications* *(I: p.114)*
Chair: Ludwig Arnold

15:00 – 15:45 **Curtis Tracy McMullen,** Harvard University, Cambridge, USA
*Rigidity and inflexibility in conformal dynamics* *(I: p.119)*
Chair: Joerg Schmeling

**Monday, 24 August** **H 1012**

16:15 – 17:00 **Grzegorz Świątek,** Pennsylvania State University, University Park, USA
*Induced Hyperbolicity for One-Dimensional Maps* *(I: p.119)*
Chair: Klaus R. Schneider

17:15 – 18:00 **Sergei B. Kuksin,** Steklov Institute, Moscow, Russia and Heriot-Watt University, Edinburgh, UK
*Towards a Qualitative Theory of Hamiltonian PDEs* *(I: p.116)*
Chair: Jürgen Moser

## Short Communications and Poster Sessions

**Short Communications** **Wednesday, 19 August**

**Symmetry and Bifurcation I** **H 111**
Chair: Karin Gatermann

16:15 – 16:30 **Oluwole Daniel Makinde,** University of Zimbabwe, Harare, Zimbabwe
*Numerical Study of Bifurcation for Steady Flow in a Diverging Tube* *(p.182)*
16:30 – 16:45 **Dmitry Turaev,** WIAS, Berlin, Germany
*On infinitely degenerate dynamical systems* *(p.194)*
16:45 – 17:00 **Karin Gatermann,** FU/ZIB, Berlin, Germany
*Orbit space reduction* *(p.175)*

**Dynamical Systems on Surfaces** **H 110**
Chair: Raphael Albrecht

16:15 – 16:30 **Victoria Rayskin,** The University of Texas at Austin, Austin, USA
*Degenerate homoclinic crossings* *(p.187)*
16:30 – 16:45 **Shobh N. Singh,** University of Transkei, Umtata, Eastern Cape, South Africa
*Solutions of boundary value problems by double Laplace transformations* *(p.192)*
16:45 – 17:00 **Iuri M. Zaitsev,** Dept. Mathematica, Vitoria, Brazil
*Lyapunov-type vector-function for nonlinear dynamic system* *(p.196)*

**Symmetry and Bifurcation II** **H 111**
Chair: Reiner Lauterbach

17:15 – 17:30 **Patrick Bonckaert,** Limburgs Universitair Centrum, Diepenbeek, Belgium
*Convergence problems of normalizing transformations with symmetry* *(p.172)*
17:30 – 17:45 **Claudia Wulff,** Freie Universität, Berlin, Germany
*Spiral Waves and Euclidean Symmetry* *(p.194)*
17:45 – 18:00 **Reiner Lauterbach,** WIAS, Berlin, Germany
*Intermittent dynamics and symmetry* *(p.180)*

**Invariant Measures and Random Dynamics I** **H 110**
Chair: Gerhard Keller

17:15 – 17:30 **Alexander Loskutov,** Moscow State University, Moscow, Russia
*Dynamics of one-dimensional nonhomogeneous coupled map lattices* *(p.181)*
17:30 – 17:45 **Roberto Markarian,** IMERL, Fac. de Ingeniería, Montevideo, Uruguay
*Invariant measures for Anosov maps with small holes* *(p.182)*
17:45 – 18:00 **Nikolas Efstathiou Sofronidis,** Caltech, Thessaloniki, Greece
*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)*

## Short Communications — Thursday, 20 August

**Chaotic Dynamical Systems** — **H 111**
Chair: Mohamed Houssni

14:00 – 14:15 **Abdelhak Fahsi,** University of Hassan II — F.S.T. Mohammadia, Mohammedia, Morocco
*Saddle loop and chaotic bifurcations in nonlinear oscillators* *(p.175)*

14:15 – 14:30 **Jaroslav Smital,** Silesian University, Opava, Czech Republic
*Distributional chaos in dynamical systems generated by iterates of continuous maps* *(p.192)*

14:30 – 14:45 **Mohamed Houssni,** Université Hassan II, Casablanca, Morocco
*Suppression of chaos in a quasi-periodically excited system* *(p.177)*

**Periodic Solutions of Differential Equations** — **H 110**
Chair: Mohammad Jahanshahi

14:00 – 14:15 **Mihail Emilian Popescu,** Romanian Academy of Science, Bucharest, Romania
*Existence and Oribital Stability of Periodic Solutions for Small-Parameter Non-Linear Differential Systems* *(p.186)*

14:15 – 14:30 **Sergiy V. Yanchuk,** National Academy of Sciences of Ukraine, Kiev, Ukraine
*Conditions for the existence of cycles in some two-dimensional system of differential equations* *(p.195)*

14:30 – 14:45 **Mohammad Jahanshahi,** Tarbiat Modarres University, Tehran, Iran
*Periodic Solution of a Non-Linear Dynamical System of Second Order with Dimension n* *(p.178)*

**Boundary Value Problems Related to FDE** — **H 111**
Chair: Zhanyuan Hou

15:00 – 15:15 **Manuel J. Alves,** Perm State University, Perm, Russia
*К вопросу о разрешимости двухточечной краевой задачи для сингулярного функционально-дифференциального уравнения* *(p.169)*

15:15 – 15:30 **Sergei A. Brykalov,** Inst. Mathematics & Mechanics, Ekaterinburg, Russia
*Solution sets of problems with nonlinear functional boundary conditions* *(p.173)*

15:30 – 15:45 **Zhanyuan Hou,** London Guildhall University, London, Great Britain
*$L^p$-Perturbation of Linear Functional Differential Equations* *(p.176)*

**Periodic Solutions of FDE** — **H 110**
Chair: Mustapha Yebdri

15:00 – 15:15 **Nataliya Bantsur,** Institue of Mathematics of the National Academy of Sciences, Kyiv, Ukraine
*Existence and stability of the periodic and almost periodic solutions of differential equations with maxima* *(p.171)*

15:15 – 15:30 **Joao S.P. Munembe,** Perm State University, Perm, Russian Federation
*Computationally verifiable conditions of the existence of stabilizable solutions for linear differential systems with periodic parameters* *(p.184)*

15:30 – 15:45 **Mustapha Yebdri,** Université de Tlemecen, Tlemcen, Algeria
*The linear stability of slowly oscillating periodic solutions of a delay differential equation* *(p.195)*

## Short Communications — Friday, 21 August

**Stability Theory of FDE** — **H 111**
Chair: Géza Makay

16:15 – 16:30 **Meirong Zhang,** Tsinghua University, Beijing, People's Republic of China
*The Fučik Spectrum and its Generalization for Asymptotically Positively Homogeneous Systems of Differential Equations* *(p.197)*

16:30 – 16:45 **Mark R. Liberzon,** Moscow St. Avia. Tech. Univ., Moscow, Russia
*Inners and Absolute Stability of Time-Lag Systems* *(p.181)*

| **Dynamical Properties of Mechanical Systems**<br>Chair: Dmitriy A. Chebanov | | **H 110** |
|---|---|---|
| 16:15 – 16:30 | **Daniel Massart,** École Normale Superieure de Lyon, Lyon, Frankreich<br>*On the convexity of the action of a Lagrangian* | *(p.182)* |
| 16:30 – 16:45 | **Natalia Valeryevna Tkachenko,** Inst. of Appl. Math. and Mech., NASU, Donetsk, Ukraine<br>*About some new solutions in a problem about motion of a body in a magnetic field* | *(p.193)* |
| 16:45 – 17:00 | **Dmitriy A. Chebanov,** Inst. of Appl. Math. and Mech., NASU, Donetsk, Ukraine<br>*New exact solutions of the problem about motion of Lagrange's gyroscopes system* | *(p.173)* |

| **Invariant Measures and Random Dynamics II**<br>Chair: Gerhard Keller | | **H 111** |
|---|---|---|
| 17:15 – 17:30 | **Raphael Albrecht,** Universität Bonn, Bonn, Germany<br>*Periodic data, intersection types, and conjugacy of profinite surface automorphisms* | *(p.169)* |
| 17:30 – 17:45 | **Roman Hric,** Faculty of Natural Sciences, Banska Bystrica, Slovakia<br>*Chaos and Topological Entropy in Onedimensional Dynamics* | *(p.177)* |
| 17:45 – 18:00 | **Gerhard Keller,** Universität Erlangen, Erlangen, Germany<br>*Spectral stability of transfer operators under non-small perturbations* | *(p.178)* |

| **Multifrequence Systems and Invariant Tori**<br>Chair: Anatolij M. Samoilenko | | **H 110** |
|---|---|---|
| 17:15 – 17:30 | **Chong-Qing Cheng,** Nanjing University, Nanjing, China, Peoples Republic of<br>*Aboundance of Lower Dimensional Invariant Tori in Hamiltonian Systems* | *(p.174)* |
| 17:30 – 17:45 | **Miklós Rontó,** University of Miskolc, Miskolc, Hungary<br>*A numerical-analytic method for parametrized BVPs* | *(p.188)* |
| 17:45 – 18:00 | **Anatolij M. Samoilenko,** National Academy of Sciences, Kiev, Ukraine<br>*Investigation of m-frequency oscillatory systems* | *(p.189)* |

## Short Communications — Saturday, 22 August

| **Random Dynamical Systems**<br>Chair: Govindan Rangarajan | | **H 111** |
|---|---|---|
| 16:15 – 16:30 | **Lev Ryashko,** Ural State University, Ekaterinburg, Russia<br>*Quasipotential in stochastic stability analysis of limit cycles* | *(p.188)* |
| 16:30 – 16:45 | **Henri U. Schurz,** La Universidad de Los Andes, Santafe de Bogotá, Colombia<br>*Contractivity and Stability Exponents of Nonlinear Stochastic Dynamical Systems* | *(p.191)* |
| 16:45 – 17:00 | **Govindan Rangarajan,** Indian Institute of Science, Bangalore, India<br>*A New Method for Computing Lyapunov Exponents* | *(p.186)* |

| **Complex Differential Equations**<br>Chair: Bruno Scardua | | **H 111** |
|---|---|---|
| 17:15 – 17:30 | **Ljudmila A. Bordag,** Otto-von-Guericke-Universität Magdeburg, Magdeburg, Germany<br>*Projective differential geometrical structure of the Painlevé equations* | *(p.172)* |
| 17:30 – 17:45 | **Alexei A. Glutsuk,** Institute for Advanced Studies, Princeton, New Jersey, USA<br>*Stokes phenomena via generic perturbation* | *(p.176)* |
| 17:45 – 18:00 | **Bruno Scardua,** Instituto de Matemática Pura e Aplicada, Rio de Janeiro, Brazil<br>*Integration of Complex Differential Equations* | *(p.190)* |

## Short Communications — Monday, 24 August

**Singularly Perturbed Systems** — **H 111**
Chair: Vladimir Sobolev

| | | |
|---|---|---|
| 14:00 – 14:15 | **Minoru Nakano,** Keio University, Yokohama, Japan<br>*On the WKB method and Airy functions* | *(p.184)* |
| 14:15 – 14:30 | **Carmen Rocsoreanu,** University of Craiova, Craiova, Romania<br>*Canards in the Fitz-Hugh-Nagumo model* | *(p.188)* |
| 14:30 – 14:45 | **Vladimir Sobolev,** Samara State University, Samara, Russia<br>*Canards and black swans* | *(p.192)* |

**Spectral Problems and Smooth Linearization** — **H 110**
Chair: Vjacheslav A. Yurko

| | | |
|---|---|---|
| 14:00 – 14:15 | **Shunian Zhang,** Shanghai Jiaotong University, Shanghai, China, Peoples Republic of<br>*Stability of neutral delay difference systems* | *(p.197)* |
| 14:15 – 14:30 | **Samovol Vladimir,** Russian State University for Humanities, Moscow, Russia<br>*The problem of local smooth linearization of systems of ordinary differential equations* | *(p.189)* |
| 14:30 – 14:45 | **Vjacheslav A. Yurko,** Saratov University, Saratov, Russia<br>*Inverse spectral problems for ordinary differential equations* | *(p.196)* |

**Singularly Perturbed and Control Problems** — **H 111**
Chair: Nikolay N. Nefedov

| | | |
|---|---|---|
| 15:00 – 15:15 | **Klaus R. Schneider,** WIAS, Berlin, Germany<br>*Exchange of stabilities in singularly perturbed systems* | *(p.190)* |
| 15:15 – 15:30 | **Alexander G. Chentsov,** Institute of Mathematics and Mechanics, Ekaterinburg, Russia<br>*Nonanticipating set-valued mappings and constructions of the programmed iterations method* | *(p.174)* |
| 15:30 – 15:45 | **Nikolay N. Nefedov,** Lomonosov Moscow State University, Moscow, Russia<br>*Asymptotic method of differential inequalities for nonlinear singularly perturbed PDE's with internal layers* | *(p.185)* |

**Stability of Dynamical Systems** — **H 110**
Chair: Shaobo Gan

| | | |
|---|---|---|
| 15:00 – 15:15 | **Abdelkader Boucherif,** University of Tlemcen, Tlemcen, Algeria<br>*A free boundary problem for a reaction-diffusion equation* | *(p.172)* |
| 15:15 – 15:30 | **Juan H. Arredondo,** Universidad Autónoma Metropolitana, México, D.F., México<br>*A geometric approach to the asymptotic of systems of evolution equations* | *(p.171)* |
| 15:30 – 15:45 | **Shaobo Gan,** ICTP, Trieste, Italy<br>*Star Systems $X^*$ and a Proof of the $C^1$ $\Omega$ Stability* | *(p.175)* |

## Short Communications — Tuesday, 25 August

**Large-Time Behavior** — **H 111**
Chair: Martin Brokate

| | | |
|---|---|---|
| 14:00 – 14:15 | **Ivan Kiguradze,** A. Razmadze Mathematical Institute, Tbilisi, Georgia<br>*On explosive kneser solutions of nonlinear ordinary differential equations* | *(p.179)* |
| 14:15 – 14:30 | **Matthias Wolfrum,** WIAS, Berlin, Germany<br>*A geometrical description for the attractors of semilinear parabolic PDE* | *(p.194)* |
| 14:30 – 14:45 | **Martin Brokate,** University of Kiel, Kiel, Germany<br>*On a rate independent variational inequality* | *(p.173)* |

**Topological Dynamics** — **H 110**
Chair: Fritz Boese

| | | |
|---|---|---|
| 14:00 – 14:15 | **Sergey Bezuglyi,** Institute for Low Temperature Physics, Kharkov, Ukraine<br>*Full groups of minimal homeomorphisms of Cantor sets* | *(p.171)* |
| 14:15 – 14:30 | **Fritz Boese,** Max-Planck-Institut für extraterristrische Physik, Garching, Germany<br>*Unilluminable Rooms* | *(p.171)* |

| **Holomorphic and Symbolic Dynamics** Chair: Mitsuhiro Shishikura | | **H 111** |
|---|---|---|
| 15:00 – 15:15 | **Dierk Schleicher,** Technische Universität München, München, Germany<br>*On iterated exponential maps* | *(p.190)* |
| 15:15 – 15:30 | **George Osipenko,** St. Petersburg State Technical University, St. Petersburg, Russia<br>*Applied Symbolic Dynamics* | *(p.185)* |
| 15:30 – 15:45 | **Mitsuhiro Shishikura,** Johns Hopkins University, Baltimore, USA<br>*Rigidity of complex quadratic polynomials and the universal Teichmüller space* | *(p.191)* |

## Short Communications — Wednesday, 26 August

| **Nonlinear Evolution Equations** Chair: Michael V. Pomazanov | | **H 1029** |
|---|---|---|
| 15:00 – 15:15 | **Valery A. Gaiko,** Belarus State University of Informatics and Radioelectronics, Minsk, Belarus<br>*Global bifurcation theory and multiple limit cycles* | |
| 15:15 – 15:30 | **Samuel S. Okoya,** Obafemi Awolowo University, Ile-Ife, Nigeria<br>*A criterion for solutions of a model quasilinear parabolic equation* | |
| 15:30 – 15:45 | **Michael V. Pomazanov,** Moscow State University, Moscow, Russia<br>*About the structure of some typical singularities in implicit ordinary differential equations* | |

| **Complex Dynamical Systems** Chair: John C. Mayer | | **H 111** |
|---|---|---|
| 16:15 – 16:30 | **Toshiyuki Sugawa,** Dept. of Math., Kyoto University, Kyoto, Japan<br>*An explicit bound for uniform perfectness of Julia sets* | *(p.193)* |
| 16:30 – 16:45 | **Hiroki Sumi,** Graduate School of Human and Environmental Studies, Kyoto, Japan<br>*Dynamics of rational semigroups and Hausdorff dimension of the Julia sets* | *(p.193)* |
| 16:45 – 17:00 | **John C. Mayer,** University of Alabama at Birmingham, Birmingham, AL, USA<br>*Invariant subcontinua in Siegel and Cremer Julia sets of polynomials* | *(p.183)* |

| **Impulsive Systems** Chair: Anatoli Myshkis | | **H 110** |
|---|---|---|
| 16:15 – 16:30 | **Dariusz Idczak,** University of Łódź, Łódź, Poland<br>*Stability in semilinear problems* | *(p.177)* |
| 16:30 – 16:45 | **Cristian Dascalu,** Inst. of Appl. Math. of the Romanian Academy, Bucharest, Romania<br>*Antiplane Shear Instability in Elastodynamics with Slip Dependent Friction* | *(p.174)* |
| 16:45 – 17:00 | **Anatoli Myshkis,** Moscow State University of Communications, Moscow, Russia<br>*Autonomous impulsive-differential equations* | *(p.184)* |

| **Invariant Manifolds and Normal Forms** Chair: Pei Yu | | **H 111** |
|---|---|---|
| 17:15 – 17:30 | **Alexander Ya. Kopanskii,** Institute of Mathematics & Mechanics of NASU, Kishinev, Moldova<br>*Normal forms of vector fields satisfying certain geometric conditions* | *(p.180)* |
| 17:30 – 17:45 | **Alexander M. Kovalev,** Institute of Applied Mathematics, Donetsk, Ukraine<br>*The equations of invariant and oriented manifolds of dynamical systems* | *(p.180)* |
| 17:45 – 18:00 | **Pei Yu,** University of Western Ontario, London, Canada<br>*Simplest Normal Forms of Differential Equations* | *(p.196)* |

| **Boundary Value Problems** Chair: Guiseppe Anichini | | **H 110** |
|---|---|---|
| 17:15 – 17:30 | **Nusrat Rajabov,** Tajik State National University, Dushanbe, Tadschikistan<br>*Linear conjugate boundary value problems for the second order linear ordinary differential equation with super–singular coefficients* | *(p.186)* |
| 17:30 – 17:45 | **Masashi Kisaka,** Osaka Prefecture University, Sakai, Japan<br>*On the Connnected Components of Julia Sets of Transcendental Entire Functions* | *(p.180)* |
| 17:45 – 18:00 | **Guiseppe Anichini,** Università di Modena, Modena, Italy<br>*Boundary value problems for implicit ODE's in a singular case* | *(p.170)* |

**Poster Session** **Tuesday, 25 August**
**16:15 – 18:00** **MA 144**

**Alina Gleska,** Poznań University of Technology, Poznań, Poland
*Comparison theorems for the asymptotic behavior of solutions of difference equations* *(p.176)*

**Renato Iturriaga,** CIMAT, Guanajuato Gto., Mexico
*Lagrangian Graphs, Minimizing Measures, and Mañe's Critical Values* *(p.178)*

**Géza Makay,** Bolyai Institute, Jozsef Attila University of Szeged, Szeged, Hungary
*Marachkov type stability results for functional differential equations* *(p.181)*

**Malgorzata Migda,** Poznań University of Technology, Poznań, Poland
*On the asymptotic behavior of solutions of nonlinear difference equation* *(p.183)*

**Norihiro Misaki,** College of Science and Technology, Nihon University, Funabashi, Japan
*Application of Apparent Monodromy Groups* *(p.183)*

**Hiroe Oka,** Ryukaku University, Seta, Otsu, Japan
*Connectivity of iso-topological entropy curve for symmetric PL bimodal maps* *(p.185)*

**S. Mary Rees,** University of Liverpool, Liverpool, Great Britain
*Using Teichmüller Geometry* *(p.187)*

**Johannes Riedl,** Technische Universität München, München, Germany
*On Crossed Renormalization of Quadratic Polynomials* *(p.187)*

**Stefan Siegmund,** Universität Augsburg, Augsburg, Germany
*Normal Forms for Nonautonomous Differential Equations of Carathéodory Type* *(p.191)*

**Jarosław Werbowski,** Poznań University of Technology, Poznań, Poland
*Oscillatory solutions of functional equations* *(p.194)*

**Inna Sergeevna Yemelyanova,** Nizhny Novgorod State University, Nizhny Novgorod, Russia
*Emmy Noether theorem assimilation in classical dynamics* *(p.195)*

**Piotr Zgliczynski,** Jagiellonian University, Inst. of Mathematics, Cracow, Poland
*Sharkovskii theorem for multidimensional perturbations of 1-dim maps* *(p.196)*

# Section 10: Partial Differential Equations

## Invited Lectures

**Wednesday, 19 August** **H 1012**

16:15 – 17:00 **Fabrice Bethuel,** Université Paris-Sud, Orsay, France
*Recent results for Ginzburg-Landau models* *(I: p.121)*
Chair: Dmitri Yafaev

17:15 – 18:00 **Robert R. Jensen,** Loyola University of Chicago, Chicago, USA
*Viscosity solutions of elliptic partial differential equations* *(I: p.122)*
Chair: Stefan Müller

**Thursday, 20 August** **H 1012**

14:00 – 14:45 **Matei Machedon,** University of Maryland, College Park, USA
*Fourier Analysis of Null Forms and Non-linear Wave Equations* *(I: p.124)*
Chair: Michael Struwe

15:00 – 15:45 **Frank Eric Merle,** Université de Cergy-Pontoise, Cergy-Pontoise, France
*Blow-up Phenomenon For Critical Nonlinear Schrödinger and Zakharov Equations* *(I: p.124)*
Chair: Elmar Schrohe

**Friday, 21 August** **H 1012**

16:15 – 17:00 **Gustavo Alberto Ponce,** University of California, Santa Barbara, USA
*On nonlinear dispersive equations* *(I: p.125)*
Chair: Mikhail Shubin

17:15 – 18:00 **Frédéric Hélein,** CMLA, ENS-Cachan, Cachan, France
*Phenomena of compensation and estimates for partial differential equations* *(I: p.121)*
Chair: Gunther A. Uhlmann

**Saturday, 22 August** **H 1012**

16:15 – 17:00 **Gunther A. Uhlmann,** University of Washington, Seattle, USA
*Inverse Boundary Value Problems for Partial Differential Equations* *(I: p.127)*
Chair: Bert-Wolfgang Schulze

17:15 – 18:00 **Mikhail Vasilevich Safonov,** University of Minnesota, Minneapolis, USA
*Estimates near the boundary for solutions of second order parabolic equations* *(I: p.126)*
Chair: Heinz O. Cordes

**Monday, 24 August** **H 1012**

14:00 – 14:45 **Dmitri Yafaev,** Université Rennes-1, Rennes, France
*Scattering theory: some old and new problems* *(I: p.127)*
Chair: Volker Enß

15:00 – 15:45 **Hans Lindblad,** University of California at San Diego, La Jolla, USA
*Minimal regularity solutions of nonlinear wave equations* *(I: p.122)*
Chair: Konrad Gröger

## Short Communications and Poster Sessions

**Short Communications** **Wednesday, 19 August**

**General Theory** **H 111**
Chair: Massimo Lanza de Cristoforis

14:00 – 14:15 **Wenxiong Chen,** Southwest Missouri State Univ., Springfield, MO, USA
*High Order Conformally Invariant Equations* *(p.200)*

14:15 – 14:30 **Paweł Domański,** A. Mickiewicz University, Fac. of Mathematics & Comp. Sci., Poznań, Poland
*Splitting of differential complexes* *(p.201)*

14:30 – 14:45 **Massimo Lanza de Cristoforis,** Università di Padova, Padova, Italy
*Differentiability Properties of the Autonomous Composition Operator in Sobolev Spaces* *(p.213)*

| | | |
|---|---|---|
| **Elliptic Equations I**<br>Chair: Florin C. Muscalu | | **H 110** |
| 14:00 – 14:15 | **Evgeni A. Kalita,** Institute of Applied Mathematics and Mechanics, Donetsk, Ukraine<br>*New class of a priori estimates for nonlinear elliptic equations and systems of high order* | *(p.208)* |
| 14:15 – 14:30 | **Vladimir A. Kondratiev,** Moscow State University, Moscow, Russia<br>*On Properties of Positive Solutions of Elliptic Equations* | *(p.210)* |
| 14:30 – 14:45 | **Florin C. Muscalu,** Brown University, Providence, Rhode Island, USA<br>*A Harnack Type Theorem for Elliptic Systems with $L^\infty$ Coefficients* | *(p.214)* |

| | | |
|---|---|---|
| **A Priori Estimates & Asymptotics**<br>Chair: Shuji Watanabe | | **H 111** |
| 15:00 – 15:15 | **Sergey Frolovitchev,** MTUCI, Moscow, Russia<br>*Multiplicative solution asymptotics for Kolmogorov-Feller equation and asymptotics of the boundary value problems* | *(p.203)* |
| 15:15 – 15:30 | **Annegret Glitzky,** WIAS, Berlin, Germany<br>*Electro–reaction–diffusion systems in heterostructures* | *(p.204)* |
| 15:30 – 15:45 | **Shuji Watanabe,** Toyota National College of Technology, Toyota-shi, Japan<br>*An embedding theorem of Sobolev type related to a generalized Fourier transform and applications to partial differential equations with singularity* | *(p.224)* |

| | | |
|---|---|---|
| **Applied Fluids**<br>Chair: Lizabeth V. Rachele | | **H 110** |
| 15:00 – 15:15 | **Olaf Schmidtmann,** WIAS Berlin, Berlin, Germany<br>*Stability Problems in Turbo Compressors* | *(p.220)* |
| 15:15 – 15:30 | **Lizabeth V. Rachele,** Purdue University, West Lafayette, IN, USA<br>*Inverse Problems for Elastic Media* | *(p.218)* |

## Short Communications — Thursday, 20 August

| | | |
|---|---|---|
| **Systems I**<br>Chair: Yakov Krasnov | | **H 111** |
| 16:15 – 16:30 | **Gennadii V. Demidenko,** Sobolev Institute of Mathematics, Novosibirsk, Russia<br>*Systems not of Cauchy–Kovalevskaya type* | *(p.201)* |
| 16:30 – 16:45 | **Abduhamid Dzhuraev,** Tajik Academy of Siences, Dushanbe, Tadschikistan<br>*On partial differential equations in the unit ball of $\mathbb{C}^n$, which are singular at the origin and on the boundary* | *(p.202)* |
| 16:45 – 17:00 | **Yakov Krasnov,** Bar-Ilan University, Ramat-Gan, Israel<br>*Symmetries of Cauchy-Riemann-Füter Equation* | *(p.211)* |

| | | |
|---|---|---|
| **Fluids**<br>Chair: Mitsuo Morimoto | | **H 111** |
| 17:15 – 17:30 | **Song Jiang,** Institute of Applied Physics and Computational Math., Beijing, P.R. China<br>*Large-time behavior of solutions to the equations of a one-dimensional viscous polytropic ideal gas in unbounded domains* | *(p.207)* |
| 17:30 – 17:45 | **Anatoli Merzon,** Moscow State Pedagogical University, Moscow, Russia<br>*A complete solution of the Ursell problem* | *(p.213)* |
| 17:45 – 18:00 | **Hiroko Morimoto,** Meiji University, Kawasaki-City, Japan<br>*On the Existence of Steady Navier-Stokes Flow in 2D Tube-like Domain under General Outflow Condition* | *(p.214)* |

## Short Communications — Friday, 21 August

**Elliptic Equations II (Singularities & Index Theory)** — **H 111**
Chair: Vladimir S. Rabinovich

| | | |
|---|---|---|
| 14:00 – 14:15 | **Vladimir Borisovich Vasil'ev,** Novgorod State University, Novgorod, Russia<br>*Wave factorization of elliptic symbols* | *(p.223)* |
| 14:15 – 14:30 | **Igor I. Skrypnik,** Institute of Applied Mathematics and Mechanics NASU, Donetsk, Ukraine<br>*Degree of densely defined* $(S)_+$ *operators and applications* | *(p.222)* |
| 14:30 – 14:45 | **Vladimir S. Rabinovich,** Rostov State University, Rostov-na-Donu, Russia<br>*Elliptic boundary value problems in domains with non-Lipschitz singular points* | *(p.218)* |

**Hyperbolic Equations I (Integrable Equations)** — **H 110**
Chair: Jiahong Wu

| | | |
|---|---|---|
| 14:00 – 14:15 | **Igor Anders,** Institute for Low Temperature Physics & Engineering, Kharkov, Ukraine<br>*Long-time asymptotic behaviour of non-decaying solutions of KP-type equations* | *(p.198)* |
| 14:15 – 14:30 | **Tariel Kiguradze,** Tbilisi I. Javakhishvili State University, Tbilisi, Georgia<br>*On periodic solutions of nonlinear second order hyperbolic equations* | *(p.209)* |
| 14:30 – 14:45 | **Jiahong Wu,** University of Texas at Austin, Austin, USA<br>*Zero dissipation limits of wave equations* | *(p.225)* |

**PDE and Mathematical Physics** — **H 111**
Chair: Roland Potthast

| | | |
|---|---|---|
| 15:00 – 15:15 | **Johannes Elschner,** WIAS Berlin, Berlin, Germany<br>*Existence, uniqueness, and regularity for solutions of the conical diffraction problem* | *(p.203)* |
| 15:15 – 15:30 | **Frank Jochmann,** Humboldt–Universität Berlin, Berlin, Germany<br>*Existence and asymptotic behavior of weak solutions of the drift diffusion equations for semiconductors* | *(p.207)* |
| 15:30 – 15:45 | **Roland Potthast,** University of Göttingen, Göttingen, Germany<br>*On mixed reciprocity relations in inverse scattering* | *(p.217)* |

**Navier-Stokes Equations** — **H 110**
Chair: Takeyuki Nagasawa

| | | |
|---|---|---|
| 15:00 – 15:15 | **Mikhail E. Bogovskii,** Friendship of Nations University of Russia, Moscow, Russia<br>*The problem of global smooth solutions for multidimensional Navier-Stokes equations solved* | *(p.199)* |
| 15:15 – 15:30 | **Soichiro Katayama,** Wakayama University, Wakayama, Japan<br>*Some semilinear wave equations with nonlinear damping terms* | *(p.208)* |
| 15:30 – 15:45 | **Takeyuki Nagasawa,** Tohoku University, Sendai, Japan<br>*A new energy inequality and partial regularity for weak solutions of Navier-Stokes equations* | *(p.215)* |

## Short Communications — Saturday, 22 August

**Elliptic Equations III (Spectral Theory)** — **H 111**
Chair: Tetsutaro T. Shibata

| | | |
|---|---|---|
| 14:00 – 14:15 | **Gabriella Bognár,** University of Miskolc, Miskolc, Hungary<br>*On a nonlinear eigenvalue problem* | *(p.198)* |
| 14:15 – 14:30 | **Jochen Denzler,** Technische Universität München, München, Germany<br>*Existence of windows with minimal heat diffusion* | *(p.201)* |
| 14:30 – 14:45 | **Tetsutaro T. Shibata,** Hiroshima University, Higashi-Hiroshima, Japan<br>*Asymptotic behavior of eigenvalues of nonlinear elliptic two-parameter problems* | *(p.221)* |

| **Systems II** | | **H 110** |
|---|---|---|
| Chair: Joachim Naumann | | |
| 14:00 – 14:15 | **Hakop A. Hakopian,** Gdansk University, Gdansk, Poland<br>*On two partial differential and one algebraic systems* | *(p.205)* |
| 14:15 – 14:30 | **Waichiro Matsumoto,** Université de Paris 6, Paris, France<br>*On the Cauchy-Kowalevskaya theorem of Nagumo type for systems* | *(p.213)* |
| 14:30 – 14:45 | **Joachim Naumann,** Humboldt–Universität Berlin, Berlin, Germany<br>*Interior Hölder continuity of weak solutions to nonlinear parabolic systems in two spatial dimensions* | *(p.215)* |

| **Hyperbolic Equations II (Shocks, Blow-up, and Other Singular Phenomena)** | | **H 111** |
|---|---|---|
| Chair: Ya-Guang Wang | | |
| 15:00 – 15:15 | **Mehmet Can,** Istanbul Technical University, Istanbul, Turkiye<br>*Blow up of solutions of a quasilinear hyperbolic equation with applications* | *(p.199)* |
| 15:15 – 15:30 | **Michael Ruzicka,** Inst. of Applied Mathematics, University Bonn, Bonn, Germany<br>*Electrorheological fluids, an example for systems with non-standard growth* | *(p.219)* |
| 15:30 – 15:45 | **Ya-Guang Wang,** Shanghai Jiao Tong University, Shanghai, P.R. of China<br>*Nonlinear Geometrical Optics for Shock Waves* | *(p.224)* |

| **Diffusion Processes** | | **H 110** |
|---|---|---|
| Chair: Natalia I. Grinberg | | |
| 15:00 – 15:15 | **Jack Carr,** Heriot-Watt University, Edinburgh, Scotland<br>*Asymptotic Behaviour of Solutions to a simplified Lifshitz-Slyozov Equation* | *(p.200)* |
| 15:15 – 15:30 | **Alexander M. Chebotarev,** Moscow State University, Moscow, Russia<br>*Resolvent theory for quantum dynamical semigroup* | *(p.200)* |
| 15:30 – 15:45 | **Natalia I. Grinberg,** Universität Münster, Münster, Germany<br>*Inverse boundary problem for 2D diffusion equation* | *(p.205)* |

## Short Communications — Monday, 24 August

| **Elliptic Equations IV (Non-linear Problems)** | | **H 111** |
|---|---|---|
| Chair: Hwai-Chiuan Wang | | |
| 16:15 – 16:30 | **Carsten Ebmeyer,** Universität Bonn, Bonn, Germany<br>*The p-Laplacian under mixed boundary value conditions in multidimensional polyhedral domains* | *(p.203)* |
| 16:30 – 16:45 | **Stanislav I. Pohozaev,** Steklov Mathematical Institute, Moscow, Russia<br>*Positive solutions of nonlinear Neumann problems. Application of the global fibering method* | *(p.217)* |
| 16:45 – 17:00 | **Hwai-Chiuan Wang,** Tsing Hua University, Hsinchu, China, Taiwan<br>*Semilinear Elliptic Problems in Interior and Exterior Flask Domains* | *(p.224)* |

| **Applied Problems I** | | **H 110** |
|---|---|---|
| Chair: Olga S. Rozanova | | |
| 16:15 – 16:30 | **Zhiming Chen,** Academia Sinica, Beijing, China, Peoples Republic of<br>*Adaptive Finite Element Methods for Dynamical GL Vortices in Superconductivity* | *(p.200)* |
| 16:30 – 16:45 | **Olga S. Rozanova,** Belgorod State University, Belgorod, Russia<br>*2-D model of atmosphere dynamics: energy balance and some properties of solutions* | *(p.219)* |
| 16:45 – 17:00 | **Gregory A. Chechkin,** Moscow State University, Mech & Math, Moscow, Russia<br>*On Behavior of Perforated Bodies with Rapidly Oscillating Surfaces* | |

| **Hyperbolic Equations III (Conservation Laws & Asymptotic Behavior)** | | **H 111** |
|---|---|---|
| Chair: Armen Shirikyan | | |
| 17:15 – 17:30 | **Christian Klingenberg,** Universität Würzburg, Würzburg, Germany<br>*Conservation laws with source terms* | *(p.209)* |
| 17:30 – 17:45 | **Andrzej Rogowski,** University of Łódź, Łódź, Poland<br>*Existence of space periodic solutions for semi-linear hyperbolic systems* | *(p.218)* |
| 17:45 – 18:00 | **Armen Shirikyan,** Moscow State University, Moscow, Russia<br>*Asymptotic behaviour of solutions to second-order hyperbolic equations* | *(p.221)* |

| **Reaction-Diffusion Equations** Chair: Klaus Zacharias | | **H 110** |
|---|---|---|
| 17:15 – 17:30 | **Gideon A. Ngwa,** University of Buea, Buea, Cameroon *The Effects of Boundary Conditions on Reaction Diffusion Equations* | *(p.216)* |
| 17:30 – 17:45 | **Arnd Scheel,** FU Berlin, FB Mathematik, Berlin, Germany *Essential instability of pulses amd bifurcations to modulated travelling waves* | *(p.220)* |
| 17:45 – 18:00 | **Klaus Zacharias,** Weierstraß Institute, Berlin, Germany *On a reaction–diffusion system modelling chemotaxis* | *(p.225)* |

## Short Communications — Tuesday, 25 August

| **Elliptic Equations V (Fourier and Harmonic Analysis)** Chair: Pawel Strzelecki | | **H 111** |
|---|---|---|
| 16:15 – 16:30 | **Alip Mohammed,** FB Mathematik und Informatik, FU-Berlin, Berlin, Germany *Riemann problem related to the Shilov boundary* | *(p.214)* |
| 16:30 – 16:45 | **Dian K. Palagachev,** University of Chemical Technology and Metallurgy, Sofia, Bulgaria *Oblique derivative problem for uniformly elliptic operators with VMO coefficients and applications* | *(p.216)* |
| 16:45 – 17:00 | **Paweł Strzelecki,** Warsaw University, Warsaw, Poland *Regularity for subelliptic p-harmonic maps and the ghost of Hardy spaces* | *(p.222)* |

| **Parabolic Equations** Chair: Nicolay Draganov Kutev | | **H 111** |
|---|---|---|
| 17:15 – 17:30 | **Helmut Koch,** Humboldt–Universität, Berlin, Germany *Large time regularity of solutions to the porous medium equation* | *(p.210)* |
| 17:30 – 17:45 | **Bernd Kawohl,** Universität Köln, Köln, Germany *Image processing and anisotropic diffusion* | *(p.208)* |
| 17:45 – 18:00 | **Nicolay Draganov Kutev,** Mathematisches Institut, Köln, Germany *Maximum and comparison principle for anisotropic diffusion* | *(p.212)* |

## Short Communications — Wednesday, 26 August

| **PDE and Dynamical Systems** Chair: Alexandre Kometch | | **H 111** |
|---|---|---|
| 14:00 – 14:15 | **Andrey Yu. Goritsky,** Moscow State University, Moscow, Russia *Integral manifolds with exponential tracking* | *(p.204)* |
| 14:15 – 14:30 | **Jörg Härterich,** FU Berlin, Berlin, Germany *Heteroclinic Orbits Between Rotating Waves in Hyperbolic Balance Laws* | *(p.205)* |
| 14:30 – 14:45 | **Alexandre Kometch,** Moscow State University, Moscow, Russia *Attractors for Hamiltonian Nonlinear Wave Equations* | *(p.210)* |

| **Non-linear Theory** Chair: Masafumi Yoshino | | **H 110** |
|---|---|---|
| 14:00 – 14:15 | **Vladimir Kozlov,** University of Linköping, Linköping, Sweden *Singularities of solutions of nonlinear elliptic equations* | *(p.211)* |
| 14:15 – 14:30 | **Sidi Mohammed Bouguima,** University of Tlemcen, Tlemcen, Algeria *Free boundary problem in the plane* | *(p.199)* |
| 14:30 – 14:45 | **Masafumi Yoshino,** Chuo University, Tokyo, Japan *Global solvability of fully nonlinear equations and Toeplitz operators* | *(p.225)* |

| Hyperbolic Equations IV (General Theory) Chair: Pavel A. Krutitskii | | H 111 |
|---|---|---|
| 15:00 – 15:15 | **Ludmila S. Pulkina,** Samara State University, Samara, Russia<br>*A nonlocal problem for the hyperbolic equation* | *(p.217)* |
| 15:15 – 15:30 | **Peetta Kandy Ratnakumar,** Indian Statistical Institute, Bangalore, India<br>*Wave Equation for the Hermite Operator* | *(p.218)* |
| 15:30 – 15:45 | **Pavel A. Krutitskii,** Moscow State University, Moscow, Russia<br>*Initial-boundary value problems in multiply connected domains for an equation of composite type* | *(p.212)* |

| Applied Problems II (Elasticity & Fusion) Chair: Juan Francisco Padial | | H 110 |
|---|---|---|
| 15:00 – 15:15 | **Alexander A. Kosmodemyanskii,** MIIT Dept. of Comp. Math., Moscow, Russia<br>*On the location of fail points in Torsion Problem* | *(p.211)* |
| 15:15 – 15:30 | **Juan Francisco Padial,** Universidad Politécnica de Madrid, Madrid, Spain<br>*Some mathematical models related to nuclear fusion* | *(p.216)* |

**Poster Session** **Tuesday, 25 August**

**14:00 – 15:45** **MA 144**

**Faina S. Berezovskaya,** Center of Forest Ecology, Moscow, Russia
*About solutions Ltraveling waves of Lienard equation cross-diffusion updatings* *(p.198)*

**Roland Duduchava,** A. Razmadze Mathematical Institute, Tbilisi, Georgia
*Asymptotics of solutions to crack–type and mixed problems* *(p.202)*

**Atsuhiko Eida,** Tokyo Engineering University, Tokyo, Japan
*Harmonic Analysis of Functions* *(p.203)*

**Kenji Hasegawa,** Kongakuin University, Tokyo, Japan
*Boundedness of Pseudodifferential Operators* *(p.206)*

**Toshio Horiuchi,** Ibaraki University, Mito, Japan
*Removable singularities for quasilinear degenerate elliptic equations with absorption terms* *(p.206)*

**Jaan Janno,** Institute of Cybernetics, Tallinn, Estonia
*Inverse problems for determining weakly singular kernels in partial integrodifferential equations* *(p.207)*

**Akisato Kubo,** Fujita Health University, Toyoake, Aichi, Japan
*Global existence of a classical solution to* $\Box u - \mu u + au^m = 0$ *(p.212)*

**Tokumori Nanbu,** Toyama Medical and Pharmaceutical University, Toyama, Japan
*On solutions of some nonlinear degenerate parabolic equations* *(p.215)*

**Dmitry Shepelsky,** Seoul National University, Seoul, Korea
*Inverse problem for a stratified uniaxial bianisotropic medium* *(p.220)*

**Yuming Shi,** ENS-Cachan, Cachan, France
*A Foias-Saut type of expansion for a dissipative wave equation* *(p.221)*

**Georgi V. Smirnov,** Universidade de Évora, Evora, Portugal
*A Periodic Knitting Problem for the Helmholtz Equation* *(p.222)*

**Anna Surkova,** Institute for Low Temperature Physics, Kharkov, Ukraine
*On the localization of the surface states for some class of the discrete Schrödinger oparators with surface potential*

**Kiyoshi Takeuchi,** Hiroshima University, Hiroshima, Japan
*Higher-codimensional boundary value problems for D-modules* *(p.222)*

**Jan Turo,** Technical University of Gdansk, Gdansk, Poland
*Solution of first order stochastic functional partial differential equations via integral contractors* *(p.223)*

**Leonid Volevich,** Keldysh Institute of Applied Mathematics, Moscow, Russia
*Stable and unstable manifolds for elliptic equations with parameter* *(p.223)*

# Section 11: Mathematical Physics

## Invited Lectures

**Wednesday, 19 August** **H 1028**

14:00 – 14:45 **Gian Michele Graf,** ETH Zürich, Zürich, Switzerland
*Stability of matter in classical and quantized fields* *(I: p.134)*
Chair: Volker Bach

15:00 – 15:45 **Barry McCoy,** State University of New York, Stony Brook, USA
*Rogers-Ramanujan identities: A Century of progress from mathematics to physics* *(I: p.135)*
Chair: Robert Schrader

**Wednesday, 19 August** **MA 005**

16:15 – 17:00 **Robbert Dijkgraaf (also Section 4),** University of Amsterdam, Amsterdam, The Netherlands
*The Mathematics of Fivebranes* *(I: p.62)*
Chair: Fedor Smirnov

**Thursday, 20 August** **H 1028**

16:15 – 17:00 **Jennifer T. Chayes,** Microsoft Research, Redmond, USA
*Birth of the Infinite Cluster: Finite-Size Scaling in Percolation* *(I: p.130)*
Chair: Jean-Dominique Deuschel

17:15 – 18:00 **Detlev Buchholz,** Universität Göttingen, Göttingen, Germany
*Scaling algebras in local relativistic quantum physics* *(I: p.129)*
Chair: Gian Michele Graf

**Friday, 21 August** **H 1028**

14:00 – 14:45 **Fedor Smirnov,** CNRS, LPTHE, Université Pierre et Marie Curie, Paris, France
*Space of local fields in integrable field theory and deformed Abelian integrals* *(I: p.137)*
Chair: Andreas Fring

15:00 – 15:45 **Roberto Schonmann,** UCLA, Los Angeles, USA
*Metastability and the Ising model* *(I: p.136)*
Chair: Christian Borgs

**Saturday, 22 August** **H 1028**

16:15 – 17:00 **Paul S. Aspinwall (also Section 4),** Duke University, Durham, USA
*Geometry and String Duality* *(I: p.59)*
Chair: Pelham M.H. Wilson

17:15 – 18:00 **Pierre Collet,** CNRS, École Polytechnique, Palaiseau, France
*Extended Dynamical Systems* *(I: p.130)*
Chair: Roberto Schonmann

**Tuesday, 25 August** **H 1028**

16:15 – 17:00 **Eugene Bogomolny,** Université Paris Sud, Orsay, France
*Spectral Statistics* (I: p.129)
Chair: Pierre Collet

17:15 – 18:00 **Horng-Tzer Yau,** Courant Institute, New York University, New York, USA
*Scaling Limit of Particle Systems, Incompressible Navier-Stokes Equation, and Boltzmann Equation* (I: p.138)
Chair: Ruedi Seiler

**Wednesday, 26 August** **H 1028**

14:00 – 14:45 **Antonio Giorgilli,** Università degli Studi di Milano, Milano, Italy
*On the problem of stability for near to integrable Hamiltonian systems* (I: p.132)
Chair: Johannes Kellendonk

## Short Communications and Poster Sessions

**Short Communications** **Wednesday, 19 August**

**Many Particle Systems** **H 107**
Chair: Gennady Shchepanuk

17:15 – 17:30 **Valeri V. Kucherenko,** Instituto Politecnico Nacional, México D.F., Mexico
*Normal forms of quadratic boson operators and theirs spectrum* (p.238)

17:30 – 17:45 **Christoph Bandt,** Universität Greifswald, Greifswald, Germany
*The geometry of a parameter space for interacting particle systems* (p.229)

17:45 – 18:00 **Gennady Shchepanuk,** Institute of Mathematics of NASU, Kyiv, Ukraine
*Almost $L_2$-exponential mixing for classical continuous systems* (p.245)

**Short Communications** **Thursday, 20 August**

**Integrable Systems I** **H 107**
Chair: Renat Z. Zhdanov

14:00 – 14:15 **Igor Korepanov,** South Ural State University, Chelyabinsk, Russia
*Integrability in higher dimensions* (p.238)

14:15 – 14:30 **Iordan P. Michev,** RIMS, Kyoto University, Kyoto, Japan
*On the Fay identity for Kdv tau functions and the identity for the Wronskian of squared solutions of Sturm-Liouville equation* (p.240)

14:30 – 14:45 **Renat Z. Zhdanov,** Institute of Mathematics, Kyiv, Ukraine
*On classification of separable (2+1)-dimensional Schrödinger equations* (p.246)

**Statistical Mechanics** **H 107**
Chair: Ali E Özlük

15:00 – 15:15 **Daniel Marinov Danchev,** Bulgarian Academy of Sciences, Sofia, Bulgaria
*FSS Properties of an Exactly Solvable Quantum Model* (p.231)

15:15 – 15:30 **Valentina Goloubeva,** All-Russian Institute of Sci. and Techn. Inf., Moscow, Russia
*On algebraic similarity of Calogero and Sutherland models* (p.234)

15:30 – 15:45 **Ali E Özlük,** University of Maine, Orono, USA
*A Farey Fraction Spin Chain* (p.242)

## Short Communications — Friday, 21 August

**Spectral Analysis I** — **H 107**
Chair: George D. Raikov

| | | |
|---|---|---|
| 16:15 – 16:30 | **Hermann Schulz-Baldes,** TU Berlin, Berlin, Germany<br>*Quantum dynamics in presence of fractal spectra* | *(p.245)* |
| 16:30 – 16:45 | **Michael Demuth,** TU Clausthal, Clausthal, Germany<br>*Stable absolutely and singularly continuous spectra due to integral conditions* | *(p.232)* |
| 16:45 – 17:00 | **George D. Raikov,** Bulgarian Academy of Sciences, Sofia, Bulgaria<br>*Eigenvalue asymptotics for the Dirac operator in strong constant magnetic fields* | *(p.243)* |

**Thermodynamcis, Hydrodynamcis, Non-linear Dynamics I** — **H 1029**
Chair: Volodymyr Kotlyarov

| | | |
|---|---|---|
| 16:15 – 16:30 | **Xinyu He,** University of Warwick, Coventry, Great Britain<br>*A probabilistic method for vortex motion in turbulent fluids* | *(p.235)* |
| 16:30 – 16:45 | **Vladyslav V. Danishevs'kyy,** Prydniprovska State Ac. of Civ. Eng., Dnipropetrovsk, Ukraine<br>*A New Asymptotic Technique for Nonlinear Dynamic Boundary Value Problems* | *(p.231)* |
| 16:45 – 17:00 | **Volodymyr Kotlyarov,** Institute for Low Temperature Physics, Kharkov, Ukraine<br>*Scattering problem for compatible ordinary differential equations and nonlinear Schrödinger equation on the semi-axis* | *(p.238)* |

**Spectral Analysis II** — **H 107**
Chair: Andrey V. Tchourkin

| | | |
|---|---|---|
| 17:15 – 17:30 | **Mark M. Malamud,** Donetsk State University, Donetsk, Ukraine<br>*Inverse spectral analysis for first order systems* | *(p.240)* |
| 17:30 – 17:45 | **Richard L. Hall,** Concordia University, Montreal, Quebec, Canada<br>*Geometric spectral inversion* | *(p.235)* |
| 17:45 – 18:00 | **Andrey V. Tchourkin,** Moscow State University, Moscow, Russia<br>*Quantum stochastic model of gravitational wave interferometer detector* | *(p.246)* |

## Short Communications — Saturday, 22 August

**Field Theory I** — **H 107**
Chair: Pierre Mathieu

| | | |
|---|---|---|
| 14:00 – 14:15 | **Robert W. Carroll,** University of Illinois, Urbana, IL, USA<br>*On Whitham dynamics and renormalization* | *(p.230)* |
| 14:15 – 14:30 | **Andrei G. Bytsko,** Steklov Mathematics Institute, St. Petersburg, Russia<br>*On factorized Virasoro characters* | *(p.230)* |
| 14:30 – 14:45 | **Andreas Fring,** Freie Universität Berlin, Berlin, Germany<br>*Lie Algebraic Structures from Factorized Virasoro Characters* | *(p.233)* |

**Discrete Eigenvalue Theory** — **H 1029**
Chair: Miodrag Perovic

| | | |
|---|---|---|
| 14:00 – 14:15 | **Miodrag Perovic,** University of Montenegro, Podgorica, Yugoslavia<br>*Some Comments Concerning the Application of the Discrete Eigenvalue Theory* | |

**Field Theory II** — **H 107**
Chair: Robert W. Carroll

| | | |
|---|---|---|
| 15:00 – 15:15 | **Pierre Mathieu,** Université Laval, Québec, Canada<br>*Generating functions for fusion rules* | *(p.240)* |
| 15:15 – 15:30 | **Moukadas Missarov,** Kazan State University, Kazan, Russia<br>*Critical phenomena and continuum limit in the hierarchical fermionic model* | *(p.240)* |
| 15:30 – 15:45 | **Michael Monastyrsky,** Institute of Theoretical & Experimental Physics, Moscow, Russia<br>*Correlation functions on Riemann surfaces and statistics of Knots* | *(p.241)* |

## Short Communications — Monday, 24 August

**Geometry, General Relativity** — **H 107**
Chair: Akira Asada

14:00 – 14:15 **Mohamed Abdel-Megied,** Minia University, El-Minia, Egypt
*Conformal Singularities* (p.227)
14:15 – 14:30 **Paula B. Cohen,** CNRS, Lille, France
*Siegel's Lemma, Padé Approximations and Jacobians* (p.230)
14:30 – 14:45 **Akira Asada,** Sinsyu University, Matumoto, Japan
*Clifford bundles over mapping spaces* (p.228)

**Thermodynamics, Hydrodynamics, Non-linear Dynamics II** — **H 1029**
Chair: Burkhard J. Schmitt

14:00 – 14:15 **Alexander Zlotnik,** Moscow Power Engineering Institute, Moscow, Russia
*Global weak solutions to the equations of one-dimensional motion of a viscous heat-conducting gas with nonsmooth data* (p.247)
14:15 – 14:30 **Yoshimitsu Iwasaki,** Okayama University of Science, Okayama, Japan
*Axiomatic theory of the multiple anelastic relaxation in crystalline solids* (p.235)
14:30 – 14:45 **George Jaiani,** Tbilisi State University, Tbilisi, Republic of Georgia
*A Mathematical Model of Bars with Variable Rectangular Cross-section* (p.236)

**Symmetries and Mathematical Methods in Physics** — **H 107**
Chair: Vladimir V. Kisil

15:00 – 15:15 **C. Martha Banulescu,** Association "Nicolae Balescu", Bucharest, Romania
*Lie Groups in Physics* (p.229)
15:15 – 15:30 **Malgorzata Klimek,** Technical University of Częstochowa, Częstochowa, Poland
*Conserved Currents for Linear Equations of Motion in Discrete and Non-commutative Models* (p.237)
15:30 – 15:45 **Vladimir V. Kisil,** Odessa State University, Odessa, Ukraine
*Feynman Path Integral, Umbral Claculus, and Non-Commutative Combinatorics* (p.237)

**Thermodynamics, Hydrodynamics, Non-linear Dynamics III** — **H 1029**
Chair: Alexander Zlotnik

15:00 – 15:15 **Burkhard J. Schmitt,** RWTH Aachen, Aachen, Germany
*On upper bounds for the energy dissipation rate in turbulent shear flow* (p.244)
15:15 – 15:30 **Lev L.D. Pustylnikov,** Universität Bielefeld, Bielefeld, Germany
*Poincare models, rigorous justification of the second law of thermodynamics on the basis of mechanics, and the Fermi acceleration mechanism* (p.243)
15:30 – 15:45 **Andrey B. Morgulis,** Rostov University, Dept. of Math., Rostov-na-Donu, Russia
*Асимптотика высокочастотных колебаний идеальной жидкости, протекающей сквозь канал конечной длины* (p.241)

## Short Communications — Tuesday, 25 August

**q-Deformation, Quantization** — **H 107**
Chair: Markus J. Pflaum

14:00 – 14:15 **Hitoshi Konno,** Hiroshima University, Higashi-Hiroshima, Japan
*Elliptic quantum groups* (p.237)
14:15 – 14:30 **Andreas Ruffing,** University of Munich, München, Germany
*On Schrödinger-Hermite Operators in Lattice Quantum Mechanics* (p.243)
14:30 – 14:45 **Markus J. Pflaum,** Humboldt–Universität, Berlin, Germany
*Remarks on the quantization of stratified symplectic manifolds* (p.242)

| **Mathematical Methods in Physics I**<br>Chair: Mikhail Brodsky | | **H 1029** |
|---|---|---|
| 14:00 – 14:15 | **Boris V. Loginov,** Ulyanovsk State Technical University, Ulyanovsk, Russia<br>*Bifurcation theory methods in the problem about capillary-gravity waves in spatial layer of floating fluid* | *(p.239)* |
| 14:15 – 14:30 | **Nina F. Golovanova,** The Moscow State Textile Academy, Moscow, Russia<br>*Eiconal expansion solution for T-matrix equation and the unitarity condition* | *(p.234)* |
| 14:30 – 14:45 | **Anton A. Golovanov,** The Moscow State Textile Academy, Moscow, Russia<br>*Solution of the T-matrixs equation by the eikonal expansion method* | *(p.234)* |

| **Integrable Systems II**<br>Chair: Karl-Georg Schlesinger | | **H 107** |
|---|---|---|
| 15:00 – 15:15 | **Vitaly Tarasov,** Max-Planck-Institut für Mathematik, Bonn, Germany<br>*q-Hypergeometric solutions of the quantized Knizhnik-Zamolodchikov equation* | *(p.245)* |
| 15:15 – 15:30 | **Vladimir Dragovic,** Mathematical Institute SANU, Belgrade, Yugoslavia<br>*Integrable generalizations of classical mechanical systems* | *(p.232)* |
| 15:30 – 15:45 | **Karl-Georg Schlesinger,** Erwin Schrödinger Inst. for Mathem. Physics, Vienna, Austria<br>*Quantum geometry by non-abelian cohomology* | *(p.244)* |

| **Mathematical Methods in Physics II**<br>Chair: Boris V. Loginov | | **H 1029** |
|---|---|---|
| 15:00 – 15:15 | **Mikhail Brodsky,** University of California, Berkeley, CA, USA<br>*A Physicist's Definition of the Schwarz Function* | *(p.229)* |
| 15:15 – 15:30 | **Joyati Debnath,** Winona State University, Winona, MN, USA<br>*Associated Transforms Through a Mathematical Software System* | *(p.231)* |
| 15:30 – 15:45 | **Andrei Khrennikov,** University of Växjö, Växjö, Sweden<br>*p-adic realization of negative probabilities and Einstein-Podolsky-Rosen paradox* | *(p.236)* |

## Short Communications — Wednesday, 26 August

| **Algebraic Methods in Physics**<br>Chair: Victor V. Zharinov | | **H 107** |
|---|---|---|
| 15:00 – 15:15 | **Andrej V. Bulinskij,** Moscow Institute of Physics, Dolgoprudny, Russia<br>*On dynamical semigroups compatible with states of von Neumann algebras* | *(p.229)* |
| 15:15 – 15:30 | **Fernando F. Lledó,** Universität Potsdam, Potsdam, Germany<br>*On some algebraic properties of massless free nets* | *(p.239)* |
| 15:30 – 15:45 | **Victor V. Zharinov,** Steklov Mathematical Institute, Moscow, Russia<br>*On derivations of the Heisenberg algebra* | *(p.246)* |

| **Field Theory III**<br>Chair: Henrik Petersson | | **H 107** |
|---|---|---|
| 16:15 – 16:30 | **Robert Fittler,** FU Berlin, Berlin, Germany<br>*Nonstandard Quantumelectrodynamics* | *(p.233)* |
| 16:30 – 16:45 | **Takashi Kimura,** Dept. of Math, Boston University, Boston, MA, USA<br>*Cohomological Field Theories and Tautological Classes* | *(p.236)* |
| 16:45 – 17:00 | **Henrik Petersson,** Växjö University, Växjö, Sweden<br>*Properties of analytical maps on infinite dimensional locally convex spaces* | *(p.242)* |

| **Thermodynamics, Hydrodynamics, Non-linear Dynamics IV**<br>Chair: Juan M. Alvaro Vilumbrales | | **H 107** |
|---|---|---|
| 17:15 – 17:30 | **Sergei Fedotov,** Dept. of Mathematical Physics, Yekaterinburg, Russia<br>*Travelling Waves in a Reaction-Diffusion System with KPP-kinetics* | *(p.233)* |
| 17:30 – 17:45 | **Alexander A Alexeyev,** Peoples' Friendship University, Moscow, Russia<br>*Superposition principles for nonlinear partial differential equations in (1+1) dimension* | *(p.227)* |
| 17:45 – 18:00 | **Juan M. Alvaro Vilumbrales,** Polytechnic University of Valencia, Valencia, Spain<br>*Cylindrical and spherical problems of Stefan: analytical solutions and numerical estimates* | *(p.228)* |

**Poster Session** **Monday, 24 August**
**16:15 – 18:00** **MA 144**

**Jack Asavanant,** Chulalongkorn University, Bangkok, Thailand
*Free-surface flows past a rectilinear object with stagnation points* *(p.228)*

**Valery Dryuma,** Institute of Mathematics, Kishinev, Moldova
*Integration of Einstein equation for higher-dimensional space* *(p.232)*

**Nadja Kutz,** Technische Universität Berlin, Berlin, Germany
*Discrete Nonlinear Toda Evolution* *(p.239)*

**David Natroshvili,** Georgian Technical University, Tbilisi, Georgia
*Direct and inverse problems of fluid-structure interaction* *(p.241)*

**Jean Ndimubandi,** Université du Burundi, Bujumbura, Burundi
*The q-Dirac oscillator: the context of radial potentials* *(p.242)*

**Joachim Rehberg,** Weierstraß-Institut, Berlin, Germany
*A hybrid semiconductor device model including nanostructures* *(p.243)*

**Ryuichi Sawae,** Okayama University of Science, Okayama City, Japan
*An action of Virasoro algebra on the formal loop group solutions of 2d reduced Einstein equations* *(p.244)*

**Joseph C. Várilly,** Universidad de Costa Rica, San José, Costa Rica
*Quantum fields over noncommutative tori* *(p.246)*

# Section 12: Probability and Statistics

## Invited Lectures

**Wednesday, 19 August** **H 1028**

16:15 – 17:00 **David John Aldous,** University of California, Berkeley, USA
*Stochastic Coalescence* *(I: p.140)*
Chair: Friedrich Götze

17:15 – 18:00 **Jayanta Kumar Ghosh,** Indian Statistical Institute, Calcutta, India and Purdue University, West Lafayette, USA
*Bayesian Density Estimation* *(I: p.143)*
Chair: Vladimir I. Koltchinskii

**Thursday, 20 August** **H 1028**

14:00 – 14:45 **Ruth J. Williams,** University of California at San Diego, La Jolla, USA
*Reflecting Diffusions and Queueing Networks* *(I: p.152)*
Chair: Ludwig Arnold

15:00 – 15:45 **Maury D. Bramson,** University of Minnesota, Minneapolis, USA
*State Space Collapse for Queueing Networks* *(I: p.141)*
Chair: Jennifer T. Chayes

**Friday, 21 August** **H 1028**

16:15 – 17:00 **Mark Freidlin,** University of Maryland, College Park, USA
*Random and Deterministic Perturbations of Nonlinear Oscillators* *(I: p.141)*
Chair: Jürgen Gärtner

17:15 – 18:00 **Jean-François Le Gall,** DMI — École Normale Supérieure, Paris, France
*Branching processes, random trees and superprocesses* *(I: p.147)*
Chair: Donald Dawson

**Monday, 24 August** **H 1028**

14:00 – 14:45 **Friedrich Götze,** Universität Bielefeld, Bielefeld, Germany
*Lattice Point Problems and the Central Limit Theorem in Euclidean Spaces* *(I: p.143)*
Chair: Richard M. Dudley

15:00 – 15:45 **Marco Avellaneda (also Section 16),** Courant Institute, New York University, New York, USA
*Inverse Problems in Quantitative Financial Modeling* *(I: p.140)*
Chair: George C. Papanicolaou

**Tuesday, 25 August** **H 1028**

14:00 – 14:45 **Alain-Sol Sznitman,** ETH Zürich, Zürich, Switzerland
*Brownian motion and random obstacles* *(I: p.149)*
Chair: Terry J. Lyons

15:00 – 15:45 **Peter Gavin Hall,** Australian National University, Canberra, Australia
*Applications of Intentionally Biased Bootstrap Methods* *(I: p.144)*
Chair: Olaf Bunke

**Wednesday, 26 August** **H 1028**

15:00 – 15:45 **David Oliver Siegmund,** Stanford University, Stanford, USA
*Genetic linkage analysis: an irregular statistical problem* *(I: p.148)*
Chair: Uwe Küchler

16:15 – 17:00 **Boris Tsirelson,** Tel Aviv University, Tel Aviv, Israel
*Within and beyond the reach of Brownian innovation* *(I: p.149)*
Chair: Yuri Kifer

17:15 – 18:00 **Iain Murray Johnstone,** Stanford University, Stanford, USA
*Oracle Inequalities and Nonparametric Function Estimation* *(I: p.146)*
Chair: Persi W. Diaconis

## Short Communications and Poster Sessions

**Short Communications** **Wednesday, 19 August**

**Branching Processes** **H 107**
Chair: Hermann Dinges

14:00 – 14:15 **Anton Wakolbinger,** Johann Wolfgang Goethe Universität, Frankfurt a.M., Germany
*Critical branching random walks in a random medium* *(p.272)*

14:15 – 14:30 **Aubrey Wulfsohn,** Warwick University, Coventry, Great Britain
*Branching diffusions with random offspring distributions* *(p.272)*

14:30 – 14:45 **Klaus Fleischmann,** WIAS, Berlin, Germany
*Super-Brownian motion with a super-Brownian catalyst* *(p.250)*

| **Data Analysis** | | **H 1029** |
|---|---|---|
| Chair: Joerg Polzehl | | |
| 14:00 – 14:15 | **Osvaldo Marrero,** Villanova University, Villanova, PA, USA<br>*Statistical analysis of seasonality in multiple groups* | *(p.260)* |
| 14:15 – 14:30 | **Fernando Rosado,** Departamento de Estatistica, Lisboa, Portugal<br>*On the Outlier Problem for Structured Data* | *(p.268)* |
| 14:30 – 14:45 | **Vera Pawlowsky-Glahn,** Universitat Politècnica de Catalunya, Barcelona, Spain<br>*Distances for multivariate spatial data analysis* | *(p.265)* |

| **Random Walks, Discrete Structures** | | **H 107** |
|---|---|---|
| Chair: Klaus Fleischmann | | |
| 15:00 – 15:15 | **Boris L. Granovsky,** Dept. of Math., Technion, Israel, Haifa, Israel<br>*Spectral gap of certain continuous-time Markov processes* | *(p.252)* |
| 15:15 – 15:30 | **Rainer Siegmund-Schultze,** FU, Berlin, Germany<br>*Level Crossing Probabilities for Random Walks* | *(p.269)* |

| **Distribution Theory** | | **H 1029** |
|---|---|---|
| Chair: Lutz Mattner | | |
| 15:00 – 15:15 | **Tea-Yuan Hwang,** National Tsing-Hua University, Hsinchu, China, Taiwan<br>*On some characterizations of population distributions* | *(p.254)* |
| 15:15 – 15:30 | **Papa Ngom,** Université d'Aix-Mairseille, Aix-en-Provence, France<br>*Aspect bayésien des a-distributions et application* | *(p.263)* |
| 15:30 – 15:45 | **Lutz Mattner,** Universität Hamburg, Hamburg, Germany<br>*What are cumulants?* | *(p.261)* |

## Short Communications — Thursday, 20 August

| **Interacting Particle Systems** | | **H 107** |
|---|---|---|
| Chair: Hans-Otto Georgii | | |
| 16:15 – 16:30 | **Jochen Geiger,** Universität Frankfurt, Frankfurt, Germany<br>*The genealogy of a cluster in the multitype voter model* | *(p.251)* |
| 16:30 – 16:45 | **Alejandro F. Ramirez,** École Polytechnique Federale de Lausanne, Lausanne, Switzerland<br>*Diffusion and saturation processes in random media* | *(p.267)* |
| 16:45 – 17:00 | **Kenji Handa,** Saga University, Saga, Japan<br>*A lower bound for time correlation of lattice gas* | *(p.252)* |

| **Limit Theorems** | | **H 1029** |
|---|---|---|
| Chair: Ludwig Paditz | | |
| 16:15 – 16:30 | **Alexander V. Bulinski,** Moscow State University, Moscow, Russia<br>*Limit laws for arrays* | *(p.249)* |
| 16:30 – 16:45 | **Oleg I. Klesov,** National Technical University, Kiev, Ukraine<br>*A general form of the strong law of large numbers* | *(p.256)* |
| 16:45 – 17:00 | **Michael P. Voit,** Universität Tübingen, Tübingen, Germany<br>*Ultraspherical expansions and central limit theorems for unit spheres* | *(p.271)* |

| **Particle Approximations, Stochastic Evolutions** | | **H 107** |
|---|---|---|
| Chair: Alfred Liemant | | |
| 17:15 – 17:30 | **Terry J. Lyons,** Imperial College of Science, London, Great Britain<br>*Branching particle approximations to smoothing and filtering* | *(p.259)* |
| 17:30 – 17:45 | **Krystyna Twardowska,** Warsaw University of Technology, Warsaw, Poland<br>*Applications of support theorems to invariance measure theory* | *(p.270)* |
| 17:45 – 18:00 | **Wolfgang Wagner,** Weierstraß Institut, Berlin, Germany<br>*Stochastic particle systems approximating the stationary Boltzmann equation* | *(p.271)* |

| **Limit Theorems, Inequalities, and Martingales**<br>Chair: Sergei Nagaev | | **H 1029** |
|---|---|---|
| 17:15 – 17:30 | **Anatoly N. Kochubei,** Institute of Mathematics, Kiev, Ukraine<br>*Limit Theorems for Sums of p-Adic Random Variables* | *(p.257)* |
| 17:30 – 17:45 | **Toshitada Shintani,** Tomakomai Nat. Coll. of Technology, Hokkaido, Japan<br>*Uniform integrability of $L^1$-bounded matingales* | *(p.269)* |
| 17:45 – 18:00 | **Sergei Nagaev,** Sobolev Institute of Mathematiks, Novosibirsk, Russia<br>*Probability inequalities for sums of dependent Banach space valued random variables* | *(p.263)* |

## Short Communications — Friday, 21 August

| **Stochastic Processes I**<br>Chair: Michael K.R. Scheutzow | | **H 107** |
|---|---|---|
| 14:00 – 14:15 | **Yuriy V. Kolomiets,** Institute of Applied Mathematics, Donetsk, Ukraine<br>*On behavior of solutions of evolution equations perturbed by random processes* | *(p.257)* |
| 14:15 – 14:30 | **Vassily A. Yaroshevsky,** Central Aerohydrodynamic Institute, Zhukovsky, Moscow, Russia<br>*Estimation of large deviations of dynamic system phase* | *(p.273)* |
| 14:30 – 14:45 | **Anna V. Naydonova,** Kiev University, Kiev, Ukraine<br>*Analysis of Stochastic Recurrent Algorithms with the Random Reaction Time and Applications for Some Queueing Models* | *(p.263)* |

| **Bayesian Methods**<br>Chair: Michael Nussbaum | | **H 1029** |
|---|---|---|
| 14:00 – 14:15 | **Ammar Sarhan,** Monsoura Unicersity, Mansoura, Egypt<br>*Empirical Bayes Estimators of Indexed Parameters of Exponential Families* | |
| 14:15 – 14:30 | **Olaf Bunke,** Humboldt–Universität, Berlin, Germany<br>*Asymptotic behauviour of Bayes estimates under possibly incorrect models* | |

| **Stochastic Processes II**<br>Chair: Peter Imkeller | | **H 107** |
|---|---|---|
| 15:00 – 15:15 | **Andrzej Makagon,** Hampton University, Hampton, VA, USA<br>*Periodically Correlated Processes and Mackey's Imprimitivity Theorem* | *(p.259)* |
| 15:15 – 15:30 | **Boris G. Martchenko,** Inst. of Electrodynamics UNAS, Kiev, Ukraine<br>*Concerning on a theorem for periodic in Slutskiy sense linear random processes* | *(p.260)* |
| 15:30 – 15:45 | **Andrew Ya. Olenko,** Kyiv University, Kyiv, Ukraine<br>*On some properties of correlation and spectral functions* | *(p.264)* |

| **Stochastic Algorithms**<br>Chair: Peter Mathé | | **H 1029** |
|---|---|---|
| 15:00 – 15:15 | **Grigori Milstein,** WIAS, Berlin, Germany<br>*The probability approach to numerical solution of nonlinear parabolic equations* | *(p.261)* |
| 15:15 – 15:30 | **Vadim I. Arkin,** CEMI, Russian Academy of Sciences, Moscow, Russia<br>*Optimal stopping problems with restrictions* | *(p.248)* |
| 15:30 – 15:45 | **Peter Mathé,** Weierstraß Institut, Berlin, Germany<br>*Efficiency of Monte Carlo Integration Using Markov Chains* | *(p.260)* |

## Short Communications — Saturday, 22 August

**Self Similarity, White Noise** — **H 107**
Chair: Murad S. Taqqu

| | | |
|---|---|---|
| 16:15 – 16:30 | **Iosif Kolumban,** Babes-Bolyai University, Cluj-Napoca, Romania<br>*Invariant sets in Menger spaces* | *(p.257)* |
| 16:30 – 16:45 | **Louis F. Rossi,** University of Massachusetts, Lowell, MA, USA<br>*Self-similar viscous rotating vortical structures* | *(p.268)* |
| 16:45 – 17:00 | **Yuh-Jia Lee,** National Cheng-Kung University, Tainan, China, Taiwan<br>*Generalized White Noise Functionals on Classical Wiener Space* | *(p.258)* |

**Tests and Confidence Sets** — **H 1029**
Chair: Ekkehard Glimm

| | | |
|---|---|---|
| 16:15 – 16:30 | **Alejandra Cabana,** IVIC — Departamento de Matematicas, Caracas, Venezuela<br>*Goodness-of-Fit Tests Based on Transformed Empirical Processes* | *(p.249)* |
| 16:30 – 16:45 | **Roman Rozanski,** Wroclaw University of Technology, Wroclaw, Poland<br>*Asymptotically consistent and efficient fixed-size sequential confidence sets* | *(p.269)* |
| 16:45 – 17:00 | **Ekkehard Glimm,** Inst. für Biometrie und Med. Fakultät Magdeburg, Magdeburg, Germany<br>*Power and admissibility of spherical multivariate tests* | *(p.251)* |

**Teaching in Probability** — **H 107**
Chair: Murad S. Taqqu

| | | |
|---|---|---|
| 17:15 – 17:30 | **Natalya V. Vinogradova,** Karelian State Pedagogical Univ., Petrozavodsk, Russia<br>*Classical Definition of Probability* | *(p.271)* |
| 17:30 – 17:45 | **Yuliya Stepanovna Mishura,** Kiev University, Kiev, Ukraine<br>*Generalized stochastic integrals with application to fractional Brownian motion* | |

## Short Communications — Monday, 24 August

**Liapunov Exponents** — **H 107**
Chair: Michael K.R. Scheutzow

| | | |
|---|---|---|
| 16:15 – 16:30 | **Volker Wihstutz,** University of North Carolina, Charlotte, NC, USA<br>*Stability Maps for Systems with Noise Induced Stability* | *(p.272)* |
| 16:30 – 16:45 | **Peter Imkeller,** Humboldt–Universität, Berlin, Germany<br>*An explicit description of the Lyapunov exponents of the noisy damped harmonic oscillator* | *(p.254)* |
| 16:45 – 17:00 | **Michel L.E. Rieutord,** Observatoire Midi-Pyrénées, Toulouse, France<br>*A boundary value problem of mixed type in a spherical shell* | *(p.268)* |

**Empirical Processes and Nonparametric Inference** — **H 1029**
Chair: Michael Nussbaum

| | | |
|---|---|---|
| 16:15 – 16:30 | **Samir Ben Hariz,** Université de Paris Sud, Orsay, France<br>*Uniform CLT for empirical process indexed by classes of functions* | *(p.248)* |
| 16:30 – 16:45 | **Michael Jaehnisch,** Weierstraß Institute, Berlin, Germany<br>*Asymptotic equivalence for a density model with independent but non identically distributed random variables* | *(p.255)* |
| 16:45 – 17:00 | **Vladimir I. Koltchinskii,** University of New Mexico, Albuquerque, NM, USA<br>*Empirical geometry of multivariate data: a deconvolution approach* | *(p.257)* |

**Large Deviations** — **H 107**
Chair: Dmitry Ioffe

| | | |
|---|---|---|
| 17:15 – 17:30 | **Esa Nummelin,** University of Helsinki, Helsinki, Finland<br>*Large deviations of random vector fields with applications to economics* | *(p.264)* |
| 17:30 – 17:45 | **Rolando Rebolledo,** Universidad Católica de Chile, Santiago, Chile<br>*Stopping Times and Large-Deviation Principles* | *(p.267)* |
| 17:45 – 18:00 | **Tzuu-Shuh Chiang,** Academia Sinica, Taipei, Taiwan<br>*Large deviation of small diffusions in discontinuous media* | *(p.250)* |

| **Statistics for Stochastic Differential Equations**<br>Chair: Mikhailo Yadrenko | | **H 1029** |
|---|---|---|
| 17:15 – 17:30 | **Marianne Huebner,** Michigan State University, East Lansing, Michigan, USA<br>*Nonparametric estimation for stochastic partial differential equations* | |
| 17:30 – 17:45 | **Ruth Pfeiffer,** University of Maryland, College Park MD, USA<br>*Statistical Problems for Stochastic Processes with Hysteresis* | *(p.266)* |
| 17:45 – 18:00 | **Alexander Frolovich Taraskin,** Samara State Aerospace University, Samara, Russia<br>*On problems of statistics for SDE* | *(p.270)* |

## Short Communications — Tuesday, 25 August

| **Brownian Motion I**<br>Chair: Jean-Pierre Imhof | | **H 107** |
|---|---|---|
| 16:15 – 16:30 | **Frank B. Knight,** University of Illinois, Urbana, Illinois, USA<br>*On the moments of the area functional of Brownian bridge* | *(p.256)* |
| 16:30 – 16:45 | **Andrei Nikolaevich Borodin,** St. Petersburg Dept. Steklov Math. Inst., St. Petersburg, Russia<br>*Distributions of functionals of a particular non-Markov process* | *(p.249)* |
| 16:45 – 17:00 | **Peter Mörters,** Universität Kaiserslautern, Kaiserslautern, Germany<br>*Pathwise Kallianpur Robbins laws for planar Brownian motion* | *(p.262)* |

| **Time Series Analysis**<br>Chair: Alexander Frolovich Taraskin | | **H 1029** |
|---|---|---|
| 16:15 – 16:30 | **Mirta Benšić,** Faculty of Economics, Osijek, Croatia<br>*Asymptotic properties of the least square estimators in regression models with singular errors* | *(p.248)* |
| 16:30 – 16:45 | **Uwe Hassler,** Freie Universität, Berlin, Germany<br>*When Do Polynomial Regressions of Nonstationary Fractionally Integrated Processes Make Sense?* | *(p.252)* |
| 16:45 – 17:00 | **Pavel S. Knopov,** V.M. Glushkov Institute of Cybernetics, Kyiv, Ukraine<br>*Asymptotic Properties of Non-Linear Estimators for Some Non-Stationary Regression Models* | *(p.256)* |

| **Brownian Motion II**<br>Chair: Frank B. Knight | | **H 107** |
|---|---|---|
| 17:15 – 17:30 | **Viet Ha Hoang,** University of Cambridge, Cambridge, Great Britain<br>*Singularly perturbed Dirichlet problems in randomly perforated domains* | *(p.253)* |
| 17:30 – 17:45 | **Vesna Perisic,** Universität des Saarlandes, Saarbrücken, Germany<br>*On some energy inequalities* | *(p.265)* |

| **Statistics for Random Fields**<br>Chair: Alexander Frolovich Taraskin | | **H 1029** |
|---|---|---|
| 17:15 – 17:30 | **Nikolai Leonenko,** Kyiv University, Kyiv, Ukraine<br>*Parameter identification for stochastic Burgers flows via parabolic rescaling* | *(p.258)* |
| 17:30 – 17:45 | **Nadiya Zinchenko,** Kyiv University, Kyiv, Ukraine<br>*Asymptotic Properties of Stable Processes and Fields* | *(p.273)* |
| 17:45 – 18:00 | **Molisen M. Mohammadzadeh,** Tarbiat Modarres University, Tehran, Iran<br>*Spectral Approximation to the Likelihood for an Intrinsic Gaussian Random Field* | |

## Short Communications — Wednesday, 26 August

**Gaussian Processes** — **H 107**
Chair: Manfred Breger

| | | |
|---|---|---|
| 14:00 – 14:15 | **Krzysztof Dębicki,** University of Wrocław, Wrocław, Poland<br>*Asymptotic of the tail distribution of supremum from a Gaussian process* | *(p.250)* |
| 14:15 – 14:30 | **Tudor Sireteanu,** Institute of Solid Mechanics, Bucharest, Romania<br>*An extension of Gaussian equivalent linearization* | *(p.270)* |
| 14:30 – 14:45 | **Victoria Parkhomenko,** Kiev University, Kiev, Ukraine<br>*Spectral representation of the scaling limit solutions of the Burgers' equation with random data* | *(p.265)* |

**Nonparametric Curve Estimation** — **H 1029**
Chair: Joerg Polzehl

| | | |
|---|---|---|
| 14:00 – 14:15 | **Renfang Jiang,** Dept. of Math. Michigan Tech. Univ., Houghton, U.S.A.<br>*The mean sum of squared error of a wavelet based multinomial density estimator* | *(p.255)* |
| 14:15 – 14:30 | **Eva Herrmann,** Technische Universität Darmstadt, Darmstadt, Germany<br>*Visualization of empirical test results for pseudorandom number generators* | *(p.253)* |
| 14:30 – 14:45 | **Hua Liang,** Humboldt–Universität, Berlin, Germany<br>*Partially linear errors-in-variables model* | *(p.258)* |

## Poster Session — Saturday, 22 August

**14:00 – 15:45** — **MA 144**

**Jaap Geluk,** American University of Sharjah, Sharjah, United Arab Emirates
*Second order regular variation and the domain of attraction* *(p.251)*

**Werner S. Hurlimann,** Winterthur, Switzerland
*Comparison between extremal distributions: a conjecture and a partial proof* *(p.253)*

**Takeshi Ishikawa,** Shonan Institute of Technology, Kanagawa-ken, Japan
*On modified maximum likelihood estimation for Rayleigh distribution* *(p.254)*

**Dionis Lica,** University of Agronomical Sciences, Bucharest, Romania
$\chi^2$*-Test for Markov Chains* *(p.258)*

**Alfred Liemant,** Weierstraß-Institut, Berlin, Germany
*Hopping transport of charge carriers on a disordered lattice* *(p.259)*

**Elina M. Moldavskaya,** Cybernetical Institute NASU, Kiev, Ukraine
*Minimum Contrast Estimators of Parameter of Spectral Density of Random Fields in Continuous Case* *(p.261)*

**Hans-Joachim Mucha,** WIAS, Berlin, Germany
*Classification based on adaptive distances* *(p.262)*

**Marcus L.G. Nilsson,** Växjö University, Vederslöv, Sweden
*Finite Probability Sequences of Large Entropy* *(p.264)*

**Jörg Polzehl,** WIAS, Berlin, Germany
*Adaptive Image Denoising with Applications to MRI* *(p.266)*

**Tiberiu V. Postelnicu,** Centre for Mathematical Statistics, Bucharest, Romania
*Specific Statistical Method for Binary Data* *(p.266)*

**Grzegorz A. Rempala,** University of Louisville, Louisville, KY, USA
*Random permanents of increasing degree* *(p.267)*

**Mikhailo Yadrenko,** Kyiv University, Kyiv, Ukraine
*Extrapolation and filtering problems for isotropic random fields* *(p.273)*

# Section 13: Combinatorics

## Invited Lectures

### Saturday, 22 August — H 2032

14:00 – 14:45 **Béla Bollobás,** University of Memphis, Memphis, USA and University of Cambridge, Cambridge, UK
*Hereditary properties of graphs: asymptotic enumeration, global structure, and colouring* *(I: p.153)*
Chair: Hans J. Prömel

15:00 – 15:45 **Harald Niederreiter,** Austrian Academy of Sciences, Vienna, Austria
*Nets, $(t,s)$-sequences, and algebraic curves over finite fields with many rational points* *(I: p.159)*
Chair: Dieter Jungnickel

### Monday, 24 August — H 2032

14:00 – 14:45 **András Frank,** Eötvös Lorand University, Budapest, Hungary
*Applications of Relaxed Submodularity* *(I: p.155)*
Chair: Alexander Schrijver

15:00 – 15:45 **Jiří Matoušek,** Charles University, Praha, Czech Republic
*Mathematical snapshots from the computational geometry landscape* *(I: p.158)*
Chair: Jaroslav Nešetril

### Tuesday, 25 August — H 2032

16:15 – 17:00 **Neil J.A. Sloane,** AT&T Research Labs, Florham Park, USA
*Recent developments on the sphere-packing problem* *(I: p.161)*
Chair: Martin Aigner

17:15 – 18:00 **Joseph Adolphe François Thas,** University of Gent, Gent, Belgium
*Finite Geometries, Varieties and Codes* *(I: p.161)*
Chair: Theo Grundhöfer

### Wednesday, 26 August — H 2032

14:00 – 14:45 **Alain Lascoux,** CNRS, Université de Marne La Vallée, Noisy-le-Grand, France
*Ordering the symmetric group: Why use Iwahori-Hecke algebras?* *(I: p.157)*
Chair: Andrei Zelevinsky

15:00 – 15:45 **Andrei V. Zelevinsky,** Northeastern University, Boston, USA
*Multisegment duality, canonical bases and total positivity* *(I: p.163)*
Chair: Mikhail M. Kapranov

## Short Communications and Poster Sessions

### Short Communications — Wednesday, 19 August

**Geometry I** — **H 106**
Chair: Jörg Rambau

| | | |
|---|---|---|
| 16:15 – 16:30 | **Dietmar Cieslik,** University of Greifswald, Greifswald, Germany<br>*The Steiner Ratio of Metric Spaces* | *(p.275)* |
| 16:30 – 16:45 | **Michael Joswig,** FB Mathematik, TU, Berlin, Germany<br>*On Elation Laguerre Planes* | *(p.277)* |
| 16:45 – 17:00 | **Alexandre A. Makhnev,** Institute of Mathematics and Mechanics, Ekaterinburg, Russia<br>*Partial geometries and the Krein condition* | *(p.282)* |

**Geometry II** — **H 106**
Chair: Günter M. Ziegler

| | | |
|---|---|---|
| 17:15 – 17:30 | **Min Yan,** Hong Kong University, Hong Kong, China, Peoples Republic of<br>*Stratified Approach in Combinatorics* | *(p.287)* |
| 17:30 – 17:45 | **Jörg Rambau,** Konrad-Zuse-Zentrum für Informationstechnik, Berlin, Germany<br>*A new View on the Cayley Trick* | *(p.283)* |
| 17:45 – 18:00 | **Masahiro Hachimori,** University of Tokyo, Tokyo, Japan<br>*Non-constructible triangulations of balls* | *(p.277)* |

### Short Communications — Thursday, 20 August

**Combinatorics of Words** — **H 106**
Chair: Emo Welzl

| | | |
|---|---|---|
| 16:15 – 16:30 | **Julien Cassaigne,** Institut de Mathématiques de Luminy, Marseille, France<br>*On the conjectured subword complexity of the Kolakoski sequence* | *(p.275)* |
| 16:30 – 16:45 | **Martin Klazar,** Universität Bonn, Bonn, Germany<br>*Combinatorics of a containment relation that generalizes Davenport–Schinzel sequences* | *(p.279)* |
| 16:45 – 17:00 | **Alexander Sergeevich Makarenko,** National Technical University of Ukraine, Kiev, Ukraine<br>*The complexity measure of individual geometrical and algebraical objects* | *(p.281)* |

**Independent Sets and Coloring** — **H 106**
Chair: Heinz Adolf Jung

| | | |
|---|---|---|
| 17:15 – 17:30 | **Stephan Brandt,** Freie Universität, Berlin, Germany<br>*Pach's Theorem on triangle-free graphs revisited* | *(p.274)* |
| 17:30 – 17:45 | **Kevin A. Broughan,** University of Waikato, Hamilton, New Zealand<br>*Computing the minimal colouring of large graphs* | *(p.274)* |
| 17:45 – 18:00 | **Ebadollah S. Mahmoodian,** Sharif University of Technology, Tehran, Iran<br>*Defining sets in graph colorings* | *(p.281)* |

### Short Communications — Friday, 21 August

**Paths and Cycles** — **H 106**
Chair: Stephan Brandt

| | | |
|---|---|---|
| 16:15 – 16:30 | **Angeles Carmona,** Universitat Politècnica de Catalunya, Barcelona, Spain<br>*On the Shortest Paths in a Distance Regular Graph* | *(p.275)* |
| 16:30 – 16:45 | **Min Aung,** Assumption University, Bangkok, Thailand<br>*A lower bound for the circumference of a graph in terms of connectivity and minimum degree* | *(p.283)* |
| 16:45 – 17:00 | **Henda Swart,** University of Natal, Durban, South Africa<br>*Generalised Measures of Distance in Graphs* | *(p.286)* |

## Short Communications — Saturday, 22 August

### Geometry III — H 106
Chair: Klaus Altmann

| | | |
|---|---|---|
| 16:15 – 16:30 | **Jennifer Mc Nulty,** The University of Montana, Missoula, MT, USA<br>*Connected Hyperplanes in Binary Matroids* | *(p.282)* |
| 16:30 – 16:45 | **Andreas W.M. Dress,** Universität Bielefeld, Bielefeld, Germany<br>*Highly Regular Spatial Structures: Theory, Software, and Visualization* | *(p.276)* |
| 16:45 – 17:00 | **Klaus Altmann,** Humboldt–Universität, Berlin, Germany<br>*Hodge numbers for polytopes* | *(p.274)* |

### Codes and Cryptography — H 106
Chair: A. Donald Keedwell

| | | |
|---|---|---|
| 17:15 – 17:30 | **Gerhard R. Paseman,** Prado Internet Access, Inc., Hayward, CA, USA<br>*A different approach to Hadamard's maximum determinant problem* | *(p.283)* |
| 17:30 – 17:45 | **Gholamrega B. Khosronshahi,** Inst. for Studies in Theo. Physics and Math., Tehran, Iran<br>*On trades and their codes* | *(p.279)* |
| 17:45 – 18:00 | **A. Donald Keedwell,** University of Surrey, Guildford, Great Britain<br>*Crossed-inverse quasigroups and their use in cryptography* | *(p.278)* |

## Short Communications — Monday, 24 August

### Classical Combinatorial Structures — H 106
Chair: Stefan Felsner

| | | |
|---|---|---|
| 16:15 – 16:30 | **Mario-Osvin Pavcevic,** University of Zagreb, Zagreb, Croatia<br>*On two series of symmetric designs* | *(p.283)* |
| 16:30 – 16:45 | **Christian Krattenthaler,** Universität Wien, Wien, Austria<br>*New results in the enumeration of rhombus tilings* | *(p.280)* |
| 16:45 – 17:00 | **Martin Kochol,** FB Mathematik, FU, Berlin, Germany<br>*Superposition — a method for constructing graphs without nowhere-zero $k$-flows* | *(p.280)* |

### Matrices, Posets, and Lattices — H 106
Chair: Jens Gustedt

| | | |
|---|---|---|
| 17:15 – 17:30 | **Konrad Engel,** Universität Rostock, Rostock, Germany<br>*An upper bound for the size of a largest antichain in the poset of partitions of an integer* | *(p.276)* |
| 17:30 – 17:45 | **Antoni Smoluk,** Wroclaw University of Economics, Wroclaw, Poland<br>*Fix-point property of finite partially ordered sets* | *(p.284)* |
| 17:45 – 18:00 | **Christian Bey,** Universität Rostock, Rostock, Germany<br>*An intersection theorem for the function lattice* | *(p.274)* |

## Short Communications — Tuesday, 25 August

### Subgraphs — H 106
Chair: Béla Bollobás

| | | |
|---|---|---|
| 14:00 – 14:15 | **Oliver M Riordan,** SFB 343, Universität Bielefeld, Bielefeld, Germany<br>*Spanning subgraphs of random graphs* | *(p.284)* |
| 14:15 – 14:30 | **Diane M. Spresser,** James Madison University, Arlington, Virginia, USA<br>*Graphs with degree sets of maximal cardinality II* | *(p.285)* |
| 14:30 – 14:45 | **Andrew G. Thomason,** University of Cambridge, Cambridge, Great Britain<br>*Hereditary hypergraph properties* | *(p.286)* |

| Finite Groups and Cayley Graphs | | H 106 |
|---|---|---|
| Chair: Andreas W.M. Dress | | |
| 15:00 – 15:15 | **Reinaldo Giudici,** Universidad Simón Bolívar, Caracas, Venezuela | |
| | *Cayley's Graphs of order 12* | *(p.276)* |
| 15:15 – 15:30 | **Cai-Heng Li,** Mathematics Dept. UWA, Nedlands, WA, Australia | |
| | *On Isomorphisms of Finite Cayley Graphs* | *(p.280)* |
| 15:30 – 15:45 | **Mikhail H. Klin,** Ben-Gurion-University of the Negev, Beer-Sheva, Israel | |
| | *On transitive permutation groups without semi-regular subgroups* | *(p.279)* |

## Short Communications — Wednesday, 26 August

| Combinatorial Constructions | | H 106 |
|---|---|---|
| Chair: Mark Kayll | | |
| 16:15 – 16:30 | **Abdelkader Khelladi,** USTHB Institut de Mathematiques, El Alia, Alger, Algeria | |
| | *Some Results on the Fiber Product of Graphs* | *(p.278)* |
| 16:30 – 16:45 | **Andrew J. Woldar,** Villanova University, Villanova, PE, USA | |
| | *General properties of algebraically defined graphs* | *(p.287)* |
| 16:45 – 17:00 | **Mark Kayll,** The University of Montana, Missoula, MT, USA | |
| | *Stochastic independence properties of hard-core distributions* | *(p.278)* |

| Geometry IV | | H 106 |
|---|---|---|
| Chair: Yuri Grigoriyevich Stoyan | | |
| 17:15 – 17:30 | **Alexei A. Tuzhilin,** Moscow State University, Moscow, Russia | |
| | *Planar Local Minimal Networks with Convex Boundaries* | *(p.286)* |
| 17:30 – 17:45 | **Alexandr O. Ivanov,** Moscow State University, Moscow, Russia | |
| | *Linear Networks in Euclidean Spaces* $R^n$ | *(p.277)* |
| 17:45 – 18:00 | **Yuri Grigoriyevich Stoyan,** Inst. for Problems in Machinery, Kharkov, Ukraine | |
| | *Properties of combinatorial set images into the arithmatic Euclidean spaces* | *(p.285)* |

## Poster Session — Friday, 21 August

**14:00 – 15:45** **MA 144**

**André Kündgen,** Universität Ulm, Ulm, Germany
*Turán problems for weighted graphs* *(p.280)*

**Frank H. Lutz,** Technische Universität Berlin, Berlin, Germany
*Combinatorial manifolds with vertex-transitive automorphism group* *(p.281)*

**Slobodan K. Simić,** University of Belgrade, Belgrade, Yugoslavia
*On graphs whose second largest eigenvalue does not exceed the golden section* *(p.284)*

**Indulis Strazdins,** Riga Technical University, Jelgava, Latvia
*Universal classification of Boolean functions by the affine and linear groups* *(p.285)*

**Kai-Yao Xiang,** No. 1 High School, Dongfeng Motor Corporation, Hamamatsu, Japan
*The Minimal Group with Graph and Its Permutation Elements* *(p.287)*

**Tomoyuki Yoshida,** Hokkaido University, Sapporo, Japan
*Exponential formulas and Krull-Schmidt categories* *(p.288)*

# Section 14: Mathematical Aspects of Computer Science

## Invited Lectures

**Wednesday, 19 August** **H 2032**

14:00 – 14:45 **Joan Feigenbaum,** AT&T Labs Research, Florham Park, USA
*Games, Complexity Classes, and Approximation Algorithms* *(I: p.167)*
Chair: Hans J. Prömel

15:00 – 15:45 **Toniann Pitassi,** University of Arizona, Tucson, USA
*Combinatorial and algebraic techniques in proof complexity* *(I: p.171)*
Chair: Helmut Alt

**Thursday, 20 August** **H 2032**

16:15 – 17:00 **Madhu Sudan,** MIT, Cambridge, USA
*Probabilistic checking of proofs* *(I: p.173)*
Chair: Hans J. Prömel

17:15 – 18:00 **Johan Håstad,** Royal Institute of Technology, Stockholm, Sweden
*On approximating NP-hard optimization problems* *(I: p.169)*
Chair: Hans J. Prömel

**Friday, 21 August** **H 2032**

14:00 – 14:45 **Emo Welzl,** ETH Zürich, Zürich, Switzerland
*Halving Point Sets* *(I: p.175)*
Chair: Helmut Alt

15:00 – 15:45 **Miklós Ajtai,** IBM Almaden Research Center, San Jose, USA
*Worst-case Complexity, Average-case Complexity, and Lattice Problems* *(I: p.165)*
Chair: Helmut Alt

## Short Communications and Poster Sessions

**Short Communications** **Thursday, 20 August**

**Mathematical Aspects of Computer Science I** **MA 043**
Chair: Stefan Felsner

14:00 – 14:15 **Laxminarayan Das,** Texas A&M University, College Station, Texas, USA
*Convexity to Invexity* *(p.290)*

14:15 – 14:30 **Narayan C. Debnath,** Winona State University, Winona, MN, USA
*RGPG: A Graph for Software Modeling* *(p.290)*

14:30 – 14:45 **Victor Kasyanov,** Institute of Informatics Systems, Novosibirsk, Russia
*Hierarchical graphs and visual processing* *(p.292)*

**Mathematical Aspects of Computer Science II** **MA 043**
Chair: Clemens Gröpl

15:00 – 15:15 **Guy Merlin Mbakop,** Institut für Mathematik, Humboldt–Universität, Berlin, Germany
*An Efficient Algorithm for Solving Real Polynomial Equations: The Complete Intersection Case* *(p.294)*

15:15 – 15:30 **Bernard Mourrain,** INRIA, SAGA, Sophia Antipolis, France
*Multivariate polynomial equations and duality* *(p.294)*

15:30 – 15:45 **Emil J Volcheck,** Baltimore, Maryland, USA
*Computing with algebraic curves: a survey of recent results* *(p.295)*

## Short Communications — Friday, 21 August

**Mathematical Aspects of Computer Science III** — **MA 043**
Chair: Clemens Gröpl

| | | |
|---|---|---|
| 16:15 – 16:30 | **Barbu Gheorghe,** University of Pitești, Pitesti, Romania<br>*A method for Computer Generation of Random Vectors* | *(p.289)* |
| 16:30 – 16:45 | **Sven Hartmann,** Universität Rostock, Rostock, Germany<br>*New results on the consistency of cardinality constraints* | *(p.292)* |
| 16:45 – 17:00 | **Stefan Felsner,** Freie Universität Berlin, Berlin, Germany<br>*The Linear-Extension-Diameter* | *(p.291)* |

**Mathematical Aspects of Computer Science IV** — **MA 043**
Chair: Stefan Felsner

| | | |
|---|---|---|
| 17:15 – 17:30 | **Svetlana Asmuss,** University of Latvia, Riga, Latvia<br>*On optimal algorithms of approximation under imprecise information* | *(p.289)* |
| 17:30 – 17:45 | **Clemens Gröpl,** Humboldt–Universität zu Berlin, Berlin, Germany<br>*Random OBDDs* | *(p.292)* |
| 17:45 – 18:00 | **Andrew Adamatzky,** University of the West of England, Bristol, United Kingdom<br>*On computation universality of excitable lattices* | |

## Short Communications — Saturday, 22 August

**Mathematical Aspects of Computer Science V** — **MA 043**
Chair: Hartmut Ehrig

| | | |
|---|---|---|
| 14:00 – 14:15 | **Bernd Gärtner,** ETH Zürich, Zürich, Switzerland<br>*Abstract Objective Functions — From Geometry to Combinatorics in Linear Programming* | *(p.291)* |
| 14:15 – 14:30 | **Andreas Brieden,** Technische Universität München, Munich, Germany<br>*Optimal Radii-Algorithms* | *(p.289)* |
| 14:30 – 14:45 | **Anuar Dusembaev,** National University of Kasakhstan, Almaty, Kasachstan<br>*An operator approach to program segmentation* | *(p.290)* |

**Mathematical Aspects of Computer Science VI** — **MA 043**
Chair: Andreas Brieden

| | | |
|---|---|---|
| 15:00 – 15:15 | **Hartmut Ehrig,** Technische Universität Berlin, Berlin, Germany<br>*On the Role of Category Theory in Computer Science* | *(p.290)* |
| 15:15 – 15:30 | **Raja Natarajan,** Tata Institute of Fundamental Research, Bombay, India<br>*Combinators for Concurrency* | *(p.294)* |
| 15:30 – 15:45 | **George Francis,** University of Illinois, Urbana, IL, USA<br>*The Making of the Optiverse* | *(p.291)* |

## Poster Session — Saturday, 22 August

**16:15 – 18:00** — **MA 144**

**Giovanni Francesco Mascari,** Coniglio Nazionale delle Ricerche, Rome, Italy
*From TQFT to TQCT* *(p.293)*

**Roman Matuszewski,** University of Białystok, Białystok, Poland
*Journal of Formalized Mathematics — a collection of mechanically checked articles* *(p.293)*

# Section 15: Numerical Analysis and Scientific Computing

## Invited Lectures

**Monday, 24 August** **H 1028**

| | | |
|---|---|---|
| 16:15 – 17:00 | **Hisashi Okamoto,** RIMS, Kyoto University, Kyoto, Japan<br>*Bifurcation of Kolmogorov flows with an emphasis on singular limit*<br>Chair: Rolf Jeltsch | *(I: p.180)* |
| 17:15 – 18:00 | **Gregory Beylkin,** University of Colorado at Boulder, Boulder, USA<br>*On multiresolution methods in numerical analysis*<br>Chair: Siegfried Prößdorf | *(I: p.178)* |

**Tuesday, 25 August** **H 1012**

| | | |
|---|---|---|
| 14:00 – 14:45 | **Percy Alec Deift,** Courant Institute, New York University, New York, USA<br>*Uniform asymptotics for orthogonal polynomials*<br>Chair: Tom H. Koornwinder | *(I: p.179)* |
| 15:00 – 15:45 | **Jan-Olov Strömberg,** Royal Institute of Technology, Stockholm, Sweden<br>*Apriori estimates for approximation by wavelets in higher dimensions*<br>Chair: Peter Maaß | *(I: p.180)* |

**Wednesday, 26 August** **H 1012**

| | | |
|---|---|---|
| 14:00 – 14:45 | **Lloyd N. Trefethen,** Oxford University, Oxford, UK<br>*Schwarz–Christoffel Mapping in the Computer Era*<br>Chair: Peter J. Deuflhard | *(I: p.181)* |
| 15:00 – 15:45 | **Bjorn Erik Engquist,** UCLA, Los Angeles, USA<br>*Wavelet Based Numerical Homogenization*<br>Chair: Ralf Kornhuber | *(I: p.179)* |

## Short Communications and Poster Sessions

**Short Communications** **Wednesday, 19 August**

**Ordinary Differential Equations I** **H 2013**
Chair: Alexander Ostermann

| | | |
|---|---|---|
| 14:00 – 14:15 | **Gennady Yu. Kulikov,** Ulyanovsk State University, Ulyanovsk, Russia<br>*How to control the global error of Runge-Kutta methods* | *(p.305)* |
| 14:15 – 14:30 | **Alexander Ostermann,** Universität Innsbruck, Innsbruck, Austria<br>*The unstable manifold of an equilibrium point under discretization* | *(p.308)* |
| 14:30 – 14:45 | **George Micula,** Babes-Bolyai University, Cluj-Napoca, Romania<br>*Polynomial spline functions of even degree approximating the solution of differential equations* | |

| **Ordinary Differential Equations II** | | **H 2013** |
|---|---|---|
| Chair: Tatiana Anatolyevna Vasilyeva | | |
| 15:00 – 15:15 | **Felix Schwitzer,** Universität Innsbruck, Innsbruck, Austria<br>*Linearly implicit Runge-Kutta discretizations of semilinear parabolic problems near equilibria* | *(p.312)* |
| 15:15 – 15:30 | **Sergei Yu. Pilyugin,** St.-Petersburg University, St.-Petersburg, Russia<br>*Shadowing and perturbation of attractors in discretized parabolic equations* | *(p.310)* |
| 15:30 – 15:45 | **Tatiana Anatolyevna Vasilyeva,** Volgograd State University, Volgograd, Russia<br>*Twice implicit scheme with accuracy control and it application to chemical kinetics problems* | *(p.316)* |

| **Wavelets I** (organized by Andreas Rathsfeld) | | **H 2033** |
|---|---|---|
| Chair: Wayne M. Lawton | | |
| 16:15 – 16:30 | **Jacques Liandrat,** Univ Aix Marseille II, Marseille, France<br>*Wavelets, from theory to efficients numerical algorithms* | *(p.306)* |
| 16:30 – 16:45 | **Andreas Rieder,** Universität des Saarlandes, Saarbrücken, Germany<br>*Embedding and a-priori adaptivity* | *(p.311)* |
| 16:45 – 17:00 | **Pierre Gilles Lemarié-Rieusset,** Université d'Evry, Evry, France<br>*Some remarks on divergence free vector wavelets* | *(p.306)* |

| **Nonlinear Operator Equations** | | **H 2013** |
|---|---|---|
| Chair: Jose A. Ezquerro | | |
| 16:15 – 16:30 | **Jose A. Ezquerro,** University of la Rioja, Logrono, Spain<br>*A semilocal convergence result for Secant-type methods under Hölder continuity conditions* | *(p.299)* |
| 16:30 – 16:45 | **Anatolii Borisovich Bakushinskii,** Inst. for System Analysis, Moscow, Russia<br>*Iterative methods for the solution of nonlinear operator equations without property of the regularity* | *(p.296)* |
| 16:45 – 17:00 | **Victor D. Didenko,** Odessa State University, Odessa, Ukraine<br>*On Peculiarities of Approximation Methods for Singular Integral Equations with Conjugation* | *(p.298)* |

| **Interpolation** | | **H 2033** |
|---|---|---|
| Chair: Raquel R. Martinez | | |
| 17:15 – 17:30 | **Raquel R. Martinez,** Universidad Politécnica de Madrid, Madrid, Spain<br>*Composite Methods for Interpolating Functions* | *(p.307)* |
| 17:30 – 17:45 | **Wolfgang Volk,** Berlin, Germany<br>*Quasi-interpolation with Arbitrarily Often Differentiable Functions* | *(p.316)* |
| 17:45 – 18:00 | **Yurij Kaluch I.,** Ukrainian Academy Of Public Administration, Kiev, Ukraine<br>*Mathematical Problems of Condition Prognosing of Land Slopes and Slides* | *(p.303)* |

## Short Communications — Thursday, 20 August

| **Approximation I** | | **H 2033** |
|---|---|---|
| Chair: Jozsef Grof | | |
| 14:00 – 14:15 | **Alexis Bacopoulos,** National Technical University, New Psychico, Athens, Greece<br>*On the link among vectorial minimal projections and best approximations* | *(p.296)* |
| 14:15 – 14:30 | **Igor Fedotov,** University of Transkei, Umtata, South Africa<br>*Another Approach to Quadrature Methods* | *(p.300)* |
| 14:30 – 14:45 | **Jozsef Grof,** Universität Veszprem, Veszprem, Hungary<br>*Einige Verallgemeinerungen bzw. Modifizierungen der Szász-Mirakjan-Operatoren* | *(p.301)* |

| **Partial Differential Equations I** | | **H 2013** |
|---|---|---|
| Chair: Vladimir V. Shaidurov | | |
| 14:00 – 14:15 | **Christoph Pflaum,** Institut für Angewandte Mathematik und Statistik, Würzburg, Germany<br>*Robust Multilevel Algorithms for Elliptic Differential Equations* | *(p.309)* |
| 14:15 – 14:30 | **Vladimir V. Shaidurov,** Russian Academy of Sciences, Krasnoyarsk, Russia<br>*Cascade finite element methods for weakly nonlinear elliptic equations* | *(p.313)* |
| 14:30 – 14:45 | **Urve Kangro,** Tartu University, Tartu, Estonia<br>*Spectral Convergence of the Interior Source Method with Point Matching* | *(p.303)* |

**Approximation II** — H 2033
Chair: Alexei A. Mailybaev

| | | |
|---|---|---|
| 15:00 – 15:15 | **Alois Heinz,** Universität Freiburg, Freiburg, Germany<br>*Efficient function approximation by tree-structured neural networks* | *(p.302)* |
| 15:15 – 15:30 | **Peter Kirrinnis,** Universität Bonn, Bonn, Germany<br>*Fast algorithms for partial fractions* | *(p.305)* |
| 15:30 – 15:45 | **Alexei A. Mailybaev,** Lomonosov Moscow State University, Moscow, Russia<br>*Transformation of Families of Matrices to Normal Forms* | *(p.306)* |

**Partial Differential Equations II** — H 2013
Chair: Jürgen Fuhrmann

| | | |
|---|---|---|
| 15:00 – 15:15 | **Bodo Erdmann,** Konrad-Zuse-Zentrum, Berlin, Germany<br>*Mesh Controlling Strategy for Solving Nonlinear Evolution Problems* | *(p.299)* |
| 15:15 – 15:30 | **Christian Wieners,** University Stuttgart, Stuttgart, Germany<br>*Adaptive multigrid methods for Prandtl-Reuß-plasticity* | *(p.318)* |
| 15:30 – 15:45 | **Jürgen Fuhrmann,** Weierstraß Institut, Berlin, Germany<br>*Numerically Stable Finite Volume Discretizations for Nonlinear Parabolic Problems* | *(p.300)* |

**Wavelets II** (organized by Andreas Rathsfeld) — H 2013
Chair: Jacques Liandrat

| | | |
|---|---|---|
| 16:15 – 16:30 | **Rudolph A. Lorentz,** GMD, St. Augustin, Germany<br>*On the nonexistence of compactly supported Sobolev prewavelets for box spline multiresolution analyses* | *(p.306)* |
| 16:30 – 16:45 | **Gunther Schmidt,** WIAS, Berlin, Germany<br>*Representation of multidimensional potentials by approximate wavelets* | *(p.312)* |
| 16:45 – 17:00 | **Wayne M. Lawton,** National University, Singapore, Singapore<br>*Energy functions on graphs, wavelets, and multilevel algorithms* | *(p.305)* |

**Differential Algebraic Systems** — H 2013
Chair: Ulrich Nowak

| | | |
|---|---|---|
| 17:15 – 17:30 | **Rainald Ehrig,** Konrad-Zuse-Zentrum für Informationstechnik, Berlin, Germany<br>*Recent advances in extrapolation methods for large scale differential algebraic problems* | *(p.299)* |
| 17:30 – 17:45 | **Friedrich Grund,** Weierstraß Institut, Berlin, Germany<br>*Sparse-Matrix-Techniken für Parallelrechner* | *(p.301)* |
| 17:45 – 18:00 | **Tatyana Shtykel,** Humboldt–Universität, Berlin, Germany<br>*On the criterion of asymptotical stability for index-1 tractable DAE* | *(p.313)* |

## Short Communications — Friday, 21 August

**Wavelets III** (organized by Andreas Rathsfeld) — H 2033
Chair: Pierre Gilles Lemarié-Rieusset

| | | |
|---|---|---|
| 16:15 – 16:30 | **Siegfried Prößdorf,** Weierstraß Institut, Berlin, Germany<br>*Boundary element methods using multiwavelets* | *(p.310)* |
| 16:30 – 16:45 | **Jörg Schult,** Weierstraß Institut, Berlin, Germany<br>*Stability condition for spline and multiwavelet collocation* | *(p.312)* |
| 16:45 – 17:00 | **Marie Farge,** École Normale Supérieure, Paris, France<br>*How to compute and model two-dimensional turbulent flows using wavelets?* | |

**Partial Differential Equations III** — H 2033
Chair: Jianping Zhu

| | | |
|---|---|---|
| 17:15 – 17:30 | **P. Sobolevskii,** The Hebrew University of Jerusalem, Jerusalem, Israel<br>*The “counter-example” to W. Littman’s counter-example of $L_p$-energetical inequality for wave equation* | *(p.314)* |
| 17:30 – 17:45 | **Ilja Schmelzer,** WIAS, Berlin, Germany<br>*Grid Generation with Contravariant Geometry Description* | *(p.311)* |

## Short Communications — Saturday, 22 August

**Partial Differential Equations IV** — **H 2033**
Chair: Jennifer J. Zhao

| | | |
|---|---|---|
| 14:00 – 14:15 | **Jennifer J. Zhao,** University of Michigan, Dearborn, Michigan, USA<br>*Finite-difference approximations to a parabolic system modeling the thermoelastic contacts of two rods* | *(p.319)* |
| 14:15 – 14:30 | **Jianping Zhu,** Mississippi State University, Mississippi, MS, USA<br>*A High Order Algorithm for Solving Reaction Diffusion Equations* | *(p.319)* |
| 14:30 – 14:45 | **Raul Kangro,** Tartu University, Tartu, Estonia<br>*Analysis of Artificial Boundary Conditions for Black-Scholes Equations* | *(p.304)* |

**Partial Differential Equations V** — **H 2033**
Chair: Cesar Palencia

| | | |
|---|---|---|
| 15:00 – 15:15 | **Cesareo González,** Universidad de Valladolid, Valladolid, Spain<br>*The implicit Euler method for abstract time-dependent parabolic problems with variable domains* | *(p.301)* |
| 15:15 – 15:30 | **Raimondas Ciegis,** Institute of Mathematics and Informatics, Vilnius, Lithuania<br>*Odd — even difference schemes for the Schrödinger problem* | *(p.298)* |
| 15:30 – 15:45 | **Daisuke Furihata,** RIMS, Kyoto University, Kyoto, Japan<br>*Finite difference schemes that inherit the energy conservation or dissipation property from partial differential equations* | *(p.300)* |

## Short Communications — Monday, 24 August

**Inverse Problems I** — **H 2033**
Chair: Anatoly G. Yagola

| | | |
|---|---|---|
| 14:00 – 14:15 | **Gottfried Bruckner,** WIAS, Berlin, Germany<br>*On the regularization of an inverse vibration problem with noisy data* | *(p.297)* |
| 14:15 – 14:30 | **Cesar Palencia,** Universidad de Valladolid, Valladolid, Spain<br>*A numerical method for the integration of backward parabolic problems* | *(p.308)* |
| 14:30 – 14:45 | **Sergii Pereverziev,** Institute of Mathematics, Kiev, Ukraine<br>*An adaptive discretization of third kind Volterra equations with weakly singular kernels* | *(p.309)* |

**Inverse Problems II** — **H 2033**
Chair: Sergii Pereverziev

| | | |
|---|---|---|
| 15:00 – 15:15 | **Sergiy Georgievich Solodkyy,** Ukrainian Acad. of Sci., Kiev, Ukraine<br>*Optimization of projection methods for solving linear ill-posed problems* | *(p.314)* |
| 15:15 – 15:30 | **Anatoly G. Yagola,** Moscow State University, Moscow, Russia<br>*Ill-posed problems and a priori information* | *(p.318)* |
| 15:30 – 15:45 | **Weichung Wang,** National Tainan Teachers College, Tainan, Taiwan<br>*Using Preconditioned Conjugate Gradients in Final Iterations of Interior Point Methods* | *(p.317)* |

## Short Communications — Tuesday, 25 August

**Partial Differential Equations VI** — **H 2033**
Chair: Ivanka P. Nikolova

| | | |
|---|---|---|
| 16:15 – 16:30 | **Ivanka P. Nikolova,** University of Pittsburgh, Pittsburgh, PA, USA<br>*Modeling of Fluid Flows with Strong Non-Linearity* | *(p.307)* |
| 16:30 – 16:45 | **Christian von Törne,** Universität Bonn, Bonn, Germany<br>*Method of Transport — A Multidimensional Scheme for Nonlinear Hyperbolic Systems* | *(p.317)* |
| 16:45 – 17:00 | **Nicolai von Schroeders,** UGH Paderborn, Paderborn, Germany<br>*Die numerische Lösung der schwachen Formulierung des Stokes-Systems im Außenraumgebiet* | *(p.317)* |

| **Partial Differential Equations VII**<br>Chair: Ursula van Rienen | | **H 2033** |
|---|---|---|
| 17:15 – 17:30 | **Maxim A. Olshanskii,** Moscow State University, Moscow, Russia<br>*Iterative method for generalized Stokes problem* | *(p.308)* |
| 17:30 – 17:45 | **Chi-Wang Shu,** Brown University, Providence,RI, USA<br>*High Order Weighted ENO Schemes for Unstructured Meshes* | *(p.314)* |
| 17:45 – 18:00 | **Ursula van Rienen,** Universität Rostock, Rostock, Germany<br>*Efficient Algorithms in Electromagnetic Field Computation* | *(p.316)* |

## Short Communications — Wednesday, 26 August

| **Wavelets IV** (organized by Andreas Rathsfeld)<br>Chair: Andreas Rathsfeld | | **H 2033** |
|---|---|---|
| 16:15 – 16:30 | **Jürgen Prestin,** GSF-Nat. Res. Center for Environment and Health, Neuherberg, Germany<br>*Polynomial wavelets* | |
| 16:30 – 16:45 | **Andreas Rathsfeld,** WIAS, Berlin, Germany<br>*Piecewise linear wavelet collocation for boundary element methods* | *(p.310)* |

## Poster Session — Saturday, 22 August

**16:15 – 18:00** **MA 144**

**Mansour Abdullah Al-Zanaidi,** Kuwait University, Kuwait, Kuwait
*A Class of Generalized Trapezoidal Formulas for the Integration of y'=f(x, y)* *(p.296)*

**Mehmet Bozer,** Eastern Mediterranean University, Famagusta, North Cyprus, Cyprus
*The composite grids method of increased accuracy in solving the mixed boundary value problem for the Laplace equation* *(p.297)*

**Chin-Yun Chen,** Universität Karlsruhe, Karlsruhe, Germany
*VANI: A package for Validated, Adaptive Numerical Integration in one and more dimensions* *(p.297)*

**Adigezal Dosiyev,** Eastern Mediterranean University, Famagusta, North Cyprus, Cyprus
*A block-grid method for solving Laplace's boundary value problem with singularities* *(p.298)*

**Bratislav Iricanin,** University of Belgrade, New Belgrade, Yugoslavia
*On the modification of Euler-Maclaurin summation formula connected with the Chebyshev quadrature formulae* *(p.302)*

**Anna Kamont,** Mathematical Institute of the Polish Academy of Sciences, Sopot, Poland
*Ditzian — Totik moduli of smoothness, spline systems and generalized Hölder spaces* *(p.303)*

**Ivan G. Kazantsev,** University Gent, Gent, Belgium
*Tomographic reconstruction from arbitrary directions* *(p.304)*

**Ingemar Kinnmark,** Independent Researcher, Pittsburgh, PA, USA
*Overdetermined Differential Equation Problems* *(p.304)*

**Peeter Oja,** Tartu University, Tartu, Estonia
*Adaptive by monotonicity interpolating splines* *(p.307)*

**Arvet Pedas,** Tartu University, Tartu, Estonia
*Collocation method for weakly singular integral equations* *(p.309)*

**Gerd Reinhardt,** Weierstraß-Institut, Berlin, Germany
*Schnelle Algorithmen zum Clustern großer Datenmengen* *(p.311)*

**Mayumi Shoji,** Nihon University, Tokyo, Japan
*Bifurcation structure of steady, deep-water gravity waves with constant vorticity* *(p.313)*

**Svetlana N. Sytova,** Institute of Nuclear Problems, Minsk, Republic of Belarus
*Mathematical Modelling of X-ray Dynamical Diffraction by Non-Stationary Deformed Crystals* *(p.315)*

**Zoltan Istvan Szabo,** Kossuth University, Debrecen, Hungary
*Root-finding Inclusion Algorithms Based on Tangential Lines and Parabolas* *(p.315)*

**Svetlana B. Zaitseva,** Moscow Power Engineering Institute, Moscow, Russia
*On sharp error estimates in $L_2$-norm for methods of solving the heat equation in non-smooth data classes* *(p.318)*

**Aihui Zhou,** Academia Sinica, Beijing, China
*Multiparameter error resolution for finite elements* *(p.319)*

# Section 16: Applications

## Invited Lectures

**Thursday, 20 August** **MA 005**

17:15 – 18:00 **Graeme Walter Milton,** The University of Utah, Salt Lake City, USA
*Exact relations for composites: towards a complete solution* *(I: p.191)*
Chair: Krzysztof Wilmanski

**Friday, 21 August** **H 2032**

16:15 – 17:00 **William J. Cook (also Section 17),** Rice University, Houston, USA
*The Traveling Salesman Problem* *(I: p.186)*
Chair: Günter M. Ziegler

**Saturday, 22 August** **H 1028**

14:00 – 14:45 **Thomas Yizhao Hou,** California Institute of Technology, Pasadena, USA
*Numerical Study of Free Interface Problems Using Boundary Integral Methods* *(I: p.189)*
Chair: Vladimir V. Shaidurov

15:00 – 15:45 **Leslie Frederick Greengard,** Courant Institute, New York University, New York, USA
*A new version of the fast Gauss transform* *(I: p.189)*
Chair: Gregory Beylkin

**Monday, 24 August** **H 1028**

15:00 – 15:45 **Marco Avellaneda (also Section 12),** Courant Institute, New York University, New York, USA
*Inverse Problems in Quantitative Financial Modeling* *(I: p.140)*
Chair: George C. Papanicolaou

**Monday, 24 August** **H 2032**

16:15 – 17:00 **Gérard M. Iooss,** Institut Universitaire de France, Valbonne, France
*Travelling water-waves, as a paradigm for bifurcations in reversible infinite dimensional "dynamical" systems* *(I: p.184)*
Chair: Klaus Kirchgässner

17:15 – 18:00 **Ulf Grenander,** Brown University, Providence, USA
*Strategies for Seeing* *(I: p.183)*
Chair: Friedrich Götze

**Tuesday, 25 August** **H 2032**

14:00 – 14:45 **Andreas W.M. Dress,** Universität Bielefeld, Bielefeld, Germany
*The Tree of Life and Other Affine Buildings* *(I: p.186)*
Chair: Hanfried Lenz

15:00 – 15:45 **Bonnie Berger,** Massachusetts Institute of Technology, Cambridge, USA
*Sequence-based Methods for Protein Folding* *(I: p.185)*
Chair: Michiel Hazewinkel

**Tuesday, 25 August** **MA 001**

17:15 – 18:00 **Rolf Rannacher,** Universität Heidelberg, Heidelberg, Germany
*Mathematics in Numerical Flow Simulation* *(I: p.192)*
Chair: Rolf Jeltsch

**Wednesday, 26 August** **H 2032**

16:15 – 17:00 **Frank Hoppensteadt,** Arizona State University, Tempe, USA
*Canonical Models in Mathematical Neuroscience* *(I: p.187)*
Chair: Karl Sigmund

17:15 – 18:00 **Charles S. Peskin,** Courant Institute, New York University, New York, USA
*How to Catch and Transport a Chromosome* *(I: p.188)*
Chair: Willi Jäger

## Short Communications and Poster Sessions

**Short Communications** **Wednesday, 19 August**

**Phase Transition and Free Boundary Value Problems** **H 106**
Chair: Jürgen Socolowsky

14:00 – 14:15 **Nikolaus Bubner,** WIAS, Berlin, Germany
*Phase Transitions in Shape Memory Alloys* *(p.320)*
14:15 – 14:30 **Olaf Klein,** Weierstraß Institute for Applied Analysis and Stochastic, Berlin, Germany
*Approximation results for phase–field systems* *(p.326)*
14:30 – 14:45 **Jürgen Socolowsky,** Fachhochschule Brandenburg, Brandenburg/Havel, Germany
*On a perturbed two-layer free surface flow down an inclined plane* *(p.332)*

**Coding and Image Compression** **H 112**
Chair: John K. Karlof

14:00 – 14:15 **Alexander P. Petukhov,** St. Petersburg Technical University, St. Petersburg, Russia
*Recursive wavelets and image compression* *(p.330)*
14:15 – 14:30 **John K. Karlof,** University of North Carolina, Wilmington, NC, USA
*A Coding Scheme for the Gaussian Multiple Access Channel* *(p.325)*

**Numerics for Wave Propagation** **H 106**
Chair: Georg Hebermehl

15:00 – 15:15 **Rainer Schlundt,** WIAS, Berlin, Germany
*On the Computation of Systems of Linear Algebraic Equations for Monolithic Microwave Integrated Circuits* *(p.332)*
15:15 – 15:30 **Hüsnü Ata Erbay,** Instanbul Technical University, Instanbul, Turkey
*A numerical study of the complex modified Korteweg-de Vries equation* *(p.323)*
15:30 – 15:45 **Georg Hebermehl,** Weierstraß Institute, Berlin, Germany
*On the Computation of Eigen Modes for Lossy Monolithic Microwave Integrated Circuits* *(p.324)*

## Short Communications — Thursday, 20 August

**Non-linear Wave Propagation** — **H 106**
Chair: Lokenath Debnath

| | | |
|---|---|---|
| 14:00 – 14:15 | **Mikhail Vasiliev,** Institute of Applied Mathematics, Moscow, Russia<br>*Automodelling solutions to the equations of the viscous heat conductive gas flows* | *(p.333)* |
| 14:15 – 14:30 | **Mark C.W. Jones,** Queens University, Belfast, Great Britain<br>*Coupled evolution equations and the stability of stratified flows* | *(p.325)* |
| 14:30 – 14:45 | **Lokenath Debnath,** University of Central Florida, Orlando, FL, USA<br>*Resonant Phenomena in Linear and Nonlinear Water Waves* | *(p.321)* |

**Geophysical and Environmental Models** — **H 106**
Chair: Jinqiao Duan

| | | |
|---|---|---|
| 15:00 – 15:15 | **Verdiana Grace Masanja,** University of Dar es Salaam, Dar es Salaam, Tanzania<br>*A Mathematical Model and Simulation of Transport of Dust Particles in Dar es Salaam City* | *(p.329)* |
| 15:15 – 15:30 | **Vitaly G. Il'ichev,** Rostov State University, Rostov-on-Don, Russia<br>*Delta-functions and analysis of ecological interactions in a variable environment* | *(p.324)* |
| 15:30 – 15:45 | **Jinqiao Duan,** Clemson University, Clemson, South Carolina, USA<br>*Dynamical Behavior of Quasigeostrophic Models* | *(p.322)* |

## Short Communications — Friday, 21 August

**Mathematical Models in Biology** — **H 106**
Chair: Satoshi Takahashi

| | | |
|---|---|---|
| 14:00 – 14:15 | **Andrej Yu. Dubinsky,** Keldysh Institute of Applied Mathematics, Moscow, Russia<br>*Mathematical Modelling of electron and proton Transport in Chloroplasts* | *(p.322)* |
| 14:15 – 14:30 | **Miguel Lara-Aparicio,** Universidad Nacional Autónoma de México, México D.F., México<br>*Some mathematical aspects of the simulation of the motor circadian rhythm in crayfish* | *(p.327)* |
| 14:30 – 14:45 | **Satoshi Takahashi,** Osaka University, Toyonaka, Japan<br>*The oscillation of lateral asymmetry in scale-eating fish* | *(p.333)* |

**Game Theory and Mathematical Economics** — **H 106**
Chair: Paul J. Campbell

| | | |
|---|---|---|
| 15:00 – 15:15 | **Fausto Mignanego,** Università Cattolica Milano, Milano, Italy<br>*Rationality of players and credibility of strategies in leader-follower games* | *(p.330)* |
| 15:15 – 15:30 | **Serguei Z. Levendorski,** Rostov State Academy of Economics, Rostov-on-Don, Russia<br>*Generalizations of the Black-Scholes Formula for a Class of Truncated Lévy Processes* | *(p.327)* |
| 15:30 – 15:45 | **Paul J. Campbell,** Universität Augsburg, Augsburg, Germany<br>*Klondike solitaire* | *(p.321)* |

**Interaction of Non-linear Waves** — **H 106**
Chair: Brian T. Hayes

| | | |
|---|---|---|
| 17:15 – 17:30 | **Motlatsi Pius Ramollo,** National University of Lesotho, Roma, Lesotho<br>*On the motion of a bore across a barrier* | *(p.331)* |
| 17:30 – 17:45 | **Saadet Erbay,** Instanbul Technical University, Instanbul, Turkey<br>*Nonlinear interaction between long and short waves in a generalized elastic solid* | *(p.323)* |
| 17:45 – 18:00 | **Brian T. Hayes,** Duke University, Durham, NC, USA<br>*Stress-Controlled and Velocity-Controlled Shear Waves in a Saturated Granular Medium* | *(p.323)* |

## Short Communications — Monday, 24 August

**Control of Processes and Systems** — **H 106**
Chair: Mihai M. Vladimirescu

| | | |
|---|---|---|
| 14:00 – 14:15 | **Juergen Borchardt,** Weierstraß Institute, Berlin, Germany<br>*Large-scale Dynamic Process Simulation of Chemical Plants* | *(p.320)* |
| 14:15 – 14:30 | **Elena I. Lyashenko,** Kiev University, Kiev, Ukraine<br>*Optimal control of biotechnological process* | *(p.328)* |
| 14:30 – 14:45 | **Mihai M. Vladimirescu,** Comdev Ltd. Space Group, Cambridge, Ontario, Canada<br>*Rotative Actuators Robustness* | *(p.333)* |

## Short Communications — Tuesday, 25 August

**Applications in Mechanics** — **H 106**
Chair: Vadim D. Potapov

| | | |
|---|---|---|
| 16:15 – 16:30 | **Mikhail Dmitrievich Kovalev,** Moscow State University of Forestry, Mytishchi, Russia<br>*Stability of hinged schemes and frameworks* | *(p.326)* |
| 16:30 – 16:45 | **Xing Li,** Freie Universität Berlin, Berlin, Germany<br>*Doubly Periodic Punctured Plane Elasticity Problem with Relative Displacement* | *(p.327)* |
| 16:45 – 17:00 | **Vadim D. Potapov,** Moscow State University, Moscow, Russia<br>*Stability of systems under stochastic parametric excitation* | *(p.331)* |

## Short Communications — Wednesday, 26 August

**Optimization** — **H 106**
Chair: Uwe T. Zimmermann

| | | |
|---|---|---|
| 14:00 – 14:15 | **Ludwig Cromme,** Technische Universität Cottbus, Cottbus, Germany<br>*Optimization of a Production Line in Brown Coal Industry* | *(p.321)* |
| 14:15 – 14:30 | **Ludwig Kohaupt,** Technische Fachhochschule Berlin, Berlin, Germany<br>*Optimization for an Exhaust Emission Problem by the Simplex Method — A Report on Work from the Automotive Industry -* | *(p.326)* |
| 14:30 – 14:45 | **Uwe T. Zimmermann,** Technische Universität Braunschweig, Braunschweig, Germany<br>*Hard Integer Programming Problems from Railroad Planning* | *(p.334)* |

**Numerical Applications of Matrix Theory** — **H 106**
Chair: Dmitrii O. Logofet

| | | |
|---|---|---|
| 15:00 – 15:15 | **Igor N. Lyashenko,** Kiev University, Kiev, Ukraine<br>*О неотрицательных решениях межотраслевой модели Леонтьева-Форда* | *(p.329)* |
| 15:15 – 15:30 | **Dmitrii O. Logofet,** IFARAN, Moscow, Russian Federation<br>*When matrix "flowers" help proving theorems on stability* | *(p.328)* |
| 15:30 – 15:45 | **Gennady Victorovich Alferov,** St. Petersburg State University, St. Petersburg, Russia<br>*Motion Planning for Multi — Agent Systems in the Time — Varying Environments* | |

## Poster Session — Wednesday, 19 August

**16:15 – 18:00** — **MA 144**

**Attia A. Ashour,** Cairo University, Giza, Egypt
*Solution for Certain Three Dimensional Boundary Value Problems with Mixed Boundaries* *(p.320)*

**Wolfgang Dreyer,** Weierstraß-Institut, Berlin, Germany
*Evolution of Shock Structures in Gases and Solids* *(p.322)*

**Rolf Hünlich,** WIAS, Berlin, Germany
*Modelling and simulation in the technology of power devices* *(p.324)*

**Sophia R.-J. Jang,** Dept. of Mathematics & Statistics, Texas University, Lubbock, TX, USA
*The dynamics of a variable-yield nutrient-plankton model* *(p.325)*

**Hans-Christoph Kaiser,** Weierstraß-Institut, Berlin, Germany
*Modeling of QW–Lasers Including Schrödinger–Poisson Systems* *(p.325)*

**Carlos C. Moreira,** Universidade Federal de Minas Gerais, Belo Horizonte, Brazil
*Self-organized model for the genetic code* *(p.330)*

**Alexandra E. Rodkina,** Voronezh State Academy of Constr. and Arch., Voronezh, Russia
*On stochastic functional-differential equations and its applications* *(p.331)*

**Elena Shchepanika,** Samara State University, Samara, Russia
*Duck-trajectories in combustion problems* *(p.332)*

**Krzysztof Wilmański,** WIAS, Berlin, Germany
*Dynamic Singularities in Porous and Granular Materials* *(p.334)*

**Hajime Yamashita,** Waseda University, Tokyo, Japan
*Approximate Analysis of Fuzzy Graph and its Application* *(p.334)*

# Section 17: Control Theory and Optimization

## Invited Lectures

### Wednesday, 19 August — H 2032

16:15 – 17:00 **Jorge Nocedal,** Northwestern University, Evanston, USA
*Nonlinear Optimization: The Interplay Between Mathematical Characterizations and Algorithms* *(I: p.193)*
Chair: Margaret H. Wright

17:15 – 18:00 **Jochem Zowe,** Universität Erlangen, Erlangen, Germany
*What is the Best Material? — The Answer of a Mathematician* *(I: p.196)*
Chair: Josef Stoer

### Thursday, 20 August — H 2032

14:00 – 14:45 **Alexander Schrijver,** CWI and University of Amsterdam, Amsterdam, Netherlands
*Routing and timetabling by topological search* *(I: p.194)*
Chair: Günter M. Ziegler

15:00 – 15:45 **Michel X. Goemans,** CORE, Louvain-La-Neuve, Belgium and MIT, Cambridge, USA
*Semidefinite programming and combinatorial optimization* *(I: p.193)*
Chair: András Frank

### Friday, 21 August — H 2032

16:15 – 17:00 **William J. Cook (also Section 16),** Rice University, Houston, USA
*The Traveling Salesman Problem* *(I: p.186)*
Chair: Günter M. Ziegler

17:15 – 18:00 **Jan C. Willems,** University of Groningen, Groningen, The Netherlands
*Open Dynamical Systems and their Control* *(I: p.195)*
Chair: Fritz Colonius

**Saturday, 22 August** **H 2032**

16:15 – 17:00 **William R. Pulleyblank,** IBM T. J. Watson Research Center, Yorktown Heights, USA
*Advances in Solving Airline Crew Pairing Optimization Problems* *(I: p.194)*
Chair: Rolf H. Möhring

## Short Communications and Poster Sessions

**Short Communications** **Wednesday, 19 August**

**Applied Optimal Control** **H 2033**
Chair: Fredi Tröltzsch

| | | |
|---|---|---|
| 14:00 – 14:15 | **Hans Josef Pesch,** Technische Universität Clausthal, Clausthal, Germany<br>*Optimal Control of Large Scale DAE Systems in Chemical Engineering* | *(p.347)* |
| 14:15 – 14:30 | **Fabian Flores-Bazan,** Universitdad de Concepción, Concepcion, Chile<br>*Optimal solutions to some variational problems arising in Economics* | *(p.341)* |
| 14:30 – 14:45 | **Bernd Kugelmann,** Universität Greifswald, Greifswald, Deutschland<br>*Robust and Optimal Feedback-Control in Flight Dynamics* | *(p.344)* |

**Distributed Parameter Systems I** **H 2033**
Chair: Dan Tiba

| | | |
|---|---|---|
| 15:00 – 15:15 | **Pierre, F. Aubert,** INSA-Lyon, Vileurbanne, France<br>*Shape optimisation of geometrically nonlinear 3d beams and shells* | *(p.336)* |
| 15:15 – 15:30 | **Raja Dziri,** Faculté des Sciences de Tuni, Tunisi, Tunisia<br>*Dynamical shape optimazation in Navier-Stokes equations* | *(p.339)* |
| 15:30 – 15:45 | **Michael Hinze,** Technische Universität, Berlin, Germany<br>*On the construction of feedback controllers for parabolic equations with an application to the control of fluid flow* | *(p.343)* |

**Short Communications** **Thursday, 20 August**

**Nonlinear Optimization I** **H 2033**
Chair: Jürgen Guddat

| | | |
|---|---|---|
| 16:15 – 16:30 | **Leonid Faybusovich,** University of Notre Dame, Notre Dame, IN, USA<br>*Interior-point algorithms and Euclidean Jordan algebras* | *(p.341)* |
| 16:30 – 16:45 | **Bernd Kummer,** Humboldt–Universität, Berlin, Germany<br>*Metric Regularity in Optimization: Trivial and Nontrivial Situations* | *(p.344)* |
| 16:45 – 17:00 | **Ider Tsevendorj,** Mongolian State University, Ulaanbaatar, Mongolia<br>*Sufficient Global Optimality Conditions for Nonconvex Nonsmooth Problems* | *(p.353)* |

**Convex Optimization** **H 2033**
Chair: Bernd Kummer

| | | |
|---|---|---|
| 17:15 – 17:30 | **Anatoly Antipin,** Russian Academy of Sciences, Moscow, Russia<br>*To Solving of Equilibrium Programming Problems* | *(p.335)* |
| 17:30 – 17:45 | **Evgeny G. Belousov,** Moscow State University, Moscow, Russia<br>*On Hausdorff continuity of convex polynomial mappings* | *(p.336)* |
| 17:45 – 18:00 | **Patrick L. Combettes,** City University, New York, NY, USA<br>*Some convergence principles in convex optimization* | *(p.338)* |

## Short Communications — Friday, 21 August

**Optimality Conditions I** — **H 2033**
Chair: Bernd Kugelmann

14:00 – 14:15 **Vassili Dikoussar,** Computing Centre RAS, Moscow, Russia
*Optimal Control with Control-State Constraints* *(p.339)*
14:30 – 14:45 **Olga O. Vasilieva,** Universidad del Valle, Cali, Colombia
*Optimality Conditions of Singular Controls* *(p.354)*

**Variational Inequalities/Fractal Graphs** — **H 2013**
Chair: Walter Gomez Bofill

14:00 – 14:15 **Walter Gomez Bofill,** Humboldt–Universität, Berlin, Germany
*On the regularity of one-parametric variational inequalities* *(p.341)*
14:15 – 14:30 **Olga A. Zinchenko,** Karachai-Cherkes Technological Institute, Cherkessk, Russia
*The extreme graphs problems* *(p.356)*
14:30 – 14:45 **Anatolii Ivanovich Perov,** Voronezh State University, Voronezh, Russia
*Discrete matrix Lur'e equation (singular case)* *(p.347)*

**Controllability and Nonlinear Systems** — **H 2033**
Chair: Shanjian Tang

15:00 – 15:15 **Serikbai A. Aisagaliev,** Kazakh State University, Almaty, Kazakhstan
*Theory and constructive methods of solving the boundary problems of controllability processes* *(p.335)*
15:15 – 15:30 **Zbigniew J. Bartosiewicz,** Technical University of Bialystok, Bialystok, Poland
*Local observability, ideals, and finiteness conditions* *(p.336)*
15:30 – 15:45 **Shanjian Tang,** Fudan University, Shanghai, China
*Brockett's problem of classification of finite-dimensional estimation algebras for Nonlinear Filtering Systems* *(p.352)*

**Multiobjective Optimization** — **H 2013**
Chair: Jan-J. Ruckmann

15:00 – 15:15 **Jürgen Guddat,** Humboldt–Universität, Berlin, Germany
*New Embeddings for Nonlinear Multiobjective Optimization Problems I* *(p.342)*
15:15 – 15:30 **Stefan M. Mititelu,** Technical University of Civil, Bucharest, Romania
*Optimality and duality in nonsmooth vector programming* *(p.345)*

## Short Communications — Saturday, 22 August

**Optimization in Function Spaces** — **H 2013**
Chair: Valeri V. Obukhovskii

14:00 – 14:15 **Andres, M. Encinas,** UPC, Barcelona, Spain
*Existence and Approximation of Gauss Variational Problem in Potential Theory* *(p.340)*
14:15 – 14:30 **Stanisław Migórski,** Jagiellonian University, Cracow, Poland
*Optimal control of hemivariational inequalities* *(p.345)*
14:30 – 14:45 **Valeri V. Obukhovskii,** Voronezh State Pedagogical, Voronezh, Russia
*On some methods in a periodic problem for a functional differential inclusion in a Banach space* *(p.346)*

**Stochastic Control/Controllability** — **H 2013**
Chair: Galina A. Timofeeva

15:00 – 15:15 **Yuri L. Sachkov,** Program Systems Institute, Pereslavl-Zalessky, Russia
*Controllability of right-invariant systems on solvable Lie groups* *(p.349)*
15:15 – 15:30 **Leonid E. Shaikhet,** Donetsk State University, Donetsk, Ukraine
*Stability of stochastic difference equations with varying delays* *(p.350)*
15:30 – 15:45 **Galina A. Timofeeva,** Ural State Academy of Railway Transport, Ekaterinburg, Russia
*Effective control and observation in the multistage stochastic optimization problem* *(p.352)*

**Nonlinear Optimization II** **H 2033**
Chair: Leon A. Petrosjan

17:15 – 17:30 **Alexei V. Blinov,** Mari State University, Yoshkar-Ola, Russia
*The combined methods of centers with using reduced gradient for solving nonlinear optimization problems* *(p.337)*
17:30 – 17:45 **R. Enkhbat,** Mongolian State University, Ulaanbaatar, Mongolia
*Global Optimality Conditions for some class of Nonconvex Optimization Problems* *(p.340)*
17:45 – 18:00 **Leon A. Petrosjan,** St.-Petersburg State University, St.-Petersburg, Russia
*Time-consistancy problem in differential games* *(p.348)*

## Short Communications — Monday, 24 August

**0/1 Problems** **H 2033**
Chair: Jannet A. Tambieva

16:15 – 16:30 **Friedrich Eisenbrand,** MPI Informatik, Saarbrücken, Germany
*On the Chvátal rank of polytopes in the 0/1 cube* *(p.339)*
16:30 – 16:45 **Anzor D. Kasaev,** Karachai-Cherkes Technological Institute, Cherkessk, Russia
*Assigment Problem in Consideration of Discounting* *(p.344)*
16:45 – 17:00 **Jannet A. Tambieva,** Karachai-Cherkes Technological Institute, Cherkessk, Russia
*Research of 4-Cliques Problem* *(p.351)*

**Algorithms and Complexity Issues** **H 2033**
Chair: Naum Zuselevich Shor

17:15 – 17:30 **Vitaly A. Perepelitsa,** Karachai-Cherkes Technological Institute, Cherkessk, Russia
*Fractal Graphs and their Properties* *(p.347)*
17:30 – 17:45 **Elena V. Popova,** Karachai-Cherkes Technological Institute, Cherkessk, Russia
*Estimates of Complexity of the Vector Ordering Problem* *(p.348)*
17:45 – 18:00 **Naum Zuselevich Shor,** Institute of Cybernetics, Kiev, Ukraine
*Methods of improving dual bounds with the use of functionally superfluous constraints in polynomial and boolean problems* *(p.350)*

## Short Communications — Tuesday, 25 August

**Distributed Parameter Systems II** **H 2033**
Chair: Mikhail Zelikin

14:00 – 14:15 **Andrzej Just,** Technical University of Lodz, Lodz, Poland
*A Non-linear Hyperbolic Control Problem with Dirichlet Boundary Condition — Convergence of Galerkin Approximation* *(p.343)*
14:15 – 14:30 **Dan Tiba,** Romanian Academy, Bucharest, Romania
*Recent Progress in the Analysis and Optimization of Plates* *(p.352)*
14:30 – 14:45 **Mikhail Zelikin,** Department of Mathematics and Mechanics, Moscow, Russia
*Riccati-type PDE and Multidimensional Calculus of Variations* *(p.356)*

**Stochastic Programming I** **H 2033**
Chair: Werner Römisch

15:00 – 15:15 **Vladimir Norkin,** Glushkov Institute of Cybernetics, Kiev, Ukraine
*Stochastic optimization of discontinuous functions* *(p.346)*
15:15 – 15:30 **Nicole Groewe-Kuska,** Humboldt–Universität, Berlin, Germany
*Confidence intervals for optimal values of simple recourse models* *(p.341)*
15:30 – 15:45 **Rüdiger Schultz,** Mathematical Institute, Leipzig, Germany
*Mixed-Integer Linear Programming under Uncertainty* *(p.350)*

**Game Theory** **H 2013**
Chair: Hans Josef Pesch

| | | |
|---|---|---|
| 16:15 – 16:30 | **Arkadii A. Chikrii,** Cybernetics Institute, Kyiv, Ukraine<br>*– to be announced –* | *(p.338)* |
| 16:30 – 16:45 | **Greta Tsolakovna Chikrii,** Cybernetics Institute, Nat. Ac. Sci. Ukraine, Kyiv, Ukraine<br>*Linear Differential Games with Variable Delay of Information* | *(p.337)* |
| 16:45 – 17:00 | **Victor V. Zakharov,** Saint-Petersburg University, Saint-Petersburg, Russia<br>*Subcore and reduced cooperative games* | *(p.355)* |

**Optimality Conditions II** **H 2013**
Chair: Henrikas Pragarauskas

| | | |
|---|---|---|
| 17:15 – 17:30 | **Oleg I. Nikonov,** Ural State Technical University, Ekaterinburg, Russia<br>*Methods of Guaranteed Control Theory in Finance* | *(p.345)* |
| 17:30 – 17:45 | **Oleg Vladimirovich Vasiliev,** Irkutsk State University, Irkutsk, Russian Federation<br>*High quality computational methods for optimal control problems* | *(p.353)* |
| 17:45 – 18:00 | **Henrikas Pragarauskas,** Institute of Mathematics and Informatics, Vilnius, Lithuania<br>*Integrodifferential Bellman equations* | *(p.348)* |

## Short Communications — Wednesday, 26 August

**Stochastic Programming II** **H 2033**
Chair: Vladimir Norkin

| | | |
|---|---|---|
| 14:00 – 14:15 | **René Henrion,** WIAS Berlin, Berlin, Germany<br>*Quantitative stability of convex stochastic programs with probabilistic constraints* | *(p.342)* |
| 14:15 – 14:30 | **Werner Römisch,** Humboldt–Universität, Berlin, Germany<br>*Perturbation Analysis of Stochastic Programming Problems* | *(p.349)* |
| 14:30 – 14:45 | **Roger Fandom Noubiap,** Humboldt–Universität, Berlin, Germany<br>*A Minimax Algorithm for Calculating Statistical Tests under Generalized Moment Conditions* | *(p.340)* |

**Miscellaneous I** **H 2013**
Chair: Mohamed Ali Hammami

| | | |
|---|---|---|
| 14:00 – 14:15 | **Tomáš Roubíček,** Charles University, Prague, Czech Republic<br>*Relaxation in optimization theory and variational calculus* | |
| 14:15 – 14:30 | **Mohamed Ali Hammami,** Faculté des Sciences de Sfax, Sfax-Tunisie, Tunisia<br>*Stabilization of a certain class of nonlinear systems via an observer* | |

**Semi-infinite and Semi-definite Optimization** **H 2033**
Chair: René Henrion

| | | |
|---|---|---|
| 15:00 – 15:15 | **Jan-J. Ruckmann,** Technische Universität München, München, Germany<br>*On Generalized Semi-infinite Optimization Problems* | *(p.349)* |
| 15:15 – 15:30 | **Oliver Stein,** Aachen University of Technology, Aachen, Germany<br>*On level sets of marginal functions* | *(p.351)* |
| 15:30 – 15:45 | **Ivo Nowak,** Humboldt–Universität, Berlin, Germany<br>*Bézier-Semidefinite Relaxations of nonconvex quadratic programs over a simplex* | *(p.346)* |

**Miscellaneous II** **H 2013**
Chair: Roland Wessäly

| | | |
|---|---|---|
| 15:00 – 15:15 | **Ingo Bremer,** WIAS, Berlin, Germany<br>*Experiences with the Optimization of Batch Distillation Processes* | |
| 15:15 – 15:30 | **Rafail Gabasov,** Byelorussian State University, Minsk, Belarus<br>*Synthesis of optimal dynamical systems* | |
| 15:30 – 15:45 | **Roland Wessäly,** Konrad-Zuse-Zentrum für Informationstechnik, Berlin, Germany<br>*New inequalities for a capacitated survivable network design problem* | *(p.355)* |

**Poster Session** — **Wednesday, 26 August**

**16:15 – 18:00** — **MA 144**

**Shamsha A. Aipanov,** Kazakh State University, Almaty, Kazakhstan
*The solutions of some problems of optimal control of spacecraft* *(p.335)*

**Vladimir Borisov,** Moscow State (Lomonosov) University, Cherkizovo, Russia
*Bundles with chattering extremals* *(p.337)*

**Anna Debinska-Nagorska,** Technical University of Lodz, Lodz, Poland
*A Non-linear Hyperbolic Control Problem with Neumann Boundary Condition — Convergence of Galerkin Approximation* *(p.338)*

**Roland Hildebrand,** Universität Berlin, Berlin, Germany
*Optimal synthesis of controlled systems near a focus* *(p.343)*

**Christian Schulz,** University of Dortmund, Dortmund, Germany
*Optimal scheduling of a chemical batch plant* *(p.350)*

**Zdzislaw Stempien,** Technical University of Lodz, Lodz, Poland
*On the Optimal Control of Nonlinear Hyperbolic System — Approximation* *(p.351)*

**Pierre von Mouche,** Landbouwuniversiteit Wageningen, Wageningen, The Netherlands
*Sur deux problèmes géométriques dans la théorie des jeux* *(p.354)*

**Olga Winzer,** Zaporozhye State University, Ukraine
*Complexity of vector spanning trees problems with topological criteria* *(p.355)*

**Stanislav T. Zavalishchin,** Institute of Mathematics and Mechanics, Ekaterinburg, Russia
*Dynamic impulse systems. Optimization problems in fluid mechanics* *(p.356)*

# Section 18: Teaching and Popularization of Mathematics

## Invited Lectures

**Monday, 24 August** — **MA 004**

17:15 – 18:00 **Mogens Niss,** Roskilde University, Roskilde, Denmark
*Aspects of the nature and the state of research in mathematical education* *(I: p.198)*
Chair: Urs Kirchgraber

**Tuesday, 25 August** — **H 104**

14:00 – 14:45 **Mariolina Bartolini Bussi,** Università di Modena, Modena, Italy
*Drawing instruments: the theory of a practice from history to didactics* *(I: p.197)*
Chair: Klaus-D. Graf

15:00 – 15:45 **James Stigler,** University of California, Los Angeles, USA
*Classroom Mathematics Instruction in Three Cultures: An Introduction to the TIMSS Video Study* *(I: p.200)*
Chair: Thomas Jahnke

16:15 – 18:00 **George Eyre Andrews,** Pennsylvania State University, University Park, USA
**D.J. Lewis (moderator),** NSF, Arlington, USA
**David Alexander Smith,** Duke University, Durham, USA
*Collegiate Mathematics Instruction for the 21st Century — A Panel Discussion* *(I: p.200)*

**Wednesday, 26 August** **H 104**

| | | |
|---|---|---|
| 14:00 – 15:45 | **Michèle Artigue (speaker),** Université de Paris 7, Paris, France<br>*De la compréhension des processus d'appretissage*<br>*à la conception de processus d'enseighement* | *(I: p.202)* |
| | **Hans-Georg Steiner (respondent),** Universität Bielefeld, Bielefeld, Germany<br>*"From the Understanding of Learning Processes*<br>*to the Design of Teaching Processes"*<br>Chair: Hans-Christian Reichel | *(I: p.203)* |
| 16:15 – 18:00 | **Miguel de Guzman,** Universidad Complutense de Madrid, Madrid, Spain<br>**Bernard R. Hodgson,** Université Laval, Québec, Canada<br>**Aline Robert,** IUFM de Versailles, France<br>**Vinicio Villani (moderator),** Università di Pisa, Pisa, Italy<br>Round table on: *Difficulties in the Passage from Secondary to Tertiary Education* | *(I: p.204)* |

## Short Communications and Poster Sessions

**Short Communications** **Saturday, 22 August**

**Undergraduate Mathematics at the University** **H 2013**
Chair: Joseph W. Eyles

| | | |
|---|---|---|
| 16:15 – 16:30 | **Talma O. Leviatan,** Tel Aviv University, Tel Aviv, Israel<br>*Misconceptions, fallacies, pitfalls, and paradoxes in the teaching of probability* | *(p.361)* |
| 16:30 – 16:45 | **Lyudmila Y. Khilchenko,** Yavneh Academy, Los Angeles, CA, USA<br>*An algorithmic approach to the notion of an elementary function* | *(p.360)* |
| 16:45 – 17:00 | **Joseph W. Eyles,** University of Texas at Austin, Austin, Texas, USA<br>*Discovering R.L. Moore's Calculus Course* | *(p.358)* |

**Geometry in the Classroom** **H 2013**
Chair: F. Rudolf Fritsch

| | | |
|---|---|---|
| 17:15 – 17:30 | **Klaus-D. Graf,** Freie Universität Berlin, Berlin, Germany<br>*Distance learning fördert die Kreativität im Mathematikunterricht* | *(p.360)* |
| 17:30 – 17:45 | **Bernd Zimmermann,** Friedrich-Schiller-Universität Jena, Jena, Germany<br>*Al Sijzi on problemsolving and creativity in elementary geometry* | *(p.364)* |
| 17:45 – 18:00 | **F. Rudolf Fritsch,** Mathematisches Institut, München, Deutschland<br>*Remarks on quadrangles* | *(p.359)* |

**Short Communications** **Monday, 24 August**

**Pedagogical and Psychological Aspects** **H 2013**
Chair: Hans-Joachim Arnold

| | | |
|---|---|---|
| 14:00 – 14:15 | **Sou-yung Chiu,** Chang-Hua University of Education, Chang-Hua, Taiwan<br>*Pedagogical Mathematics Knowledge, PMK and P(PMK)K* | *(p.358)* |
| 14:15 – 14:30 | **Torsten Fritzlar,** Friedrich-Schiller-Universität Jena, Jena, Germany<br>*Über Möglichkeiten der Sensibilisierung für die Komplexität von Mathematikunterricht* | *(p.359)* |
| 14:30 – 14:45 | **Hans-Joachim Arnold,** Universität Duisburg, Duisburg, Germany<br>*Geometrische Relationen-Algebra und Piaget'sche Schematheorie* | *(p.357)* |

| **Miscellaneous I** | | **H 2013** |
|---|---|---|
| Chair: Masao Mori | | |
| 15:00 – 15:15 | **Salem A. Sahab,** King Abdul-Aziz University, Jeddah, Saudi Arabia<br>*Mathematics basic skills for grades 1 to 3* | *(p.363)* |
| 15:15 – 15:30 | **Josef Nietzsch,** Humboldt–Universität zu Berlin, Berlin, Germany<br>*The Study of Mathematics by High School Students at the University* | *(p.363)* |
| 15:30 – 15:45 | **Masao Mori,** Chuo University, Tokyo, Japan<br>*Beginners Confusion and Terminology in Mathematics* | *(p.362)* |

| **Miscellaneous II** | | **H 2013** |
|---|---|---|
| Chair: Mary E. Morley | | |
| 16:15 – 16:30 | **Ludwig Paditz,** HTW Dresden (FH), Dresden, Germany<br>*Comparision of the statistic calculators TI-83, EL-9600, and CFX-9850G PLUS* | *(p.363)* |
| 16:30 – 16:45 | **Mary E. Morley,** Educational Testing Service, Princeton, United States of America<br>*Three Response Types for Broadening the Conception of Mathematical Problem Solving in Computer-Graded Tests* | *(p.362)* |
| 16:45 – 17:00 | **Zhongling Xu,** National Natural Science Foundation of China, Beijing, P.R. of China<br>*The Popularization of Mathematical Methods in China* | *(p.364)* |

## Poster Session — Saturday, 22 August

**14:00 – 15:45** **MA 144**

**Gloria L.M. Alves,** Instituto Militar de Engenharia, Rio de Janeiro, Brazil
*Modernization of Basic Disciplines in Engineering Courses at IME* *(p.357)*

**Gerhard Brecht,** Fachhochschule Lippe, Itzehoe, Germany
*Do Mathematical Standards Concern Mathematics?* *(p.357)*

**Cecilia Crespo Crespo,** Department d'Algebra i Geometria, Barcelona, Spain
*Thinking about Geometry Teaching* *(p.358)*

**Paul Fjelstad,** Northfield, MN, USA
*A Picture for Real Arithmetic* *(p.359)*

**Peter Kortesi,** University of Miskolc, Miskolc, Hungary
*Junior Mathematical Congress — Challenge for Future Mathematicians* *(p.360)*

**Elena Vladimirovna Kuragina,** Mari State University, Yoshkar-Ola, Russia
*Methodical support for a programming-methodical complex of study methods of optimization* *(p.361)*

**Julia M. Moshnikova,** Karelian State Pedagogical University, Petrozavodsk, Russia
*Correspondence School of Mathematics in Karelia* *(p.362)*

**Yasuhiro Ozaki,** Hachinohe Institute of Technology, Hachinohe-shi Aomori, Japan
*An Approach in Teaching by Means of the Personal Computer Software "Mathematica"* *(p.363)*

# Section 19: History of Mathematics

## Invited Lectures

### Monday, 24 August — MA 004

14:00 – 14:45 **Jeremy John Gray,** The Open University, Milton Keynes, England
*The Riemann-Roch Theorem and Geometry, 1854-1914* (I: p.208)
Chair: Umberto Bottazzini

15:00 – 15:45 **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* (I: p.206)
Chair: Sergei S. Demidov

16:15 – 17:00 **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* (I: p.208)
Chair: Ivor Grattan-Guiness

## Short Communications and Poster Sessions

### Short Communications — Monday, 24 August

**Non-European Mathematics** — **H 2013**
Chair: Shirong Guo

17:15 – 17:30 **Shirong Guo,** The Needham Research Institute, Cambridge, Great Britain
*Yang Hui's Influence on the Mathematical Tradition of the Ming Dynasty in China* (p.367)

17:30 – 17:45 **Osamu Takenouchi,** Osaka International University, Toyanoka-shi, Japan
*Summation of a sequence of natural numbers* (p.369)

17:45 – 18:00 **Abdelkhalek Cheddadi,** École Mohammadia d'Ingénieurs, Rabat, Morocco
*Un problème d'arithmétique et sa résolution par le mathématicien marocain al-Hassar (XIIè s.)* (p.365)

### Short Communications — Tuesday, 25 August

**19th Century** — **H 2013**
Chair: Herbert A. David

14:00 – 14:15 **Mircea Radu,** University Bielefeld, Bielefeld, Germany
*Justus Grassmann's Account of Synthesis in Mathematics: between Schelling and Kant* (p.368)

14:15 – 14:30 **Heiner Lichtenberg,** Bundesministerium der Finanzen, Bonn, Germany
*The decoding of the Callippian Cycle in the Gregorian Calendar for the period between 1900 and 2099* (p.367)

14:30 – 14:45 **Herbert A. David,** Iowa State University, Ames, Iowa, USA
*Early sample measures of variability* (p.366)

| **Data Bases** Chair: Patrick D.F. Ion | | **H 2013** |
|---|---|---|
| 15:00 – 15:15 | **June E. Barrow-Green,** The Open University, Milton Keynes, UK<br>*Mathematics in Britain 1860-1940: a database for the World Wide Web* | *(p.365)* |
| 15:15 – 15:30 | **Harry B. Coonce,** Mankato State University, Mankato, MN, USA<br>*The Genealogy Project for Mathematicians* | *(p.365)* |
| 15:30 – 15:45 | **Patrick D.F. Ion,** Mathematical Reviews, Ann Arbor, MI, USA<br>*The symbolism of mathematics: from pasigraphy in 1897 to MathML in 1998* | *(p.367)* |

## Short Communications — Wednesday, 26 August

| **Miscellaneous** Chair: Seemanapalli V. Sastry | | **H 2013** |
|---|---|---|
| 16:15 – 16:30 | **Seemanapalli V. Sastry,** Federal University of Paraiba, Paraiba, Brazil<br>*History of Mathematics: Yesterday, Today, and Tomorrow* | *(p.368)* |

## Poster Session — Wednesday, 26 August

**14:00 – 15:45** **MA 144**

**Carlos Gomez Bermudez,** Universidade da Coruña, Sada, Spain
*Le système des nombres chez G. Cantor* *(p.366)*

**Harald Gropp,** Universität Heidelberg, Heidelberg, Germany
*Levi, Steinitz, Zacharias, and configurations — Three German mathematicians in the* $20^{th}$ *century and a combinatorial structure* *(p.366)*

**Aleksandar T. Lipkovski,** University of Belgrade, Belgrade, Yugoslavia
*Rational curves with elliptic arcs — Serret's solution of Legendre's problem* *(p.368)*

**Man-Keung Siu,** University of Hong Kong, Hong Kong, China, Peoples Republic of
*On the myth of an ancient Chinese theorem about primality* *(p.369)*

# D. Special Activities

In accordance with the Program Committee and the IMU, the Organizing Committee has opened a *Section of Special Activities* to cover topics of mathematical relevance that would not fit elsewhere in the official scientific program.

## D.1 Electronic Publishing

**Monday, August 24, 14:00–18:00, H 104**

There will be an afternoon on electronic publishing that starts out with a **"technical session" (14:00–15:45)**, where reports on developments important for mathematics are given (for details see the Abstract Book):

- MSC 2000, the new version of the Mathematics Subject Classification (J. Kister, B. Wegner);
- Metadata, a new tool for the description and location of electronic documents (J. Plümer);
- MATHML, possibly the future "language" for storing mathematical texts electronically (S. Buswell).

The key activity of the afternoon **(16:15–18:00)** will be a **panel discussion, chaired by IMU President David Mumford,** involving seven persons representing different groups active in electronic publishing. The topic of this panel discussion is

**"The Future of Electronic Communication, Information, and Publishing"**

This should be of interest to all those who worry about the future of mathematical publishing and about the access to mathematical publications.

The panelists are (in alphabetic order): Neil Calkin (Clemson, Electronic Journal of Combinatorics): Electronic journals; John Ewing (Providence, American Mathematical Society): Views of learned societies; Martin Grötschel (Berlin, German Mathematical Society): Information and communication networks; Joachim Heinze (Heidelberg, Springer-Verlag): Views of a scientific commercial publisher; Carol Hutchins (New York, Courant Institute Library): The situation of libraries; Peter Michor (Vienna, European Mathematical Society): Electronic libraries; Richard Palais (Brandeis, Waltham, MA, USA): Electronic e-print servers.

Each panelist will be given 5 to 10 minutes time to report his/her vision of the future. This will be followed by a broad discussion, including the audience.

## D.2 Mathematical Software

**August 19–21, 14:00–18:00, H 104**

Three afternoons at ICM'98 are devoted to presentations of mathematical software.

The focus of this session will be the presentation of a broad spectrum of mathematical software systems ranging from general purpose systems to specialized systems, e.g., systems from numerical analysis, computer algebra, optimization, mathematical visualization, or mathematical education. The presentations include typical applications.

This session is planned to attract a broad audience: ICM attendees, students, teachers, etc., with a special interest in mathematical software.

For details, see the program information of the day-by-day view on pages 13, 20, and 28.

## D.3 Special Activities Related to Women in Mathematics

This series of special activities is going to highlight women in mathematics. These activities have been arranged in cooperation with the European Women in Mathematics (EWM), the Association for Women in Mathematics (AWM), and other groups representing women mathematicians. Details can be found in the Abstract Book, page 370.

**Panel Discussion**

**Friday, August 21, 19:30–21:00, H 104**

There will be a panel discussion with the title

**"Events and policies: Effects on women in mathematics"**

organized and moderated by Bhama Srinivasan (University of Illinois at Chicago), Christine Bessenrodt (University of Madgeburg), and Bettye Anne Case (Florida State University).

This panel was organized by a committee representing the Association for Women in Mathematics (AWM), the European Women in Mathematics (EWM), and the Committee on Women and Mathematics of the European Mathematical Society, with further assistance from mathematicians in several additional countries.

### Film Performance

**Friday, August 21, 21:15–22:00, H 104**

A film with the title

**"Women and mathematics across cultures"**

directed by Marjatta Näätänen (University of Helsinki) will be shown.

This film, produced in 1996, briefly introduces the organization "European Women in Mathematics" (EWM), provides some statistics, and allows four women mathematicians to share their personal experiences about the impact of cultural differences on the status of women in the profession.

### Emmy Noether Lecture

**Saturday, August 22, 11:00–12:00, H 105/H 104**

On Saturday, August 22, 11:00, **Cathleen Synge Morawetz** (Courant Institute, New York University), will present the Emmy Noether Lecture with title

**"Variations on Conservation Laws for the Wave Equation"**

The Emmy Noether Lecture will be chaired by Irene M. Gamba (Austin, USA).

## D.4 International Comparison of Mathematical Studies, University Degrees and Professional Perspectives

**August 25, 1998, 19:30, H 104**

International cooperation and collaboration is increasing. However, the rules and regulations in many countries seem to impede the international mobility of students, teachers, and professionals. A discussion of this and related topics — with respect to mathematics — will be the subject of a round table organized by Ina Kersten (Bielefeld, Germany).

Among the panelists are Doina Cioranescu (Laboratoire d'Analyse Numérique, Univ. Pierre et Marie Curie, Paris, France), Karl-Heinz Hoffmann (President of the German Mathematical Society, formerly the President of the "Wissenschaftsrat" of Germany), Jürgen Netzel (Labor Exchange, Berlin, Germany), Andrzej Pelczar (President of the General Council for Higher Education in Poland, Vice-President of the European Mathematical Society), and Mario Primicerio (Mayor of Florence, Italy).

There will be short reports on higher education policies and professional perspectives in different countries. The discussion also includes mobility of students and teaching staff, and the development of cooperation networks. There are many professional fields where mathematicians are needed as the discussion will show.

## D.5 Berlin as a Centre of Mathematical Activity

**Saturday, August 22, 14:00–18:00, H 104**

The **workshop** "Berlin as a Centre of Mathematical Activity" was suggested by the International Commission on the History of Mathematics (ICHM) and organized on its behalf by G. Israel (Rome) and E. Knobloch (Berlin).

After an introduction (14:00–14:15), given by G. Israel (University of Rome, Italy), the following talks will be presented. (The abstracts below are not contained in the Abstract Book.)

**The Berlin-Göttingen Rivalry, 1870–1920**
**By David Rowe**
**(University of Mainz, Germany)**
**14:15–14:45**

*Abstract:* By mid 19th century, Berlin and Göttingen had emerged as the two dominant mathematical centers within Germany. During the era of Weierstrass and Riemann, relations between the two centers were cordial, but by 1870 the situation began to change. Berlin maintained the upperhand up until the death of Kronecker (1891) and Weierstrass' retirement (1892), but thereafter Felix Klein forged an aggressive effort that placed the Berlin mathematicians, led by Frobenius and Schwarz, in a defensive position. These events, including several key turning points in the conflict, shed light on the process of modernization within the German mathematical community.

**Weierstrassian mathematical analysis and Cantorian set theory in Britain and the USA, 1890–1910**
**By Ivor Grattan-Guinness**
**(Middlesex University, England)**
**15:00–15:30**

*Abstract:* Two rather different stories of German influence upon Anglo-Saxon culture are told here. The USA was late in emergence as a research country in mathematics; but when advances were made, from the 1880s, analysis and set theory were prominent. E.H. Moore took a considerable interest and diffused it (especially set theory) from Chicago. Several American mathematicians took their doctorates at Berlin, and the influence upon W.F. Osgood went deeper, to important monographs. The Open Court Publishers Company included mathematical works by Cantor and Dedekind in its programme of translations of German texts.

Britain, especially England, was largely dominated by algebra; but A.R. Forsyth and E.W. Hobson drew upon Weierstrass for their work in analysis, especially for real variables. Set theory came through Bertrand Russell in the early 1900s; but the definitive change, especially for point-set topology was effected soon afterwards by G.H. Hardy, particularly when boosted by J.E. Littlewood from around 1910.

**Weierstrass' school of analysis and its influence on Italian Mathematics**
**By Umberto Bottazzini**
**(Centro Linceo Interdisciplinare "B. Segre" Accademia dei Lincei, Rome, Italy)**
**16:15–16:45**

*Abstract:* Berlin emerged as the leading centre of mathematical analysis in the early 1860s when Weierstrass, who had joined Kronecker and Kummer in 1856, began to teach the theory of analytic functions at the university and founded the mathematical seminar together with Kummer. In autumn of 1864 the Italian mathematician Casorati visited Berlin to discuss with Weierstrass, Kronecker, Kummer and their pupils the most recent progress in mathematics. The notes taken by Casorati of the talks with the Berlin mathematicians provide a vivid picture of the questions which were then at the forefront of mathematical research. In particular, they discussed such topics as continuity, differentiability, analytic continuation, natural boundaries, and Riemann's use of the Dirichlet principle. The latter became the main subject of the correspondence between Casorati and Schwarz, the student of Weierstrass who mostly contributed to the diffusion of his teacher's methods in Italy. Indeed, Schwarz was the true trait d'union between the Berlin mathematicians and their Italian colleagues. In the early 1870s he had an intensive correspondence with Casaroti and Dini in particular. In his letters to them Schwarz presented the methods and the main results as expounded by Weierstrass in his lectures and seminars. Dini's lectures at the university of Pisa, inspired by the new methods of Weierstrass (and Cantor), were at the basis of his celebrated treatise Fondamenti per la teorica delle funzioni di variabili reali (1878) where Dini acknowledged his debt to Schwarz. From the mid-1860s on, Weierstrass lectured regularly on the theory of analytic functions, the theory of elliptic and Abelian functions and the calculus of variations. This set of lectures, which Weierstrass repeated and refined for nearly 30 years, was never published during his lifetime. The first presentation in Italy of Weierstrass' theory of analytic functions was given in 1880 by Salvatore Pincherle. A student of Dini and Casorati, Pincherle spent one year in Berlin before being appointed in 1880 to a chair of analysis at the University of Bologna. By then Weierstrass' theory of analytic functions was beginning to be taught in Italy.

**Russian mathematicians in Berlin in the second half of the XIXth until the beginning of the XXth century**
**By S.S. Demidov (Russian Academy of Sciences, Moscow, Russia)**
**16:50–17:20**

*Abstract:* In the second half of the XIXth century Berlin became one of the basic European mathematical centers and played an important role in the development of the mathematical thought in Russia. In this period, it was a tradition for Russian universities to send young scholars to the best European scientific centers to improve their qualifications. In this period such centers were German and French universities. The Berlin University was especially popular for Russian young mathematicians of this time, the most famous professor there was K. Weierstrass. Among his Russian pupils we find M.A. Tikhomandritckii, S.V. Kovalevskaya, A.V. Vasil'ev, D.F. Selivanov. Many Russians attended lectures of E. Kummer, L. Kronecker, and L. Fuchs. The scientific community of Berlin stimulated the development of some modern branches of mathematics in Russia, among them the theory of functions of a complex variable and the analytical theory of the differential equations (S.V. Kovalevskaya, P.A. Nekrasov, V.A. Anisimov). It was in Berlin where we have to look for the roots of the Moscow geometrical school (F. Minding, K.M. Peterson, D.F. Egorov), which determined, in many respects, the character and special features of mathematical studies in Moscow at the end of the XIXth until the first third of the XXth century.

**Images croisées des centres mathématiques de Paris et de Berlin, dans les années 1860–80**
**By Amy Dahan (CNRS Paris, France)**
**17:25–17:55**

*Abstract:* L'exposé portera:

1. d'une part sur les differentes representations des activites et milieux mathématiques a Paris, qui pouvaient etre perceptibles a l'étranger et notamment a Berlin;
2. d'autre part sur le rôle que l'image du centre mathématique de Berlin a pu jouer dans la constitution d'une hierarchisation des domaines mathématiques a Paris et dans la marginalisation correlative de certains groupes.

Une attention particulière sera portée sur la conception des mathématiques pures a Paris et a Berlin.

# E. Other Events

## E.1 Activities at TU Berlin

### "Terror and Exile" Berlin mathematicians under the Nazi regime 1933–1945

In 1998, the ICM returns to Germany after an intermission of 94 years. This long interval covers the darkest period in German history. Therefore, the German Mathematical Society (DMV) wants to honour the memory of all those who suffered under the Nazi terror. The DMV does this in the form of an exhibition presenting the biographies of 53 mathematicians from Berlin who were victims of the Nazi regime between 1933 and 1945. The fate of this small group illustrates painfully well the personal sufferings and the destruction of scientific and cultural life; it also sheds some light on the instruments of suppression and the mechanisms of collaboration.

Connected with the topic of the exhibition there will be a

**Special Session**
**"Mathematics in the Third Reich and Racial and Political Persecution"**

**Place:** Math Building TU, Room MA 004
**Date:** Tuesdeay, August 25, 14:00–15:45

with two lectures

**Joel Lebowitz (Rutgers University) "Victims, Oppressors, Activists, and Bystanders: Scientist's Response to Racial and Political Persecution"**

and

**Herbert Mehrtens (Technische Hochschule Braunschweig) "Mathematics and Mathematicians in Nazi Germany. History and Memory"**

as well as a **discussion** chaired by **Jochen Brüning (HU Berlin)**.

Also in connection with this program, we offer guided tours to sites of historic and reviving Jewish life in Berlin and to historic places of special political interest. We recommend the tours "Paths to the Jewish Berlin", "Fascism: The Pathos of Power", and "Gedenkstätte Deutscher Widerstand". Please consult the program of the Footloose Tours for details.

### Lecture by Andrew Wiles: "Twenty Years of Number Theory"

**Place:** Main Building TU, Auditorium Maximum / H 104
**Date:** Wednesday, August 19, 19:30

Andrew Wiles (Princeton) will give a special lecture on the development of number theory in the last twenty years. This talk, sponsored by the Andrejewski-Foundation, is intended for a broad audience.

The lecture will be chaired by **Don Zagier** (Bonn).

### Presentation of Olli Lehto's New Book on the IMU

**Place:** Springer booth at the book exhibit
**Date:** Thursday, August 20, 12:15

Olli Lehto (Helsinki), member of the IMU Executive Committee from 1975 to 1990 and IMU Secretary from 1983 to 1990, has carefully reviewed all documents about the formation of international cooperation in mathematics during the last one hundred years. The result is the fascinating book

**"Mathematics Without Borders, A History of the International Mathematical Union"**

(Springer, 1998).

On the occasion of the publication of this book, Springer-Verlag and the IMU invite all interested persons to meet the author at a lunch time reception.

In the evening of the same day (19:00), Springer-Verlag offers a reception in connection with its exhibition "Of Wo$\int$Men and Mathematics" at "Foyer der Kommode", Humboldt–Universität, Unter den Linden 9/11, Berlin. The public is cordially invited.

## Mathematics Cartoons — Colloquium Posters by Karl H. Hofmann

The Mathematics Library of the TU Berlin is not only interesting because of its ample holdings of books and journals in mathematics, but also for being the venue of frequent art exhibitions. On the occasion of the ICM'98, the librarians Dr. Iris Hahnemann and Bärbel Erler present a "Mathematical Art Exhibit": more than 30 originals and numerous photographs of posters designed by Karl Heinrich Hofmann for the Darmstadt Mathematical Colloquium — all of them funny, amusing, and attractive illustrations of the mathematical topics of colloquium lectures. Hofmann is a member of the faculty of the mathematics department of Darmstadt University of Technology and an adjunct member of the faculty of Tulane University in New Orleans.

**Place:** Math Building MA 163, Galerie in der Mathematischen Fachbibliothek, Monday to Friday, 9:00–19:00, until September 19
**Opening:** Monday, August 17, 19:00
**Catalogue:** in color, typeset and printed by Prof. Walter Wilkes at TU Darmstadt, available at the Exhibition.

## ICM Party

**TU, August 26, 18:00**

The Organizing Committee will stage a complimentary party for all participants. It will take place directly behind the Math Building on the campus of TU Berlin (see map on page 187), starting at 18:00 after the lectures.

The party will feature three music bands with Siggy Davis, the musical star from "Dream Girls" (Jazz, Blues, Gospel), as highlight. Several food stands and bars will serve meals and drinks. Every Ordinary Member will obtain complimentary tickets for one meal (yellow ticket) and two drinks (blue tickets) with the conference handout upon registration.

## E.2 Activities at the Urania

The Urania is a public lecture institute of long tradition, situated not far from TU Berlin.

**Address:** An der Urania 17, U-Bahn U1 Wittenbergplatz and a 5–minute walk (see the map on page 187). The entrance to the exhibitions is free. For all other events there is a fee of DM 6.–, exept for the lectures by Becker and Enzensberger.

## Lectures for a General Audience

**August 20–27, Urania**

August 20, 19:30, **Frank Natterer** (Münster)
*The Mathematics of Imaging in Medicine and Technology*

August 21, 17:30, **Klaus Becker** (Klieve)
*From Stone–Sculpturing to Mathematics:*
*Approximating the Incribed Ball of Regular Polyhedra*

August 21, 19:30, **Phil Davis** (Brown University, Providence)
*The Prospects of Mathematics in a Multimedia Civilization*

August 22, 19:30, **Jacobus van Lint** (Eindhoven)
*The Mathematics of the CD–Player*

August 24, 17:30, **Orm Finnendahl** (Berlin)
*Konstruktion und musikalischer Sinn: Auswirkungen rekursiver und stochastischer Verfahren in meinen Kompositionen* (in German)

August 24, 19:30, **Hans–Magnus Enzensberger** (München)
*Zugbrücke außer Betrieb, oder die Mathematik im Jenseits der Kultur — eine Außenansicht* (in German.) This presentation is sponsored by the Berlin–Brandenburgische Akademie der Wissenschaften.

August 25, 17:30, **Gero von Randow** (Hamburg)
*Geisterfahrer des Journalismus — Wie kommt die Mathematik in die Zeitung?* (in German)

August 25, 19:30, **Walter Schachermayer** (Wien)
*The Role of Mathematics in Financial Markets*
(followed by a round–table discussion chaired by H. Föllmer, HU Berlin. Panelists: R. Dantschke (Deutsche Bank AG), A. Gruber (Allianz Lebensversicherungs-AG), G. Stahl (Bundesaufsichtsamt für das Kreditwesen).

August 26, 17:30, **Peter Hoffmann** (Paris)
*Mathematische Tonerzeugung: Stochastische Verfahren bei Iannis Xenakis* (in German)

August 27, 17:30, **Klaus Becker** (Klieve)
*Von der Steinbildhauerei zur Mathematik:*
*Eine Annäherunng an die einbeschriebenen Kugeln regelmäßiger Polyeder* (in German)

August 27, 19:30, **Heinz–Otto Peitgen** (Bremen)
*Mathematik und Medizin — Computerunterstützung in der Leberchirurgie und Früherkennung von Brustkrebs* (in German)

## VideoMath Festival

**August 20–27, Urania**

The best mathematical video films have been selected by an international program committee and will be presented as the VideoMath Reel. The organization lies in the hands of H.–C. Hege (ZIB Berlin) and K. Polthier (TU Berlin). In addition, several long feature films will be shown (in English).

| | | |
|---|---|---|
| August 20, | 19:00 | Opening of the VideoMath Festival |
| August 21, | 18:00 | $N$ is a Number — a Portrait of Paul Erdős |
| | 20:00 | VideoMath Reel |
| August 22, | 18:00 | Errors aren't Forever<br>Law of Least Effort<br>The new Shepherd's Lamp |
| | 20:00 | VideoMath Reel |
| August 25, | 18:00 | Seeing is Believing<br>Hotel Hilbert |
| | 20:00 | VideoMath Reel and Award Ceremony |
| August 27 | 18:00 | Qubba for Al–Kashi<br>Arabesques and Geometry<br>Animato |
| | 20:00 | VideoMath Reel |

The admission fee is DM 6.– per performance. The VideoMath Festival is sponsored by Silicon Graphics.

## Exhibitions

**August 20–27, Urania**

The exhibitions will be officially opened on Thursday, August 20, at 18:30.

The daily opening hours are August 20–27, 10:00–20:00, Sunday, August 23, 10:00–14:00, no admission fee.

**"Mathematik zum Anfassen"**
**— Hands–on Mathematics**

Professor Beutelspacher (Gießen) is the initiator of this exhibition which invites the visitor to "do" mathematics.

**Mathematical Stone Sculptures**

The artist Klaus Becker will give two talks on his work (see the listing of the lectures at the Urania).

**Mathematics and Ceramics**

Several well–known artists, among them A.R. Penck, H.-P. Mader, Y. Hayashi, and J.M. Middlesmith, present their works, partly created especially for this occasion.

**Works by High–School Students**

High–school students from all over Berlin were asked to present their ideas on *"mathematics and art"*. The best entries will be honored on August 25, 16:00, where also some selected videos will be shown.

**Piano Recital**

On Sunday, August 23, 11:00, the Georgian pianist Tamara Kokilashvili will give a concert with compositions by Mozart, Schumann, and Skriabin.
Admission: DM6.–.

## E.3 (Innovation)$^3$ — Mathematics and the Arts

This is an exhibition featuring paintings and sculptures related to mathematical objects. It is shown at the Ludwig–Erhard–Haus, which is itself worth a visit because of its unusual architecture. The exhibition was initiated by Professor Guderian.

Open daily August 18–27, 9:00–19:00, on Saturday August 22, there is the "long night of museums". The official opening is on Monday, August 17 at 20:15. The entrance is free.

**Location:** Ludwig–Erhard–Haus, Hardenbergstr. 16–18, U–Bahn station Zoologischer Garten and a 5 minute walk from there.

## E.4 Opera

**Sunday, August 23, 19:30, Deutsche Oper Berlin, Bismarckstr. 35.**

A special performance of the opera "The Magic Flute" ("Die Zauberflöte") by Wolfgang Amadeus Mozart will be staged at the Deutsche Oper Berlin. If you do not have a ticket and want to attend, please contact the conference office.

# F. Program Changes and Ad-hoc Sessions

## F.1 Program Changes

Program changes, cancellations, and additions are posted at the ICM'98 information desks and are published in the Daily News. If you want to announce such a change please contact the program desk in the conference office (H 2036) and fill in a "Program Form" available there. Alternatively, you can send an e-mail to

`program@math.tu-berlin.de`

The announcement of a program change etc. must be submitted the day before the day to which it applies, by 15:00 at the latest. Otherwise, timely processing cannot be guaranteed.

## F.2 Ad-hoc Sessions

Ordinary Members may present short communications or posters in Ad-hoc Sessions during ICM'98. The program of these Ad-hoc Sessions will be posted at the ICM information desks and also in the ICM Daily Newsletter. Title and abstract of such presentations must be delivered to the congress office before 15:00 of the day preceding the presentation.

After the conference, the abstracts of short communications and posters presented in Ad-hoc Sessions will be included into the electronic version of the abstract volume.

# G. Supplementary Information

## G.1 ICM'98 Public E-mail Service

All Ordinary Members are invited to use the ICM'98 Computer Lab, located in room MA 241 of the Math Building (MA). The opening hours are as follows.

| Date | from | to |
|---|---|---|
| Tue, August 18 | 14:00 | 20:00 |
| Wed, August 19 | 8:00 | 20:00 |
| Thu, August 20 | 8:00 | 20:00 |
| Fri, August 21 | 8:00 | 20:00 |
| Sat, August 22 | 8:00 | 16:00 |
| Mon, August 24 | 8:00 | 20:00 |
| Tue, August 25 | 8:00 | 20:00 |
| Wed, August 26 | 8:00 | 20:00 |
| Thu, August 27 | 8:00 | 18:00 |

You are welcome to use any of the following services:

- sending and receiving e-mail messages,
- using rlogin, telnet, or ftp to connect to your home lab via the internet,
- access the World Wide Web (WWW) with Netscape.

Lab staff is available to help you with all questions concerning the use of computers. This service is not available on Sunday, August 23.

## G.2 Libraries

Several mathematics libraries will be available for Ordinary Members of ICM'98. The reading room of the main library (Main Building H 3503) features a rich collection of reference works in all fields of science, especially of technology. The mathematics library is located in the building of the Department of Mathematics (MA 163). Please note that books cannot be checked out for any reason.

Libraries at TU Berlin are open Monday through Friday from 9:00 to 18:00.

Furthermore, there are also mathematics libraries at Freie Universität Berlin and at Humboldt–Universität Berlin. Please contact the conference office for additional information concerning addresses and opening hours.

## G.3 Eating and Refreshments

Complimentary coffee and softdrinks are offered during the half-hour morning and afternoon breaks.

#### Cafeterias

There are two cafeterias; one is located in the Main Building (H) close to the Auditorium Maximum, the other one is in the Math Building (MA) underneath the lecture room MA001. They serve coffee, breakfast, pies, sandwiches, softdrinks, etc. and they are open Monday through Saturday 08:00–18:00.

#### TU mensa and restaurants

The large university mensa serves refreshments and full meals at student prices. It is located on the campus of the TU Berlin (see map on page 187.). The mensa is open Monday through Friday 11:15–14:00.

A university restaurant is located on the 9th floor of the Math Building. It is open Monday through Friday 11:00–16:00 and Saturday 11:00–15:00.

Furthermore, a small restaurant is located directly behind the Math Building which you may also use for small business meetings etc. It is open Monday through Friday 10:00–22:00.

For further restaurant recommendations consult the Berlin Intelligencer.

## G.4 Medical Care

The congress fee does not include insurance for the participants against accidents, sickness, or loss of personal property.

A great number of pharmacies are located throughout the city; they are marked with red capital A. One pharmacy is directly located at the station "Zoologischer Garten" (see Map on page 187). It is open Monday through Friday 7:30–20:00 and Saturday 8:30–16:00. Note that in Germany you may need a prescription for certain medicaments that can be obtained freely in other countries, and vice versa. Additionally, you will find information about night and weekend services of pharmacies displayed at the doors of each of these pharmacies.

If you think you need a medical doctor, please come to the congress office in room H2036 of the Main Building of TU Berlin. We will contact the First Aid center of the university, or we shall help you in making an appointment with a local medical doctor. ICM'98 has not taken out medical insurance for the participants of the Congress; so you will have to pay the doctor in cash.

In case of a serious emergency or accident a quick transfer to a hospital can be arranged.

## G.5 Stamps and Souvenirs

On the occasion of ICM'98, a special stamp has been issued by the "Deutsche Post AG." On this stamp, the "Archimedian constant" $\pi$ is shown in the form of concentric circles with increasing precision, symbolizing the rows of seats of a large lecture hall.

Many people have been trying to "square the circle." As a reminder that this is impossible, you can see a "square" on the stamp partitioned into smaller squares of distinct integral side lengths. The large "square" is in fact a rectangle with side lengths 177 and 176. (The smallest number of squares of distinct side lengths "squaring a square" is larger than the number of small squares on the stamp!)

The nominal value of the stamp is DM 1.10, the postage for a standard letter within Europe.

The ICM'98 stamp will be officially issued at the ICM'98 opening ceremony. The Deutsche Post will open a special post office in the TU Main Building on August 20 and 21 from 10:00–16:00 where you can buy the stamp and obtain a first day of issue postmark.

In addition, the Organizing Committee has prepared a selection of ICM'98 souvenir articles. This includes

- an ICM'98 teddy bear (DM 15.–);
- a T-shirt (in several sizes and two colors) showing the ICM'98 logo (DM 15.–);
- a watch (in two sizes) especially designed for the participants of ICM'98 (DM 30.–);
- an umbrella (in two sizes) sprinkled with components of the ICM'98 logo (DM 80.– and 50.–).

Moreover, we offer the mathematical video "VideoMath Festival at ICM'98" (published by Springer–Verlag) which is based on the Videomath Reel shown in the Urania (DM 40.–).

These articles are sold at several places of the Main Building of TU Berlin and at the Urania.

## G.6 Mail and Post Office

All mail, telegrams, and faxes for persons attending the Congress should be addressed to:

Name of the Participant
c/o ICM'98, Prof. Dr. J. Winkler
TU Berlin, MA 8–2
Str. des 17. Juni 136
D-10623 Berlin, Germany
Fax: +49 30 314-21604

Incoming items will be posted at the conference office in the Main Building. If you want to send ordinary mail you can use any of the yellow mailboxes of the Deutsche Post throughout the city. (Postage for a "standard letter" within Europe is DM 1.10, postage for a "standard postcard" within Europe DM 1.00.) For more detailed information, shipping of parceles, etc., we suggest that you contact a post office. Two post offices close to TU Berlin located at Bahnhof Zoologischer Garten and at Goethestr. 2-3. They are marked on the map on page 187. Post offices are usually open 9:00–18:00, Monday to Friday, 9:00–12:00 on Saturday. The post office at Bahnhof Zoo has extended opening hours.

## G.7 Telephone Messages

For urgent messages to a participant, call

+49 30 314-24105
or +49 30 314-25224.

To avoid mistakes, only simple messages will be taken and will be posted on the mailboard at the conference office. Unless it is a matter of life and death, it will not be possible for our secretarial staff either to check the presence of a specific person or to check whether the message actually reaches the intended person.

At the registration desk area at TU Berlin, there will be public phones accepting telephone-cards.

## G.8 Personal Messages

Participants wishing to exchange personal messages during ICM'98 should use the mailboard at the conference office.

## G.9 Bank Services

The two closest banks, both within walking distance, are:

| | |
|---|---|
| Hypo Bank | Deutsche Bank |
| Ernst-Reuter-Platz 9–10 | Otto-Suhr-Allee 6 |
| 10585 Berlin | 10585 Berlin |

Opening hours are:

Monday and Wednesday 9:00–15:30
Tuesday and Thursday 9:00–18:00
Friday 9:00–12:30
Saturday and Sunday closed

## G.10 Shopping Hours

Shopping hours are from 9:00–20:00 Monday to Friday and from 9:00 to 16:00 on Saturdays. All shops are closed on Sundays.

## G.11 Child Care

Child care can be arranged upon request. Please contact the conference office the day before child care is needed.

## G.12 Your Local Transportation Ticket, Parking

With your congress materials, distributed at registration in Berlin, you received a special ticket that is valid for all types of public transportation (*Bus, U-Bahn, S-Bahn*) in Berlin and in Potsdam, for the complete duration of the Congress (Aug. 17-27, 1998). The ticket is included in the registration fee. Additional such tickets may be bought in the conference office for DM 47.–.

Ample parking space is available on Str. des 17. Juni directly in front of the TU buildings. Parking is free of charge.

## G.13 Registration Counter Conference Office

The registration counter is located in the atrium of the TU Main Building, see map on page 185. It is close to the Auditorium Maximum (H 105), where all Plenary Lectures will be given. The conference office (H 2036) is also located in the Main Building close to the atrium. The registration counter and the conference office will be operated during the following hours:

| | | |
|---|---|---|
| Monday, | August 17, 1998 | 14:00–20:00 |
| Tuesday, | August 18, 1998 | 8:00–20:00 |
| Wednesday, | August 19, 1998 | 8:00–20:00 |
| Thursday, | August 20, 1998 | 8:30–18:00 |
| Friday, | August 21, 1998 | 8:30–18:00 |
| Saturday, | August 22, 1998 | 8:30–18:00 |
| Sunday, | August 23, 1998 | closed |
| Monday, | August 24, 1998 | 8:30–18:00 |
| Tuesday, | August 25, 1998 | 8:30–18:00 |
| Wednesday, | August 26, 1998 | 8:30–18:00 |
| Thursday, | August 27, 1998 | 8:30–16:00 |

At this location, registered participants will receive their badges, congress documents, and their vouchers for all events that have been confirmed. If fees have been forwarded late and therefore not yet been credited to the account of DER-CONGRESS on the day of arrival, a copy of the remittance order should be presented. The following credit cards will be accepted for on-site registration: VISA, EUROCARD, MasterCard, Diners Club.

On the opening day, there will be an additional information counter situated in the International Congress Center (ICC Berlin), which is open as follows:

Tuesday, August 18, 1998 9:00–18:00

Kindly note that this counter is operated for information purposes only. Therefore you cannot register on-site and you will not receive your personal congress documents at this location.

## G.14 Badges

The official Congress badge is the ticket to enter the Congress. It will be required for all Congress functions, scientific sessions, and the exhibition area in the TU.

Along with the Congress documents Ordinary Members receive white badges, members of the Organizing Committee and staff carry yellow badges.

## G.15 Accommodation

In case you need assistance please contact DER-CONGRESS at the counter "Hotel".

## G.16 Social and Tourist Program

### Overview

| | Time | Price in DM |
|---|---|---|
| **Tuesday August 18, 1998** | | |
| Opening Ceremony in the ICC followed by a Buffet Lunch | 10:00–14:30 | free of charge |
| **Wednesday August 19, 1998** | | |
| City Sights | 9:00–12:00 | 40.– |
| From Prussian Kings to Egyptian Pharaohs | 13:00–17:00 | 45.– |
| **Thursday August 20, 1998** | | |
| Potsdam's Parks and Palaces | 8:00–18:00 | 150.– |
| City Sights with Visit to the Pergamon Museum | 10:00–14:00 | 50.– |
| **Friday August 21, 1998** | | |
| Dresden | 8:00–19:00 | 150.– |
| Boat trip on the River Havel | 13:30–17:15 | 55.– |
| **Saturday August 22, 1998** | | |
| Berlin's Famous Waterways | 9:45–12:15 | 50.– |
| City Sights with Visit to the Pergamon Museum | 10:00–14:00 | 50.– |
| Potsdam/Sanssouci | 13:00–17:00 | 65.– |
| **Sunday August 23, 1998** | | |
| Dresden | 8:00–19:00 | 150.– |
| Potsdam's Parks and Palaces | 8:00–18:00 | 150.– |
| Neuruppin and Rheinsberg Palace | 9:00–17:00 | 110.– |
| Impressions of the Spreewald | 9:00–17:00 | 125.– |
| From Prussian Kings to Egyptian Pharaohs | 10:00–14:00 | 45.– |
| City Sights with Visit to the Pergamon Museum | 13:00–17:00 | 50.– |
| Deutsche Oper ***The Magic Flute*** | 19:30 h | 52.– to 88.– |
| **Monday August 24, 1998** | | |
| Boat trip on the River Havel | 13:30–17:15 | 55.– |
| **Tuesday August 25, 1998** | | |
| Berlin's Famous Waterways | 9:45–12:15 | 50.– |
| Potsdam/Sanssouci | 13:00–17:00 | 65.– |
| **Wednesday August 26, 1998** | | |
| ICM'98 Party | 18:00–open end | free of charge |

All bus tours start in front of the TU Main Building, Str. des 17. Juni 135. Please note that the return times of the bus tours are approximate and depend on traffic conditions. Luncheons do not include beverages. The program is subject to change. All tours are provided with English speaking guides. Please contact the Tourist Program Counter for available tickets and information.

### G.17 Footlose Tours

To convey some of the many facets of Berlin to the ICM'98 participants, and in particular to accompanying persons, several Berlin mathematicians, their friends and spouses have volunteered to offer informal tours of Berlin. Most of the tours are free of charge, except for possible entrance fees or professional guides (and public transportation fares for accompanying persons who have not bought the transportation ticket offered by ICM'98). Almost all tours start in front of the TU Main Building. The program offered was announced in the Circular Letter ICM98-CL32 and can be found in the ICM'98 server. It is also posted at the Footloose Tour Counter in the conference office. Please contact this counter for further information and registration.

### G.18 Opening and Closing Ceremony

The Opening Ceremony takes place in the International Congress Center (not at TU Berlin) from 10:00 to 12:30 on Tuesday, August 18, 1998. Every participant and accompanying person is invited to attend. It is not necessary to register before.

The Opening Ceremony will be followed by a complimentary lunch reception. Accompanying persons are also invited.

The Closing Ceremony will take place in the Auditorium Maximum of the TU Main Building directly after the last Plenary Lecture (by Persi Diaconis) on Thursday, August 27 at 15:00.

### G.19 Daily News

Starting August 19, the Daily News, an informal newsletter will appear daily during the Congress. It will highlight certain events, announce special activities, and inform about program changes, cancellations, and additions. In particular, the titles and the schedule of ad-hoc presentations and sessions will be announced in the Daily News

The editor of the Daily News is Dirk Werner (FU Berlin), `werner@math.fu-berlin.de`

ICM'98 participants wishing to publish a message or information of general interest in the Daily News are kindly requested to fill in the "Daily News Form" that will be available at the conference office (H 2036). Alternatively, you can send e-mail to

`daily_news@math.tu-berlin.de`

## H. Organization

The International Mathematical Union has appointed the members of the following three committees.

### H.1 Program Committee

**Phillip Griffiths** (Institute for Advanced Study, Princeton, USA; Chairman)
**Luis Caffarelli** (University of Texas, Austin, USA)
**Ingrid Daubechies** (Princeton University, Princeton, USA)
**Gerd Faltings** (Max-Planck-Institut, Bonn, Germany)
**Hans Föllmer** (Humboldt–Universität, Berlin, Germany)
**Michio Jimbo** (Kyoto University, Kyoto, Japan)
**John Milnor** (SUNY at Stony Brook, Stony Brook, USA)
**Sergei Novikov** (Landau Institute, Moscow, Russia and University of Maryland, USA)
**Jacques Tits** (Collège de France, Paris, France)

### H.2 Fields Medal Committee for 1998

**Yuri Manin** (Max-Planck-Institut, Bonn, Germany; Chairman)
**John Ball** (Oxford University, Oxford, UK)
**John Coates** (Cambridge University, Cambridge, UK)
**J.J. Duistermaat** (University of Utrecht, Utrecht, The Netherlands)
**Michael H. Freedman** (Microsoft Research, Redmond, USA)
**Jürg Fröhlich** (ETH Zürich, Zürich, Switzerland)
**Robert MacPherson** (Institute for Advanced Study, Princeton, USA)
**Kyoji Saito** (University of Kyoto, Kyoto, Japan)
**Stephen Smale** (Math. City University, Hong Kong, China)

### H.3 Rolf Nevanlinna Prize Committee for 1998

**David Mumford** (Brown University, Providence, USA; Chairman)
**Alexander Razborov** (Steklov Mathematical Institute, Moscow, Russia)
**Bjorn Engquist** (University of California, Los Angeles, USA)
**Tom Leighton** (Massachussetts Institute of Technology, Cambridge, USA)

⋆

The German Mathematical Society together with representatives of the Mathematical Institutions of Berlin have appointed the President, Honorary President, Vice President, Treasurer and Secretary (Board of Directors) of the Local Organizing Committee who in turn appointed the members of all further committees.

## H.4 Local Scientific Committee

Michael E. Pohst (TU Berlin; Chairman), Günter Albinus (WIAS, Berlin), Helmut Alt (FU Berlin), Klaus Dieter Bierstedt (Paderborn), Alexander Bobenko (TU Berlin), Peter Deuflhard (ZIB and FU Berlin), Jean-Dominique Deuschel (TU Berlin), Frank Duzaar (HU Berlin), Dirk Ferus (TU Berlin), Bernold Fiedler (FU Berlin), Karl-Heinz Förster (TU Berlin), Herbert Gajewski (WIAS, Berlin), Joachim Gräter (Potsdam), Jens Gustedt (TU Berlin), Klaus Hulek (Hannover), Heinz Adolf Jung (TU Berlin), Markus Klein (Potsdam), Eberhard Knobloch (TU Berlin), Helmut Koch (HU Berlin), Hermann König (Kiel), Sabine Koppelberg (FU Berlin), Ralf Kornhuber (FU Berlin), Jürg Kramer (HU Berlin), Herbert Kurke (HU Berlin), Joachim Naumann (HU Berlin), Michael Nussbaum (WIAS, Berlin), Erich Ossa (Wuppertal), Christian Pommerenke (TU Berlin), Hans-Jürgen Prömel (HU Berlin), Siegfried Prößdorf (WIAS, Berlin), Lutz Recke (HU Berlin), Klaus R. Schneider (WIAS, Berlin), Rüdiger Schultz (Leipzig), Wolfgang Schulz (HU Berlin), Bert-Wolfgang Schulze (Potsdam), Martin Schweizer (TU Berlin), Rudolf Seiler (TU Berlin), Wilhelm Singhof (Düsseldorf), Helmut Strade (Hamburg), Gernot Stroth (Halle), Fredi Tröltzsch (Chemnitz), Elmar Vogt (FU Berlin), Robert Weismantel (Magdeburg), Günter M. Ziegler (TU Berlin).

## H.5 Organizing Committee

Martin Grötschel (ZIB and TU Berlin Berlin; President), Friedrich Hirzebruch (Bonn; Honorary President), Martin Aigner (FU Berlin; Vice President), Jürgen Sprekels (WIAS and HU Berlin; Finances), Jörg Winkler (TU Berlin; Secretary), Rolf Möhring (TU Berlin; Local Arrangements)

Ehrhard Behrends (FU Berlin), Gerhard Berendt (FU Berlin), A. Beutelspacher (Giessen), Jochen Brüning (HU Berlin), Wolfgang Dalitz (ZIB, Berlin), Gerd Fischer (Düsseldorf), Gerd Frey (Essen), Ulrich Fuchs (FU Berlin), Stephan Hartmann (TU Berlin), Christian Hege (ZIB, Berlin), Christoph Helmberg (ZIB, Berlin), Karl-Heinz Hoffmann (TU München), Bettina Kasse (ZIB, Berlin), Herbert Kurke (HU Berlin), Eberhard Letzner (FU Berlin), Jutta Lohse (WIAS, Berlin), Sabine Marcus (TU Berlin), Sybille Mattrisch (ZIB, Berlin), Winfried Neun (ZIB, Berlin), Volker Nollau (Dresden), Konrad Polthier (TU Berlin), Elke Pose (TU Berlin), Ulf Rehmann (Bielefeld), Werner Römisch (HU Berlin), Vasco Schmidt (FU Berlin), Renate Schubert (TU Berlin), Ralph-Hardo Schulz (FU Berlin), Margitta Teuchert (WIAS, Berlin), Michael Walter (ZIB, Berlin), Christiane Weber (Dresden), Günter M. Ziegler (TU Berlin).

# I. List of Plenary and Invited Speakers

| | | | |
|---|---|---|---|
| Ajtai, Miklós | 21 Aug. | 15:00 | H 2032 |
| Aldous, David John | 19 Aug. | 16:15 | H 1028 |
| Andrews, George Eyre | 25 Aug. | 16:15 | H 104 |
| Arthur, James Greig | 22 Aug. | 14:00 | MA 004 |
| Artigue, Michèle | 26 Aug. | 14:00 | H 104 |
| Aspinwall, Paul S. | 22 Aug. | 16:15 | H 1028 |
| Astala, Kari | 22 Aug. | 14:00 | MA 001 |
| Avellaneda, Marco | 24 Aug. | 15:00 | H 1028 |
| Bartolini Bussi, Mariolina | 25 Aug. | 14:00 | H 104 |
| Batyrev, Victor V. | 21 Aug. | 15:00 | MA 005 |
| Berger, Bonnie | 25 Aug. | 15:00 | H 2032 |
| Berkovich, Vladimir | 22 Aug. | 14:00 | MA 005 |
| Bernstein, Joseph | 20 Aug. | 15:00 | MA 004 |
| Bethuel, Fabrice | 19 Aug. | 16:15 | H 1012 |
| Beylkin, Gregory | 24 Aug. | 17:15 | H 1028 |
| Bismut, Jean-Michel | 26 Aug. | 11:45 | H 105 |
| Bogomolny, Eugene | 25 Aug. | 16:15 | H 1028 |
| Bollobás, Béla | 22 Aug. | 14:00 | H 2032 |
| Bramson, Maury D. | 20 Aug. | 15:00 | H 1028 |
| Buchholz, Detlev | 20 Aug. | 17:15 | H 1028 |
| Burago, Dmitri | 26 Aug. | 14:00 | MA 001 |
| Chayes, Jennifer T. | 20 Aug. | 16:15 | H 1028 |
| Chemla, Karine | 24 Aug. | 15:00 | MA 004 |
| Cherednik, Ivan V. | 22 Aug. | 15:00 | MA 004 |
| Christ, Michael | 21 Aug. | 16:15 | MA 001 |
| Colding, Tobias Holck | 24 Aug. | 15:00 | MA 001 |
| Collet, Pierre | 22 Aug. | 17:15 | H 1028 |
| Colmez, Pierre | 22 Aug. | 15:00 | MA 005 |
| Cook, William J. | 21 Aug. | 16:15 | H 2032 |
| Cornalba, Maurizio | 20 Aug. | 15:00 | MA 005 |
| Dauben, Joseph | 24 Aug. | 16:15 | MA 004 |
| de Guzman, Miguel | 26 Aug. | 16:15 | H 104 |
| de Jong, Johan | 19 Aug. | 17:15 | MA 005 |
| de Melo, Welington | 19 Aug. | 15:00 | H 1012 |
| Deift, Percy Alec | 25 Aug. | 14:00 | H 1012 |
| Deninger, Christopher | 26 Aug. | 9:00 | H 105 |
| Diaconis, Persi | 27 Aug. | 14:00 | H 105 |
| Dijkgraaf, Robbert | 19 Aug. | 16:15 | MA 005 |
| Donaldson, Simon K. | 21 Aug. | 14:00 | MA 001 |
| Dranishnikov, A. N. | 21 Aug. | 14:00 | MA 004 |
| Dress, Andreas W.M. | 25 Aug. | 14:00 | H 2032 |
| Dubrovin, Boris | 25 Aug. | 16:15 | MA 001 |
| Duke, William | 24 Aug. | 17:15 | MA 005 |
| Dwyer, William Gerard | 22 Aug. | 16:15 | MA 004 |
| Eliashberg, Yakov | 20 Aug. | 17:15 | MA 001 |
| Eliasson, Håkan | 20 Aug. | 17:15 | H 1012 |
| Engquist, Bjorn Erik | 26 Aug. | 15:00 | H 1012 |
| Eskin, Alexander | 20 Aug. | 14:00 | MA 004 |
| Feigenbaum, Joan | 19 Aug. | 14:00 | H 2032 |
| Fintushel, Ronald A. | 19 Aug. | 15:00 | MA 004 |
| Foreman, Matthew | 25 Aug. | 16:15 | H 1012 |
| Frank, András | 24 Aug. | 14:00 | H 2032 |
| Freedman, Michael H. | 21 Aug. | 15:00 | MA 004 |
| Freidlin, Mark | 21 Aug. | 16:15 | H 1028 |
| Friedlander, Eric Mark | 22 Aug. | 16:15 | MA 005 |

| | | | |
|---|---|---|---|
| Gallavotti, Giovanni | 26 Aug. | 10:15 | H 105 |
| Gallot, Sylvestre | 22 Aug. | 17:15 | MA 001 |
| Ghosh, Jayanta Kumar | 19 Aug. | 17:15 | H 1028 |
| Giorgilli, Antonio | 26 Aug. | 14:00 | H 1028 |
| Goemans, Michel X. | 20 Aug. | 15:00 | H 2032 |
| Götze, Friedrich | 24 Aug. | 14:00 | H 1028 |
| Graf, Gian Michele | 19 Aug. | 14:00 | H 1028 |
| Gramain, François | 24 Aug. | 16:15 | MA 005 |
| Gray, Jeremy John | 24 Aug. | 14:00 | MA 004 |
| Green, Mark L. | 20 Aug. | 14:00 | MA 005 |
| Greengard, Leslie F. | 22 Aug. | 15:00 | H 1028 |
| Grenander, Ulf | 24 Aug. | 17:15 | H 2032 |
| Hackbusch, Wolfgang | 22 Aug. | 9:30 | H 105 |
| Hall, Peter Gavin | 25 Aug. | 15:00 | H 1028 |
| Håstad, Johan | 20 Aug. | 17:15 | H 2032 |
| Hayashi, Shuhei | 21 Aug. | 14:00 | H 1012 |
| Hélein, Frédéric | 21 Aug. | 17:15 | H 1012 |
| Herman, Michael | 21 Aug. | 15:00 | H 1012 |
| Higson, Nigel David | 20 Aug. | 15:00 | MA 001 |
| Hjorth, Gregory | 26 Aug. | 16:15 | H 1012 |
| Hodgson, Bernard R. | 26 Aug. | 16:15 | H 104 |
| Hofer, Helmut H.W. | 21 Aug. | 9:30 | H 105 |
| Hoppensteadt, Frank | 26 Aug. | 16:15 | H 2032 |
| Hou, Thomas Yizhao | 22 Aug. | 14:00 | H 1028 |
| Hrushkovski, Ehud | 19 Aug. | 11:00 | H 105 |
| Huisken, Gerhard | 26 Aug. | 15:00 | MA 001 |
| Iooss, Gérard M. | 24 Aug. | 16:15 | H 2032 |
| Ivanov, Sergei | 24 Aug. | 14:00 | MA 005 |
| Jensen, Robert R. | 19 Aug. | 17:15 | H 1012 |
| Johnstone, Iain Murray | 26 Aug. | 17:15 | H 1028 |
| Joyce, Dominic | 22 Aug. | 16:15 | MA 001 |
| Kantor, William M. | 21 Aug. | 16:15 | MA 005 |
| Kapranov, Mikhail M. | 21 Aug. | 14:00 | MA 005 |
| Kifer, Yuri | 22 Aug. | 14:00 | H 1012 |
| Kottwitz, Robert Edward | 19 Aug. | 17:15 | MA 004 |
| Kuksin, Sergei B. | 24 Aug. | 17:15 | H 1012 |
| Kuperberg, Krystyna M. | 20 Aug. | 16:15 | H 1012 |
| Labourie, François | 21 Aug. | 15:00 | MA 001 |
| Lacey, Michael T. | 19 Aug. | 16:15 | MA 001 |
| Lafforgue, Laurent | 19 Aug. | 16:15 | MA 004 |
| Lascoux, Alain | 26 Aug. | 14:00 | H 2032 |
| Le Gall, Jean-François | 21 Aug. | 17:15 | H 1028 |
| Lewis, D.J. | 25 Aug. | 16:15 | H 104 |
| Lindblad, Hans | 24 Aug. | 15:00 | H 1012 |
| Lohkamp, Joachim | 20 Aug. | 16:15 | MA 001 |
| Macdonald, I.G. | 20 Aug. | 11:00 | H 105 |
| Machedon, Matei | 20 Aug. | 14:00 | H 1012 |
| Mahowald, Mark | 22 Aug. | 17:15 | MA 004 |
| Mallat, Stéphane | 27 Aug. | 10:15 | H 105 |
| Malle, Gunter | 22 Aug. | 17:15 | MA 005 |
| Matoušek, Jiří | 24 Aug. | 15:00 | H 2032 |
| Mattila, Pertti | 26 Aug. | 16:15 | MA 001 |
| McCoy, Barry | 19 Aug. | 15:00 | H 1028 |
| McDuff, Dusa | 20 Aug. | 9:30 | H 105 |
| McMullen, Curtis Tracy | 22 Aug. | 15:00 | H 1012 |

| | | | |
|---|---|---|---|
| Merel, Loïc | 25 Aug. | 14:00 | MA 005 |
| Merle, Frank Eric | 20 Aug. | 15:00 | H 1012 |
| Milman, Vitali | 24 Aug. | 17:15 | MA 001 |
| Milton, Graeme Walter | 20 Aug. | 17:15 | MA 005 |
| Miwa, Tetsuji | 25 Aug. | 10:15 | H 105 |
| Mochizuki, Shinichi | 25 Aug. | 15:00 | MA 005 |
| Moser, Jürgen | 18 Aug. | 16:15 | H 105 |
| Mozes, Shahar | 21 Aug. | 17:15 | MA 004 |
| Müller, Detlef H. | 22 Aug. | 15:00 | MA 001 |
| Müller, Stefan | 26 Aug. | 17:15 | MA 001 |
| Newelski, Ludomir | 25 Aug. | 17:15 | H 1012 |
| Niederreiter, Harald | 22 Aug. | 15:00 | H 2032 |
| Niss, Mogens | 24 Aug. | 17:15 | MA 004 |
| Nocedal, Jorge | 19 Aug. | 16:15 | H 2032 |
| Ohtsuki, Tomotada | 20 Aug. | 16:15 | MA 004 |
| Okamoto, Hisashi | 24 Aug. | 16:15 | H 1028 |
| Oliver, Robert A. | 19 Aug. | 14:00 | MA 004 |
| Papanicolaou, George C. | 25 Aug. | 9:00 | H 105 |
| Peskin, Charles S. | 26 Aug. | 17:15 | H 2032 |
| Pinchuk, Sergey Ivanovich | 20 Aug. | 14:00 | MA 001 |
| Pinkall, Ulrich | 24 Aug. | 14:00 | MA 001 |
| Pisier, Gilles | 25 Aug. | 11:45 | H 105 |
| Pitassi, Toniann | 19 Aug. | 15:00 | H 2032 |
| Polterovich, Leonid | 19 Aug. | 14:00 | MA 001 |
| Ponce, Gustavo Alberto | 21 Aug. | 16:15 | H 1012 |
| Pukhlikov, Aleksandr | 21 Aug. | 17:15 | MA 005 |
| Pulleyblank, William R. | 22 Aug. | 16:15 | H 2032 |
| Rannacher, Rolf | 25 Aug. | 17:15 | MA 001 |
| Reiten, Idun | 24 Aug. | 15:00 | MA 005 |
| Rickard, Jeremy C. | 25 Aug. | 17:15 | MA 005 |
| Robert, Aline | 26 Aug. | 16:15 | H 104 |
| Ruan, Yongbin | 19 Aug. | 15:00 | MA 001 |
| Safonov, Mikhail V. | 22 Aug. | 17:15 | H 1012 |
| Sarnak, Peter | 27 Aug. | 11:45 | H 105 |
| Schlickewei, Hans Peter | 26 Aug. | 17:15 | MA 005 |
| Schonmann, Roberto | 21 Aug. | 15:00 | H 1028 |
| Schrijver, Alexander | 20 Aug. | 14:00 | H 2032 |
| Seip, Kristian | 19 Aug. | 17:15 | MA 001 |
| Serganova, Vera | 21 Aug. | 16:15 | MA 004 |
| Shalev, Aner | 25 Aug. | 16:15 | MA 005 |
| Shor, Peter W. | 19 Aug. | 9:30 | H 105 |
| Siegmund, David Oliver | 26 Aug. | 15:00 | H 1028 |
| Sigmund, Karl | 24 Aug. | 9:00 | H 105 |
| Sloane, Neil J.A. | 25 Aug. | 16:15 | H 2032 |
| Smirnov, Fedor | 21 Aug. | 14:00 | H 1028 |
| Smith, David A. | 25 Aug. | 16:15 | H 104 |
| Smith, Hart F. | 21 Aug. | 17:15 | MA 001 |
| Steiner, Hans-Georg | 26 Aug. | 14:00 | H 104 |
| Stern, Ronald J. | 19 Aug. | 15:00 | MA 004 |
| Stigler, James | 25 Aug. | 15:00 | H 104 |
| Strömberg, Jan-Olov | 25 Aug. | 15:00 | H 1012 |
| Sudan, Madhu | 20 Aug. | 16:15 | H 2032 |
| Świątek, Grzegorz | 24 Aug. | 16:15 | H 1012 |
| Sznitman, Alain-Sol | 25 Aug. | 14:00 | H 1028 |
| Talagrand, Michel | 24 Aug. | 10:15 | H 105 |
| Taubes, Clifford Henry | 20 Aug. | 17:15 | MA 004 |
| Thas, Joseph Adolphe F. | 25 Aug. | 17:15 | H 2032 |
| Todorcevic, Stevo B. | 26 Aug. | 14:00 | MA 005 |
| Tomczak-Jaegermann, N. | 25 Aug. | 14:00 | MA 001 |
| Trefethen, Lloyd N. | 26 Aug. | 14:00 | H 1012 |
| Tsirelson, Boris | 26 Aug. | 16:15 | H 1028 |
| Tsuji, Takeshi | 26 Aug. | 15:00 | MA 005 |
| Uhlmann, Gunther A. | 22 Aug. | 16:15 | H 1012 |
| Vafa, Cumrun | 24 Aug. | 11:45 | H 105 |
| Viana, Marcelo | 27 Aug. | 9:00 | H 105 |
| Villani, Vinicio | 26 Aug. | 16:15 | H 104 |
| Vilonen, Kari | 19 Aug. | 15:00 | MA 005 |
| Voevodsky, V. | 21 Aug. | 11:00 | H 105 |
| Wainger, Stephen | 24 Aug. | 16:15 | MA 001 |
| Wakimoto, Minoru | 19 Aug. | 14:00 | MA 005 |
| Welzl, Emo | 21 Aug. | 14:00 | H 2032 |
| Wilkie, Alex James | 26 Aug. | 17:15 | H 1012 |
| Willems, Jan C. | 21 Aug. | 17:15 | H 2032 |
| Williams, Ruth J. | 20 Aug. | 14:00 | H 1028 |
| Xia, Zhihong | 19 Aug. | 14:00 | H 1012 |
| Yafaev, Dmitri | 24 Aug. | 14:00 | H 1012 |
| Yau, Horng-Tzer | 25 Aug. | 17:15 | H 1028 |
| Zelevinsky, Andrei V. | 26 Aug. | 15:00 | H 2032 |
| Zhang, Shou-Wu | 26 Aug. | 16:15 | MA 005 |
| Zowe, Jochem | 19 Aug. | 17:15 | H 2032 |

## J. List of Authors

| | | | |
|---|---|---|---|
| Gusevskii, Nikolai | 24 Aug. | 17:30 | H 112 |
| Hachimori, Masahiro | 19 Aug. | 17:45 | H 106 |
| Hakopian, Hakop A. | 22 Aug. | 14:00 | H 110 |
| Hall, Richard L. | 21 Aug. | 17:30 | H 107 |
| Haller, Rainis | 21 Aug. | 14:00 | MA 144 |
| Hammami, Mohamed Ali | 26 Aug. | 14:15 | H 2013 |
| Han, Zheng-Chao | 19 Aug. | 17:45 | MA 043 |
| Handa, Kenji | 20 Aug. | 16:45 | H 107 |
| Härterich, Jörg | 26 Aug. | 14:15 | H 111 |
| Hartmann, Sven | 21 Aug. | 16:30 | MA 043 |
| Hartz, David | 24 Aug. | 17:15 | MA 042 |
| Hasegawa, Keizo | 19 Aug. | 16:15 | MA 041 |
| Hasegawa, Kenji | 25 Aug. | 14:00 | MA 144 |
| Hashiguchi, Norikazu | 24 Aug. | 14:00 | MA 144 |
| Hass, Joel | 20 Aug. | 15:00 | H 112 |
| Hassler, Uwe | 25 Aug. | 16:30 | H 1029 |
| Hausen, Jürgen | 20 Aug. | 16:30 | MA 042 |
| Hayes, Brian T. | 21 Aug. | 17:45 | H 106 |
| He, Xinyu | 21 Aug. | 16:15 | H 1029 |
| Hebermehl, Georg | 19 Aug. | 15:30 | H 106 |
| Hebert, Michel | 21 Aug. | 14:00 | MA 042 |
| Heinz, Alois | 20 Aug. | 15:00 | H 2033 |
| Heinze, Joachim | 24 Aug. | 16:15 | H 104 |
| Hejcman, Jan | 24 Aug. | 14:00 | MA 309 |
| Helemskii, Alexander Ya. | 19 Aug. | 15:30 | MA 041 |
| Helmberg, Gilbert | 24 Aug. | 15:30 | MA 309 |
| Helversen-Pasotto, Anna | 22 Aug. | 14:15 | MA 311 |
| Henrion, René | 26 Aug. | 14:00 | H 2033 |
| Herrmann, Eva | 26 Aug. | 14:15 | H 1029 |
| Hertling, Claus | 20 Aug. | 17:45 | MA 042 |
| Hertrich-Jeromin, Udo J. | 22 Aug. | 14:00 | MA 041 |
| Heß, Florian | 20 Aug. | 15:00 | MA 311 |
| Hidalgo, Ruben A. | 26 Aug. | 15:00 | MA 041 |
| Hildebrand, Roland | 26 Aug. | 16:15 | MA 144 |
| Hinz, Andreas M. | 24 Aug. | 15:00 | MA 309 |
| Hinze, Michael | 19 Aug. | 15:30 | H 2033 |
| Hoang, Viet Ha | 25 Aug. | 17:15 | H 107 |
| Hoffmann, Karl-Heinz | 25 Aug. | 19:30 | H 104 |
| Hoffmann, Peter | 26 Aug. | 17:30 | Urania |
| Hoffmann, Werner | 21 Aug. | 17:15 | MA 311 |
| Höhn, Gerald | 21 Aug. | 14:30 | H 112 |
| Holtmanns, Silke | 19 Aug. | 14:00 | MA 041 |
| Horiuchi, Kiyomitsu | 20 Aug. | 14:00 | MA 144 |
| Horiuchi, Ryutaro | 20 Aug. | 15:15 | MA 311 |
| Horiuchi, Toshio | 25 Aug. | 14:00 | MA 144 |
| Hornor, William E. | 19 Aug. | 15:30 | MA 309 |
| Hou, Zhanyuan | 20 Aug. | 15:30 | H 111 |
| Houssni, Mohamed | 20 Aug. | 14:30 | H 111 |
| Hric, Roman | 21 Aug. | 17:30 | H 111 |
| Huebner, Marianne | 24 Aug. | 17:15 | H 1029 |
| Huisman, Johannes | 26 Aug. | 16:45 | MA 042 |
| Hünlich, Rolf | 19 Aug. | 16:15 | MA 144 |
| Hurlimann, Werner S. | 22 Aug. | 14:00 | MA 144 |
| Hurri-Syrjanen, Ritva | 20 Aug. | 16:15 | H 110 |
| Hüsseinov, Farhad V. | 20 Aug. | 17:15 | MA 309 |
| Hutchins, Carol | 24 Aug. | 16:15 | H 104 |
| Hwang, Tea-Yuan | 19 Aug. | 15:00 | H 1029 |
| Idczak, Dariusz | 26 Aug. | 16:15 | H 110 |
| Igarashi, Masayuki | 24 Aug. | 16:15 | MA 041 |
| Il'ichev, Vitaly G. | 20 Aug. | 15:15 | H 106 |
| Imkeller, Peter | 24 Aug. | 16:30 | H 107 |
| Inassaridze, Hvedri | 26 Aug. | 15:00 | MA 042 |
| Ion, Patrick D.F. | 25 Aug. | 15:30 | H 2013 |
| Ionascu, Eugen J. | 19 Aug. | 14:15 | MA 309 |
| Iricanin, Bratislav | 22 Aug. | 16:15 | MA 144 |
| Ishikawa, Takeshi | 22 Aug. | 14:00 | MA 144 |
| Israel, Girgio | 22 Aug. | 14:00 | H 104 |
| Itoh, Jin-ichi | 25 Aug. | 15:30 | MA 041 |
| Iturriaga, Renato | 25 Aug. | 16:15 | MA 144 |
| Ivanov, Alexandr O. | 26 Aug. | 17:30 | H 106 |
| Ivansic, Ivan | 25 Aug. | 15:00 | H 112 |
| Iwasaki, Katsunori | 21 Aug. | 14:00 | MA 144 |
| Iwasaki, Yoshimitsu | 24 Aug. | 14:15 | H 1029 |
| Izadi, Elham | 24 Aug. | 15:30 | MA 042 |
| Jaehnisch, Michael | 24 Aug. | 16:30 | H 1029 |
| Jahanshahi, Mohammad | 20 Aug. | 14:30 | H 110 |
| Jaiani, George | 24 Aug. | 14:30 | H 1029 |
| Jakobsson, Stefan B.A. | 26 Aug. | 14:00 | MA 144 |
| Jang, Sophia R.-J. | 19 Aug. | 16:15 | MA 144 |
| Janno, Jaan | 25 Aug. | 14:00 | MA 144 |
| Jarník, Jiří | 22 Aug. | 17:45 | MA 043 |
| Jarvis, Tyler J. | 24 Aug. | 14:30 | MA 042 |
| Jewett, Rumara | 19 Aug. | 16:30 | MA 042 |
| Ji, Lizhen | 25 Aug. | 16:15 | H 112 |
| Jiang, Renfang | 26 Aug. | 14:00 | H 1029 |
| Jiang, Song | 20 Aug. | 17:15 | H 111 |
| Jimenez, Miguel A. | 24 Aug. | 14:30 | MA 043 |
| Jing, Naihuan | 21 Aug. | 14:15 | H 112 |
| Jochmann, Frank | 21 Aug. | 15:15 | H 111 |
| Jones, Mark C. W. | 20 Aug. | 14:15 | H 106 |
| Jorgensen, Palle E.T. | 26 Aug. | 14:30 | MA 043 |
| Joswig, Michael | 19 Aug. | 16:30 | H 106 |
| | 20 Aug. | 14:00 | H 104 |
| Just, Andrzej | 25 Aug. | 14:00 | H 2033 |
| Kabanov, Alexandre | 24 Aug. | 14:15 | MA 042 |
| Kadets, Volodymyr M. | 21 Aug. | 14:00 | MA 144 |
| Kaiser, Hans-Christoph | 19 Aug. | 16:15 | MA 144 |
| Kalita, Evgeni A. | 19 Aug. | 14:00 | H 110 |
| Kaluch I., Yurij | 19 Aug. | 17:45 | H 2033 |
| Kambayashi, Tatsuji | 22 Aug. | 14:00 | MA 042 |
| Kamont, Anna | 22 Aug. | 16:15 | MA 144 |
| Kang, Ming-Chang | 25 Aug. | 15:15 | MA 311 |
| Kangro, Raul | 22 Aug. | 14:30 | H 2033 |
| Kangro, Urve | 20 Aug. | 14:30 | H 2013 |
| Kappos, Efthimios | 24 Aug. | 16:45 | H 112 |
| Karlof, John K. | 19 Aug. | 14:15 | H 112 |
| Karolinsky, Eugene A. | 21 Aug. | 15:30 | H 112 |
| Kasaev, Anzor D. | 24 Aug. | 16:30 | H 2033 |
| Kashani, S.M.B. | 20 Aug. | 15:15 | MA 041 |
| Kashiwada, Toyoko | 19 Aug. | 16:30 | MA 041 |
| Kasyanov, Victor | 20 Aug. | 14:30 | MA 043 |
| Katayama, Soichiro | 21 Aug. | 15:15 | H 110 |
| Katre, Shashikant | 22 Aug. | 16:15 | MA 311 |
| Katz, Sheldon H. | 24 Aug. | 14:00 | MA 042 |
| Kauffmann, Louis H. | 20 Aug. | 14:30 | H 112 |
| Kawohl, Bernd | 25 Aug. | 17:30 | H 111 |
| Kayll, Mark | 26 Aug. | 16:45 | H 106 |
| Kayumov, Ilgiz G. | 22 Aug. | 16:30 | H 110 |
| Kazantsev, Ivan G. | 22 Aug. | 16:15 | MA 144 |
| Kearton, Cherry | 20 Aug. | 15:15 | H 112 |

| | | | |
|---|---|---|---|
| Keedwell, A. Donald | 22 Aug. | 17:45 | H 106 |
| Keller, Gerhard | 21 Aug. | 17:45 | H 111 |
| Khan, Nazir M. | 19 Aug. | 15:15 | MA 311 |
| Khelladi, Abdelkader | 26 Aug. | 16:15 | H 106 |
| Khilchenko, Lyudmila Y. | 22 Aug. | 16:30 | H 2013 |
| Khimshiashvili, George N. | 25 Aug. | 16:45 | MA 043 |
| Khosronshahi, G. B. | 22 Aug. | 17:30 | H 106 |
| Khots, Boris S. | 22 Aug. | 16:15 | H 112 |
| Khrennikov, Andrei | 25 Aug. | 15:30 | H 1029 |
| Kiechle, Hubert | 21 Aug. | 14:00 | MA 311 |
| Kiguradze, Ivan | 25 Aug. | 14:00 | H 111 |
| Kiguradze, Tariel | 21 Aug. | 14:15 | H 110 |
| Kim, Dohan | 22 Aug. | 17:45 | MA 309 |
| Kimura, Noriaki | 20 Aug. | 16:15 | MA 144 |
| Kimura, Takashi | 26 Aug. | 16:30 | H 107 |
| Kinnmark, Ingemar | 22 Aug. | 16:15 | MA 144 |
| Kirchberg, Eberhard | 25 Aug. | 15:00 | MA 309 |
| Kirrinnis, Peter | 20 Aug. | 15:15 | H 2033 |
| Kisaka, Masashi | 26 Aug. | 17:30 | H 110 |
| Kisil, Vladimir V. | 24 Aug. | 15:30 | H 107 |
| Kister, Jane | 24 Aug. | 14:00 | H 104 |
| Klazar, Martin | 20 Aug. | 16:30 | H 106 |
| Klein, Olaf | 19 Aug. | 14:15 | H 106 |
| Klesov, Oleg I. | 20 Aug. | 16:30 | H 1029 |
| Klimek, Malgorzata | 24 Aug. | 15:15 | H 107 |
| Klin, Mikhail H. | 25 Aug. | 15:30 | H 106 |
| Klingenberg, Christian | 24 Aug. | 17:15 | H 111 |
| Klüners, Jürgen | 19 Aug. | 14:30 | MA 311 |
| Knight, Frank B. | 25 Aug. | 16:15 | H 107 |
| Knopov, Pavel S. | 25 Aug. | 16:45 | H 1029 |
| Ko, Hyoung J. | 19 Aug. | 14:00 | MA 042 |
| Koch, Helmut | 25 Aug. | 17:15 | H 111 |
| Kochol, Martin | 24 Aug. | 16:45 | H 106 |
| Kochubei, Anatoly N. | 20 Aug. | 17:15 | H 1029 |
| Koda, Takashi | 24 Aug. | 17:15 | MA 041 |
| Kodiyalam, Vijay | 20 Aug. | 16:15 | MA 311 |
| Kofanov, Vladimir A. | 22 Aug. | 16:30 | MA 041 |
| Kohaupt, Ludwig | 26 Aug. | 14:15 | H 106 |
| Kohr, Gabriela | 24 Aug. | 14:30 | MA 041 |
| Kohr, Mirela | 25 Aug. | 17:30 | H 110 |
| Kokilashvili, Vakhtang M. | 20 Aug. | 16:45 | MA 041 |
| Kokilashvili, Tamara | 23 Aug. | 11:00 | Urania |
| Kolodyazhniy, V. M. | 26 Aug. | 14:00 | MA 144 |
| Kolomiets, Yuriy V. | 21 Aug. | 14:00 | H 107 |
| Koltchinskii, Vladimir I. | 24 Aug. | 16:45 | H 1029 |
| Kolumban, Iosif | 22 Aug. | 16:15 | H 107 |
| Kometch, Alexandre | 26 Aug. | 14:30 | H 111 |
| Kondratiev, Anatolii S. | 21 Aug. | 14:15 | MA 311 |
| Kondratiev, Vladimir A. | 19 Aug. | 14:15 | H 110 |
| Konno, Hitoshi | 25 Aug. | 14:00 | H 107 |
| Konnov, Valery | 21 Aug. | 16:15 | MA 144 |
| Kopanskii, Alexander Ya. | 26 Aug. | 17:15 | H 111 |
| Kopylov, Iaroslav A. | 24 Aug. | 17:15 | MA 043 |
| Koranyi, Adam | 20 Aug. | 16:45 | H 112 |
| Korepanov, Igor | 20 Aug. | 14:00 | H 107 |
| Kortesi, Peter | 22 Aug. | 14:00 | MA 144 |
| Koschorke, Ulrich | 26 Aug. | 14:00 | H 112 |
| Koshi, Shozo | 26 Aug. | 14:00 | MA 309 |
| Kosmodemyanskii, A. A. | 26 Aug. | 15:00 | H 110 |
| Kosyak, Alexandr V. | 20 Aug. | 17:30 | MA 041 |
| Kotlyarov, Volodymyr | 21 Aug. | 16:45 | H 1029 |
| Kovalev, Alexander M. | 26 Aug. | 17:30 | H 111 |
| Kovalev, Alexei G. | 21 Aug. | 16:15 | MA 144 |
| Kovalev, Mikhail D. | 25 Aug. | 16:15 | H 106 |
| Kozlov, Vladimir | 26 Aug. | 14:00 | H 110 |
| Kraljevic, Hrvoje | 26 Aug. | 14:00 | MA 144 |
| Krasilnikov, Alexei N. | 26 Aug. | 17:15 | MA 311 |
| Krasnov, Yakov | 20 Aug. | 16:45 | H 111 |
| Krattenthaler, Christian | 24 Aug. | 16:30 | H 106 |
| Kriecherbauer, Thomas C. | 20 Aug. | 17:45 | MA 043 |
| Kriz, Igor | 22 Aug. | 14:00 | H 112 |
| Krolak, Andrzej | 25 Aug. | 15:00 | MA 043 |
| Kruger, Alexander Ya. | 25 Aug. | 17:15 | MA 309 |
| Krutitskii, Pavel A. | 26 Aug. | 15:30 | H 111 |
| Kryakin, Yuri | 24 Aug. | 14:15 | MA 043 |
| Kubo, Akisato | 25 Aug. | 14:00 | MA 144 |
| Kucherenko, Valeri V. | 19 Aug. | 17:15 | H 107 |
| Kugelmann, Bernd | 19 Aug. | 14:30 | H 2033 |
| Kulikov, Gennady Yu. | 19 Aug. | 14:00 | H 2013 |
| Kulikov, Viktor S. | 22 Aug. | 17:15 | MA 042 |
| Kummer, Bernd | 20 Aug. | 16:30 | H 2033 |
| Kündgen, André | 21 Aug. | 14:00 | MA 144 |
| Kuragina, Elena V. | 22 Aug. | 14:00 | MA 144 |
| Kurdachenko, Leonid A. | 21 Aug. | 15:30 | MA 311 |
| Kuribayashi, Yukio | 21 Aug. | 14:00 | MA 309 |
| Kutev, Nicolay Draganov | 25 Aug. | 17:45 | H 111 |
| Kutz, Nadja | 24 Aug. | 16:15 | MA 144 |
| Kwieciński, Michał | 24 Aug. | 16:15 | MA 309 |
| Lanza de Cristoforis, M. | 19 Aug. | 14:30 | H 111 |
| Lapidus, Michel L. | 25 Aug. | 17:30 | MA 311 |
| Lara-Aparicio, Miguel | 21 Aug. | 14:15 | H 106 |
| Laurincikas, Antanas | 22 Aug. | 17:15 | MA 311 |
| Lauterbach, Reiner | 19 Aug. | 17:45 | H 111 |
| Lawton, Wayne M. | 20 Aug. | 16:45 | H 2013 |
| Łazińska, Anna | 24 Aug. | 15:00 | MA 041 |
| Le, Thang T.Q. | 24 Aug. | 14:00 | MA 144 |
| Lebowitz, Joel | 25 Aug. | 14:00 | MA 004 |
| Lee, Sa Ge | 25 Aug. | 16:45 | MA 309 |
| Lee, Yuh-Jia | 22 Aug. | 16:45 | H 107 |
| Leichtweiß, Kurt | 25 Aug. | 14:00 | MA 041 |
| Lemaire, Jean-Michel | 26 Aug. | 15:00 | H 112 |
| Lemarié-Rieusset, P. G. | 19 Aug. | 16:45 | H 2033 |
| Leonenko, Nikolai | 25 Aug. | 17:15 | H 1029 |
| Leprévost, Franck | 20 Aug. | 15:30 | MA 311 |
| Leseberg, Dieter | 21 Aug. | 14:15 | MA 042 |
| Levendorski, Serguei Z. | 21 Aug. | 15:15 | H 106 |
| Leviatan, Talma O. | 22 Aug. | 16:15 | H 2013 |
| Levin, Alexander | 22 Aug. | 15:00 | MA 311 |
| Li, Cai-Heng | 25 Aug. | 15:15 | H 106 |
| Li, Congming | 26 Aug. | 17:45 | MA 041 |
| Li, Xing | 25 Aug. | 16:30 | H 106 |
| Liandrat, Jacques | 19 Aug. | 16:15 | H 2033 |
| Liang, Hua | 26 Aug. | 14:30 | H 1029 |
| Liberati, Jose I. | 24 Aug. | 14:00 | H 112 |
| Liberzon, Mark R. | 21 Aug. | 16:30 | H 111 |
| Lica, Dionis | 22 Aug. | 14:00 | MA 144 |
| Lichtenberg, Heiner | 25 Aug. | 14:15 | H 2013 |
| Liemant, Alfred | 22 Aug. | 14:00 | MA 144 |
| Ling, San | 24 Aug. | 14:00 | MA 311 |
| Linton, Fred E.J. | 26 Aug. | 15:15 | MA 042 |
| Linton, Stephen | 20 Aug. | 16:15 | H 104 |
| Lipkovski, Aleksandar T. | 26 Aug. | 14:00 | MA 144 |
| Litvinchuk, Gueorgui S. | 25 Aug. | 17:15 | H 110 |

| | | | |
|---|---|---|---|
| Prokhorov, Dmitri V. | 22 Aug. | 16:45 | H 110 |
| Prokhorov, Yuri G. | 26 Aug. | 14:00 | MA 042 |
| Prößdorf, Siegfried | 21 Aug. | 16:15 | H 2033 |
| Prüfer, Friedbert | 24 Aug. | 17:45 | MA 041 |
| Prytula, Yaroslav Ya. | 20 Aug. | 17:30 | H 110 |
| Ptak, Marek | 26 Aug. | 15:30 | MA 309 |
| Puchta, Jan-Christoph | 25 Aug. | 17:45 | MA 311 |
| Pulkina, Ludmila S. | 26 Aug. | 15:00 | H 111 |
| Pustylnikov, Lev L.D. | 24 Aug. | 15:15 | H 1029 |
| Rabinovich, Vladimir S. | 21 Aug. | 14:30 | H 111 |
| Rachele, Lizabeth V. | 19 Aug. | 15:15 | H 110 |
| Radu, Mircea | 25 Aug. | 14:00 | H 2013 |
| Radyno, Alexander Y. | 24 Aug. | 14:00 | MA 043 |
| Radyno, Nikolai Ya. | 25 Aug. | 16:15 | MA 041 |
| Raikov, George D. | 21 Aug. | 16:45 | H 107 |
| Rajabov, Nusrat | 26 Aug. | 17:15 | H 110 |
| Ramachandran, Niranjan | 19 Aug. | 14:00 | MA 144 |
| Rambau, Jörg | 19 Aug. | 17:30 | H 106 |
| Ramirez, Alejandro F. | 20 Aug. | 16:30 | H 107 |
| Ramirez-De-Arellano, E. | 19 Aug. | 14:30 | MA 309 |
| Ramollo, Motlatsi Pius | 21 Aug. | 17:15 | H 106 |
| Rangarajan, Govindan | 22 Aug. | 16:45 | H 111 |
| Rassias, Themistocles M. | 25 Aug. | 17:45 | MA 309 |
| Rasskazov, Alexey | 24 Aug. | 14:00 | MA 144 |
| Rathsfeld, Andreas | 26 Aug. | 16:30 | H 2033 |
| Ratnakumar, Peetta K. | 26 Aug. | 15:15 | H 111 |
| Rawat, Rama | 21 Aug. | 14:15 | MA 309 |
| Rayskin, Victoria | 19 Aug. | 16:15 | H 110 |
| Rebelo, Julio Cesar | 22 Aug. | 16:45 | H 112 |
| Rebolledo, Rolando | 24 Aug. | 17:30 | H 107 |
| Rees, S. Mary | 25 Aug. | 16:15 | MA 144 |
| Rehberg, Joachim | 24 Aug. | 16:15 | MA 144 |
| Rehmann, Ulf | 26 Aug. | 16:45 | MA 311 |
| Reinhardt, Gerd | 22 Aug. | 16:15 | MA 144 |
| Rempala, Grzegorz A. | 22 Aug. | 14:00 | MA 144 |
| Renteria-Marquez, Carlos | 20 Aug. | 14:00 | MA 144 |
| Repovs, Dusan | 21 Aug. | 16:15 | H 112 |
| Ressel, Paul | 26 Aug. | 14:30 | MA 309 |
| Revalski, Julian P. | 20 Aug. | 16:45 | MA 309 |
| Rieder, Andreas | 19 Aug. | 16:30 | H 2033 |
| Riedl, Johannes | 25 Aug. | 16:15 | MA 144 |
| Rieutord, Michel L.E. | 24 Aug. | 16:45 | H 107 |
| Riordan, Oliver M | 25 Aug. | 14:00 | H 106 |
| Rizvi, Syed Tariq | 20 Aug. | 16:30 | MA 311 |
| Robbiano, Lorenzo | 19 Aug. | 15:15 | H 104 |
| Robinson, Margaret M. | 20 Aug. | 16:15 | MA 144 |
| Rocsoreanu, Carmen | 24 Aug. | 14:15 | H 111 |
| Rodkina, Alexandra E. | 19 Aug. | 16:15 | MA 144 |
| Roegner, Katherine S. | 24 Aug. | 14:15 | MA 311 |
| Rögen, Peter | 24 Aug. | 17:45 | MA 043 |
| Rogmann, Sascha A. | 24 Aug. | 14:00 | MA 144 |
| Rogowski, Andrzej | 24 Aug. | 17:30 | H 111 |
| Römisch, Werner | 26 Aug. | 14:15 | H 2033 |
| Ronconi, Maria Cristina | 26 Aug. | 14:15 | MA 042 |
| Rontó, Miklós | 21 Aug. | 17:30 | H 110 |
| Rosado, Fernando | 19 Aug. | 14:15 | H 1029 |
| Rösler, Margit | 22 Aug. | 17:15 | MA 309 |
| Rossi, Louis F. | 22 Aug. | 16:30 | H 107 |
| Roubíček, Tomáš | 26 Aug. | 14:00 | H 2013 |
| Rouillier, Fabrice | 20 Aug. | 17:30 | H 104 |
| Rowe, David | 22 Aug. | 14:15 | H 104 |
| Rozanova, Olga S. | 24 Aug. | 16:30 | H 110 |
| Rozanski, Roman | 22 Aug. | 16:30 | H 1029 |
| Rubin, Boris | 19 Aug. | 15:30 | MA 043 |
| Ruckmann, Jan-J. | 26 Aug. | 15:00 | H 2033 |
| Rudyak, Yuli B. | 26 Aug. | 15:15 | H 112 |
| Ruffing, Andreas | 25 Aug. | 14:15 | H 107 |
| Ruzicka, Michael | 22 Aug. | 15:15 | H 111 |
| Ryashko, Lev | 22 Aug. | 16:15 | H 111 |
| Sabitova, Mary Nailevna | 19 Aug. | 16:45 | MA 042 |
| Sachkov, Yuri L. | 22 Aug. | 15:00 | H 2013 |
| Sahab, Salem A. | 24 Aug. | 15:00 | H 2013 |
| Sakakibara, Nobuhisa | 20 Aug. | 17:30 | MA 309 |
| Salinger, David L. | 19 Aug. | 14:00 | MA 144 |
| Samoilenko, Anatolij M. | 21 Aug. | 17:45 | H 110 |
| Sánchez Ruiz, Luis M. | 26 Aug. | 14:15 | MA 309 |
| Saneblidze, Samson | 22 Aug. | 15:15 | H 112 |
| Sangare, Daouda | 26 Aug. | 15:30 | MA 311 |
| Sarhan, Ammar | 21 Aug. | 14:00 | H 1029 |
| Sastry, Seemanapalli V. | 26 Aug. | 16:15 | H 2013 |
| Saveliev, Nikolai | 20 Aug. | 14:15 | H 112 |
| Sawae, Ryuichi | 24 Aug. | 16:15 | MA 144 |
| Scardua, Bruno | 22 Aug. | 17:45 | H 111 |
| Šćepanović, Radoje | 25 Aug. | 17:15 | MA 041 |
| Schachermayer, Walter | 25 Aug. | 19:30 | Urania |
| Scharlach, Christine | 25 Aug. | 14:15 | MA 041 |
| Schauenburg, Peter | 24 Aug. | 17:45 | MA 311 |
| Scheel, Arnd | 24 Aug. | 17:30 | H 110 |
| Schein, Boris M. | 19 Aug. | 16:30 | MA 311 |
| Schleicher, Dierk | 25 Aug. | 15:00 | H 111 |
| Schlesinger, Karl-Georg | 25 Aug. | 15:30 | H 107 |
| Schlundt, Rainer | 19 Aug. | 15:00 | H 106 |
| Schmeelk, John | 19 Aug. | 15:15 | MA 043 |
| Schmelzer, Ilja | 21 Aug. | 17:30 | H 2033 |
| Schmidt, Gunther | 20 Aug. | 16:30 | H 2013 |
| Schmidtmann, Olaf | 19 Aug. | 15:00 | H 110 |
| Schmitt, Burkhard J. | 24 Aug. | 15:00 | H 1029 |
| Schneider, Klaus R. | 24 Aug. | 15:00 | H 111 |
| Schult, Jörg | 21 Aug. | 16:30 | H 2033 |
| Schultz, Rüdiger | 25 Aug. | 15:30 | H 2033 |
| Schulz, Christian | 26 Aug. | 16:15 | MA 144 |
| Schulz-Baldes, Hermann | 21 Aug. | 16:15 | H 107 |
| Schurz, Henri U. | 22 Aug. | 16:30 | H 111 |
| Schuster, Peter Michael | 24 Aug. | 14:00 | MA 144 |
| Schwartz, Alan L. | 26 Aug. | 14:00 | MA 144 |
| Schwichtenberg, Helmut | 25 Aug. | 15:30 | MA 042 |
| Schwitzer, Felix | 19 Aug. | 15:00 | H 2013 |
| Sedykh, Vyacheslav D. | 21 Aug. | 16:15 | MA 144 |
| Semenov, Evgueni M. | 20 Aug. | 16:30 | H 110 |
| Seydel, Detlef | 25 Aug. | 17:30 | MA 043 |
| Shaidurov, Vladimir V. | 20 Aug. | 14:15 | H 2013 |
| Shaikhet, Leonid E. | 22 Aug. | 15:15 | H 2013 |
| Sharma, B.K. | 22 Aug. | 17:15 | MA 041 |
| Shaw, Sen-Yen | 21 Aug. | 14:00 | MA 144 |
| Shchepanika, Elena | 19 Aug. | 16:15 | MA 144 |
| Shchepanuk, Gennady | 19 Aug. | 17:45 | H 107 |
| Shepelsky, Dmitry | 25 Aug. | 14:00 | MA 144 |
| Sheth, Dilip N. | 26 Aug. | 16:30 | MA 311 |
| Shi, Niandong | 25 Aug. | 15:15 | MA 042 |
| Shi, Wujie | 21 Aug. | 14:30 | MA 311 |
| Shi, Yuming | 25 Aug. | 14:00 | MA 144 |
| Shibata, Tetsutaro T. | 22 Aug. | 14:30 | H 111 |

| | | | |
|---|---|---|---|
| Shimomura, Katsunori | 26 Aug. | 14:00 | MA 144 |
| Shintani, Toshitada | 20 Aug. | 17:30 | H 1029 |
| Shirikyan, Armen | 24 Aug. | 17:45 | H 111 |
| Shishikura, Mitsuhiro | 25 Aug. | 15:30 | H 111 |
| Shoji, Mayumi | 22 Aug. | 16:15 | MA 144 |
| Shor, Naum Zuselevich | 24 Aug. | 17:45 | H 2033 |
| Shpilrain, Vladimir | 22 Aug. | 14:15 | MA 042 |
| Shtern, Alexander I. | 22 Aug. | 17:30 | H 112 |
| Shtykel, Tatyana | 20 Aug. | 17:45 | H 2013 |
| Shu, Chi-Wang | 25 Aug. | 17:30 | H 2033 |
| Shubladze, Mamuka | 21 Aug. | 16:15 | MA 144 |
| Siegmund, Stefan | 25 Aug. | 16:15 | MA 144 |
| Siegmund-Schultze, Rainer | 19 Aug. | 15:15 | H 107 |
| Simić, Slobodan K. | 21 Aug. | 14:00 | MA 144 |
| Simic, Slavko | 26 Aug. | 15:15 | MA 309 |
| Singh, Ajit Iqbal | 19 Aug. | 14:00 | MA 144 |
| Singh, Shobh N. | 19 Aug. | 16:30 | H 110 |
| Sireteanu, Tudor | 26 Aug. | 14:15 | H 107 |
| Siu, Man-Keung | 26 Aug. | 14:00 | MA 144 |
| Skopenkov, Arkady | 21 Aug. | 16:45 | H 112 |
| Skrypnik, Igor I. | 21 Aug. | 14:15 | H 111 |
| Slovák, Jan | 24 Aug. | 17:30 | MA 041 |
| Smirnov, Georgi V. | 25 Aug. | 14:00 | MA 144 |
| Smital, Jaroslav | 20 Aug. | 14:15 | H 111 |
| Smoluk, Antoni | 24 Aug. | 17:30 | H 106 |
| Sobolev, Vladimir | 24 Aug. | 14:30 | H 111 |
| Sobolevskii, P. | 21 Aug. | 17:15 | H 2033 |
| Socolowsky, Jürgen | 19 Aug. | 14:30 | H 106 |
| Sofronidis, Nikolas E. | 19 Aug. | 17:45 | H 110 |
| Solodkyy, Sergiy G. | 24 Aug. | 15:00 | H 2033 |
| Sonin, Constatin I. | 20 Aug. | 14:00 | MA 144 |
| Sormani, Christina | 19 Aug. | 17:15 | MA 041 |
| Soto-Andrade, Jorge | 24 Aug. | 16:15 | MA 144 |
| Soulé, Christophe | 20 Aug. | 14:00 | MA 144 |
| Speck, Frank-Olme | 25 Aug. | 16:30 | MA 043 |
| Spitkovsky, Ilya M. | 21 Aug. | 15:30 | MA 309 |
| Spresser, Diane M. | 25 Aug. | 14:15 | H 106 |
| Srinivasan, Bhama | 21 Aug. | 19:30 | H 104 |
| Stagnaro, Ezio | 26 Aug. | 14:30 | MA 042 |
| Stahl, G. | 25 Aug. | 19:30 | Urania |
| Stein, Oliver | 26 Aug. | 15:15 | H 2033 |
| Steiner, Richard J. | 24 Aug. | 14:00 | MA 144 |
| Stempien, Zdzislaw | 26 Aug. | 16:15 | MA 144 |
| Stephanidis, Nikolaus K. | 24 Aug. | 16:15 | MA 043 |
| Stillman, Michael | 20 Aug. | 15:15 | H 104 |
| Stoyan, Yuri Grigoriyevich | 26 Aug. | 17:45 | H 106 |
| Stratigos, Panagiotis D. | 21 Aug. | 14:00 | MA 144 |
| Strauss, Vladimir | 22 Aug. | 17:45 | H 110 |
| Stray, Arne | 19 Aug. | 14:00 | MA 144 |
| Strazdins, Indulis | 21 Aug. | 14:00 | MA 144 |
| Streit, Manfred F.G. | 26 Aug. | 16:15 | MA 042 |
| Strunkov, Sergey P. | 25 Aug. | 14:00 | MA 311 |
| Strzelecki, Paweł | 25 Aug. | 16:45 | H 111 |
| Sturm, Thomas | 19 Aug. | 17:30 | H 104 |
| Subbotin, Igor Ya. | 21 Aug. | 15:15 | MA 311 |
| Sugawa, Toshiyuki | 26 Aug. | 16:15 | H 111 |
| Sullivan, John M. | 22 Aug. | 14:30 | MA 041 |
| Sumi, Hiroki | 26 Aug. | 16:30 | H 111 |
| Surkova, Anna | 25 Aug. | 14:00 | MA 144 |
| Swart, Henda | 21 Aug. | 16:45 | H 106 |
| Symeonidis, Eleutherius E. | 24 Aug. | 15:30 | MA 041 |
| Symington, Margaret F. | 19 Aug. | 17:30 | MA 043 |
| Sytchev, Mikhail A. | 20 Aug. | 16:30 | MA 309 |
| Sytova, Svetlana N. | 22 Aug. | 16:15 | MA 144 |
| Szabo, Zoltan Istvan | 22 Aug. | 16:15 | MA 144 |
| Szemberg, Tomasz | 25 Aug. | 17:45 | MA 042 |
| Tachikawa, Atsushi | 26 Aug. | 17:15 | MA 041 |
| Taghavi, Mohsen | 20 Aug. | 17:15 | MA 043 |
| Takahashi, Satoshi | 21 Aug. | 14:30 | H 106 |
| Takenouchi, Osamu | 24 Aug. | 17:30 | H 2013 |
| Takeuchi, Kiyoshi | 25 Aug. | 14:00 | MA 144 |
| Tamanoi, Hirotaka | 22 Aug. | 15:30 | H 112 |
| Tambieva, Jannet A. | 24 Aug. | 16:45 | H 2033 |
| Tamrazov, Promarz M. | 24 Aug. | 15:15 | MA 041 |
| Tanaka, Minoru M.T. | 25 Aug. | 15:00 | MA 041 |
| Tang, Shanjian | 21 Aug. | 15:30 | H 2033 |
| Tankeev, Serguei G. | 26 Aug. | 16:30 | MA 042 |
| Taraskin, Alexander F. | 24 Aug. | 17:45 | H 1029 |
| Tarasov, Vitaly | 25 Aug. | 15:00 | H 107 |
| Tavgen, Oleg I. | 19 Aug. | 17:30 | MA 311 |
| Tchourkin, Andrey V. | 21 Aug. | 17:45 | H 107 |
| Thao, Vo Dang | 21 Aug. | 15:30 | MA 041 |
| Thomas, Charles B. | 19 Aug. | 16:15 | H 112 |
| Thomason, Andrew G. | 25 Aug. | 14:30 | H 106 |
| Tiba, Dan | 25 Aug. | 14:15 | H 2033 |
| Timofeeva, Galina A. | 22 Aug. | 15:30 | H 2013 |
| Tkachenko, Natalia V. | 21 Aug. | 16:30 | H 110 |
| Tkachev, Vladimir G. | 20 Aug. | 14:00 | MA 041 |
| Tokizawa, Masamichi | 20 Aug. | 14:00 | MA 144 |
| Tolev, Doytchin | 19 Aug. | 15:30 | MA 311 |
| Ton-That, Tuong | 24 Aug. | 15:30 | H 112 |
| Topalov, Peter | 21 Aug. | 16:15 | MA 144 |
| Totok, Alexander A | 19 Aug. | 15:30 | MA 042 |
| Trenogin, Vladilen A. | 25 Aug. | 17:30 | MA 041 |
| Trittler, Matthias | 19 Aug. | 17:45 | MA 311 |
| Troitsky, Evgenij V. | 19 Aug. | 15:15 | MA 041 |
| Trott, Michael | 19 Aug. | 16:15 | H 104 |
| Tsevendorj, Ider | 20 Aug. | 16:45 | H 2033 |
| Tsuboi, Takashi | 19 Aug. | 16:45 | H 112 |
| Tung, Chia-Chi | 19 Aug. | 14:00 | MA 144 |
| Turaev, Dmitry | 19 Aug. | 16:30 | H 111 |
| Turner, Paul R. | 24 Aug. | 14:00 | MA 144 |
| Turo, Jan | 25 Aug. | 14:00 | MA 144 |
| Tuzhilin, Alexei A. | 26 Aug. | 17:15 | H 106 |
| Twardowska, Krystyna | 20 Aug. | 17:30 | H 107 |
| Tylli, Hans-Olav I. | 22 Aug. | 16:30 | MA 043 |
| Uetake, Yoichi | 21 Aug. | 17:45 | MA 311 |
| Vaccaro, Michelangelo | 20 Aug. | 15:30 | H 112 |
| van der Hoeven, Joris | 24 Aug. | 14:30 | MA 309 |
| van Lint, Jacobus | 22 Aug. | 19:30 | Urania |
| van Rienen, Ursula | 25 Aug. | 17:45 | H 2033 |
| Várilly, Joseph C. | 24 Aug. | 16:15 | MA 144 |
| Vasil'ev, Alexander J. | 21 Aug. | 15:00 | MA 041 |
| Vasil'ev, Vladimir B. | 21 Aug. | 14:00 | H 111 |
| Vasiliev, Mikhail | 20 Aug. | 14:00 | H 106 |
| Vasiliev, Oleg V. | 25 Aug. | 17:30 | H 2013 |
| Vasilieva, Ekaterina A. | 19 Aug. | 15:15 | MA 042 |
| Vasilieva, Olga O. | 21 Aug. | 14:30 | H 2033 |
| Vasilyeva, Tatiana A. | 19 Aug. | 15:30 | H 2013 |
| Veloso, Jose Miguel | 24 Aug. | 16:45 | MA 043 |
| Venema, Gerard A. | 26 Aug. | 14:30 | H 112 |
| Vershinin, Vladimir V. | 19 Aug. | 17:45 | H 112 |

| | | | |
|---|---|---|---|
| Vesnin, Andrei Yu. | 21 Aug. | 17:45 | H 112 |
| Vinberg, Ernest B. | 26 Aug. | 17:30 | MA 311 |
| Vinogradova, Natalya V. | 22 Aug. | 17:15 | H 107 |
| Vlad, Carmen D. | 22 Aug. | 16:45 | MA 309 |
| Vladimir, Samovol | 24 Aug. | 14:15 | H 110 |
| Vladimirescu, Mihai M. | 24 Aug. | 14:30 | H 106 |
| Vodop'yanov, Serguei | 21 Aug. | 15:00 | MA 309 |
| Voit, Michael P. | 20 Aug. | 16:45 | H 1029 |
| Volcheck, Emil J | 20 Aug. | 15:30 | MA 043 |
| Volevich, Leonid | 25 Aug. | 14:00 | MA 144 |
| Volk, Wolfgang | 19 Aug. | 17:30 | H 2033 |
| von Mouche, Pierre | 26 Aug. | 16:15 | MA 144 |
| von Randow, Gero | 25 Aug. | 17:30 | Urania |
| von Schroeders, Nicolai | 25 Aug. | 16:45 | H 2033 |
| von Törne, Christian | 25 Aug. | 16:30 | H 2033 |
| Voskresenskii, Valentin E. | 21 Aug. | 16:30 | MA 311 |
| Wagner, Wolfgang | 20 Aug. | 17:45 | H 107 |
| Wakolbinger, Anton | 19 Aug. | 14:00 | H 107 |
| Walczak, Paweł | 21 Aug. | 16:15 | MA 144 |
| Wang, Feng-Yu | 26 Aug. | 14:00 | MA 144 |
| Wang, Hwai-Chiuan | 24 Aug. | 16:45 | H 111 |
| Wang, Weichung | 24 Aug. | 15:30 | H 2033 |
| Wang, Ya-Guang | 22 Aug. | 15:30 | H 111 |
| Watanabe, Shuji | 19 Aug. | 15:30 | H 111 |
| Watson, Bill | 19 Aug. | 16:45 | MA 041 |
| Wegert, Elias | 24 Aug. | 14:15 | MA 041 |
| Wegner, Bernd | 24 Aug. | 14:00 | H 104 |
| Weikard, Rudi | 19 Aug. | 14:00 | MA 144 |
| Welch, Philip D. | 25 Aug. | 14:00 | MA 042 |
| Werbowski, Jarosław | 25 Aug. | 16:15 | MA 144 |
| Werner, Wend | 26 Aug. | 14:15 | MA 043 |
| Wessäly, Roland | 26 Aug. | 15:30 | H 2013 |
| Wiegand, Sylvia M. | 20 Aug. | 16:45 | MA 311 |
| Wieners, Christian | 20 Aug. | 15:15 | H 2013 |
| | 21 Aug. | 16:15 | H 104 |
| Wihstutz, Volker | 24 Aug. | 16:15 | H 107 |
| Wildeshaus, Jörg | 22 Aug. | 16:15 | MA 042 |
| Wiles, Andrew | 19 Aug. | 19:30 | H 105 |
| Wilmański, Krzysztof | 19 Aug. | 16:15 | MA 144 |
| Winterhof, Arne | 25 Aug. | 16:30 | MA 311 |
| Winzer, Olga | 26 Aug. | 16:15 | MA 144 |
| Wojciechowky, Michal | 20 Aug. | 16:45 | H 110 |
| Woldar, Andrew J. | 26 Aug. | 16:30 | H 106 |
| Wolfart, Jürgen | 21 Aug. | 16:45 | MA 311 |
| Wolfrum, Matthias | 25 Aug. | 14:15 | H 111 |
| Wong, Seman | 26 Aug. | 14:15 | MA 311 |
| Wu, Jiahong | 21 Aug. | 14:30 | H 110 |
| Wu, Siye | 22 Aug. | 15:30 | MA 042 |
| Wulff, Claudia | 19 Aug. | 17:30 | H 111 |
| Wulfsohn, Aubrey | 19 Aug. | 14:15 | H 107 |
| Wüstner, Michael | 20 Aug. | 17:30 | H 112 |
| Xiang, Kai-Yao | 21 Aug. | 14:00 | MA 144 |
| Ximin, Liu | 20 Aug. | 14:15 | MA 041 |
| Xu, Fei | 24 Aug. | 14:30 | MA 311 |
| Xu, Hong-Kun, H.K. | 20 Aug. | 16:15 | MA 309 |
| Xu, Zhongling | 24 Aug. | 16:45 | H 2013 |
| Yadrenko, Mikhailo | 22 Aug. | 14:00 | MA 144 |
| Yagola, Anatoly G. | 24 Aug. | 15:15 | H 2033 |
| Yamashita, Hajime | 19 Aug. | 16:15 | MA 144 |
| Yan, Min | 19 Aug. | 17:15 | H 106 |
| Yanchuk, Sergiy V. | 20 Aug. | 14:15 | H 110 |
| Yang, Chung-Cun | 19 Aug. | 14:00 | MA 309 |
| Yang, Weiqi | 26 Aug. | 15:15 | MA 041 |
| Yaroshevsky, Vassily A. | 21 Aug. | 14:15 | H 107 |
| Yebdri, Mustapha | 20 Aug. | 15:30 | H 110 |
| Yemelyanova, Inna S. | 25 Aug. | 16:15 | MA 144 |
| Ylinen, Kari E. | 22 Aug. | 16:45 | MA 043 |
| Yoshida, Katsuaki | 19 Aug. | 14:00 | MA 144 |
| Yoshida, Tomoyuki | 21 Aug. | 14:00 | MA 144 |
| Yoshino, Masafumi | 26 Aug. | 14:30 | H 110 |
| Yost, David | 21 Aug. | 14:30 | MA 043 |
| Yu, Jie-Tai | 22 Aug. | 14:30 | MA 042 |
| Yu, Pei | 26 Aug. | 17:45 | H 111 |
| Yu, Rupert W.T. | 19 Aug. | 14:00 | MA 144 |
| Yurko, Vjacheslav A. | 24 Aug. | 14:30 | H 110 |
| Zacharias, Klaus | 24 Aug. | 17:45 | H 110 |
| Zaitsev, Dmitri | 19 Aug. | 14:00 | MA 144 |
| Zaitsev, Iuri M. | 19 Aug. | 16:45 | H 110 |
| Zaitseva, Svetlana B. | 22 Aug. | 16:15 | MA 144 |
| Zakharov, Valeriy K. | 22 Aug. | 16:30 | MA 309 |
| Zakharov, Victor V. | 25 Aug. | 16:45 | H 2013 |
| Zand, Hossein | 25 Aug. | 14:30 | MA 311 |
| Zapatrin, Roman | 20 Aug. | 14:00 | MA 144 |
| Zastrow, Andreas | 25 Aug. | 14:30 | H 112 |
| Zavalishchin, Stanislav T. | 26 Aug. | 16:15 | MA 144 |
| Zayed, Ahmed I | 20 Aug. | 17:30 | MA 043 |
| Zelazko, Wieslaw | 20 Aug. | 16:45 | MA 043 |
| Zelikin, Mikhail | 25 Aug. | 14:30 | H 2033 |
| Zeman, Martin | 25 Aug. | 14:15 | MA 042 |
| Zemánek, Jaroslav | 19 Aug. | 14:00 | MA 144 |
| Zgliczynski, Piotr | 25 Aug. | 16:15 | MA 144 |
| Zhang, Meirong | 21 Aug. | 16:15 | H 111 |
| Zhang, Pu | 21 Aug. | 15:00 | H 112 |
| Zhang, Shunian | 24 Aug. | 14:00 | H 110 |
| Zhao, Jennifer J. | 22 Aug. | 14:00 | H 2033 |
| Zharinov, Victor V. | 26 Aug. | 15:30 | H 107 |
| Zhdanov, Renat Z. | 20 Aug. | 14:30 | H 107 |
| Zhou, Aihui | 22 Aug. | 16:15 | MA 144 |
| Zhou, Zuoling | 21 Aug. | 16:15 | MA 144 |
| Zhu, Jianping | 22 Aug. | 14:15 | H 2033 |
| Zimmer, Horst G. | 21 Aug. | 14:40 | H 104 |
| Zimmermann, Bernd | 22 Aug. | 17:30 | H 2013 |
| Zimmermann, Uwe T. | 26 Aug. | 14:30 | H 106 |
| Zinchenko, Nadiya | 25 Aug. | 17:30 | H 1029 |
| Zinchenko, Olga A. | 21 Aug. | 14:15 | H 2013 |
| Ziza, Oxana A. | 26 Aug. | 14:00 | MA 144 |
| Zlotnik, Alexander | 24 Aug. | 14:00 | H 1029 |
| Zolotykh, Andrej A. | 24 Aug. | 16:45 | MA 311 |
| Zubrilin, Konstantin A. | 20 Aug. | 14:00 | MA 144 |
| Zuev, Sergey V. | 25 Aug. | 14:00 | MA 043 |
| Zvyagin, Victor G. | 22 Aug. | 16:15 | MA 043 |
| Zygmunt, Marcin J. | 25 Aug. | 16:15 | MA 043 |

# K. List of Chairpersons

| | | | |
|---|---|---|---|
| A'Campo-Neuen, A. | 22 Aug. | 15:00 | MA 042 |
| Abdel-Megied, M. | 25 Aug. | 17:15 | H 110 |
| Aigner, M. | 25 Aug. | 16:15 | H 2032 |
| Albrecht, R. | 19 Aug. | 16:15 | H 110 |
| Albu, T. | 19 Aug. | 14:00 | MA 042 |
| Aleksandrov, A.G. | 21 Aug. | 17:15 | MA 042 |
| Alt, H. | 19 Aug. | 15:00 | H 2032 |
| | 21 Aug. | 14:00 | H 2032 |
| | 21 Aug. | 15:00 | H 2032 |
| Altmann, K. | 20 Aug. | 16:15 | MA 042 |
| | 22 Aug. | 16:15 | H 106 |
| Alvaro Vilumbrales, J.M. | 26 Aug. | 17:15 | H 107 |
| Anichini, G. | 26 Aug. | 17:15 | H 110 |
| Araki, H. | 20 Aug. | 17:15 | MA 041 |
| Arbarello, E. | 21 Aug. | 14:00 | MA 005 |
| Arnold, V.I. | 21 Aug. | 9:30 | H 105 |
| Arnold, H.-J. | 24 Aug. | 14:00 | H 2013 |
| Arnold, L. | 20 Aug. | 14:00 | H 1028 |
| | 22 Aug. | 14:00 | H 1012 |
| Asada, A. | 24 Aug. | 14:00 | H 107 |
| Ayupov, S.A. | 26 Aug. | 15:00 | MA 311 |
| Bach, V. | 19 Aug. | 14:00 | H 1028 |
| Ball, J.M. | 25 Aug. | 9:00 | H 105 |
| | 26 Aug. | 17:15 | MA 001 |
| Baranov, A. | 25 Aug. | 17:15 | H 112 |
| Bartsch, T. | 21 Aug. | 15:00 | H 1012 |
| Batyrev, V.V. | 21 Aug. | 17:15 | MA 005 |
| Baudisch, A. | 25 Aug. | 15:00 | MA 042 |
| Bergmann, W.R. | 22 Aug. | 16:15 | H 112 |
| Bessenrodt, C. | 25 Aug. | 14:00 | MA 311 |
| Beylkin, G. | 22 Aug. | 15:00 | H 1028 |
| Bierstedt, K.D. | 19 Aug. | 17:15 | MA 001 |
| Bobenko, A.I. | 25 Aug. | 16:15 | MA 001 |
| Bödigheimer, C.-F. | 25 Aug. | 14:00 | H 112 |
| Börger, R. | 26 Aug. | 15:00 | MA 042 |
| Boese, F. | 25 Aug. | 14:00 | H 110 |
| Bollobás, B. | 25 Aug. | 14:00 | H 106 |
| Bonet, J. | 19 Aug. | 14:00 | MA 041 |
| Bonk, M. | 19 Aug. | 14:00 | MA 309 |
| Borcherds, R.E. | 19 Aug. | 14:00 | MA 005 |
| | 20 Aug. | 11:00 | H 105 |
| Borgs, C. | 21 Aug. | 15:00 | H 1028 |
| Bottazzini, U. | 24 Aug. | 14:00 | MA 004 |
| Bourguignon, J.-P. | 20 Aug. | 16:15 | MA 001 |
| | 20 Aug. | 17:15 | MA 001 |
| | 26 Aug. | 11:45 | H 105 |
| Boyallian, C. | 24 Aug. | 14:00 | H 112 |
| Brandt, S. | 21 Aug. | 16:15 | H 106 |
| Breger, M. | 26 Aug. | 14:00 | H 107 |
| Brieden, A. | 22 Aug. | 15:00 | MA 043 |
| Brinzanescu, V.P. | 25 Aug. | 16:15 | MA 042 |
| Brodsky, M. | 25 Aug. | 14:00 | H 1029 |
| Brüning, J. | 25 Aug. | 14:00 | MA 004 |
| Brokate, M. | 25 Aug. | 14:00 | H 111 |
| Bunke, O. | 25 Aug. | 15:00 | H 1028 |
| Campbell, P.J. | 21 Aug. | 15:00 | H 106 |
| Carr, J. | 21 Aug. | 14:00 | H 1012 |
| Carroll, R.W. | 22 Aug. | 15:00 | H 107 |
| Catanese, F.M.E. | 25 Aug. | 17:15 | MA 042 |
| Chang, K.S. | 21 Aug. | 14:00 | MA 309 |
| Chatterji, S. | 26 Aug. | 16:15 | MA 001 |
| Chayes, J.T. | 20 Aug. | 15:00 | H 1028 |
| Chebanov, D.A. | 21 Aug. | 16:15 | H 110 |
| Coates, J.H. | 27 Aug. | 11:45 | H 105 |
| Collet, P. | 25 Aug. | 16:15 | H 1028 |
| Colonius, F. | 21 Aug. | 17:15 | H 2032 |
| Conlon, L.W. | 26 Aug. | 14:00 | H 112 |
| Conte, A. | 20 Aug. | 15:00 | MA 005 |
| Cordes, H.O. | 22 Aug. | 17:15 | H 1012 |
| Cuntz, J. | 20 Aug. | 15:00 | MA 001 |
| David, H.A. | 25 Aug. | 14:00 | H 2013 |
| Dawson, D. | 21 Aug. | 17:15 | H 1028 |
| Debnath, L. | 20 Aug. | 14:00 | H 106 |
| Demidov, S.S. | 24 Aug. | 15:00 | MA 004 |
| Deuflhard, P.J. | 26 Aug. | 14:00 | H 1012 |
| Deuschel, J.-D. | 20 Aug. | 16:15 | H 1028 |
| Diaconis, P.W. | 26 Aug. | 17:15 | H 1028 |
| Dillen, F. | 25 Aug. | 15:00 | MA 043 |
| Dimitric, I.M. | 20 Aug. | 15:00 | MA 041 |
| Dinges, H. | 19 Aug. | 14:00 | H 107 |
| Dold, A. | 22 Aug. | 16:15 | MA 004 |
| | 22 Aug. | 17:15 | MA 004 |
| Draexler, P. | 22 Aug. | 15:00 | MA 311 |
| Dranishnikov, A.N. | 21 Aug. | 16:15 | H 112 |
| Dress, A.W.M. | 25 Aug. | 15:00 | H 106 |
| Duan, J. | 20 Aug. | 15:00 | H 106 |
| Dubrovin, B. | 22 Aug. | 16:15 | MA 001 |
| | 22 Aug. | 17:15 | MA 001 |
| Dudley, R.M. | 24 Aug. | 14:00 | H 1028 |
| | 25 Aug. | 17:15 | MA 041 |
| Duren, P. | 19 Aug. | 15:00 | MA 309 |
| Duzaar, F. | 26 Aug. | 14:00 | MA 001 |
| | 26 Aug. | 15:00 | MA 001 |
| Edwards, R.D. | 21 Aug. | 15:00 | MA 004 |
| Ehrig, H. | 22 Aug. | 14:00 | MA 043 |
| Eliashberg, Y. | 20 Aug. | 9:30 | H 105 |
| Elliott, G.A. | 21 Aug. | 15:00 | MA 043 |
| Enß, V. | 24 Aug. | 14:00 | H 1012 |
| Erdogan, H.I. | 26 Aug. | 16:15 | MA 043 |
| Eyles, J.W. | 22 Aug. | 16:15 | H 2013 |
| Ezquerro, J.A. | 19 Aug. | 16:15 | H 2013 |
| Faltings, G. | 26 Aug. | 9:00 | H 105 |
| Felsner, S. | 20 Aug. | 14:00 | MA 043 |
| | 21 Aug. | 17:15 | MA 043 |
| | 24 Aug. | 16:15 | H 106 |
| Ferus, D. | 24 Aug. | 14:00 | MA 001 |
| | 24 Aug. | 15:00 | MA 001 |
| Fiedler, B. | 19 Aug. | 15:00 | H 1012 |
| Fittler, R. | 25 Aug. | 14:00 | MA 042 |
| Fleischmann, K. | 19 Aug. | 15:00 | H 107 |
| Folland, G.B. | 21 Aug. | 17:15 | MA 001 |
| Föllmer, H. | 25 Aug. | 19:30 | Urania |
| Forger, M. | 25 Aug. | 16:15 | H 112 |
| Fourie, J.H. | 25 Aug. | 17:15 | MA 043 |
| Frank, A. | 20 Aug. | 15:00 | H 2032 |

| | | | |
|---|---|---|---|
| Friedlander, E.M. | 21 Aug. | 11:00 | H 105 |
| Fring, A. | 21 Aug. | 14:00 | H 1028 |
| Fritsch, F. R. | 22 Aug. | 17:15 | H 2013 |
| Fuhrmann, J. | 20 Aug. | 15:00 | H 2013 |
| Gärtner, J. | 21 Aug. | 16:15 | H 1028 |
| Gamba, I. | 22 Aug. | 11:00 | H 105 |
| Gan, S. | 24 Aug. | 15:00 | H 110 |
| Gatermann, K. | 19 Aug. | 16:15 | H 111 |
| Gatto, A. E. | 19 Aug. | 14:00 | MA 043 |
| Gehring, F.W. | 22 Aug. | 14:00 | MA 001 |
| Geller, D. | 21 Aug. | 16:15 | MA 001 |
| Georgii, H.-O. | 20 Aug. | 16:15 | H 107 |
| Gidea, M. | 26 Aug. | 16:15 | MA 041 |
| Giesen, J. | 22 Aug. | 15:00 | MA 041 |
| Gigena, S.D.R. | 25 Aug. | 14:00 | MA 041 |
| Glimm, E. | 22 Aug. | 16:15 | H 1029 |
| Goette, S. | 19 Aug. | 17:15 | MA 041 |
| Götze, F. | 19 Aug. | 16:15 | H 1028 |
| | 24 Aug. | 17:15 | H 2032 |
| Goldstern, M. | 26 Aug. | 14:00 | MA 005 |
| Gomez Bofill, W. | 21 Aug. | 14:00 | H 2013 |
| Goodman, G.S. | 25 Aug. | 16:15 | H 110 |
| Gottlieb, D.H. | 22 Aug. | 15:00 | H 112 |
| Gowers, W. T. | 25 Aug. | 14:00 | MA 001 |
| Graf, G.M. | 20 Aug. | 17:15 | H 1028 |
| Graf, K.-D. | 25 Aug. | 14:00 | H 104 |
| Grattan-Guiness, I. | 24 Aug. | 16:15 | MA 004 |
| Greuel, G.-M.W. | 20 Aug. | 17:15 | MA 042 |
| Grinberg, N.I. | 22 Aug. | 15:00 | H 110 |
| Grobler, J.J. | 24 Aug. | 15:00 | MA 043 |
| Gröger, K. | 24 Aug. | 15:00 | H 1012 |
| Gröpl, C. | 20 Aug. | 15:00 | MA 043 |
| | 21 Aug. | 16:15 | MA 043 |
| Grof, J. | 20 Aug. | 14:00 | H 2033 |
| Grosse-Erdmann, K.-G. | 20 Aug. | 17:15 | MA 309 |
| Grundhöfer, T. | 25 Aug. | 17:15 | H 2032 |
| Guddat, J. | 20 Aug. | 16:15 | H 2033 |
| Guo, S. | 24 Aug. | 17:15 | H 2013 |
| Gurak, S.J. | 20 Aug. | 14:00 | MA 311 |
| Gusein-Zade, S.M. | 21 Aug. | 16:15 | MA 042 |
| Gusevskii, N. | 21 Aug. | 17:15 | H 112 |
| Gustedt, J. | 24 Aug. | 17:15 | H 106 |
| Hammami, M.A. | 26 Aug. | 14:00 | H 2013 |
| Han, Z.-C. | 19 Aug. | 17:15 | MA 043 |
| Happel, D. | 25 Aug. | 17:15 | MA 005 |
| Hayes, B.T. | 21 Aug. | 17:15 | H 106 |
| Hazewinkel, M. | 25 Aug. | 15:00 | H 2032 |
| Hebermehl, G. | 19 Aug. | 15:00 | H 106 |
| Heiss, S. | 26 Aug. | 16:15 | MA 311 |
| Helemskii, A.Y. | 19 Aug. | 15:00 | MA 041 |
| Helmberg, G. | 24 Aug. | 14:00 | MA 309 |
| | 24 Aug. | 15:00 | MA 309 |
| Henrion, R. | 26 Aug. | 15:00 | H 2033 |
| Hidalgo, R.A. | 21 Aug. | 14:00 | MA 041 |
| Hillman, J.A. | 20 Aug. | 15:00 | H 112 |
| Hirzebruch, F.E.P. | 18 Aug. | 16:15 | ICC |
| Höhn, G. | 21 Aug. | 14:00 | H 112 |
| Hofer, H.H.W. | 19 Aug. | 14:00 | MA 001 |
| | 19 Aug. | 15:00 | MA 001 |
| Hofmann, K.-H. | 19 Aug. | 16:15 | MA 042 |

| | | | |
|---|---|---|---|
| Holzapfel, R.-P. | 22 Aug. | 17:15 | MA 042 |
| Hoppensteadt, F. | 24 Aug. | 9:00 | H 105 |
| Hou, Z. | 20 Aug. | 15:00 | H 111 |
| Houssni, M. | 20 Aug. | 14:00 | H 111 |
| Imhof, J.-P. | 25 Aug. | 16:15 | H 107 |
| Imkeller, P. | 21 Aug. | 15:00 | H 107 |
| Ioffe, D. | 24 Aug. | 17:15 | H 107 |
| Ion, P.D.F. | 25 Aug. | 15:00 | H 2013 |
| Itoh, J.-i. | 25 Aug. | 15:00 | MA 041 |
| Jäger, W. | 22 Aug. | 9:30 | H 105 |
| Jäger, W. | 26 Aug. | 17:15 | H 2032 |
| Jahanshahi, M. | 20 Aug. | 14:00 | H 110 |
| Jahnke, T. | 25 Aug. | 15:00 | H 104 |
| Jakobsson, S.B.A. | 24 Aug. | 14:00 | MA 041 |
| Jannsen, U. | 22 Aug. | 16:15 | MA 005 |
| Jarník, J. | 22 Aug. | 17:15 | MA 043 |
| Jeltsch, R. | 24 Aug. | 16:15 | H 1028 |
| | 25 Aug. | 17:15 | MA 001 |
| Jensen, R.B. | 19 Aug. | 11:00 | H 105 |
| | 26 Aug. | 16:15 | H 1012 |
| Jimenez, M.A. | 24 Aug. | 14:00 | MA 043 |
| Jorgensen, P.E.T. | 26 Aug. | 14:00 | MA 043 |
| Jung, H.A. | 20 Aug. | 17:15 | H 106 |
| Jungnickel, D. | 22 Aug. | 15:00 | H 2032 |
| Kapranov, M.M. | 26 Aug. | 15:00 | H 2032 |
| Karlof, J.K. | 19 Aug. | 14:00 | H 112 |
| Kawamata, Y. | 21 Aug. | 15:00 | MA 005 |
| Kayll, M. | 26 Aug. | 16:15 | H 106 |
| Keedwell, A. D. | 22 Aug. | 17:15 | H 106 |
| Kegel, O.H. | 24 Aug. | 14:00 | MA 005 |
| Kellendonk, J. | 26 Aug. | 14:00 | H 1028 |
| Keller, G. | 19 Aug. | 17:15 | H 110 |
| | 21 Aug. | 17:15 | H 111 |
| Kersten, I. | 25 Aug. | 19:30 | H 104 |
| Khimshiashvili, G.N. | 25 Aug. | 16:15 | MA 043 |
| Kirchgässner, K. | 19 Aug. | 14:00 | H 1012 |
| | 24 Aug. | 16:15 | H 2032 |
| Kifer, Y. | 26 Aug. | 16:15 | H 1028 |
| Kim, D. | 22 Aug. | 17:15 | MA 309 |
| Kirchberg, E. | 25 Aug. | 15:00 | MA 309 |
| Kirchgraber, U. | 20 Aug. | 16:15 | H 1012 |
| | 24 Aug. | 17:15 | MA 004 |
| Kisil, V.V. | 24 Aug. | 15:00 | H 107 |
| Kleshchev, A.S. | 22 Aug. | 14:00 | MA 311 |
| Klin, M.H. | 21 Aug. | 14:00 | MA 311 |
| Knight, F.B. | 25 Aug. | 17:15 | H 107 |
| Koch, H. | 25 Aug. | 15:00 | MA 005 |
| | 26 Aug. | 15:00 | MA 005 |
| König, H. | 24 Aug. | 17:15 | MA 001 |
| Koepke, P.G. | 25 Aug. | 16:15 | H 1012 |
| Kohr, M. | 25 Aug. | 16:15 | MA 041 |
| Kokilashvili, V.M. | 20 Aug. | 16:15 | MA 041 |
| Koltchinskii, V.I. | 19 Aug. | 17:15 | H 1028 |
| Kometch, A. | 26 Aug. | 14:00 | H 111 |
| Kontsevich, M. | 24 Aug. | 11:45 | H 105 |
| Koornwinder, T.H. | 25 Aug. | 14:00 | H 1012 |
| Koranyi, A. | 20 Aug. | 17:15 | H 112 |
| Kornhuber, R. | 26 Aug. | 15:00 | H 1012 |
| Koschorke, U. | 19 Aug. | 15:00 | MA 004 |
| Kotlyarov, V. | 21 Aug. | 16:15 | H 1029 |

| | | | |
|---|---|---|---|
| Kotschick, D. | 20 Aug. | 17:15 | MA 004 |
| Kracht, M.A. | 20 Aug. | 14:00 | MA 042 |
| Kramer, J. | 26 Aug. | 16:15 | MA 005 |
| Krasnov, Y. | 20 Aug. | 16:15 | H 111 |
| Kriecherbauer, T.C. | 20 Aug. | 17:15 | MA 043 |
| Krutitskii, P.A. | 26 Aug. | 15:00 | H 111 |
| Küchler, U. | 26 Aug. | 15:00 | H 1028 |
| Kugelmann, B. | 21 Aug. | 14:00 | H 2033 |
| Kulikov, V.S. | 26 Aug. | 14:00 | MA 042 |
| Kummer, B. | 20 Aug. | 17:15 | H 2033 |
| Kurke, H. | 24 Aug. | 15:00 | MA 042 |
| | 24 Aug. | 16:15 | MA 309 |
| Kutev, N.D. | 25 Aug. | 17:15 | H 111 |
| Lanza de Cristoforis, M. | 19 Aug. | 14:00 | H 111 |
| Lauterbach, R. | 19 Aug. | 17:15 | H 111 |
| | 20 Aug. | 17:15 | H 1012 |
| Lawton, W.M. | 19 Aug. | 16:15 | H 2033 |
| Lee, S.G. | 25 Aug. | 16:15 | MA 309 |
| Leiterer, Jür. | 20 Aug. | 14:00 | MA 001 |
| Lemaire, J.-M. | 22 Aug. | 14:00 | H 112 |
| Lemarié-Rieusset, P.G. | 21 Aug. | 16:15 | H 2033 |
| Lenz, H. | 25 Aug. | 14:00 | H 2032 |
| Leprévost, F. | 20 Aug. | 15:00 | MA 311 |
| Leseberg, D. | 21 Aug. | 15:00 | MA 042 |
| Li, C. | 26 Aug. | 17:15 | MA 041 |
| Liandrat, J. | 20 Aug. | 16:15 | H 2013 |
| Liberati, J.I. | 24 Aug. | 15:00 | H 112 |
| Lickorish, W.B. R. | 20 Aug. | 16:15 | MA 004 |
| Liemant, A. | 20 Aug. | 17:15 | H 107 |
| Lindenstrauss, J. | 25 Aug. | 11:45 | H 105 |
| Litvinov, G.L. | 22 Aug. | 17:15 | H 112 |
| Logachev, D. | 26 Aug. | 14:00 | MA 311 |
| Loginov, B.V. | 25 Aug. | 15:00 | H 1029 |
| Logofet, D.O. | 26 Aug. | 15:00 | H 106 |
| Lyons, T.J. | 25 Aug. | 14:00 | H 1028 |
| Maaß, P. | 25 Aug. | 15:00 | H 1012 |
| Mailybaev, A.A. | 20 Aug. | 15:00 | H 2033 |
| Makay, G. | 21 Aug. | 16:15 | H 111 |
| Manin, Y. | 25 Aug. | 10:15 | H 105 |
| Manuilov, V. | 26 Aug. | 15:00 | MA 043 |
| Martinez, R.R. | 19 Aug. | 17:15 | H 2033 |
| Mathé, P. | 21 Aug. | 15:00 | H 1029 |
| Mathieu, O. | 21 Aug. | 16:15 | MA 004 |
| | 22 Aug. | 15:00 | MA 004 |
| Mathieu, P. | 22 Aug. | 14:00 | H 107 |
| Mattner, L. | 19 Aug. | 15:00 | H 1029 |
| Matveev, V.S. | 24 Aug. | 16:15 | MA 041 |
| Mayer, J.C. | 26 Aug. | 16:15 | H 111 |
| Mdzinarishvili, L. | 25 Aug. | 15:00 | H 112 |
| Mednykh, A.D. | 24 Aug. | 17:15 | H 112 |
| Michaelis, W.J. | 20 Aug. | 16:15 | H 112 |
| Michor, P. | 24 Aug. | 14:00 | H 104 |
| Mikhalev, A.A. | 24 Aug. | 17:15 | MA 311 |
| Mikhalev, A.V. | 19 Aug. | 15:00 | MA 042 |
| Mishchenko, A.S. | 21 Aug. | 14:00 | MA 004 |
| Misra, K.C. | 21 Aug. | 15:00 | H 112 |
| Mizutani, T. | 24 Aug. | 16:15 | H 112 |
| Möhring, R.H. | 22 Aug. | 16:15 | H 2032 |
| Montgomery, M. S. | 24 Aug. | 16:15 | MA 311 |
| Moree, P. | 24 Aug. | 15:00 | MA 311 |

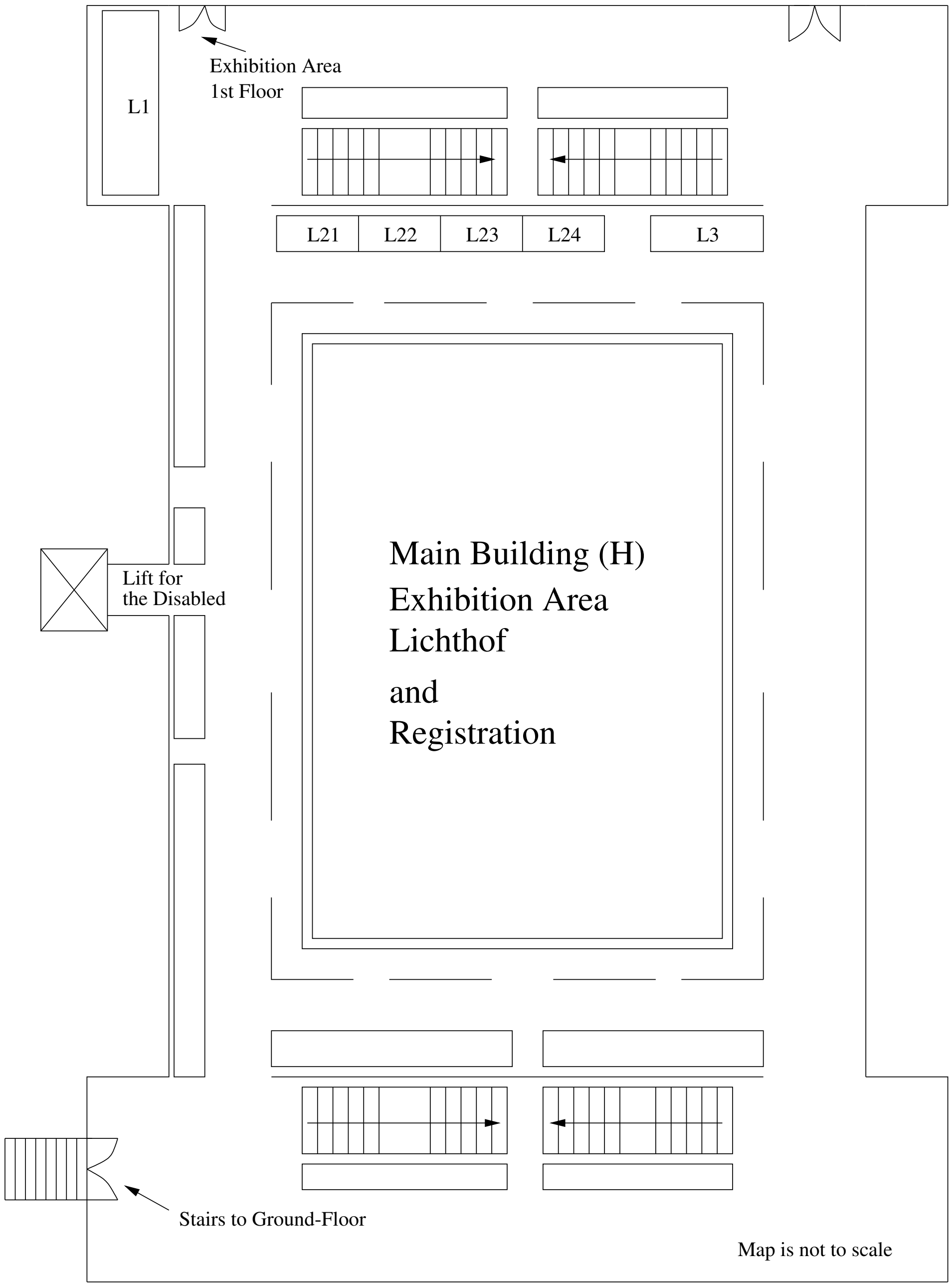
| | | | |
|---|---|---|---|
| Mori, M. | 24 Aug. | 15:00 | H 2013 |
| Morimoto, M. | 20 Aug. | 17:15 | H 111 |
| Morley, M.E. | 24 Aug. | 16:15 | H 2013 |
| Moser, J. | 24 Aug. | 17:15 | H 1012 |
| Müller, D.H. | 24 Aug. | 16:15 | MA 001 |
| Müller, S. | 19 Aug. | 17:15 | H 1012 |
| Mumford, D. | 27 Aug. | 10:15 | H 105 |
| | 24 Aug. | 16:15 | H 104 |
| Murakami, H. | 19 Aug. | 17:15 | H 112 |
| Muscalu, F.C. | 19 Aug. | 14:00 | H 110 |
| Myshkis, A. | 26 Aug. | 16:15 | H 110 |
| Nagaev, S. | 20 Aug. | 17:15 | H 1029 |
| Nagasawa, T. | 21 Aug. | 15:00 | H 110 |
| Nakagawa, J. | 22 Aug. | 17:15 | MA 311 |
| Naumann, J. | 22 Aug. | 14:00 | H 110 |
| Nefedov, N.N. | 24 Aug. | 15:00 | H 111 |
| Nešetril, J. | 24 Aug. | 15:00 | H 2032 |
| Neumann, B.H. | 25 Aug. | 16:15 | MA 005 |
| Neun, W. | 19 Aug. | 14:00 | H 104 |
| | 20 Aug. | 14:00 | H 104 |
| | 21 Aug. | 14:00 | H 104 |
| Nicolas, J.-L. | 22 Aug. | 16:15 | MA 311 |
| Nikolova, I.P. | 25 Aug. | 16:15 | H 2033 |
| Nomura, Y. | 25 Aug. | 16:15 | MA 311 |
| Norkin, V. | 26 Aug. | 14:00 | H 2033 |
| Nowak, U. | 20 Aug. | 17:15 | H 2013 |
| Nussbaum, M. | 21 Aug. | 14:00 | H 1029 |
| | 24 Aug. | 16:15 | H 1029 |
| O'Neill, B. | 21 Aug. | 15:00 | MA 041 |
| Obukhovskii, V.V. | 22 Aug. | 14:00 | H 2013 |
| Özlük, A.E | 20 Aug. | 15:00 | H 107 |
| Ohno, H. | 24 Aug. | 16:15 | MA 042 |
| Okayasu, T. | 20 Aug. | 14:00 | MA 041 |
| Ostermann, A. | 19 Aug. | 14:00 | H 2013 |
| Ovchinnikov, V.I. | 22 Aug. | 16:15 | MA 041 |
| Padial, J.F. | 26 Aug. | 15:00 | H 110 |
| Paditz, L. | 20 Aug. | 16:15 | H 1029 |
| Palencia, C. | 22 Aug. | 15:00 | H 2033 |
| Palis, J. | 27 Aug. | 9:00 | H 105 |
| Papanicolaou, G.C. | 24 Aug. | 15:00 | H 1028 |
| Pavićević, Ža. | 20 Aug. | 17:15 | H 110 |
| Pereverziev, S. | 24 Aug. | 15:00 | H 2033 |
| Perovic, M. | 22 Aug. | 14:00 | H 1029 |
| Persson, L.-E. | 22 Aug. | 17:15 | MA 041 |
| Pesch, H.J. | 25 Aug. | 16:15 | H 2013 |
| Petersson, H. | 26 Aug. | 16:15 | H 107 |
| Petrosjan, L.A. | 22 Aug. | 17:15 | H 2033 |
| Pfeiffer, H. | 24 Aug. | 17:15 | MA 042 |
| Pflaum, M.J. | 25 Aug. | 14:00 | H 107 |
| Piene, R. | 24 Aug. | 14:00 | MA 042 |
| Pillay, A. | 26 Aug. | 17:15 | H 1012 |
| Pinkall, U. | 21 Aug. | 14:00 | MA 001 |
| | 21 Aug. | 15:00 | MA 001 |
| Pohst, M.E. | 19 Aug. | 14:00 | MA 311 |
| Polzehl, J. | 19 Aug. | 14:00 | H 1029 |
| | 26 Aug. | 14:00 | H 1029 |
| Pomazanov, M.V. | 26 Aug. | 15:00 | H 1029 |
| Potapov, V.D. | 25 Aug. | 16:15 | H 106 |
| Potthast, R. | 21 Aug. | 15:00 | H 111 |

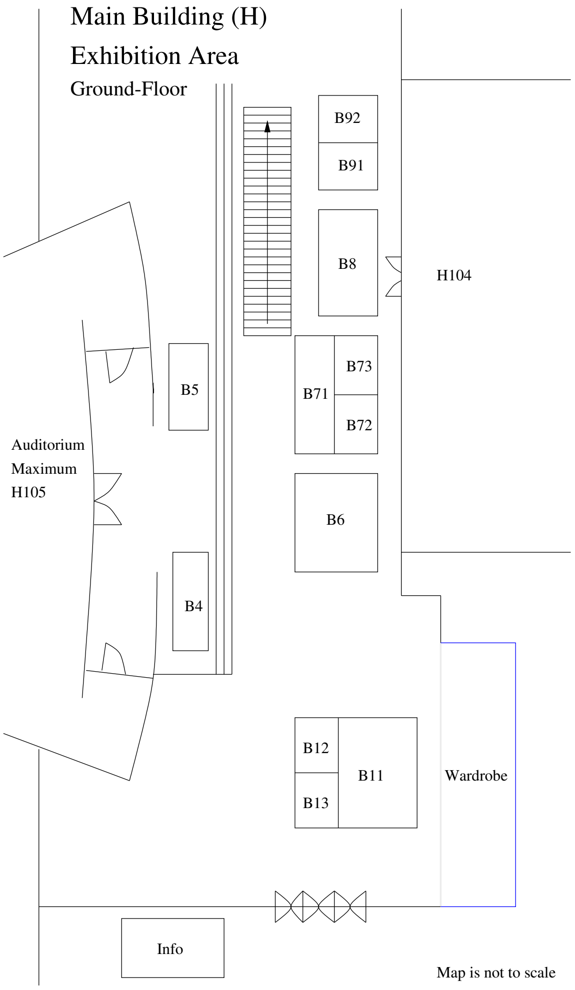
| | | | |
|---|---|---|---|
| Pragarauskas, H. | 25 Aug. | 17:15 | H 2013 |
| Preuß, G. | 21 Aug. | 14:00 | MA 042 |
| Prömel, H.J. | 19 Aug. | 14:00 | H 2032 |
| | 20 Aug. | 16:15 | H 2032 |
| | 20 Aug. | 17:15 | H 2032 |
| | 22 Aug. | 14:00 | H 2032 |
| Prößdorf, S. | 24 Aug. | 17:15 | H 1028 |
| Prokhorov, Y.G. | 26 Aug. | 16:15 | MA 042 |
| Prüfer, F. | 24 Aug. | 17:15 | MA 041 |
| Ptak, M. | 26 Aug. | 15:00 | MA 309 |
| Puchta, J.-C. | 25 Aug. | 17:15 | MA 311 |
| Rabinovich, V.S. | 21 Aug. | 14:00 | H 111 |
| Rachele, L.V. | 19 Aug. | 15:00 | H 110 |
| Raikov, G.D. | 21 Aug. | 16:15 | H 107 |
| Rambau, J. | 19 Aug. | 16:15 | H 106 |
| Rangarajan, G. | 22 Aug. | 16:15 | H 111 |
| Rapoport, M. | 19 Aug. | 17:15 | MA 004 |
| | 22 Aug. | 14:00 | MA 004 |
| Rassias, T.M. | 25 Aug. | 17:15 | MA 309 |
| Rathsfeld, A. | 26 Aug. | 16:15 | H 2033 |
| Reichel, H.-C. | 26 Aug. | 14:00 | H 104 |
| Ressel, P. | 26 Aug. | 14:00 | MA 309 |
| Revalski, J.P. | 20 Aug. | 16:15 | MA 309 |
| Ringel, C.M. | 24 Aug. | 15:00 | MA 005 |
| Roczen, M. | 22 Aug. | 14:00 | MA 042 |
| Rögen, P. | 24 Aug. | 17:15 | MA 043 |
| Römisch, W. | 25 Aug. | 15:00 | H 2033 |
| Rosenbaum, K. | 20 Aug. | 16:15 | MA 311 |
| Rozanova, O.S. | 24 Aug. | 16:15 | H 110 |
| Rubin, B. | 19 Aug. | 15:00 | MA 043 |
| Ruckmann, J.-J. | 21 Aug. | 15:00 | H 2013 |
| Salberger, P. | 24 Aug. | 17:15 | MA 005 |
| Samoilenko, A.M. | 21 Aug. | 17:15 | H 110 |
| Sarnak, P. | 20 Aug. | 14:00 | MA 004 |
| | 21 Aug. | 17:15 | MA 004 |
| Sastry, S.V. | 26 Aug. | 16:15 | H 2013 |
| Scardua, B. | 22 Aug. | 17:15 | H 111 |
| Schappacher, N. | 22 Aug. | 14:00 | MA 005 |
| Scheerer, H. | 26 Aug. | 15:00 | H 112 |
| Schein, B.M. | 19 Aug. | 17:15 | MA 042 |
| Scheutzow, M.K.R. | 21 Aug. | 14:00 | H 107 |
| | 24 Aug. | 16:15 | H 107 |
| Schlesinger, K.-G. | 25 Aug. | 15:00 | H 107 |
| Schmeling, J. | 22 Aug. | 15:00 | H 1012 |
| Schmitt, B.J. | 24 Aug. | 14:00 | H 1029 |
| Schneider, K.R. | 24 Aug. | 16:15 | H 1012 |
| Schonmann, R. | 22 Aug. | 17:15 | H 1028 |
| Schrader, R. | 19 Aug. | 15:00 | H 1028 |
| Schreyer, F. | 20 Aug. | 14:00 | MA 005 |
| Schrijver, A. | 24 Aug. | 14:00 | H 2032 |
| Schrohe, E. | 20 Aug. | 15:00 | H 1012 |
| Schultz, R.E. | 19 Aug. | 16:15 | H 112 |
| Schulze, B.-W. | 22 Aug. | 16:15 | H 1012 |
| Seiler, R. | 25 Aug. | 17:15 | H 1028 |
| | 26 Aug. | 10:15 | H 105 |
| Shaidurov, V.V. | 20 Aug. | 14:00 | H 2013 |
| | 22 Aug. | 14:00 | H 1028 |
| Shchepanuk, G. | 19 Aug. | 17:15 | H 107 |
| Shi, W. | 19 Aug. | 17:15 | MA 311 |
| Shibata, T.T. | 22 Aug. | 14:00 | H 111 |
| Shirikyan, A. | 24 Aug. | 17:15 | H 111 |
| Shishikura, M. | 25 Aug. | 15:00 | H 111 |
| Shor, N.Z. | 24 Aug. | 17:15 | H 2033 |
| Shubin, M. | 21 Aug. | 16:15 | H 1012 |
| Siegmund, D.O. | 27 Aug. | 14:00 | H 105 |
| Sigmund, K. | 26 Aug. | 16:15 | H 2032 |
| Sims, C.C. | 21 Aug. | 16:15 | MA 005 |
| Smirnov, F. | 19 Aug. | 16:15 | MA 005 |
| Sobolev, V. | 24 Aug. | 14:00 | H 111 |
| Socolowsky, J. | 19 Aug. | 14:00 | H 106 |
| Soergel, W. | 19 Aug. | 15:00 | MA 005 |
| | 20 Aug. | 15:00 | MA 004 |
| Soulé, C. | 22 Aug. | 15:00 | MA 005 |
| Spitkovsky, I.M. | 21 Aug. | 15:00 | MA 309 |
| Stein, E.M. | 19 Aug. | 16:15 | MA 001 |
| Stern, R.J. | 20 Aug. | 14:00 | H 112 |
| Stoer, J. | 19 Aug. | 17:15 | H 2032 |
| Stoyan, Y.G. | 26 Aug. | 17:15 | H 106 |
| Strassen, V. | 19 Aug. | 9:30 | H 105 |
| Strauss, V. | 22 Aug. | 17:15 | H 110 |
| Stray, A. | 22 Aug. | 16:15 | H 110 |
| Struwe, M. | 20 Aug. | 14:00 | H 1012 |
| Strzelecki, P. | 25 Aug. | 16:15 | H 111 |
| Sullivan, J.M. | 22 Aug. | 14:00 | MA 041 |
| Takahashi, S. | 21 Aug. | 14:00 | H 106 |
| Tambieva, J.A. | 24 Aug. | 16:15 | H 2033 |
| Tamrazov, P.M. | 26 Aug. | 14:00 | MA 041 |
| Tang, S. | 21 Aug. | 15:00 | H 2033 |
| Taqqu, M.S. | 22 Aug. | 16:15 | H 107 |
| | 22 Aug. | 17:15 | H 107 |
| Taraskin, A.F. | 25 Aug. | 16:15 | H 1029 |
| | 25 Aug. | 17:15 | H 1029 |
| Tchourkin, A.V. | 21 Aug. | 17:15 | H 107 |
| Thomas, C.B. | 19 Aug. | 14:00 | MA 004 |
| Tiba, D. | 19 Aug. | 15:00 | H 2033 |
| Timofeeva, G.A. | 22 Aug. | 15:00 | H 2013 |
| Tolev, D. | 19 Aug. | 15:00 | MA 311 |
| Tröltzsch, F. | 19 Aug. | 14:00 | H 2033 |
| Tzafriri, L. | 24 Aug. | 10:15 | H 105 |
| Uetake, Y. | 21 Aug. | 17:15 | MA 311 |
| Uhlmann, G.A. | 21 Aug. | 17:15 | H 1012 |
| van der Geer, G. | 19 Aug. | 17:15 | MA 005 |
| van der Poorten, A.J. | 26 Aug. | 17:15 | MA 005 |
| van Rienen, U. | 25 Aug. | 17:15 | H 2033 |
| Vasil'ev, A.J. | 26 Aug. | 15:00 | MA 041 |
| Vasilyeva, T.A. | 19 Aug. | 15:00 | H 2013 |
| Veloso, J.M. | 24 Aug. | 16:15 | MA 043 |
| Vlad, C.D. | 22 Aug. | 16:15 | MA 309 |
| Vladimirescu, M.M. | 24 Aug. | 14:00 | H 106 |
| Vogel, H.-J. | 19 Aug. | 16:15 | MA 311 |
| Waldschmidt, M. | 24 Aug. | 16:15 | MA 005 |
| Wang, H.-C. | 24 Aug. | 16:15 | H 111 |
| Wang, Y.-G. | 22 Aug. | 15:00 | H 111 |
| Watanabe, S. | 19 Aug. | 15:00 | H 111 |
| Watson, B. | 19 Aug. | 16:15 | MA 041 |
| Wegert, E. | 24 Aug. | 15:00 | MA 041 |
| Weimann, L. | 25 Aug. | 14:00 | MA 043 |
| Welzl, E. | 20 Aug. | 16:15 | H 106 |
| Wessäly, R. | 26 Aug. | 15:00 | H 2013 |

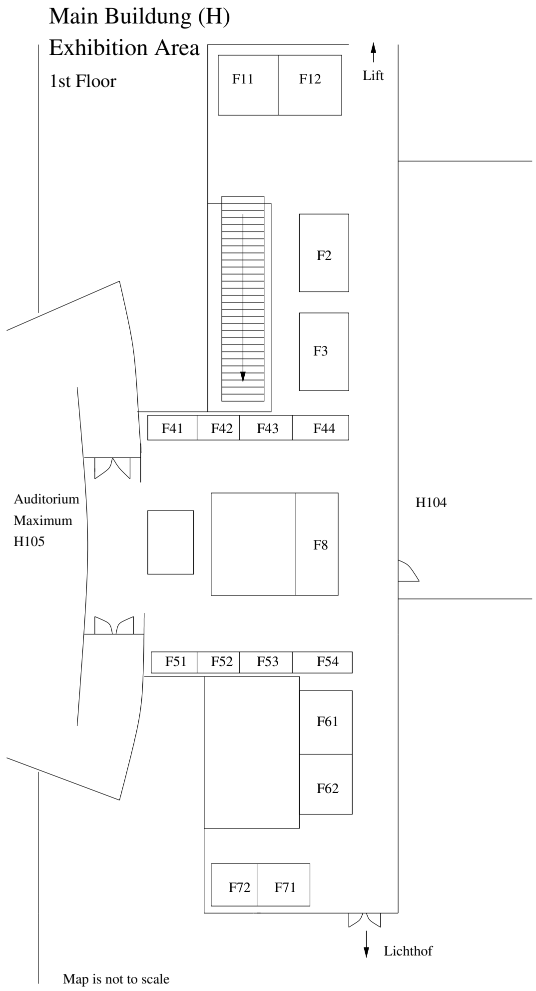
| | | | |
|---|---|---|---|
| Wiedorn, C. | 25 Aug. | 15:00 | MA 311 |
| Wiegand, S.M. | 20 Aug. | 17:15 | MA 311 |
| Wildeshaus, J. | 22 Aug. | 16:15 | MA 042 |
| Wilkens, B. | 26 Aug. | 17:15 | MA 311 |
| Wilkie, A.J. | 25 Aug. | 17:15 | H 1012 |
| Wilmanski, K. | 20 Aug. | 17:15 | MA 005 |
| Wilson, J.S. | 22 Aug. | 17:15 | MA 005 |
| Wilson, P.M.H. | 22 Aug. | 16:15 | H 1028 |
| Wojciechowky, M. | 20 Aug. | 16:15 | H 110 |
| Woldar, A.J. | 21 Aug. | 15:00 | MA 311 |
| Wolfart, J. | 21 Aug. | 16:15 | MA 311 |
| Wright, M.H. | 19 Aug. | 16:15 | H 2032 |
| Wu, J. | 21 Aug. | 14:00 | H 110 |
| Xu, F. | 24 Aug. | 14:00 | MA 311 |
| Yadrenko, M. | 24 Aug. | 17:15 | H 1029 |
| Yafaev, D. | 19 Aug. | 16:15 | H 1012 |
| Yagola, A.G. | 24 Aug. | 14:00 | H 2033 |
| Yebdri, M. | 20 Aug. | 15:00 | H 110 |
| Ylinen, K.E. | 22 Aug. | 16:15 | MA 043 |
| Yoshino, M. | 26 Aug. | 14:00 | H 110 |
| Yost, D. | 21 Aug. | 14:00 | MA 043 |
| Yu, P. | 26 Aug. | 17:15 | H 111 |
| Yurko, V.A. | 24 Aug. | 14:00 | H 110 |
| Zacharias, K. | 24 Aug. | 17:15 | H 110 |
| Zagier, D. | 19 Aug. | 19:30 | H 105 |
| Zelazko, W. | 20 Aug. | 16:15 | MA 043 |
| Zelevinsky A. | 26 Aug. | 14:00 | H 2032 |
| Zelikin, M. | 25 Aug. | 14:00 | H 2033 |
| Zhao, J.J. | 22 Aug. | 14:00 | H 2033 |
| Zharinov, V.V. | 26 Aug. | 15:00 | H 107 |
| Zhdanov, R.Z. | 20 Aug. | 14:00 | H 107 |
| Zhu, J. | 21 Aug. | 17:15 | H 2033 |
| Ziegler, G.M. | 19 Aug. | 17:15 | H 106 |
| | 20 Aug. | 14:00 | H 2032 |
| | 21 Aug. | 16:15 | H 2032 |
| Zimmermann, U.T. | 26 Aug. | 14:00 | H 106 |
| Zink, W. | 25 Aug. | 14:00 | MA 005 |
| Zlotnik, A. | 24 Aug. | 15:00 | H 1029 |

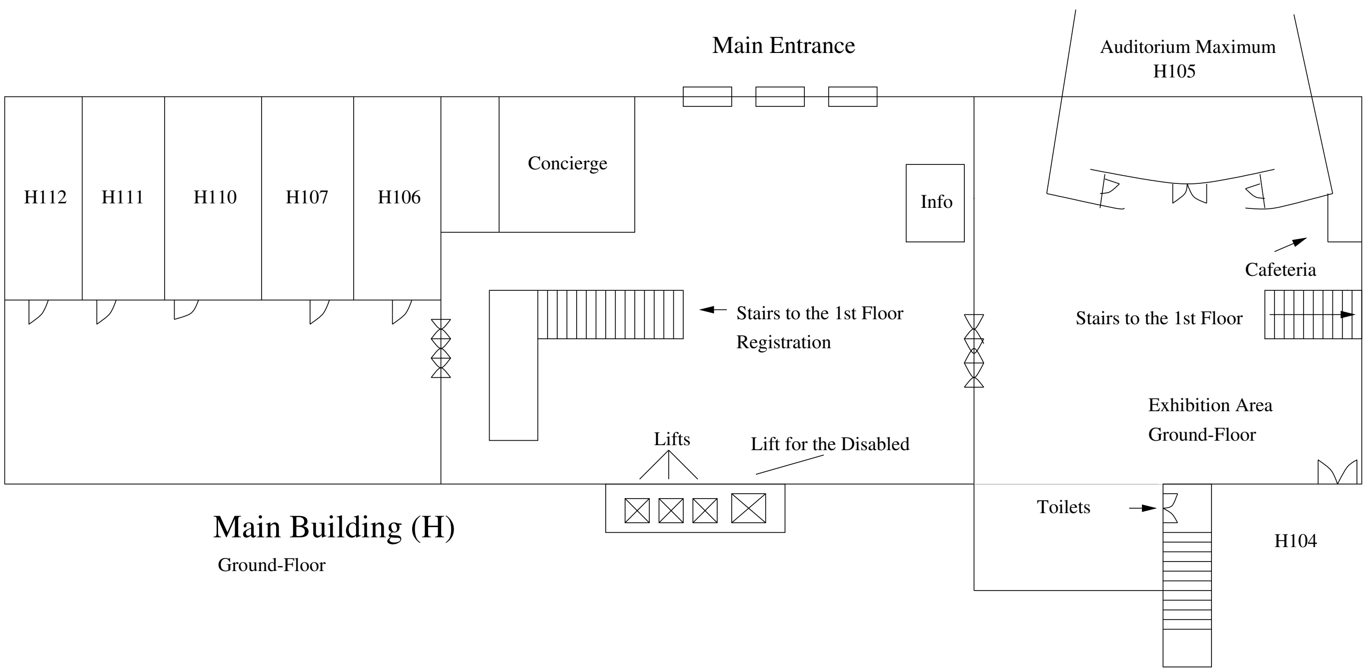
# L. List of Exhibitors

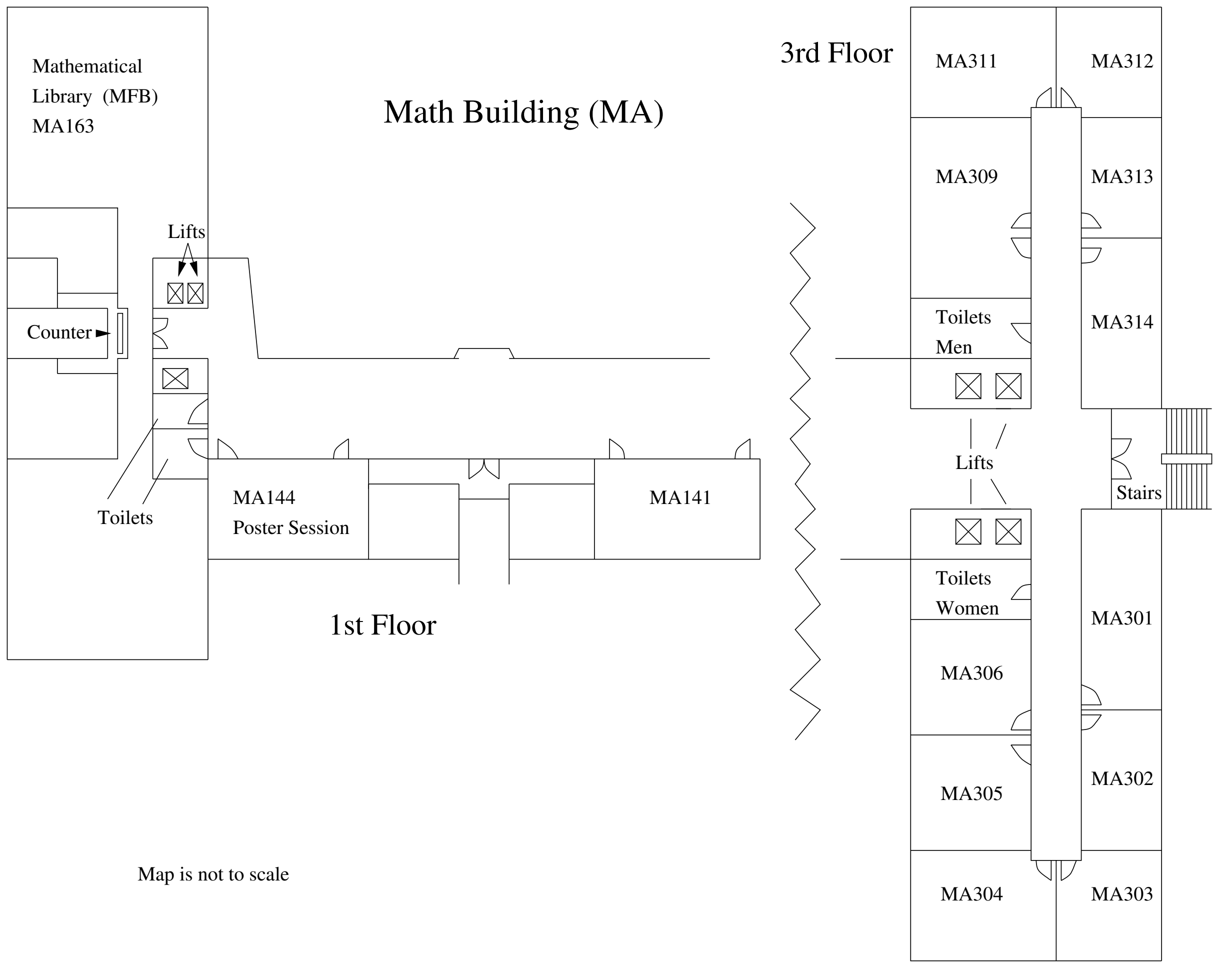
| Exhibitor | Booth |
|---|---|
| A K Peters Ltd | F44 |
| Academic Press | L21 + L22 |
| American Mathematical Society | B8 |
| Antiquariat Renner | F43 |
| Birkhäuser Verlag | F2 |
| Cambridge University Press | B71 |
| Deutsche Mathematiker–Vereinigung | L24 |
| Elsevier Science | F72 |
| European Mathematical Society | B12 |
| France Edition — SMF | B5 |
| Gordon and Breach | F62 |
| Heinz Nixdorf MuseumsForum | F11 |
| Hermann Editeurs des Sciences et des Arts | L1 |
| Kluwer Academic Publishers | F61 |
| Lange & Springer | B72 |
| Lehmanns Buchhandlung | F53 + F54 |
| London Mathematical Society | L1 |
| Magma Computer Algebra | F41 |
| Numerical Algorithms Group NAG Ltd | F71 |
| Oxford University Press | B73 |
| Speier Associates | F42 |
| Springer–Verlag | B11 |
| SUN Microsystems | B6 |
| Vieweg Verlag | F52 |
| Walter de Gruyter | F12 |
| Wiley VCH | B9 |
| Wolfram Research | F3 |
| World Mathematical Year 2000 | L23 |
| World Scientific Publishing | F51 |
| Zentralblatt für Mathematik | B13 |

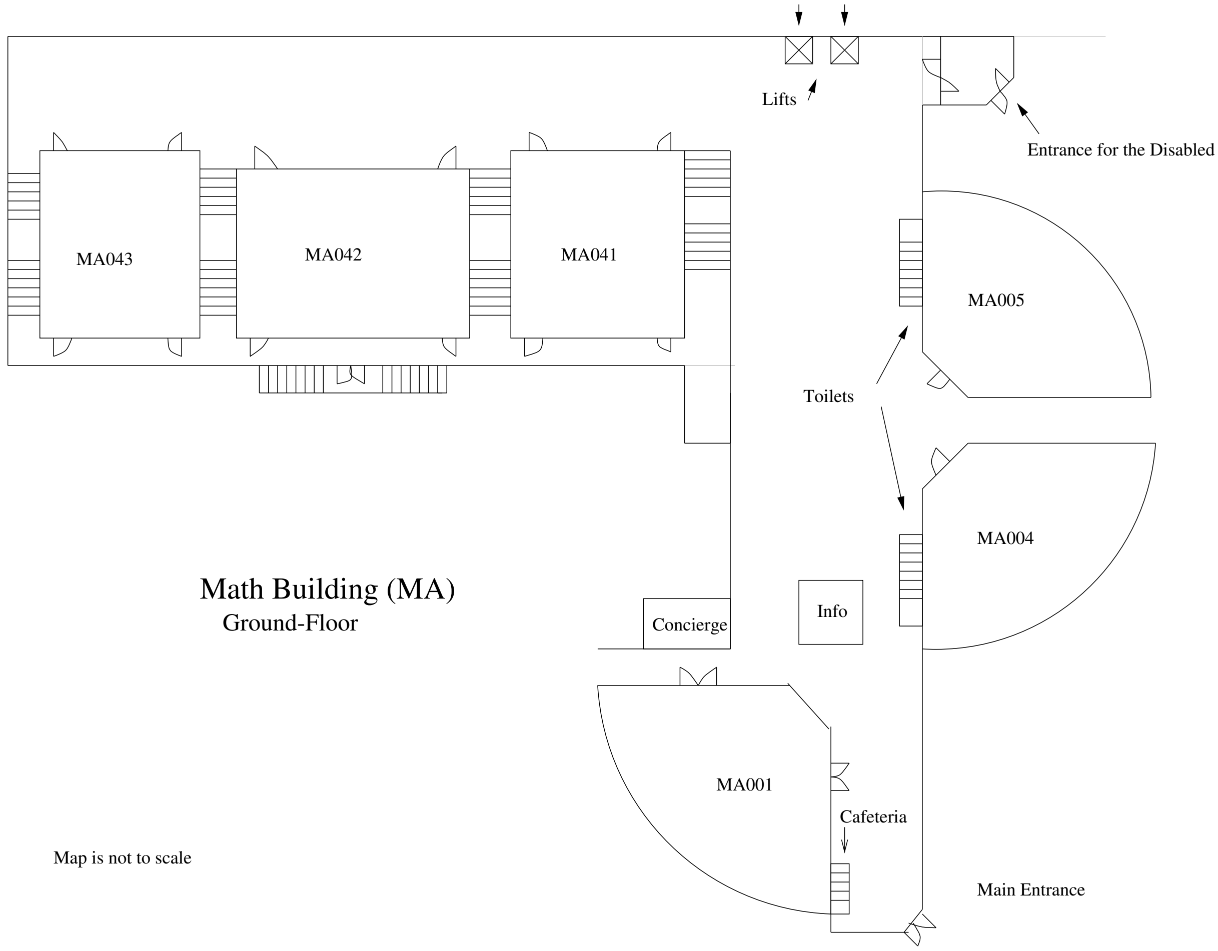


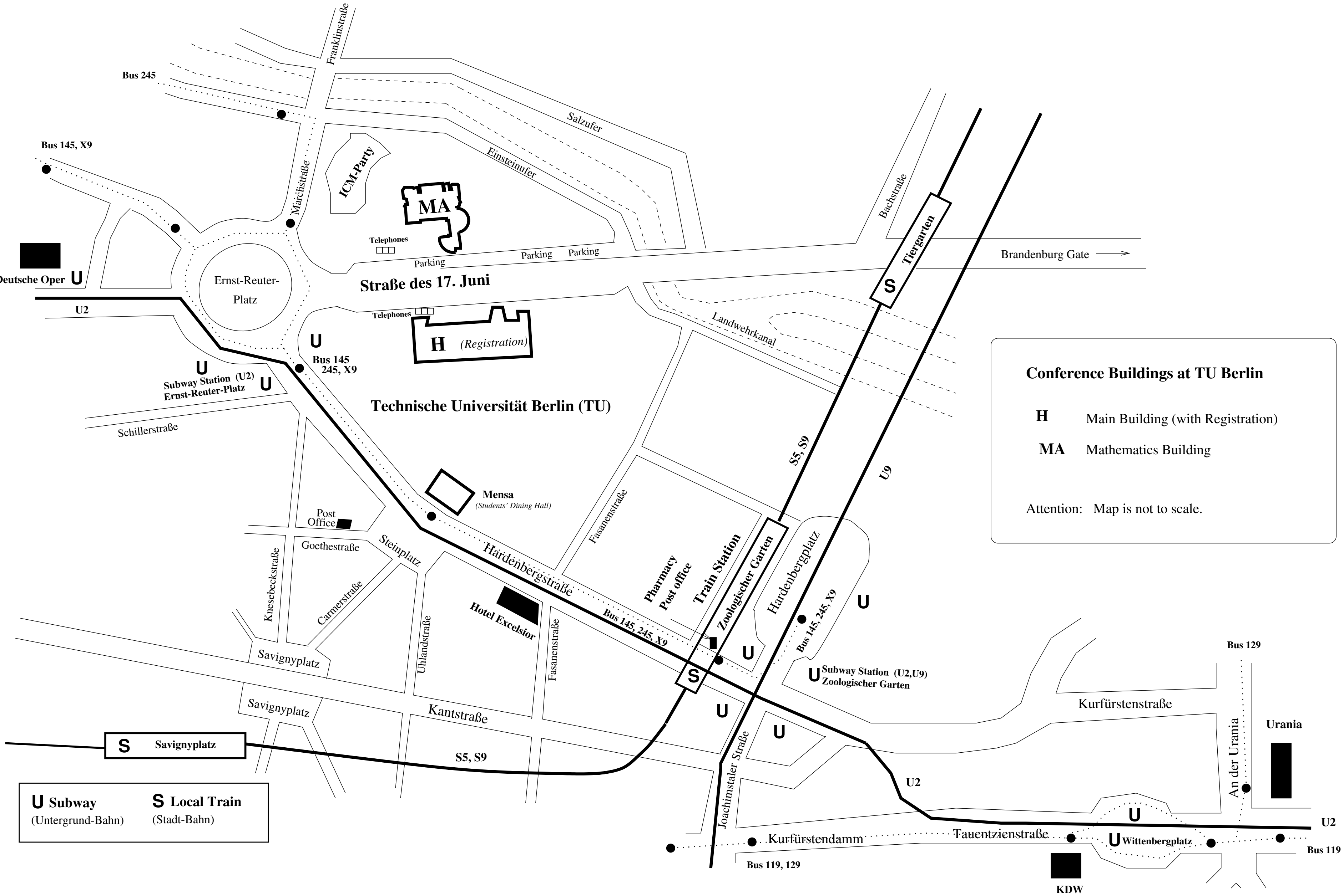

Main Building (H)
Exhibition Area
Ground-Floor
B92
B91
B8
H104
B73
B71
B72
B5
Auditorium
Maximum
H105
B6
B4
B12
B11
B13
Wardrobe
Info
Map is not to scale


Main Buildung (H)
Exhibition Area
1st Floor
F11
F12
Lift
F2
F3
F41
F42
F43
F44
Auditorium
Maximum
H105
H104
F8
F51
F52
F53
F54
F61
F62
F72
F71
Lichthof
Map is not to scale


Main Entrance
Auditorium Maximum
H105
H112
H111
H110
H107
H106
Concierge
Info
Cafeteria
Stairs to the 1st Floor
Registration
Stairs to the 1st Floor
Exhibition Area
Ground-Floor
Lifts
Lift for the Disabled
Toilets
H104
Main Building (H)
Ground-Floor


Math Building (MA)
Mathematical
Library (MFB)
MA163
Lifts
Counter
Toilets
MA144
Poster Session
MA141
1st Floor
3rd Floor
MA311
MA312
MA309
MA313
Toilets
Men
MA314
Lifts
Stairs
Toilets
Women
MA301
MA306
MA305
MA302
MA304
MA303
Map is not to scale


Lifts
Entrance for the Disabled
MA043
MA042
MA041
MA005
Toilets
MA004
Math Building (MA)
Ground-Floor
Concierge
Info
MA001
Cafeteria
Main Entrance
Map is not to scale



Conference Buildings at TU Berlin
H Main Building (with Registration)
MA Mathematics Building
Attention: Map is not to scale.
U Subway (Untergrund-Bahn)
S Local Train (Stadt-Bahn)
Technische Universität Berlin (TU)
Straße des 17. Juni
Ernst-Reuter-Platz
H (Registration)
MA
ICM-Party
Mensa (Students' Dining Hall)
Telephones
Parking
Franklinstraße
Salzufer
Einsteinufer
Marchstraße
Bachstraße
Tiergarten
Brandenburg Gate
Landwehrkanal
S5, S9
U9
Bus 245
Bus 145, X9
Deutsche Oper
U2
Subway Station (U2) Ernst-Reuter-Platz
Bus 145 245, X9
Schillerstraße
Post Office
Goethestraße
Steinplatz
Knesebeckstraße
Carmerstraße
Hardenbergstraße
Hotel Excelsior
Fasanenstraße
Uhlandstraße
Bus 145, 245, X9
Pharmacy
Post office
Train Station
Zoologischer Garten
Hardenbergplatz
Subway Station (U2,U9) Zoologischer Garten
Savignyplatz
Kantstraße
S5, S9
Joachimstaler Straße
Kurfürstenstraße
Bus 129
Urania
An der Urania
Kurfürstendamm
Tauentzienstraße
Wittenbergplatz
Bus 119, 129
Bus 119
KDW