Mathematics Calendar

The most comprehensive and up-to-date Mathematics Calendar information is available on e-MATH at http://www.ams.org/mathcal/.

April 1999

*29–May 1 **Workshop on Combinatorial Methods for Statistical Physics Models**, Georgia Institute of Technology, Atlanta, Georgia.

Sponsors: Georgia Institute of Technology; The Center for Discrete Mathematics and Theoretical Computer Science (DIMACS); The Southern Applied Analysis Center (SAAC); The Algorithms, Combinatorics and Optimization Program (ACO).

Organizers: D. Randall (Georgia Institute of Technology) and P. Tetali (Georgia Institute of Technology).

Focus: This workshop will focus on recent developments at the interface between combinatorics, statistical physics, and theoretical computer science.

Topics: Topics include Gibbs measures and phase transitions in various models (such as the Potts model, hardcore lattice gases and dimer systems), percolation theory, and mixing rates of finite Markov chains. There will be introductory lectures intended for a wide audience as well as more focused talks highlighting recent research trends; beginners to the topic with a background in basic combinatorics and probability are encouraged to attend.

Information: D. Randall, Georgia Institute of Tech., randall@math.gatech.edu; WWW: http://dimacs.rutgers.edu/Workshops/index.html.

*30–May 2 **Nonlinear Partial Differential Equations and Applications to Materials**, University of Minnesota, Minneapolis, Minnesota.

Focus: This workshop will bring together researchers in materials science, applications of PDEs, analysis of PDEs and numerics in a setting which will allow informal interaction as well as a selection of hour talks by leaders in the respective fields. In this manner, issues of intense interest in materials science will be brought to the attention of modelers, theoretical analysts, and numerical analysts for discussion, with the expectation that they will provide ideas and insight useful for the challenges offered by materials research. At the same time, new concepts and methods currently being brought to bear on the fundamental issues in the analysis of PDEs (numerical and theoretical) will be presented in a way which may open new paths of inquiry for modelers and for materials scientists.

Topics: Topics which will be discussed include level-set methods, viscosity solutions of scalar PDEs and of systems, nonlinear homogenization, multiple time scales, widely varying length scales, fast numerical methods, and mesoscale models derived from microscale with their relations with the macroscale viewpoint.

Speakers: O. Bruno (Caltech), A. Friedman (Univ. of Minnesota), R. James (Univ. of Minnesota), R. Kohn (Courant Institute), J. Lowengrub (Univ. of Minnesota), M. Luskin (Univ. of Minnesota), G. McFadden (National Inst. of Standards & Technology), G. Milton (Univ. of Utah), M. Ortiz (Caltech), S. Osher (UCLA), G. Papanicolaou (Stanford Univ.), M. Soner (Princeton Univ.), V. Sverak (Univ. of Minnesota).

Funding: Funding has been made available to defray workshop expenses for a number of graduate students. If you are a registered graduate student and are interested in applying for these funds, please check the appropriate box on the registration form and have one letter of recommendation, addressing your qualifications, sent from your advisor or department chairman to R. Gulliver, School of Mathematics, Univ. of Minnesota, Minneapolis, MN 55455, or by e-mail to gulliver@math.umn.edu. The deadline for application for support of graduate students is Friday, February 5, 1999. Mathematicians from the twenty-nine Participating Institutions of the IMA are eligible to receive IMA/PI funding, where available, to come to the workshop. Application to use IMA/PI funds for the workshop should be made directly to the mathematics depart-

This section contains announcements of meetings and conferences of interest to some segment of the mathematical public, including ad hoc, local, or regional meetings, and meetings and symposia devoted to specialized topics, as well as announcements of regularly scheduled meetings of national or international mathematical organizations. A complete list of meetings of the Society can be found on the last page of each issue.

An announcement will be published in the *Notices* if it contains a call for papers and specifies the place, date, subject (when applicable), and the speakers; a second announcement will be published only if there are changes or necessary additional information. Once an announcement has appeared, the event will be briefly noted in every third issue until it has been held and a reference will be given in parentheses to the month, year, and page of the issue in which the complete information appeared. Asterisks (*) mark those announcements containing new or revised information.

In general, announcements of meetings and conferences held in North America carry only the date, title of meeting, place of meeting, names of speakers (or sometimes a general statement on the program), deadlines for abstracts or contributed papers, and source of further information. Meetings held outside the North American area may carry more detailed information. In any case, if there is any application deadline with respect to participation in the meeting, this fact should be noted. All communications on meetings and conferences in the mathematical sciences should be sent to the Editor of the *Notices* in care of the American Mathematical Society in Providence or electronically to notices@ams.org or mathcal@ams.org.

In order to allow participants to arrange their travel plans, organizers of meetings are urged to submit information for these listings early enough to allow them to appear in more than one issue of the *Notices* prior to the meeting in question. To achieve this, listings should be received in Providence **six months** prior to the scheduled date of the meeting.

The complete listing of the Mathematics Calendar will be published only in the September issue of the *Notices*. The March, June, and December issues will include, along with new announcements, references to any previously announced meetings and conferences occurring within the twelve-month period following the month of those issues. New information about meetings and conferences that will occur later than the twelve-month period will be announced once in full and will not be repeated until the date of the conference or meeting falls within the twelve-month period.

The Mathematics Calendar, as well as Meetings and Conferences of the AMS, is now available electronically through e-MATH on the World Wide Web. To access e-MATH, use the URL: http://e-math.ams.org/ (or http://www.ams.org/). (For those with VT100-type terminals or for those without WWW browsing software, connect to e-MATH via Telnet (telnet e-math.ams.org; login and password e-math) and use the Lynx option from the main menu.)

ment chair. Faculty from other departments are sometimes also eligible.
Organizers: R. Gulliver (gulliver@math.umn.edu) and F. Reitich (reitich@math.umn.edu).
Registration: Deadline for registration (to ensure hotel space): Friday, March 5, 1999.
Information: For further information and registration form, see http://www.ima.umn.edu/~gulliver/confs/pdemat.html.

May 1999

* 20–24 **Twenty-seventh Canadian Operator Theory and Operator Algebras Symposium**, University of Prince Edward Island, Charlottetown, PEI, Canada.
Speakers: K. Davidson (Univ. of Waterloo), G. Elliott (Univ. of Toronto), L. Ge (Univ. of New Hampshire), D. Hadwin (Univ. of New Hampshire), D. Handelman (Univ. of Ottawa), D. Larson (Texas A&M Univ.), S. Power (Univ. of Lancaster), I. Putnam (Univ. of Victoria), H. Radjavi (Dalhousie Univ.), M. Rordam (Univ. of Copenhagen).
Information: G. MacDonald, Dept. of Math. & CS, Univ. of Prince Edward Island, Charlottetown, PEI, Canada, C1A 4P3; e-mail: gmacdonald@upei.ca; Web page: http://www.math-cs.upei.ca/people/gmacdon/cosy/.

* 26–28 **Crystallographic Groups and Their Generalizations II**, K. U. Leuven (Campus Kortrijk), Kortrijk, Belgium.
Scientific Committee: H. Abels (Bielefeld), Y. Felix (Louvain la Neuve), F. Grunewald (Duesseldorf), P. Igodt (Leuven/Kortrijk).
Invited Speakers: Y. Benoist (E.N.S.), M. Bridson (Oxford), C. Casacuberta (Barcelona), K. Dekimpe (Leuven/Kortrijk), B. Farb (Chicago), W. Goldman (College Park), G. Margulis (Yale).
Topics: Recent developments concerning crystallographic groups and all concepts which can be seen as generalizations of them are the subjects of this workshop. A nonexhaustive list of possible topics includes: Affine crystallographic groups and affine manifolds; almost crystallographic groups and infra–nilmanifolds; polynomial structures on polycyclic–by–finite groups and polynomial manifolds; discrete subgroups of Lie groups and homogeneous spaces; localisation problems for groups; finitely generated groups, quasi-isometry and rigidity; geometric group theory.
Call for Abstracts: Interested researchers will be offered an opportunity to present a short talk (25 minutes) on their work. For this they should send a title and abstract (in LaTeX-format) to the scientific committee, via the e-mail address: Paul.Igodt@kulak.ac.be. For those talks which eventually cannot be scheduled, the authors/participants will get an opportunity to present a poster (max. two A3-size documents).
Information: Registration documents and all practical information are found at the Web site http://www.kulak.ac.be/workshop/.

* 29–June 1 **CMS Summer 1999 Meeting**, Memorial University of Newfoundland, St. John's, Newfoundland.
Program: This meeting will feature plenary speakers from a broad spectrum of mathematics by top mathematicians. It will also feature sessions in various areas of mathematics.
Plenary Speakers: E. Barbeau (Toronto), R. K. Brylinski (Pennsylvania State), M. van den Bergh (Limburg/Belgium) and T. Korner (Cambridge).
Prize Lectures: The Jeffery-Williams Lecture will be given by J. Friedlander (Univ. of Toronto). The Krieger-Nelson Prize will be given by N. Tomczak-Jaegermann (Univ. of Alberta).
Sessions: Session titles and speakers are: **Combinatorics and Its Applications** (N. Shalaby and D. Stinson, organizers): F. Bennett (Halifax), C. Colbourn (Maine), K. Heinrich (SFU), A. Rosa (McMaster), D. Stinson (Waterloo), L. Vinet (Montreal); **Education: What Mathematical Competitions Do for Mathematics** (B. Shawyer and E. Williams, organizers): E. Barbeau (Toronto), R. Dunkley (Waterloo), T. Gardiner (Birmingham), R. Janes (Director of NCTM), and S. Sullivan (MUN student); **Graduate Student Seminar**: A special session is being organized for graduate students. Anyone interested in participating in the organization of this program should contact H. Brunner, e-mail: cms99@math.mun.ca; **Joint CMS-CRM Session on Harmonic Analysis** (K. Hare, organizer): J. Benedetto (Maryland), B. Forrest (Waterloo), J.-P. Gabardo (McMaster), E. Granirer (UBC), H. Henig (McMaster), Z. Hu (Windsor), R. Kerman (Brock), T. Korner (Cambridge), T. Lau (Alberta), D. Oberlin (Florida), J.-O. Ronning (Skode U.), G. Sinnamon (UWO), S. Wainger (Wisconsin); **Nonlinear Analysis and Its Applications** (S. Singh and B. Watson, organizers): G. Allasia (Torino), J. Borwein (SFU), P. Gauthier (Montreal), K. Goebel (Lublin), W. A. Kirk (Iowa), W. Light (Leicester), S. Park (Seoul), B. Rhoades (Indiana), W. Takahashi (Tokyo), E. Tarafdar (Australia), J. Whitfield (Lakehead); **Perspectives in Ring Theory** (E. Goodaire and E. Jespers, organizers): Y. Bahturin (Moscow), M. van den Bergh (Limburg/Belgium), J. Okninski (Warsaw), D. S. Passman (Wisconsin), M. Putcha (North Carolina State), L. Renner (UWO), S. K. Sehgal (Edmonton); **Joint CMS-Fields Institute Session on Representation Theory** (A. Broer, organizer): J. Brundan (Oregon at Eugene), R. K. Brylinski (Pennsylvania State), C. Cunningham (Massachusetts), S. R. Evens (Arizona at Tucson), L. Helminck (North Carolina State), M. Hunziker (Brandeis), A. S. Kleshchev (Oregon at Eugene), F. Knop (Rutgers), V. Lakshmibai (Northeastern), W. M. McGovern (Seattle), G. McNinch (Notre Dame), F. Murnaghan (Toronto), M. Nevins (Alberta), M. Reeder (Boston College), Y. Sanderson (Rutgers), G. Savin (Utah), E. Sommers (Harvard), P. Trapa (Institute for Advanced Studies); **Surveys in Mathematics** (K. Murty, organizer): Speakers to be announced.
Submission of Abstracts: The CMS publishes abstracts for all scheduled talks. Titles for plenary speakers, prize lecturers, and invited special sessions for the scientific and education program will appear in the **April** issue of the *CMS Notes*. Titles for contributed papers will appear in the **May** issue of the *CMS Notes*. All abstracts will be published in the meeting program and will be available on the Canadian Mathematical Electronics Services (Camel): http://camel.math.ca/CMS/Events/summer99/ and on the CMS99 Summer Meeting Web site: http://www.math.mun.ca/~cms99/.

June 1999

* 11–13 **20th Annual Meeting of the Canadian Applied and Industrial Mathematical Society (CAIMS-99)**, Université Laval, Quebec, Canada.
Supported by: The Canadian Applied and Industrial Mathematical Society (CAIMS), Le Centre de Recherche Mathematiques de Montréal (CRM), The Field Institute for Research in Mathematics, SIAM, GAMM.
Scientific Committee: J. Bélair (Univ. de Montréal), F. Bergeron (UQAM), J. Clements (Dalhousie Univ.), M. Fortin (chair), H. Manouzi (Univ. Laval), R. Miura (UBC), B. Moodie (Univ. of Alberta), B. Simpson (Univ. of Waterloo).
Invited Keynote Speakers: G. Alefeld, O. Diekeman, M. Gunzburger.
Local Organization Committee: M. Beauchamp, M. Fortin, J. J. Gervais, H. Manouzi, R. Pierre.
Minisymposia Themes: Dynamical systems in physiology; bifurcation theory; population dynamics; control problems for nonlinear partial differential equations; numerical methods and simulations for nonlinear partial differential equations; interval arithmetic: algebraic problems; interval arithmetic: continuous problems; quantum computic; combinatorics and symbolic computations; fluid mechanics. The meeting will be held concurrently with the "Journee des Elements Finis", a one-day industrial mathematics workshop, the subject of which will be "Numerical Methods in Biomechanics".
Deadlines: Deadline for receipt of abstracts: Friday, April 30, 1999; deadline for registration (on site): Thursday, June 10, 1999.
Information: Further information on fees, etc., is available at the conference Web site: http://www.mat.ulaval.ca/caims99/, where it is possible to register electronically; get the material for abstract submission. Contact (e-mail preferred) R. Pierre, CAIMS-99, Departement de Mathematiques et Statistique, Université Laval, Quebec, QC, G1K 7P4, Canada; tel: 1-418-656-2972; fax: 1-418-656-2817; e-mail: rpierre@mat.ulaval.ca.

* 19–23 **NSF-CBMS Regional Conference**

on Mathematical Analysis of Viscoelastic Flows, University of Delaware, Newark, Delaware.
Principal Lecturer: M. Renardy (Virginia Tech).
Organizers: D. O. Olagunju (Univ. of Delaware), olagunju@math.udel.edu; and Y. Renardy (Virginia Tech.), renardyy@math.vt.edu.
Information: Visit the Web site: http://www.math.udel.edu/~olagunju/cbms/, or contact the organizers.

* 21–26 **Conference on Symplectic Geometry**, Instituto Superior Tecnico, Lisboa, Portugal.
Confirmed Speakers: M. Audin (Strasbourg), P. Biran (Stanford), Y. Eliashberg (Stanford), H. Geiges (Leiden), V. Ginzburg (Santa Cruz), E. Giroux (Lyon), V. Guillemin (MIT), Y. Karshon (Jerusalem), D. McDuff (Stony Brook), L. Polterovich (Tel-Aviv), S. Tolman (Illinois), A. Weinstein (Berkeley), J. Weitsman (Santa Cruz).
Program: There will be about 20 one-hour lectures on symplectic geometry and symplectic topology. The conference will start in the morning of Monday, June 21, and will finish in the afternoon of Saturday, June 26, with two half-days for sightseeing. A two-week course on algebraically integrable systems by M. Audin will take place in the weeks before and after the conference (June 14–18 and June 28–July 2).
Deadlines: Application for partial funding: April 1, 1999; application for local arrangements: May 1, 1999.
Information: URL: http://www.math.ist.utl.pt/omega99.html; e-mail: omega99@math.ist.utl.pt; tel: +351-1-841-7113; fax: +351-1-841-7598; postal address: Conference on Symplectic Geometry, a/c A. Cannas da Silva, Departamento de Matematica, Instituto Superior Tecnico, 1049-001 Lisboa, Portugal.

July 1999

* 2–5 **VIIIth Oporto Meeting on Geometry, Topology and Physics**, Dep. Matematica Pura, Fac. Ciencias, Oporto University, Oporto, Portugal.
Aim: The aim of the Oporto meetings is to bring together mathematicians and physicists interested in the interrelationship between geometry, topology and physics and to provide them with a pleasant and informal environment for scientific interchange.
Topics: The focus themes for this year are: 1. spinors and geometry, 2. integrability & algebraic geometry and, 3. topological quantum field theory. The meeting will consist largely of four short courses, of approximately three lectures each, given by the main speakers, supplemented by a limited number of seminars (more details later). The talks are at the advanced graduate or postdoctoral level, and should be of interest to all researchers wishing to learn about recent developments in the overlap between geometry, topology, and physics.
Main Speakers: R. Donagi (Univ. of Pennsylvania): Spectral curves, integrable systems, and moduli; J. Froehlich (Institut fur Theoretische Physik): Supersymmetry and noncommutative geometry; E. Getzler (Northwestern Univ.): The Virasoro conjecture for Gromov-Witten invariants: A status report; I. Krichever (Columbia Univ.): Moduli spaces of Riemann surfaces and 2D integrable systems.
Information: WWW: http://fisica.ist.utl.pt/~jmourao/om/omviii/textoom99b.html.

* 5–August 21 **Summer Semester on Complex Potential Theory and its Applications**, Feza Gursey Institute, Istanbul, Turkey.
Emphasis: Feza Gursey Institute will host a research-teaching semester (July 5–August 6 and August 16–21, 1999) on Complex Potential Theory (CPT) and its applications. There will be a workshop in Edirne (Linear Topological Spaces and Complex Analysis III) August 9–August 13, emphasizing, mainly, the connection between complex analysis and functional analysis.
Organizers: A. Aytuna (Middle East Technical Univ.), T. Terzioglu (Sabanci Univ.) and V. Zahariuta (Feza Gursey Institute & Rostov State Univ.).
Purpose: CPT is a relevant potential theory for the multidimensional complex analysis that deals with plurisubharmonic functions and maximal plurisubharmonic functions; it is strongly connected with the study of the complex Monge-Ampère equation. CPT is an active area of research in mathematics with applications in approximation and interpolation theory, partial differential equations, complex dynamical systems, differential geometry, number theory and so on. The aim, during the semester, is to impart the main ideas of CPT to advanced graduate students and other interested mathematicians through a series of lectures by leading researchers in the field as well as to proceed scientific discussions of the advanced results and some open problems in CPT.
Lecturers: The semester will consist largely of courses taught by invited lecturers. The following specialists will provide 10–15 hour courses of lectures each: A. Aytuna (METU, Turkey): Introduction to the classical potential theory in the complex plane; S. Kolodzej (Jagellonian Univ., Kracow, Poland): The main aspects of CPT and Monge Ampére equations; E. Poletsky (Syracuse Univ., USA): Plurisubharmonic currents and pluripotentials; J. Siciak (Jagellonian Univ., Kracow, Poland): Pluripotentials and their applications in interpolation and approximation theory; D. Vogt (Wuppertal Univ., Germany): CPT, Phraghmen-Lindelof Principles and applications to partial differential equations; V. Zahariuta (Rostov State Univ., Russia & Feza Gursey Institute): Plurisubharmonic functions and analytic functions of several complex variables.
Participation: Candidates should send in their request for participation directly to the Feza Gursey Institute (http://www.gursey.gov.tr/complex.html). TUBITAK will fully support those participants from the outlying universities within Turkey. Those institutions which are able to provide funds are expected to meet at least part of the living expenses of the participants.
Deadlines: Candidates requesting financial support: June 1, 1999; candidates not requesting financial support: June 15, 1999. The organizing committee will make running evalutations and will communicate its decisions to all the candidates within as short a time as possible.

* 12–14 **Feynman Integrals and Related Topics**, Yonsei University, Seoul, Korea.
Sponsors: Natural Science Research Inst. and Inst. for Mathematical Sciences; Yonsei Univ.; Korean Mathematical Society; Korea Science and Engineering Foundation.
Organizers: S. Albeverio (Ruhr-Univ.), K. S. Chang (Yonsei Univ.), T. Hida (Meijo Univ.), G. W. Johnson (Univ. of Nebraska), G. Kallianpur (Univ. of N. Carolina), M. L. Lapidus (Univ. of California, Riverside), Y. M. Park (Yonsei Univ.).
Invited Speakers: S. Albeverio (Ruhr-Univ.), Z. Brzezniak (Univ. of Hull), J. Van Casteren (Univ.of Antwerp), B. D. Choi (KAIST), D. M. Chung (Sogang Univ.), A. B. Cruzeiro (Univ. Lisbon), B. DeFacio (Univ. of Missouri), T. Hida (Meijo Univ.), T. Ichinose (Kanazawa Univ.), B. Jefferies (Univ. of New South Wales), G. W. Johnson (Univ. of Nebraska), G. Kallianpur (Univ. of N. Carolina), L. Kauffman (Univ. of Ill., Chicago), M. L. Lapidus (Univ. of California, Riverside), Y. J. Lee (Cheng Kung Univ.), N. Obata (Nagoya Univ.), Y. M. Park (Yonsei Univ.), A. N. Sengupta (Louisiana State Univ.), D. A. Storvick (Univ. of Minnesota), L. Streit (Bielefeld and Lisbon), V. K. Tuan (Kuwait Univ.), A. Truman (Univ. of Wales-Swansea), I. S. Wee (Korea Univ.), J. C. Zambrini (Univ. of Lisbon), T. Zastawniak (Univ. of Hull).
Call for Papers: We invite submissions for 20-minute presentations on any aspect of Feynman integral and related topics. A one-page abstract typed in $\mathcal{A}\mathcal{M}\mathcal{S}$-TEX or LATEX must be received by June 11, 1999, to be considered for inclusion in the program.
Proceedings: The proceedings of the conference will be submitted for publication in the *J. of Korean Math. Soc.* The deadline for submitting a paper for the proceedings is July 14, 1999.
Social Program: Welcome reception, two social dinners, and an excursion. A guided half-day tour will be organized. One-day (or half-day) optional tour (July 15) will be arranged.
Information: K. S. Chang, Dept. of Mathematics, Yonsei Univ., Seoul, 120-749, Korea; fax: 82-2-392-6634; e-mail: kunchang@bubble.yonsei.ac.kr.

* 12–15 **On-Line Decision Making**, Rutgers University, Busch Student Center, Piscataway, New Jersey.

Organizers: Y. Freund, AT&T Labs-Research, R. Vohra, Northwestern Univ.
Local Arrangements: P. Pravato, DIMACS Center, pravato@dimacs.rutgers.edu, tel: 732-445-5929.
Focus: In recent years there has been increasing interest in the analysis of algorithms for making repeated decisions within an unknown environment. This work is going on in a variety of fields, including: information theory, game theory and mathematical economics, machine learning, statistics, computer science, and behavioral science. To facilitate such collaborations, we are organizing this workshop as an opportunity for people from various fields to educate themselves about the work going on in other fields.
Information: Y. Freund, AT&T Labs-Research, e-mail: yoav@research.att.com; WWW: http://dimacs.rutgers.edu/Workshops/index.html.

* 12–17 **Workshop on "Model Theory and Permutation Groups"**, University of Trento, Italy.
Aim: In recent years infinite permutation groups have been the subject of intensive investigation. An interesting aspect of this area is the interplay between algebra and model theory. Aim of the workshop is to provide an introduction to this subject and to address open problems and possible new developments.
Speakers: D. Evans (Univ. of East Anglia, Norwich, UK), D. Macpherson (Univ. of Leeds, UK), P. M. Neumann (Univ. of Oxford, UK).
Organizers: S. Baratella and O. Puglisi (Univ. of Trento).
Information: For information about travel and accomodation, please contact E. Nones, tel: +39-0461-881166; fax: +39-0461-881122; e-mail: enones@amm.unitn.it. Information about the scientific program can be obtained from the organizers, tel: +39-0461-881616; fax: +39-0461-881624; baratell@science.unitn.it, puglisi@science.unitn.it.

* 13–22 **International Conference on Biomathematics-Bioinformatics and Applications of Functional Differential Difference Equations**, Akdeniz University, Antalya, Turkey.
Focus: The aim of the conference is to stimulate collaboration between mathematicians and bioscientists and to act as a forum for the exchange of recent research results and new perspectives in those fields. In addition, the conference is devoted to a rapidly growing interdisciplinary domain of science where experimental biology and medicine, biochemistry, functional differential and difference equations, stochastic functional differential equations and stochastic processing, functional analysis, evolution equations, operator theory, computational mathematics, and various fields of technology all come together.
Topics: The conference will cover the theory of difference and differential equations with applications to related disciplines within biology and medicine, including immunology, epidemiology, evolution, population dynamics and ecology, molecular biology, cell signaling, tumor growth and treatment, metabolic modeling, neuromodeling, computational biology, cardiovascular modeling, and biomechanics. In addition, special sessions will be organized around focused topics that are particularly new or rapidly gaining importance. Titles of the planned parallel sessions: Theory of Differential Difference Equations; Discrete and Dynamical Modeling; Cell and Molecular Biology; Ecology and Evolutionary Dynamics; Neural Networks and Applications; Epidemiology and Theory of Epidemics.
Organizers: Z. Agur, O. Arino, J. Cushing, O. Diekmann, S. Elaydi, K. Gopalsamy, G. Ladas, E. Litsyn, M. C. Mackey, G. Webb, H. Yoshiyuki.
Local Organizing Committee: H. Akca, B. Attili, L. Berezansky, L. Byszewski, B. Ciplak, V. Covachev, K. Fiskin, E. Galperin, H. Parnas, Z. Taib.
Information: H. Akca, King Fahd University of Petroleum and Minerals, Mathematical Sciences Department, P. O. Box 1071, Dhahran 31261, Saudi Arabia; e-mail: akca@kfupm.edu.sa, or ciplak@pascal.sci.akdeniz.edu.tr, or fiskin@pascal.sci.akdeniz.edu.tr.

* 19–23 **Statistical Inference from Genetic Data on Pedigrees**, Houghton, Michigan.
Organizers: J. Dong (Michigan Technological Univ.), e-mail: jdong@mtu.edu, tel: 906-482-3177; A. Godbole (Michigan Tech.).
Topics: E. A. Thompson will deliver ten lectures in a most dynamic area of mathematical activity—one that lies at the confluence of the fields of statistics, probability, molecular biology, and genetics.
Funding: This is an NSF/CBMS Regional Conference in the Mathematical Sciences supported by NSF and Michigan Technological University. Travel and subsistence support will be available for about thirty participants.
Information: http://www.math.mtu.edu/~jdong/CBMS.html.

* 19–24 **CT99 - International Category Theory Meeting**, University of Coimbra, Coimbra, Portugal.
Invited Speakers: S. Awodey (Carnegie Mellon Univ.), M. Batanin (Macquarie Univ., Australia), C. Butz (McGill Univ., Canada), M. P. Carrasco (Univ. Granada, Spain), J. Funk (UBC, Canada), S. Mac Lane (Univ. Chicago), I. Moerdijk (Univ. Utrecht, Netherlands), J. Rosicky (Masaryk Univ., Czech Republic), S. Schanuel (SUNY at Buffalo), E. Vitale (Univ. Louvain-la-Neuve, Belgium).
Call for Papers: Contributed talks of 30 minutes in length in all areas of category theory and applications are invited.
Scientific Committee: J. Adàmek (Tech. Univ. Braunschweig, Germany), B. Banaschewski (McMaster Univ., Canada), P. T. Johnstone (Univ. of Cambridge, UK), A. Joyal (Univ. Québec, Montréal, Canada), F. W. Lawvere (SUNY at Buffalo), D. Scott (Carnegie Mellon Univ.), R. Street (Macquarie Univ., Australia), W. Tholen (York Univ., Canada).
Organizing Committee: M. M. Clementino, G. Gutierres, J. Picado, M. Sobral, L. Sousa.
Satellite Event: School on Category Theory and Applications, University of Coimbra, Portugal, July 13–17, 1999; http://www.mat.uc.pt/~scta/; e-mail: scta@mat.uc.pt.
Information: For detailed information visit the conference Web page http://www.mat.uc.pt/~ct99/, or send e-mail to ct99@mat.uc.pt.

* 19–30 **Symmetries and the Moment Mapping**, CIRM (Marseille-Luminy), France.
Aim: Summer school aimed at doctoral students and young researchers in mathematics or theoretical physics.
Program: Six minicourses plus a number of research talks.
Main Lecturers: M. Audin, P. Iglesias, L. Jeffrey, A. Kirillov, R. Palais, E. Prato.
Organizers: P. Iglesias (Université de Provence, France) and E. Prato (Université de Nice, France).
Information: http://math.unice.fr/~elisa/sam/sam.html; http://www.cmi.univ-mrs.fr/sam/sam.html.

August 1999

* 2–4 **Workshop on the Theory and Practice of Integer Programming in Honor of Ralph E. Gomory on the Occasion of His 70th Birthday**, IBM Watson Research Center, Yorktown Heights, New York.
Sponsors: DIMACS Center, IBM Watson Research Center.
Organizers: W. Cook (Rice Univ.), W. Pulleyblank (IBM Watson Research Center).
Focus: The focus of the workshop will be on integer linear programming. Integer programming underlies much of modern OR, including scheduling, logistics, resource allocation, and routing problems. It is also the subject of much theoretical and computational research, leading to software much more powerful than a few years ago but still unable to deal with real-world problems of the required size and complexity.
Information: W. Cook, Rice Univ., e-mail: bico@caam.rice.edu. Local arrangements: P. Pravato, DIMACS Center; e-mail: pravato@dimacs.rutgers.edu; tel: 732-445-5929; WWW: http://dimacs.rutgers.edu/Workshops/index.html.

* 19–25 **Topology and Dynamics: Rokhlin Memorial**, Euler International Mathematical Institute, St. Petersburg Mathematical Institute of Russian Academy of Science, St. Petersburg, Russia.
Focus: The conference is devoted to the memory of prominent mathematician V. A. Rokhlin (1919–1984).
Topics: The main subjects of the conference are: algebraic and differential topology; al-

gebraic, real algebraic, and Riemannian geometry; smooth and symplectic dynamics, ergodic theory; applications.

Organizers: St. Petersburg State Univ., St. Petersburg Mathematical Institute of Russian Academy of Science, St. Petersburg Mathematical Society, and Euler International Mathematical Institute.

Program Committee: A. D. Alexandrov (St. Petersburg), V. Arnol′d (Moscow, Paris), M. Gromov (Paris), F. Hirzebruch (Bonn), S. Novikov (Moscow, Maryland), Ya. Sinai (Moscow, Princeton), S. Smale (Berkeley), V. Turaev (Strasburg), A. Vershik (St. Petersburg, chairman), O. Viro (St. Petersburg, Uppsala).

Local Organizers: N. Netsvetaev, A. Vershik.

Proceedings: One-hour talks and short communications (25 minutes) are planned. The proceedings of the conference will be published. Deadline for submission of talks: April 1, 1999.

Support: Support from RFBR (Russia) and Intas (EC) is expected.

Information: M. Zvagel'skii, 191011 Steklov Inst. of Math. (POMI), nab. reki Fontanka, 27, St. Petersburg, Russia; e-mail: rokhlin@euler.pdmi.ras.ru; http://www.pdmi.ras.ru/EIMI/1999/rokhlin/.

* 27–29 **GAMM-Workshop on Computational Plasticity**, Christian-Albrechts-University of Kiel, Germany.

Organizers: M. Brokate (Kiel), C. Carstensen (Kiel), B. D. Reddy (Cape Town).

Aim: The aim of the workshop is to provide a forum to discuss and present aspects of the state of the art of the mathematical foundations of computational plasticity.

Topics: Topics range from the mathematical theory of continuum models in plasticity to the well-posedness of boundary and of initial-boundary value problems and their efficient discretization, including algorithmic aspects in solution procedures. Topics of interest include, but are not restricted to, the following: Mathematical analysis of (visco-)plasticity, well-posedness of (perfectly) plastic problems, numerical analysis of variational inequalities, computational (visco-)plasticity, numerical analysis of localization, a priori error analysis, a posteriori error analysis, adaptive algorithms for spatial and time-step discretization, coarsening and special adaptive strategies.

Participation: Everybody interested in the topics of the symposium is warmly invited to attend. Please let us know about your intention to participate a.s.a.p. A second announcement with further information, in particular, concerning hotel accommodations, will be distributed in March 1999.

Call for Papers: Participants wanting to give a talk (20 min.) should submit an abstract before June 15, 1999. Notification of acceptance will be given in July 1999.

Information: All correspondence in connection with the workshop, including registration and submission of abstracts, is to be made via e-mail to: jva@numerik.uni-kiel.de. Visit the home page at http://www.numerik.uni-kiel.de/cc/work99.html, where more information on hotel reservations and a registration form are available.

September 1999

* 1–3 **Symposium on Operations Research 1999 (SOR'99)**, Magdeburg, Germany.

Organizer: German Operations Research Society (GOR).

Focus: All areas of operations research will be covered at this conference.

Deadline: Submission of papers (by e-mail): March 15, 1999.

Information: G. Schwödiauer (general chair), Univ. of Magdeburg, Faculty of Economics and Management, P. O. Box 41 20, D-39016 Magdeburg, Germany; tel: ++49-391-6718739; fax: ++49-391-6711136; e-mail: schwoediauer@wiwi.uni-magdeburg.de; WWW: http://www.uni-magdeburg.de/SOR99/.

* 23–24 **IMA Tutorial: Low-Speed Combustion**, IMA, University of Minnesota, Minneapolis, Minnesota.

Organizers: J. D. Buckmaster (Univ. of Illinois, Urbana), M. Matalon (Northwestern Univ.).

Focus: This tutorial will serve as an introduction to the topics of the "Low-Speed Combustion" and "Fires" workshops.

Information: Institute for Mathematics and its Applications, Univ. of Minnesota, 207 Church St. SE, 400 Lind Hall, Minneapolis, MN 55455; tel: 612-624-6066; e-mail: staff@ima.umn.edu; Web page: http://www.ima.umn.edu/reactive/fall/t1.html.

* 27–October 1 **IMA Workshop: Low-Speed Combustion**, IMA, University of Minnesota, Minneapolis, Minnesota.

Organizers: J. D. Buckmaster (Univ. of Illinois, Urbana), M. Matalon (Northwestern Univ.).

Information: Institute for Mathematics and its Applications, Univ. of Minnesota, 207 Church St. SE, 400 Lind Hall, Minneapolis, MN 55455; tel: 612-624-6066; e-mail: staff@ima.umn.edu; Web page: http://www.ima.umn.edu/reactive/fall/rf1.html.

October 1999

* 4–8 **International Workshop on General Topological Algebras**, Tartu, Estonia.

Organizers: The Estonian Academy of Sciences, the Estonian Mathematical Society, and the University of Tartu.

Program Committee: M. Abel (Univ. of Tartu, Estonia), M. Akkar (Univ. of Bordeaux I, France), G. Allan (Univ. of Cambridge, UK), M. Fragoulopoulou (Univ. of Athens, Greece), A. Helemskii (Moscow State Univ., Russia), A. Mallios (Univ. of Athens, Greece), and W. Zelazko (Polish Academy of Sciences, Poland).

Topics: Locally convex and more general topological algebras, nonassociative topological algebras, topologization of algebras, application of results of topological algebras.

Information: For more detailed information please contact M. Abel, 46 Vanemuise St., Room 232, Institute of Pure Mathematics, University of Tartu, 51014 Tartu, Estonia; e-mail: abel@math.ut.ee; fax: 372-7-375-862.

* 11–13 **IMA Workshop: Fires**, IMA, University of Minnesota, Minneapolis, Minnesota.

Organizers: H. Baum (NIST), R. Rehm (NIST).

Information: Institute for Mathematics and its Applications, Univ. of Minnesota, 207 Church St. SE, 400 Lind Hall, Minneapolis, MN 55455; tel: 612-624-6066; e-mail: staff@ima.umn.edu; Web page: http://www.ima.umn.edu/reactive/fall/rf2.html.

* 14–15 **IMA Minisymposium: Mathematical and Computational Strategies for Simplifying Complex Kinetics**, IMA, University of Minnesota, Minneapolis, Minnesota.

Organizers: J. D. Buckmaster (Univ. of Illinois, Urbana), another organizer to be determined.

Information: Institute for Mathematics and its Applications, Univ. of Minnesota, 207 Church St. SE, 400 Lind Hall, Minneapolis, MN 55455; tel: 612-624-6066; e-mail: staff@ima.umn.edu; Web page: http://www.ima.umn.edu/reactive/fall/ms1.html.

* 22–24 **IMA "Hot Topics" Workshop: Scaling Phenomena in Communication Networks**, IMA, University of Minnesota, Minneapolis, Minnesota.

Sponsors: DIMACS Center; IMA, Univ. of Minnesota.

Organizers: A. Erramilli (Bellcore Research/Netmetrix Inc.), V. Paxson (Lawrence Berkeley National Laboratory), I. Saniee (Lucent Technologies), W. Willinger (AT&T-Labs Research).

Focus: This workshop will be structured around three fundamental aspects of the study of scaling phenomena in networks: description, analysis, and control. Participants are asked to contribute to this effort by giving a talk and/or actively engaging in the proceedings. This area shows great potential to apply the theory to analyze and control complex, large-scale networks such as the Internet. It is expected this workshop will advance the study of scaling phenomena in networks from a descriptive theory to a prescriptive reality. Presented under the auspices of the Special Year on Networks.

Information: Contact I. Saniee, Lucent Technologies, e-mail: iis@research.bell-labs.com; Web page: http://dimacs.rutgers.edu/Workshops/index.html or http://www.ima.umn.edu/reactive/fall/networks.html.

November 1999

* 5 **IMA Tutorial: High-Speed Combustion**, IMA, University of Minnesota, Minneapolis,

Minnesota.
Organizer: A. Kapila (Renssaelaer Polytechnic Institute).
Information: Institute for Mathematics and its Applications, Univ. of Minnesota, 207 Church St. SE, 400 Lind Hall, Minneapolis, MN 55455; tel: 612-624-6066; e-mail: staff@ima.umn.edu; Web page: http://www.ima.umn.edu/reactive/fall/t2.html.

* 8–12 **IMA Workshop: High-Speed Combustion in Gaseous and Condensed-Phase Energetic Materials**, IMA, University of Minnesota, Minneapolis, Minnesota.
Organizers: A. Kapila (Rensselaer Polytechnic Institute), D. S. Stewart (Univ. of Illinois, Urbana).
Information: Institute for Mathematics and its Applications, Univ. of Minnesota, 207 Church St. SE, 400 Lind Hall, Minneapolis, MN 55455; tel: 612-624-6066; e-mail: staff@ima.umn.edu; Web page: http://www.ima.umn.edu/reactive/fall/rf4.html.

January 2000

* 26–30 **IMA Workshop: Confinement and Remediation of Environmental Hazards**, IMA, University of Minnesota, Minneapolis, Minnesota.
Organizers: J. Chadam (Univ. of Pittsburgh), A. C. Cunningham (Montana State Univ.), R. Ewing (Texas A&M Univ.).
Information: Institute for Mathematics and its Applications, Univ. of Minnesota, 207 Church St. SE, 400 Lind Hall, Minneapolis, MN 55455; tel: 612-624-6066; e-mail: staff@ima.umn.edu; Web page: http://www.ima.umn.edu/reactive/winter/rf5.html.

February 2000

* 9–13 **IMA Workshop: Resource Recovery**, IMA, University of Minnesota, Minneapolis, Minnesota.
Organizers: J. Chadam (Univ. of Pittsburgh), P. Ortoleva (Indiana Univ.), M. Wheeler (Univ. of Texas, Austin).
Information: Institute for Mathematics and its Applications, Univ. of Minnesota, 207 Church St. SE, 400 Lind Hall, Minneapolis, MN 55455; tel: 612-624-6066; e-mail: staff@ima.umn.edu; Web page: http://www.ima.umn.edu/reactive/winter/rf6.html.

March 2000

* 15–19 **IMA Workshop: Air Quality Engineering**, IMA, University of Minnesota, Minneapolis, Minnesota.
Organizers: G. Carmichael (Univ. of Iowa), D. Chock (Ford Motor Company).
Information: Institute for Mathematics and its Applications, Univ. of Minnesota, 207 Church St. SE, 400 Lind Hall, Minneapolis, MN 55455; tel: 612-624-6066; e-mail: staff@ima.umn.edu; Web page: http://www.ima.umn.edu/reactive/winter/rf7.html.

The following new announcements will not be repeated until the criteria in the next to the last paragraph at the bottom of the first page of this section are met.

April 2000

* 16–19 **FRACTAL 2000: "Complexity and Fractals in the Sciences", 6th International Multidisciplinary Conference**, Singapore.
Information: http://www.kingston.ac.uk/fractal/.

May 2000

* 1–5 **IMA Workshop: Dispersive Corrections to Transport Equations**, IMA, University of Minnesota, Minneapolis, Minnesota.
Organizers: N. B. Abdallah (Univ. of Toulouse), A. Arnold (Berlin Technical Univ.), C. D. Levermore (Univ. of Arizona), K. T.-R. McLaughlin (Univ. of Arizona).
Information: Institute for Mathematics and its Applications, Univ. of Minnesota, 207 Church St. SE, 400 Lind Hall, Minneapolis, MN 55455; tel: 612-624-6066; e-mail: staff@ima.umn.edu; Web page: http://www.ima.umn.edu/reactive/spring/rf8.html.

* 18–19 **IMA Tutorial: Simulation of Transport in Transition Regimes**, IMA, University of Minnesota, Minneapolis, Minnesota.
Organizer: I. Gamba (University of Texas, Austin).
Information: Institute for Mathematics and its Applications, Univ. of Minnesota, 207 Church St. SE, 400 Lind Hall, Minneapolis, MN 55455; tel: 612-624-6066; e-mail: staff@ima.umn.edu; Web page: http://www.ima.umn.edu/reactive/spring/t3.html.

* 21–26 **Millennial Conference on Number Theory**, University of Illinois, Urbana, Illinois.
Focus: The Millennial Conference on Number Theory, held in conjunction with a Special Year in Number Theory at the Univ. of Illinois, is an international meeting on all areas of number theory. The conference will feature 19 one-hour plenary talks, invited talks of shorter length, and contributed talks.
Speakers: G. Andrews, J. Coates, H. Darmon, K. Ford, R. Graham, A. Granville, D. R. Heath-Brown, C. Hooley, W.-C. Li, K. Murty, M. Nathanson, K. Ono, C. Pomerance, W. Schmidt, C. Skinner, K. Soundararajan, R. Taylor, R. Tijdeman, R. C. Vaughan.
Organizing Committee: B. C. Berndt, N. Boston, H. G. Diamond, A. J. Hildebrand, W. Philipp.
Information: The conference Web page is http://www.math.uiuc.edu/nt2000/millennial.html. Additional information will be posted on this Web page as it becomes available.

* 22–26 **IMA Workshop: Simulation of Transport in Transition Regimes**, IMA, University of Minnesota, Minneapolis, Minnesota.
Organizers: P. Degond (Toulouse), I. Gamba (Univ. of Texas, Austin), R. Glassey (Indiana Univ.), P. Roe (Univ. of Michigan).
Information: Institute for Mathematics and its Applications, Univ. of Minnesota, 207 Church St. SE, 400 Lind Hall, Minneapolis, MN 55455; tel: 612-624-6066; e-mail: staff@ima.umn.edu; Web page: http://www.ima.umn.edu/reactive/spring/rf9.html.

June 2000

* 5–9 **IMA Workshop: Multiscale Models for Surface Evolution and Reacting Flows**, IMA, University of Minnesota, Minneapolis, Minnesota.
Organizers: L. Borucki (Motorola), C. Ringhofer (Arizona State Univ.).
Information: Institute for Mathematics and its Applications, Univ. of Minnesota, 207 Church St. SE, 400 Lind Hall, Minneapolis, MN 55455; tel: 612-624-6066; e-mail: staff@ima.umn.edu; Web page: http://www.ima.umn.edu/reactive/spring/rf10.html.