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# Mathematics Calendar

## April 2010

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\* 2 **Gravitational Lensing Workshop**, University of South Florida, Tampa, Florida.

**Description:** The bending of light due to gravitational effects is one of the famous predictions of Einstein's theory of general relativity, confirmed in 1919. In gravitational lensing, this phenomenon is used to reconstruct the source of light from the images observed. The mathematical formulation of this problem has recently lead to surprising new results in complex analysis. This workshop will explore recent developments in this fascinating subject at the intersection between astrophysics, general relativity and mathematics.

**Information:** <http://shell.cas.usf.edu/~dkhavins/workshop.html>.

\* 5 **The Mathematical Enterprise: A Minority Perspective—A Talk**, MIT, Cambridge, Massachusetts.

**Description:** William Yslas Vélez will give a talk entitled "The Mathematical Enterprise: A Minority Perspective" on Monday, April 5, 2010, 4:30 p.m., Room 4-370, MIT. (Refreshments will be available at 4:00 p.m. in Room 4-349.)

**Information:** <http://math.mit.edu/news/seminars.html>.

\* 14-16 **International Workshop on "Variational, Topological and Set-valued Methods for Nonlinear Differential Problems"**, Engineering Faculty, University of Messina, Italy.

**Description:** In the last years, the development of several methods for the study of nonlinear differential problems has played a fundamental role in various fields of research, such as: mechanics engineering, neural networks, economy, and a lot of others. The conference includes talks and communications by several experts in these research areas.

**Topics:** Variational theory, set-valued analysis, nonlinear analysis. The conference provides an excellent opportunity to overview the status and perspectives of some of the most promising research directions in these fields of mathematical analysis.

**Information:** <http://ww2.unime.it/ingegneria/VTSMENDIP10/>.

\* 14-17 **Ischia Group Theory 2010**, NH Ischia Thermal SPA Resort (ex Jolly Hotel) of Ischia (Naples, Italy).

**Description:** The meeting will consist of talks given by invited speakers and a permanent poster exhibition. The scientific session will be dedicated to the memories of M. Silvia Lucido on Thursday and Karl W. Gruenberg on Friday. The social programme will consist of a concert, the trip to the gardens La Mortella on Thursday morning, and the conference dinner on Friday evening.

**Main Speakers:** D. Chillag, Israel; F. De Giovanni, Italy; L. Di Martino, Italy; D. Dikranjan, Italy; M.J. Evans, U.S.A.; G. Glaubergerman, U.S.A.; M. Herzog, Israel; O. Kegel, Germany; E.I. Khukhro, Russia-U.K.; M. Lewis, U.S.A.; A. Lucchini, Italy; N.Yu. Makarenko, Russia-France; G. Malle, Germany; A. Maroti, Hungary; G. Navarro, Spain; P.P. Palfy, Hungary; D.J.S. Robinson, U.S.A.; P. Shumyatsky, Brazil; H. Smith, U.S.A., Y.P.

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**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 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. 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](mailto:notices@ams.org) or [mathcal@ams.org](mailto: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 **eight 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/July, 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 the AMS website on the World Wide Web. To access the AMS website, use the URL: <http://www.ams.org/>.

Sysak, Ukraine; O. Talelli, Greece; M.C. Tamburini, Italy; G. Traustason, U.K.; A. Turull, U.S.A.; J.S. Wilson, U.K.; L. Wilson, U.S.A.; A. Zaleski, U.K.

**Information:** <http://www.dmi.unisa.it/ischia2010>.

\* 15-18 **Third Texas Southmost Geometry and Topology Conference**, The University of Texas at Brownsville, Brownsville, Texas.

**Description:** This workshop is a unique opportunity for geometry and topology researchers to meet, share their specialized knowledge and learn from others. Professors from Japan, Russia, Netherlands, and various American and Canadian Universities will be presenting their latest results.

**Program Committee:** Tadeusz Dobrowolski, Włodzimierz Kuperberg, Jerzy Mogilski, Oleg Musin, Igor Pak.

**Event sponsors:** The University of Texas at Brownsville Mathematics Department.

**Information:** <http://blue.utb.edu/gt2010/>.

\* 22-23 **Virtual properties of 3-manifolds**, UQAM, Montreal, Canada.

**Description:** Dani Wise will give a series of talks April 19-21 (before the workshop) on his work on separability for hyperbolic groups with quasiconvex hierarchies. The workshop proper will run for two days (April 22-23) and will focus on topics related to the virtual positive first Betti number conjecture and virtual fibering conjectures for 3-manifolds. Michel Boileau will be giving the Montreal-area mathematics colloquium on Friday, April 23 to close the event.

**Information:** [http://www.cirget.uqam.ca/3manifolds/index\\_e.shtml](http://www.cirget.uqam.ca/3manifolds/index_e.shtml).

\* 30-May 2 **4th Annual Graduate Student Probability Conference**, Duke University, Durham, North Carolina.

**Description:** This conference is organized by a group of graduate students from Duke University and UNC-Chapel Hill under the supervision of Jonathan Mattingly and Amarjit Budhiraja. It is intended to provide graduate students and postdoctoral fellows with an opportunity to speak on an area of interest within probability.

**Information:** <http://www.math.duke.edu/~tkolba/GSPC/>.

## May 2010

\* 2-6 **Mal'tsev Meeting 2010**, Sobolev Institute of Mathematics SB RAS, Novosibirsk, Russia.

**Description:** Mal'tsev Meeting is a series of annual conferences. In 2010, it honours Yuri Leonidovich Ershov on occasion of his 70th birthday. The topics of the conference include computability theory, group theory, mathematical logic, ring theory, theoretical computer science, universal algebra, and related areas of mathematics.

**Information:** <http://www.math.nsc.ru/conference/malmeet/10/index.html>.

\* 3-7 **CFL condition—80 years gone by...**, Rio de Janeiro State University—UERJ, Rio de Janeiro, Brazil.

**Description:** This congress celebrates 80 years of the benchmark article published by Courant, Friedrichs and Lewy in 1928 and which has redrawn the approach to numerical algorithms for PDEs.

**Information:** <http://www.ime.uerj.br/cfl80>.

\* 17-21 **NSF/CBMS Regional Research Conference in the Mathematical Sciences, Nonlinear Water Waves with Applications to Wave-Current Interactions and Tsunamis**, The University of Texas-Pan American, Edinburg, Texas.

**Description:** The Mathematics Department at the University of Texas-Pan American will host an NSF/CBMS regional research conference on Nonlinear Water Waves with Applications to Wave-Current Interactions and Tsunamis during the week of May 17-21, 2010. Participation is open to scientists working at research level on theoretical and practical aspects of the conference's topic. Some limited support is available for travel and local expenses. Underrepresented groups are strongly encouraged to apply.

**Principal speaker:** Professor Adrian Constantin, Chair of Partial Differential Equations at the University of Vienna, Austria.

**Additional Invited Lectures:** Will also be featured by other leading experts, including Professors J. Bona, A. Degasperis, J. Escher, A. S. Fokas, R. Johnson, W. Strauss, J. F. Toland, E. Varvaruca, and possibly others.

**Information:** <http://www.math.utpa.edu/nsf-cbms2010.html>.

\* 21-29 **From Carthage to the World: The Isoperimetric Problem of Queen Dido and its Mathematical Ramifications**, May 21-22, 2010: Tunis Science City, Tunis, Tunisia (Intensive Course); May 24-29, 2010: Barcelo Hotel, Gammarth, Carthage, Tunisia (International Conference).

**Description:** This conference aims to bring together experts on classical isoperimetric inequalities, sharp functional inequalities, and spectral inequalities for a week-long conference in Carthage, Tunisia, where the mathematical problem named after Queen Dido, the founder of Carthage, originated. The week-long gathering will serve as a training ground for young researchers and graduate students, incorporating an intensive program on techniques of rearrangement, spectral analysis, and geometric inequalities. The conference will serve as a means to bring together the many trends within isoperimetry.

**Co-Sponsors:** American Mathematical Society, European Mathematical Society, Tunisian Mathematical Society, CNRS, CIMPA. Funded by NSF, OISE, CNRS, SMT, Tunisian Ministry of Higher Education.

**Application Deadline/Partial Travel Funding:** March 15, 2010. Grad students, women, and researchers from underrepresented groups are encouraged to apply. Research articles will be peer reviewed and published.

**Information:** <http://math.arizona.edu/~dido>.

\* 24-29 **International conference "Geometry in Odessa 2010"**, Odessa National Academy of Food Technologies, Odessa, Ukraine.

**Description:** The Conference is organized in the following sections: 1. Geometrical structures on manifolds. 2. Geometry of differential equations and Monge-Ampere equations. 3. Differential invariants and group methods. 4. Geometrical methods in mathematical physics. 5. Quantum geometry and quantization of DEs. 6. Topological aspects of differential geometry. 7. Geometrical control theory. 8. Geometry in the large. 9. Nonclassical logics, topology and mathematical linguistics. 10. Methods of geometry teaching.

**Information:** <http://conf.d-omega.org/eng/>.

## June 2010

\* 4-6 **Topology and Geometry in Dimension Three: Triangulations, Invariants, and Geometric Structures**, Oklahoma State University, Stillwater, Oklahoma.

**Description:** This conference will highlight ongoing research focused on finding direct connections between topological structures on 3-manifolds (triangulations in particular) and geometric structures. It will also bring together researchers working on new invariants and hyperbolic geometry applied to 3-manifolds. This conference is in honor of William Jaco, on the occasion of his 70th birthday.

**Information:** <http://www.math.okstate.edu/jacofest/>.

\* 5-10 **36th International Conference "Applications of Mathematics in Engineering and Economics" (AMEE'10)**, Technical University Leire House, Sozopol, Bulgaria.

**Description:** The main goal of this series of conferences is to bring together experts and young talented scientists from Bulgaria and abroad to discuss the modern trends and to ensure exchange of ideas in various applications of mathematics in engineering, physics, economics, biology, etc. The invited talks and contributed papers will be published after peer reviewing by the Conference Proceedings Series of the American Institute of Physics (AIP)

**Organizing Committee:** Encourages the taking part of students and postgraduates and intends to organize a separate youth session.

**Local Organizing Committee:** Ketty Peeva, Vesela Pasheva, Adriana Georgieva, Nikola Kaloyanov, Krasimira Prodanova and Yana Stoyanova.

**International Programme Committee:** Ralitzia Kovacheva (Bulgaria), Stefanka Chukova (New Zealand), Lubomir Dechevsky (Norway), Vladimir Georgiev (Italy), Michail Konstantinov (Bulgaria), Raytcho Lazarov (USA), Svetozar Margenov (Bulgaria) and Bernadette Miara (France).

**Information:** <http://www.tu-sofia.bg/ENG/fpmi/amee/>.

- \* 7–11 **2010 Annual Canadian Operator Algebra and Operator Theory Symposium**, University of New Brunswick, Fredericton, New Brunswick, Canada.

**Description:** The 38th installment of a well-established operator algebras meeting. The Canadian Math Societies Summer meeting is in the same city (Fredericton, NB) right before this meeting, so it is quite feasible to attend both (or alternatively one can attend both GPOTS and the COASy.)

**Organizer:** Andrew Dean; email: [andrew.j.dean@lakeheadu.ca](mailto:andrew.j.dean@lakeheadu.ca); Dan Kucerovsky; email: [dan@math.unb.ca](mailto:dan@math.unb.ca).

**Information:** <http://www.math.unb.ca/~dan/coas2010/coas2010Main.htm>.

- \* 7–11 **Conference Géométrie Algébrique en Liberté (GAEL) XVIII**, Coimbra, Portugal.

**Description:** GAEL, Géométrie Algébrique en Liberté, is a conference organised by and for researchers in algebraic geometry at the beginning of their scientific career. The conference gives Ph.D. students and postdocs the opportunity to lecture, often for the first time, in front of an international audience. In addition, selected international experts deliver mini-courses on topics at the cutting-edge of important new developments in algebraic geometry.

**Senior Speakers:** Olivier Debarre (Ecole Normale Supérieure) TBA; Bernd Sturmfels (University of California, Berkeley) Convex Algebraic Geometry; Gerard van der Geer (Universiteit van Amsterdam) Cycle Classes on Abelian Varieties.

**Information:** email: [severian.mit.edu/gael](mailto:severian.mit.edu/gael).

- \* 7–18 **IMA New Directions Short Course: New Mathematical Models in Economics and Finance**, Institute for Mathematics and its Applications (IMA), University of Minnesota, Minneapolis, Minnesota.

**Description:** The IMA will host an intensive short course designed to efficiently provide researchers in the mathematical sciences and related disciplines the basic knowledge prerequisite to undertake research in mathematical finance and economics. The course will be taught by Rene Carmona, Department of Operations Research & Financial Engineering, Princeton University; Nizar Touzi, Ecole Polytechnique, Paris; and Guillaume Carlier, Ceremade, University Paris, Dauphine. The primary audience for the course is mathematics faculty. Some background in probability and stochastic processes are expected. Participants will receive full travel and lodging support during the workshop.

**Information:** <http://www.ima.umn.edu/2009-2010/ND6.7-18.10/>.

- \* 7–25 **IMA PI Summer Program for Graduate Students: Computational Wave Propagation**, Michigan State University, East Lansing, Michigan.

**Description:** Michigan State University will be the host of the Institute for Mathematics and its Applications (IMA) Summer Graduate Program in Mathematics. The course will concentrate on Computational Wave Propagation. The program will focus on presenting some of the fundamental concepts and techniques currently used in computational wave propagation and related applications. It will provide a unique and timely synthesis of disciplines which will better position graduate students as future researchers for the next step to work on computational wave propagation.

**Information:** <http://www.ima.umn.edu/2009-2010/PISG6.7-25.10/>.

- \* 14–18 **Harmonic Analysis and Applications—A Conference in honor of the 70th birthday of Richard Wheeden**, Mathematical Research Institute of the University of Seville (IMUS), University of Seville, Seville, Spain.

**Description:** The Mathematical Research Institute of the University of Seville (IMUS) will hold a conference June 14–18th, 2010, at Seville, on the topic of Harmonic Analysis and Applications to pay tribute to Professor Richard Wheeden and acknowledge his many contributions to Harmonic Analysis and related fields like P.D.E.

**Information:** <http://congreso.us.es/rwheeden/>.

- \* 14–18 **Vector Bundles on Algebraic Curves (VBAC 2010)—New Invariants and Stability Conditions**, Mathematics Department, Inst. Superior Tecnico, Lisbon, Portugal.

**Deadlines:** For those contributing a talk the deadline for registration is: March 1st, 2010. For other participants: April 30, 2010.

**Information:** <http://www.vbac2010.net/>.

- \* 21–25 **AIM Workshop: Control and optimization of open quantum systems for information processing**, American Institute of Mathematics, Palo Alto, California.

**Description:** This workshop, sponsored by AIM and the NSF, will be devoted to identifying and exploring hybrid methods to improve protection of quantum information processing against decoherence by integrating elements of dynamical decoupling, optimal control, and quantum error correction.

**Information:** <http://aimath.org/ARCC/workshops/quantumcontrol.html>.

- \* 21–25 **Functions and Operators**, The Faculty of Mathematics and Computer Science of the Jagiellonian University, Lojasiewicza 6, Krakow, Poland.

**Description:** During the conference we intend to celebrate Professor Franciszek Hugon Szafraniec's 70th birthday and a special session will be devoted to his scientific contribution.

**Topics:** Functions (reproducing kernel Hilbert spaces, orthogonal polynomials, special functions etc.), operators (bounded and unbounded operators with dilation theory in particular, operator algebras and semigroups etc.), interconnected issues (positive definite functions, moment problems, commutative and noncommutative harmonic analysis, mathematical physics etc.).

**Information:** <http://www.im.uj.edu.pl/fao2010/krakow.html>.

- \* 28–30 **FAN 2010: Fluid dynamics, Analysis, and Numerics 2010. A conference in honor of J. Thomas Beale**, Duke University, Durham, North Carolina.

**Description:** The conference will focus on research in mathematical fluid dynamics, spanning areas from rigorous analysis of nonlinear partial differential equations to numerical analysis and modeling of related physical systems. This includes: (1) Analysis of PDEs for fluid dynamics: rigorous results for regularity, existence, uniqueness for Navier-Stokes and Euler, problems with free-surfaces and surface tension, convergence of vortex methods and splitting methods, (2) Fluid motion driven by interfaces: computational methods and analysis of problems with moving interfaces and (3) Computational methods for fluid dynamics. Thomas Beale has made important contributions to many problems in these areas. The conference will feature talks by a list of invited speakers and an extended poster session for contributed research presentations by conference participants.

**Information:** <http://www.math.duke.edu/conferences/FAN2010/>.

- \* 28–July 9 **Operads and Universal Algebra**, Chern Institute of Mathematics, Nankai University, Tianjin, China.

**Description:** An operad is a device that describes algebraic structures of different varieties in various categories. Instead of studying elements in a particular kind of algebra, the theory of operads studies operations that one can perform on this algebra. Operads and universal algebra have similar origins and ideas. Yet they have their own distinct methods and applications. There are recent interests to understand better the connection between these two important areas of mathematics. We will hold a two-week conference on operad theory, emphasizing the relationship with universal algebra. The first half of

the conference will consist of mini-courses that prepare the graduate students and non-experts for the more specialized talks in the second half of the conference. The overall goal of the conference is to bring the participants to the forefront of the current research in these areas.

**Information:** <http://andromeda.rutgers.edu/~liguo/OUA10/operadua.html>.

### July 2010

- \* 12-16 **Soria Summer School on Computational Mathematics Algebraic Geometric Modelling in Information Theory (AGMINT)**, Soria, Spain.

**Description:** The S3CM: Soria Summer School on Computational Mathematics is a series of annual international schools mostly intended for Master's, Ph.D. students, and Postdocs working on computational mathematics.

**Topic:** This year the meeting will be devoted to the topic Algebraic Geometric Modelling in Information Theory (AGMINT). See the list of courses in the Web page for further description. It will take place in the Campus of Soria of the Universidad de Valladolid (Spain) and they are hosted by SINGACOM research group. Application details are posted in the Web.

**Information:** <http://www.singacom.uva.es/oldsite/Actividad/s3cm/s3cm10/>.

- \* 19-23 **AIM Workshop: Components of Hilbert Schemes**, American Institute of Mathematics, Palo Alto, California.

**Description:** This workshop, sponsored by AIM and the NSF, will be devoted to understanding the irreducible component structure of Hilbert schemes.

**Information:** <http://aimath.org/ARCC/workshops/hilbertschemes.html>.

- \* 19-23 **XIX Oporto Meeting on Geometry, Topology and Physics**, Faro, Portugal.

**Description:** The aim of the Oporto meetings is to bring together mathematicians and physicists interested in the inter-relation between geometry, topology and physics and to provide them with a pleasant and informal environment for scientific interchange. As in previous years, the meeting is focussed on the short courses given by the main speakers. The talks are at the advanced graduate or post-doctoral level, and should be of interest to all researchers wishing to learn about recent developments in the overlap between geometry, topology and physics. The remaining participants are invited to submit titles and abstracts for contributed talks, relevant to the main topic of the meeting.

**Main Topic:** Categorification.

**Main Speakers:** Sabin Cautis (Columbia University), Mikhail Khovanov (Columbia University), Aaron Lauda (Columbia University), Catharina Stroppel (Univ. of Bonn), Dylan Thurston (Columbia University), Ben Webster (MIT).

**Information:** <http://www.fct.uaig.pt/omgtp/>.

- \* 29-30 **ICDEM 2010 Second International Conference on Data Engineering and Management 2010**, Bishop Heber College, Tiruchirappalli, Tamil Nadu, India.

**Description:** The second ICDEM conference addresses research issues in modeling, designing, building, managing, and evaluating advanced data-intensive systems, applications and technologies. We invite the submission of original research contributions and industrial papers in all areas of Data, Information and Knowledge Engineering and Management.

**Information:** All submissions in PDF must be prepared in Springer LNCS. For further details, contact Dr. Rajkumar Kannan: email: [icdem2010@gmail.com](mailto:icdem2010@gmail.com); <http://www.bhc.edu.in>; <http://www.demfoundation.org>.

### August 2010

- \* 9-13 **AIM Workshop: Mahler's conjecture and duality in convex geometry**, American Institute of Mathematics, Palo Alto, California.

**Description:** This workshop, sponsored by AIM and the NSF, will be devoted to duality problems in convex geometry, which deal with relations between convex bodies and their polar bodies.

**Information:** <http://aimath.org/ARCC/workshops/mahlerduality.html>.

- \* 9-13 **Workshop on Fluid Motion Driven by Immersed Structures**, Fields Institute, Toronto, Ontario, Canada.

**Description:** There is tremendous interest in the development and application of advanced computational techniques for simulating the motion of an incompressible fluid driven by flexible immersed structures, in large part owing to the multitude of applications in physiology and biology. The workshop will include two tutorials targeted to graduate students and junior mathematicians, with the goal of providing training opportunities to young scientists. The meeting will be organized around three main themes: \* Formulation and analysis of the underlying governing equations. \* Algorithmic and computational issues related to increasing accuracy and efficiency through use of adaptivity, novel time-stepping schemes and parallelism. \* Applications to problems in the biological, physical and engineering sciences.

**Information:** [http://www.fields.utoronto.ca/programs/scientific/10-11/fluid\\_motion/index.html](http://www.fields.utoronto.ca/programs/scientific/10-11/fluid_motion/index.html).

### September 2010

- \* 6-9 **XIX International Fall Workshop on Geometry and Physics**, Oporto, Portugal.

**Description:** The Fall Workshops, held yearly since 1992, bring together Spanish and Portuguese geometers and physicists, along with an ever increasing number of participants from outside the Iberian peninsula. The meetings aim to provide a forum for the exchange of ideas between researchers of different fields in Differential Geometry, Applied Mathematics and Physics, and always include a substantial number of enthusiastic young researchers amongst the participants.

**Confirmed speakers:** (Minicourses) Ingemar Bengtsson (Univ. Stockholm), Philip Candelas (Univ. Oxford).

**Invited Speakers:** Andrew Swann (Univ. Southern Denmark); Anna Fino (Univ. degli Studi di Torino); Boris Khesin (Univ. Toronto); Charles Torre (Utah State Univ.); Marcos Mariño (Univ. Geneva); Peter Gothen (Univ. Porto); Sergei Merkulov (Univ. Stockholm).

**Information:** <http://cmup.fc.up.pt/cmup/fallworkshop/>.

- \* 9-12 **The Second Asian Conference on Nonlinear Analysis and Optimization (NAO-Asia2010)**, Royal Paradise Hotel & Spa, Patong Beach, Phuket, Thailand.

**Description:** The purpose of this conference is to bring together leading Asian researchers to achieve an international or higher level on the research of the Nonlinear Analysis, the Convex Analysis, and the Optimization. We announce this conference for all Asian researchers and students related to these fields to exchange the recent achievements, to share the current problems, and to encourage other researchers who have an interest in these fields.

**Information:** <http://www.sci.nu.ac.th/mathematics/NAO-Asia2010/?page=home>.

- \* 13-15 **Optimal Discrete Structures and Algorithms (ODSA 2010)**, University of Rostock, Rostock, Germany.

**Description:** The ODSA 2010 conference continues the ODSA series following previous conferences in 1997, 2000, and 2006. The conference aims at the interactions between several aspects of Discrete Mathematics, Mathematical Optimization, Theoretical Computer Science, and their applications. In particular, the scope of the conference includes combinatorial optimization and algorithms on discrete structures, extremal problems in posets, design theory, coding theory, and graph theory.

**Information:** <http://www.math.uni-rostock.de/odsa/>.

\* 13–17 **AIM Workshop: Emerging applications of complexity for CR mappings**, American Institute of Mathematics, Palo Alto, California.  
**Description:** This workshop, sponsored by AIM and the NSF, will focus on the evolving notion of complexity in CR Geometry.

**Information:** <http://aimath.org/ARCC/workshops/crmappings.html>.

\* 15–18 **Algebra, Geometry, and Mathematical Physics**, Technical University of Crete, Chania, Crete, Greece.

**Description:** The AGMP meeting will focus on contemporary topics in algebra, geometry and mathematical physics, with an emphasis on the interface between them. It also promotes corresponding international scientific collaboration.

**Information:** <http://www.agmf.ee/agmp10>.

\* 20–25 **DYSES2010 (V Meeting of Dynamics of Socio-economic Systems Society)**, University of Sannio, Faculty of Economic and business sciences, Benevento, Italy.

**Description:** The primary aim of this meeting is to bring together scientists working on the development of models able to prospect and to evaluate social and economical situations to future. Mathematical techniques include, but are not limited to, temporary series of prediction, time series forecasting, inference procedures, stochastic and/or dynamic systems, modeling of biological systems, optimization, development of computational and knowledge-model based representations of human, organizational, cultural, and societal structures, uncertainty measures, multicriteria decision methods and any other method able to predict future behavior of these particular systems are welcome.

**Information:** <http://www.dyses2010.unisannio.it>.

\* 27–30 **54th Annual Meeting of the Australian Mathematical Society**, The University of Queensland, Brisbane, Queensland, Australia.

**Description:** The 54th Australian Mathematical Society annual meeting will cover all aspects of mathematics. Special sessions include: algebra and number theory; applied DEs; combinatorics; computational math; control theory; dynamical systems; financial math; geometry and topology; harmonic analysis; math education; math in biology and medicine; mathematical physics; optimisation and applications; probability and statistics.

**Plenary speakers are:** James Borger, ANU; Jonathan Borwein, Newcastle; Wolfgang Dahmen, RWTH Aachen; Larry Forbes, Tasmania (ANZIAM Lecturer); Jan de Gier, Melbourne; Vladimir Gaitsgory, South Australia; Ben Green, Cambridge; Michael Hopkins, Harvard; Thomas Lam, Michigan (ECR Lecturer); Elizabeth Mansfield, Kent; Cheryl Praeger, Western Australia (Hanna Neumann Lecturer).

**Information:** <http://www.smp.uq.edu.au/austms2010/>.

\* 28–October 1 **Convex Optimization and Algebraic Geometry**, Institute for Pure and Applied Mathematics (IPAM), UCLA, Los Angeles, California.

**Overview:** The problems and algorithms to be discussed in this workshop arise from fields as diverse as functional analysis, control theory, probability theory, statistics, numerical algebraic geometry, combinatorics, multilinear algebra, and applications in engineering and life sciences. Of particular interest will be the development of computational benchmarks and the integration of numerical optimization software with symbolic algebra packages.

**Organizing Committee:** William Helton, Monique Laurent, Pablo Parrilo, Bernd Sturmfels, Rekha Thomas.

**Application/Registration:** An application and registration form is available at: <http://www.ipam.ucla.edu/programs/opws1>. Applications received by July 19, 2010, will receive fullest consideration. Encouraging the careers of women and minority mathematicians and scientists is an important component of IPAM's mission and we welcome their applications. You may also simply register and attend without IPAM funding.

**Information:** <http://www.ipam.ucla.edu/programs/opws1/>.

## October 2010

\* 4–8 **AIM Workshop: Parameter identification in graphical models**, American Institute of Mathematics, Palo Alto, California.

**Description:** This workshop, sponsored by AIM and the NSF, is devoted to identifiability problems in graphical statistical models.

**Information:** <http://aimath.org/ARCC/workshops/graphparameter.html>.

\* 7–10 **International Conference on Algebra in honor of the 70th Birthday of Professor Shum Kar-Ping**, Gajah-Mada University, Yogyakarta, Indonesia.

**Topics:** Semigroup Theory, Group Theory, Ring Theory, Lie and Hopf Algebras, Graph Theory, Universal Algebras and Combinatorics.

**International Organizing Committee:** Tan Eng-Che (Singapore, Chairman), Mohamad Akram (Pakistan), Rosihan Bin Mohammad Ali (Malaysia), Chen Yuqun (China), Cheung Wingsum (Hong Kong), Fong Yuen (Taiwan), Guo Xiuyun (China), Wanida Hemakul (Thailand), Le Tuan Hoa (Vietnam), Li Pjak Hwee (Taiwan), Sapna Jain (India), Li Tsiu Kwaen (Taiwan), Li Xinhua (China), Qasier Mushtaq (Pakistan), Ng Siu-Hung (USA), Nittiya Pabhapote (Thailand), G.C. Rao (India), Ren Xueming (China), Chan Roath (Cambodia), Ling San (Singapore), M.K. Sen (India), Polly W. Sy (Philippine), T. Vasanthi (India), S.P. Mahila Visvavidyalayam (India), Wang Ngai-Ching (Taiwan), Dong Chung Ying (USA), Zhou Yiqing (Canada).

**Scientific Committee:** Cho-Ho Chu (London), Yuqi Guo (Chongqing), Michel Jambu (Nice), Pavel Kolnesikov (Novosibirsk), Antony To-Ming (Alberta), Laszlo Marki (Budapest), Alexander V. Mikhalev (Moscow), Siu-Hung Ng (Ames, Iowa), Claude Procesi (Rome), Lance Small (UC San Diego), Kyoji Saito (Kyoto), Agata Smoktuowicz (Edinburg), Eng-Che Tan (Singapore), Robert Wisbauer (Duesseldorf), Changchong Xi (Beijing), Jiping Zhang (Beijing), Efim Zelmanov (San Diego, Chairman).  
**Information:** <http://www.ugm.ac.id/ica2010>.

\* 11–15 **Numerical Methods for Continuous Optimization**, Institute for Pure and Applied Mathematics (IPAM), UCLA, Los Angeles, California.

**Overview:** This workshop brings together experts on techniques currently being used or that could be used to solve sparse/structured problems and other problem classes of recent interest. We mention in particular techniques for conic optimization formulations, fast gradient and subgradient methods, stochastic approximation techniques, and semismooth Newton and other methods that use second-order information. The workshop will also involve nonlinear programming researchers.

**Organizing Committee:** Steven Wright, Don Goldfarb, Renato Monteiro, Yurii Nesterov, Michael Overton, Kim Toh.

**Application/Registration:** An application and registration form is available at: <http://www.ipam.ucla.edu/programs/opws2>. Applications received by August 16, 2010, will receive fullest consideration. Encouraging the careers of women and minority mathematicians and scientists is an important component of IPAM's mission and we welcome their applications. You may also simply register and attend without IPAM funding.

**Information:** <http://www.ipam.ucla.edu/programs/opws2/>.

\* 18–22 **IMA Workshop: Computing with Uncertainty: Mathematical Modeling, Numerical Approximation and Large Scale Optimization of Complex Systems with Uncertainty**, Institute for Mathematics and its Applications (IMA), University of Minnesota, Minneapolis, Minnesota.

**Description:** Mathematical and computational models for an increasing number of complex systems in basic sciences, engineering and, increasingly, also in life sciences and socioeconomic modeling, involve uncertainty: the input data could be random parameters expressing information that may only be revealed in the future, or simply reflect measurement error or inherent variability. Uncertainty can also arise on a more primitive level due to insufficient knowledge about particular components of the system under consideration. We then not only

confront descriptive issues but also have to question the validity of the prescriptive implications we might derive from the solutions of such mathematical models in the presence of uncertainty. With the prodigious increase in computational capabilities, already seen and expected to continue, and accompanied by a corresponding increase in data, new strategies in mathematical and computational modeling as well as system optimization will be required.

**Information:** <http://www.ima.umn.edu/2010-2011/W10.18-22.10/>.

\* 26-29 **Discrete Optimization**, Institute for Pure and Applied Mathematics (IPAM), UCLA, Los Angeles, California.

**Overview:** This workshop will bring together experts on the different facets of discrete optimization with the goal of further improving the cross-fertilization of ideas and techniques. Topics will include combinatorial algorithms and characterizations, polyhedral combinatorics and integer programming, graph theory, matroids and other fundamental combinatorial structures, and nonlinear approaches and problems.

**Organizing Committee:** Michel Goemans, Sanjeev Arora, Gerard Cornuejols, Jesus De Loera, Friedrich Eisenbrand, Matthias Koeppel.

**Application/Registration:** An application and registration form is available at: <http://www.ipam.ucla.edu/programs/opws3>. Applications received by August 30, 2010, will receive fullest consideration. Encouraging the careers of women and minority mathematicians and scientists is an important component of IPAM's mission and we welcome their applications. You may also simply register and attend without IPAM funding.

**Information:** <http://www.ipam.ucla.edu/programs/opws3/>.

### November 2010

\* 1-5 **IMA Workshop: Numerical Solutions of Partial Differential Equations: Novel Discretization Techniques**, Institute for Mathematics and its Applications (IMA), University of Minnesota, Minneapolis, Minnesota.

**Description:** This workshop will survey novel discretization techniques in numerical partial differential equations that address the computational challenges posed by higher dimensions, higher orders, complex spaces, complex geometries, nonlinearities and multiscales. The focus is on new and fundamental methodologies that impact diverse areas of numerical partial differential equations.

**Topics:** Discontinuous Galerkin methods, finite element exterior calculus, higher order methods, isogeometric analysis, mimetic finite difference methods, multiscale methods, reduced basis methods, sparse grids, and others.

**Information:** <http://www.ima.umn.edu/2010-2011/W11.1-5.10/>.

\* 5-6 **IMA Special Event: Finite Element Circus Featuring a Scientific Celebration of Falk, Pasciak, and Wahlbin**, Institute for Mathematics and its Applications (IMA), University of Minnesota, Minneapolis, Minnesota

**Description:** The Finite Element Circus is a conference series with a rich history, focusing on new developments in the finite element method (FEM) and applications. FEM plays a crucial role in simulation of engineering, physical, biological, and other scientific phenomena. A driving force for its success has been its mathematical analysis, which has led to novel competitive methods and significant improvements to existing methods. In line with IMA's annual theme, the Fall 2010 Circus will be held at the IMA.

**Information:** <http://www.ima.umn.edu/2010-2011/SW11.5-6.10/>.

\* 16-19 **Modern Trends in Optimization and Its Application**, Institute for Pure and Applied Mathematics (IPAM), UCLA, Los Angeles, California.

**Overview:** The workshop explores the robust optimization field, looking at ways to describe uncertainty, approximate the decision, or

addressing dynamic problems where the uncertainty is partially revealed as time evolves. The workshop also includes several case studies in various application domains, ranging from signal processing, machine learning, communications, graph theory, circuit design, to finance and economics, logistics and operations research.

**Organizing Committee:** Aharon Ben-Tal, Dimitris Bertsimas, Jason Cong, Laurent El Ghaoui, Arkadi Nemirovski.

**Application/Registration:** An application and registration form is available at: <http://www.ipam.ucla.edu/programs/opws4>. Applications received by Sept. 20, 2010, will receive fullest consideration. Encouraging the careers of women and minority mathematicians and scientists is an important component of IPAM's mission and we welcome their applications. You may also simply register and attend without IPAM funding.

**Information:** <http://www.ipam.ucla.edu/programs/opws4>.

\* 29-December 3 **IMA Workshop: Numerical Solutions of Partial Differential Equations: Fast Solution Techniques**, Institute for Mathematics and its Applications (IMA), University of Minnesota, Minneapolis, Minnesota.

**Description:** The amount of time required to solve the large scale problems arising from numerical partial differential equations is a major concern in using mathematical models based on partial differential equations. Various fast solution techniques, such as adaptive methods, domain decomposition methods and multilevel methods, have been developed to address this issue. This workshop will survey new developments and challenges in these and other fast solution techniques.

**Information:** <http://www.ima.umn.edu/2010-2011/W11.29-12-3.10/>.

### December 2010

\* 17-21 **The 15th Asian Technology Conference in Mathematics (ATCM 2010)**, University of Malaya, Kuala Lumpur, Malaysia.

**Description:** The theme of ATCM 2010 is "Linking Applications with Mathematics and Technology". Thanks to advanced technological tools such as computer algebra systems (CAS), interactive and dynamic geometry, and hand-held devices, the effectiveness of our teaching and learning, and the horizon of our research in mathematics and its applications continue to grow rapidly. There will be over 400 participants coming from over 30 countries around the world.

**Aim:** To provide a forum for educators, researchers, teachers and experts in exchanging information regarding enhancing technology to enrich mathematics learning, teaching and research at all levels.

**Language:** English is the official language of the conference.

**Information:** <http://atcm.mathandtech.org>.

\* 19-21 **"Mathematical Sciences for Advancement of Science and Technology" (MSAST 2010)**, IMBIC Hall, Salt Lake, Kolkata (Calcutta), India.

**Description:** The 4th International Conference is organized by the Institute for Mathematics, Bioinformatics, Information Technology and Computer Science (IMBIC). Authors are requested to submit the full original papers related to the Theme of the Conference: "Mathematical Sciences for Advancement of Science and Technology" with an abstract indicating the motivation of the problem, its method of solution and important results to the Secretary of IMBIC. All the papers are to be screened for presentation in the Conference.

**Information:** All correspondences in respect of the conference are to be addressed to Dr. Avishek Adhikari, Secretary, IMBIC, AH 317, Salt Lake City, Sector II, Kolkata 700091, West Bengal, India; email: [avishek.adh@gmail.com](mailto:avishek.adh@gmail.com); <http://imbic.org/forthcoming.html>.

### January 2011

\* 10-14 **IMA Workshop: High Performance Computing and Emerging Architectures**, Institute for Mathematics and its Applications (IMA), University of Minnesota, Minneapolis, Minnesota.

**Description:** Recently, computational science has been offered the prospect of vast increases in capability, thanks to a paradigm shift in hardware architectures. The IT industry has sidestepped the bottlenecks it faced (memory, power, complexity) by opting for on-chip parallelism. This brought first the multi-core model, and now promises many-core as the future. In addition, we have a great opportunity in the tremendous computing power of graphics processors (GPUs). With this opportunity, however, comes the challenge of adapting the large toolbox of scientific computing to the unstoppable changes in computer architectures. The latest studies indicate that some algorithms have more potential than others for extracting performance from modern many-core architectures. A difficult task involves reformulating algorithms to adapt to the hardware in a resource-conscious way. This workshop will discuss the algorithms and their formulations for extracting performance of the modern architectures.

**Information:** <http://www.ima.umn.edu/2010-2011/W1.10-14.11/>.

### February 2011

\* 28-March 4 **IMA Workshop: Computing in Image Processing, Computer Graphics, Virtual Surgery, and Sports**, Institute for Mathematics and its Applications (IMA), University of Minnesota, Minneapolis, Minnesota.

**Description:** This workshop focuses on the processing, modeling and simulation of image data, and in particular, data that is related to humans and human activities. The main core areas consist of image processing, computer graphics, virtual surgeries, and sport sciences. The modern world is full of image data that is not only gathered from the real world via various imaging mechanisms, but also produced through computer simulations in a wide range of virtual settings. In order for this image-based information to be useful, tasks such as cleaning up the images, segmenting special features from images, and comparing either the extracted features or the image data itself are essential. These tasks involve processing data that live in a wide range of dimensions, from two-dimensional image data to very high-dimensional data (e.g., the space of images), and require in depth mathematical analysis, modeling, and numerical algorithms.

**Information:** <http://www.ima.umn.edu/2010-2011/W2.28-3.4.11/>.

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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 2011

\* 11-15 **IMA Workshop: Societally Relevant Computing**, Institute for Mathematics and its Applications (IMA), University of Minnesota, Minneapolis, Minnesota.

**Description:** Simulation and computation play a critical role in important societal problems. Examples include the role of anthropogenic emissions on climate and ocean circulation; the prediction of earthquakes and tsunamis; the prediction of paths and storm surges of hurricanes; designing infrastructure that is capable of withstanding disasters, such as floods and terrorist attacks; the design and long term durability of major infrastructure, such as bridges, tunnels, etc; the spread and containment of disease and epidemics, etc. These systems exhibit extreme complexity: there are a myriad of different issues that are critical and must be accurately addressed. Models contain and interface large numbers of physical effects. All of these problems represent grand challenge computer problems that require pushing

the limits of technology, both with regards to algorithms and machines as well as the development of the physical models themselves. **Information:** <http://www.ima.umn.edu/2010-2011/W4.11-15.11/>.

### May 2011

\* 1-August 31 **MITACS International Focus Period on Advances in Network Analysis and its Applications**, Locations throughout Canada.

**Description:** Starting in May 2010, MITACS (<http://www.mitacs.ca>) plans to hold an international focus period in Canada entitled, "Advances in Network Analysis and its Applications". The focus period will be run over one year and will consist of a number of scientific events including workshops, summer schools, industry-academic forums, short courses and public lectures around the topic of network analysis. MITACS would like to invite you to attend and participate in what will be a stimulating and productive series of events.

**Focus Period Topics:** Financial networks for risk assessment, Network security and cryptography, Social Networks, Biological networks and systems biology, Wireless and mobile computing, Internet and network economics.

**Lead Organizer:** Evangelos Kranakis, Carleton University.

**Information:** The focus period will be held at various Locations throughout Canada (see website for details: <http://www.mitacsfocusperiods.ca>).

### June 2011

\* 6-10 **IMA Workshop: Large-scale Inverse Problems and Quantification of Uncertainty**, Institute for Mathematics and its Applications (IMA), University of Minnesota, Minneapolis, Minnesota.

**Description:** Many classes of problems in computational science and engineering are characterized by a cycle of experiment design, observation, parameter/state estimation, prediction, and decision-making. The critical steps in this process involve: (1) modeling of the physical processes via, for example, PDEs; (2) estimating unknown parameters in the model from observational data via solution of an inverse problem; (3) propagation of input uncertainties through the model to issue predictions; and (4) determination of an optimal control or decision-making strategy that takes into account the uncertain outputs. The estimation of unknown model parameters or state from observational data, together with a model linking inputs to outputs, constitutes an inverse problem; it is called a statistical inverse problem when at least one of the components in this process is modeled as random. Data assimilation and joint inversion are two particular settings that have a wide range of applications.

**Information:** <http://www.ima.umn.edu/2010-2011/W6.6-10.2011/>.