
Mathematics Calendar

The most comprehensive and up-to-date Mathematics Calendar information is available on the AMS website at <http://www.ams.org/mathcal/>.

January 2008

* **18–19 Young Mathematicians' Conference**, Centre de recherches mathématiques, Université de Montréal, Montréal, Québec, Canada.
Description: A conference for young mathematicians.
Organizers: W. Craig (McMaster), A. Nachman (Toronto), D. Pelinovsky (McMaster), M. Pugh (Toronto) and C. Sulem (Toronto).
Information: <http://www.crm.umontreal.ca/Evolution2008/>.

* **24–26 Workshop on Initial Conditions**, Centre de recherches mathématiques, Université de Montréal, Montréal, Québec, Canada.
Description: Workshop about initial conditions.
Organizers: W. Craig (McMaster), P. Guan (McGill) and C. Rousseau (Montréal).
Information: <http://www.crm.umontreal.ca/Evolution2008/>.

February 2008

* **14–16 Making Connections: Using Cases to Develop Knowledge for Teaching Mathematics**, Institute for Mathematics and Education, University of Arizona, Tucson, Arizona.
Description: This workshop will focus on the use of instructional cases in mathematics teacher education. Cases usually consist of video and/or written records of teaching, lesson plans, student work, and teacher reflections. Cases are constructed so as to highlight particular dilemmas or challenges related to teaching and learning mathematics. Workshop presenters will engage mathematicians, mathematics educators, and teachers in examining case materials and considering their potential for helping teachers build and connect knowledge of mathematics with knowledge of teaching.
Organizers: Solomon Friedberg, Rebecca McGraw, Kay Merseth, Jeremy Teitelbaum.

Deadline to Apply: January 11, 2008.

Information: <http://ime.math.arizona.edu>.

* **28–March 1 Workshop on Elementary Teacher Preparation in Mathematics**, Institute for Mathematics and Education, University of Arizona, Tucson, Arizona.

Goal: Of this workshop is to bring together mathematicians, mathematics educators, and elementary teachers for discussions about teacher preparation in elementary mathematics. These discussions will be designed to enhance our understanding of how to best prepare prospective elementary teachers both to develop a set of ideas, experiences, and skills that provides a foundation for beginning to teach and to learn how to continue to learn from their own students and classroom experiences in order to build on that foundation. We will discuss mathematics content knowledge, teaching practices, and perspectives about learning and teaching mathematics critical for the beginning teacher. Particular emphasis will be placed on aspects of teaching elementary school mathematics that have been misunderstood, under-appreciated, or neglected.

Organizers: Sybilla Beckman, Jim Lewis, Denise Mewborn, Susan Jo Russell.

Deadline to Apply: January 25, 2008.

Information: <http://ime.math.arizona.edu>.

* **28–March 2 Emerging Directions in Probability and Statistics**, The Center for Applied Mathematics, University of Notre Dame, Notre Dame, Indiana.

Information: For details, please see <http://www.cam.nd.edu/upcoming-conferences/spring2008>.

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 **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/>.

March 2008

* 3–6 **The Third International Conference on Mathematical Sciences: ICM2008**, UAE University, Al-Ain, United Arab Emirates.

Description: The conference will concentrate on the following topics: Algebra, Applied Mathematics, Discrete Mathematics, Finite Mathematics, Fractals, Geometry, History of Mathematics, Logic, Analysis, Number Theory, Numerical Analysis, Topology, Computational Mathematics, Cross-disciplinary areas of Mathematics, and other areas of Mathematics, Mathematical Statistics, Mathematics Education, Mathematical Biology, Biostatistics, Environmental Statistics, and Medical Statistics, Financial Mathematics, Management Science, Mathematical Modeling in Environmental Sciences, Mathematical Modeling in Ecology, Population Dynamics, Modeling of Marine Environment, Modeling of Sand Dune migration. However, the conference would welcome contributions from all aspects of mathematical sciences.

Information: <http://icm.uaeu.ac.ae>.

* 6–8 **Workshop on Secondary Teacher Preparation in Mathematics**, Institute for Mathematics and Education, University of Arizona, Tucson, Arizona.

Description: Participants in this workshop will be teams of mathematicians and educators from universities and partner school districts interested in implementing content courses for secondary school teachers. Workshop leaders will be representatives from established partnerships that involve mathematicians, educators, and teachers around the country, who will present models and work with participant teams to develop plans for their home institutions.

Deadline to Apply: February 1, 2008.

Information: <http://ime.math.arizona.edu>.

* 15–18 **Maryland-Penn State Workshop on Dynamical Systems and Related Topics**, College Park, Maryland.

Description: This meeting is dedicated to Professor Michael Brin on the occasion of his 60th birthday.

Information: <http://www.math.umd.edu/research/dynamics/conferences/md08/>.

* 17–19 **DIMACS Workshop on Random Matrices**, DIMACS Center, CoRE Building, Rutgers University, Piscataway, New Jersey 08854-8018.

Short Description: Random matrices are among the most basic objects in mathematics and their studies have strong connections to many areas, such as mathematical physics, combinatorics, theoretical computer science, geometrical analysis, to mention a few.

Goal: One main goal of this workshop is to present and show how progress in one field affects the others. Thus, beside talks on new results, the program will feature several survey/introductory talks on various aspects of random matrices. In particular, T. Tao (UCLA) will give a series of tutorials on the recently found connection between additive combinatorics and random matrices.

Confirmed Speakers: Chatterjee (Berkeley), Costello (IAS), Krishnapur (Toronto), Meckes (Case Western), McSherry (Microsoft Research), Rudelson (Missouri), Peche (Grenoble), Spielman (Yale), Speicher (Queens), Tao (UCLA), Vershynin (UC Davis), Vempala (Georgia Tech).

Organizer: Van Vu, Rutgers University, vanvu@math.rutgers.edu.

Information: Visit <http://dimacs.rutgers.edu/Workshops/RandomMatrices/>; <http://dimacs.rutgers.edu/Workshops/EconomicTheory/>.

* 20–22 **Mathematicians in Mathematics Education**, Institute for Mathematics and Education, University of Arizona, Tucson, Arizona.

Description: The demand is increasing for mathematicians who can constructively contribute to work in mathematics education such as standards development, validation of tests, curriculum design, textbook review, and the preparation and professional development of teachers. This workshop will orient mathematicians

on key issues: the core mathematics of K-12, the mathematical knowledge of teachers, the nature of the educational system, the profusion of standards documents, the variety of curricula, and mathematics education research. It is aimed the general audience of university mathematicians who wish to become involved in helping solve the problems in mathematics education; no prior experience is necessary.

Organizers: Roger Howe, Hyman Bass, Deborah Ball, William McCallum.

Deadline to Apply: February 15, 2008.

Information: <http://ime.math.arizona.edu>.

* 25–30 **Spring School: Holomorphic symplectic manifolds and derived categories**, Palazzo Feltrinelli, Gargnano del Garda, Italy.

Aim: Of the school is to provide an introduction to the geometry of holomorphic symplectic manifolds and derived categories for Ph.D. students and young researchers. **Speakers:** A. Beauville, T. Bridgeland, D. Huybrechts and K. O’Grady. Each speaker will deliver a short course consisting of 5 lectures. In particular, Beauville and O’Grady will cover the part related to Irreducible Holomorphic Symplectic Manifolds, while Bridgeland and Huybrechts will present the material about Derived Categories.

Information: http://www.mat.unimi.it/Spring_School/.

April 2008

* 7–11 **Workshop on Spectrum and Dynamics**, Centre de recherches mathématiques, Université de Montréal, Montréal, Québec, Canada.

Description: The central theme of the meeting is the interplay between the theory of dynamical systems and spectral geometry. In particular, the workshop focuses on applications of dynamics to the study of spectral asymptotics.

Main topics: Include spectral asymptotics on negatively curved manifolds and hyperbolic dynamics, quantum completely integrable systems in the high energy limit, dynamical methods in scattering theory, elliptic operators on vector bundles and partially hyperbolic flows. We expect to have several mini-courses related to the subject of the workshop.

Information: <http://www.crm.umontreal.ca/Evolution2008>.

* 10–12 **Partial Differential Equations in Conformal Geometry**, University of Arkansas, Fayetteville, Arkansas.

Description: 33rd Annual Spring Lecture Series in the Mathematical Sciences.

Principal Lecturer: S-Y. Alice Chang (Princeton University).

Invited Speakers: C-C. Chen (National Taiwan Univ.), F. Hang (Princeton), S. Chen (UC Berkeley), E. Hebey (Univ. Cergy), M. Del Mar Gonzalez (Univ. Austin), K. Okikiolu (UC San Diego), R. Graham (Univ. Washington), J. Qing (UC Santa Cruz), M. Gursky (Notre Dame), N. Trudinger (Australian National Univ.).

Special Public Lecture: F. Morgan (Williams College).

Organizers: Luca Capogna and Loredana Lanzani (Arkansas).

Information: Pending support from the National Science Foundation, short talks by recent Ph.D.s and finishing graduate students are welcome.

Information: <http://comp.uark.edu/~lcapogna/SpringLectureSeries/Welcome.html>.

* 12–13 **MIT Women in Math**, Massachusetts Institute of Technology (MIT), Cambridge, Massachusetts 02139.

Description: A celebration showcasing women in mathematics and recognizing the great number and quality of women who have graduated from MIT in mathematics.

Main Speakers: Bonnie Berger, Lenore Blum, Ioanna Dimitriou, Tara Holm, Margaret Murray, Brooke Shipley, Linda Rothschild, Lauren Williams. In addition to the main speakers, there will be a special guest appearance by MIT President Susan Hockfield and panels on becoming and being a mathematician. It is intended that talks will be accessible to non-experts.

Information/Registration: Limited travel support will be available for young women postdocs, graduate students, and advanced undergraduates. Visit <http://math.mit.edu/womeninmath> or contact Claire Wallace, 617-253-7948.

- * 16–27 **Workshop on Geometric Evolution Equations**, Centre de recherches mathématiques, Université de Montréal, Montréal, Québec, Canada.

Description: In view of the impressive progress made in the area of geometric evolution equations, the workshop is planned as a stimulating meeting between specialists representing the state of recent research in the field, and mathematicians in other areas, for which curvature flows prompt further investigations in diverse directions.

Theme: The two week workshop will emphasize successively the theme of intrinsic curvature flows with a focus on Ricci and Kähler-Ricci flows, implications on the Poincaré conjecture, the geometrization conjecture, and the existence and uniqueness of special Kähler metrics on projective varieties; and that of extrinsic curvature flows. There will be mini-courses related to each of the two main topics during the period of the workshop.

Information: <http://www.crm.umontreal.ca/Equations08/>.

May 2008

- * 2–4 **CSMC International Curriculum Conference: Future Curricular Trends in School Algebra and Geometry**, The University of Chicago and The Field Museum, Chicago, Illinois.

Description: The conference will feature international experts from Australia, Europe, and South America, and national expertise from the United States. The conference is open to all, but limited in size. Registrations will be accepted on a first come/first-served basis. If you are interested in attending, please check the CSMC web site, <http://www.mathcurriculumcenter.org/conferences.php> for further details and a registration form.

- * 5–9 **Transport Systems in Geography, Geosciences, and Networks**, Institute for Pure and Applied Mathematics (IPAM), UCLA, Los Angeles, California.

Scientific Overview: This workshop will explore why and how transport due to turbulent flow takes place and is optimal. Other transport such as transport of magma in volcanoes will also be covered and how similar ideas can be used to identify and quantify transport in social networks and economics.

Organizing Committee: Andrea Bertozzi, Bjorn Birnir, Dan Rothman, and William Zame.

Application/Registration: An application/registration form is available at: <http://www.ipam.ucla.edu/programs/otws3/>. The application is for people requesting financial support to attend the workshop. If you don't intend to do this, you may simply register. Applications received by March 24, 2008 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.

Information: <http://www.ipam.ucla.edu/programs/otws3/>.

- * 12–16 **Singularities, Hamiltonian and Gradient Flows**, Centre de recherches mathématiques, Université de Montréal, Montréal, Québec, Canada.

Purpose: To bring together people having different expertises around the general theme of dynamical systems and their singularities, and the role they play in ODE and PDE.

Information: http://www.crm.umontreal.ca/act/theme/theme_2008_1_en/singularites_e.shtml.

- * 19–24 **Workshop on Floer Theory and Symplectic Dynamics**, Centre de recherches mathématiques, Université de Montréal, Montréal, Québec, Canada.

Description: In the past two decades we witnessed a spectacular interaction between symplectic topology and the theory of dynamical

systems. One of the main exponents of this interaction is Floer theory, a powerful machinery which combines ingredients from infinite-dimensional Morse theory, complex algebraic geometry and elliptic PDE's.

Information: http://www.crm.umontreal.ca/act/theme/theme_2008_1_en/floer_e.shtml.

- * 26–30 **Discrete Groups and Geometric Structures, with Applications III**, K. U. Leuven Campus, Kortrijk, Belgium.

Description: This 5th edition of a conference series, will focus on research topics related to discrete groups and geometric structures in a broad sense and from a multi-disciplinary point of view. Plenary invited lectures and short lectures, upon proposal of participants, will consist the main framework of the meeting. In particular, the meeting also welcomes Ph.D. students and junior postdoc researchers.

Topics: Of interest to the conference include e.g., geometric group theory, discrete subgroups of Lie groups, crystallographic groups and their generalisations, group actions on manifolds and their invariants, mapping class groups and their properties, isometric actions of groups, applications of any of these topics.

Information: <http://www.kuleuven-kortrijk.be/workshop>.

June 2008

- * 2–7 **Workshop on Mathematical Aspects of Quantum Chaos**, Centre de recherches mathématiques, Université de Montréal, Montréal, Québec, Canada.

Description: The global aim of quantum chaos is to understand the spectral and dynamical properties of quantum systems, which can be related in some limit to a classical dynamical system. The behaviour of the latter may range from very regular to very chaotic.

Information: <http://www.crm.umontreal.ca/Mathphys2008/>.

- * 9–12 **International Cryptology Workshop and Conference 2008 (Cryptology2008)**, PutraWorld Trade Center (PWTC), Kuala Lumpur, Malaysia.

Description: The International Cryptology Workshop and Conference 2008 (Cryptology2008) is a conference that brings together industry and academic researchers in an open forum that provides for contributions covering research on the theoretical foundations, applications and any related issues in cryptology, information and network security and other underlying technologies.

Information: <http://www.inform.upm.edu.my/cryptology2008>.

- * 16–19 **SIAM Conference on Discrete Mathematics**, University of Vermont, Burlington, Vermont.

Invited Plenary Speakers: Anne Condon, The University of British Columbia, Canada; Chris Godsil, University of Waterloo, Canada; David S. Johnson, AT&T; Milena Mihail, Georgia Institute of Technology; Bojan Mohar, Simon Fraser University, Canada; Patric Östergård, Helsinki University of Technology, Finland; Baruch Schieber, IBM; T.J. Watson Research Center; Angelika Steger, Institute of Theoretical Computer Science, Zürich, Switzerland. The Call for Presentations for this conference is available at: <http://www.siam.org/meetings/dm08/>.

Deadlines: Minisymposium proposals: January 7, 2008. Abstracts for all contributed and minisymposium presentations: January 21, 2008.

Information: For additional information, contact SIAM Conference Department at meetings@siam.org; <http://www.siam.org/meetings/dm08/>.

- * 22–28 **Symmetries and Integrability of Difference Equations/SIDE8**, SIDE 8 will take place at Hotel Mont-Gabriel, in Ste-Adèle, Québec, Canada. (The Laurentian area near Montréal).

Description: IDE 8 is the eighth in a series of biennial conferences devoted to Symmetries and Integrability of Difference Equations and related topics: ordinary and partial difference equations, analytic difference equations, orthogonal polynomials and

special functions, symmetries and reductions, difference geometry, integrable discrete systems on graphs, integrable dynamical mappings, discrete Painlevé equations, singularity confinement, algebraic entropy, complexity and growth of multivalued mapping, representations of affine Weyl groups, quantum mappings and quantum field theory on the space-time lattice.

Information: http://www.crm.umontreal.ca/SIDE8/index_e.shtml.

*22-29 **46th International Symposium on Functional Equations**, Opava-Hradec and Moravici, Czech Republic.

Topics: Functional equations and inequalities, mean values, functional equations on algebraic structures, Hyers-Ulam stability, regularity properties of solutions, conditional functional equations, functional-differential equations, iteration theory; applications of the above, in particular to the natural, social, and behavioral sciences.

Local Organizer: Jaroslav Smital, Mathematical Institute, Silesian University, Na Rybníčku 1, CZ-74601 Opava, Czech Republic, email: isfe46@math.slu.cz.

Information: Participation at these annual meetings is by invitation only. Those wishing to be invited to this or one of the following meetings send details of their interest and, preferably, publications (paper copies) and/or manuscripts with their postal and email address to: R. Ger, Institute of Mathematics, Silesian University, Bankowa 14, PL-40-007 Katowice, Poland (romanger@us.edu.pl) before February 15, 2008.

*23-July 18 **Clay Mathematics Institute 2008 Summer School on Evolution Equations**, Swiss Federal Institute of Technology, ETH-Zurich, Switzerland.

Description: Designed for graduate students and postdocs, the program will focus on recent progress in the theory of evolution equations. Such equations lie at the heart of many areas of mathematical physics. All turn out to be susceptible to analysis by a remarkably unified set of techniques. The first three weeks of the school will consist of three parallel courses introducing these techniques together with some applications. The fourth week will consist of mini-courses focusing on more advanced topics.

Lecturers: Include Mihalis Dafermos, Rafe Mazzeo, Pierre Raphaël, Igor Rodnianski, Benjamin Schlein, Gigliola Staffilani, Michael Struwe, Andrés Vasy, Monica Visan, Jared Wunsch.

Funding: Is available to graduate students and postdoctoral fellows who are within five years of receipt of their Ph.D. Standard support amounts will include funds for local expenses and accommodation plus economy travel.

Deadline: For applications is February 15, 2008.

Information: <http://www.claymath.org>.

*30-July 3 **10th International Conference on P-Adic and Non-Archimedean Analysis**, Michigan State University, East Lansing, Michigan.

Description: The tenth conference of the series of bi-annual meetings brings together scientists working on p-adic and non-Archimedean analysis and their applications.

Information: <http://bt.pa.msu.edu/NA08/>.

*30-July 5 **Workshop on Integrable Quantum Systems and Solvable Statistical Mechanical Models**, Centre de recherches mathématiques, Université de Montréal, Montréal, Québec, Canada.

Topics: The topics include correlation functions, new development in the Ising model, Q operators and separation of variables, vacuum expectation values, connection to string theory and AdS/CFT correspondence, combinatorial structures, quantum entanglement, and applications to condensed matter physics. Presentation of the latest results along with a comprehensive review of the current state of the subject should bring benefits to both junior and senior researchers.

Information: <http://www.crm.umontreal.ca/Mathphys2008>.

July 2008

*3-8 **22nd International Conference on Operator Theory**, West University of Timisoara, Timisoara, Romania.

Description: The conference is devoted to operator theory, operator algebras and their applications (differential operators, complex functions, mathematical physics, matrix analysis, system theory, etc.).

Information: <http://www.imar.ro/~ot/>.

*7-10 **The 2008 International Conference on Bioinformatics, Computational Biology, Genomics and Chemoinformatics (BCBGC-08)**, Orlando, Florida.

Description: We invite draft paper submissions and session proposals. The conference will be held at the same time and place where several other major events are taking place. The website contains more details.

Information: <http://www.PromoteResearch.org>.

*7-11 **Poisson 2008: Poisson Geometry in Mathematics and Physics**, Centre Interfacultaire Bernoulli (CIB) EPFL École Polytechnique Fédérale de Lausanne, Switzerland.

Purpose: This 6th conference will focus on Poisson structures and Dirac structures, Poisson groupoids, Lie and Courant algebroids, generalized complex geometry, Hamiltonian systems and generalized momentum maps, deformation quantization, sigma models, and string theory.

Preliminary list of speakers: H. Bursztyn (IMPA, Rio de Janeiro), V. Dolgushev (UC Riverside), B. Dubrovin (SISSA, Trieste), P. Etingof (MIT), G. Felder (ETH Zurich), R. L. Fernandes (IST, Lisbon), V. Fock (ITEP, Moscow), V. Ginzburg (Univ. Chicago), N. Hitchin (Univ. Oxford), M. Kontsevich (IHES), B. Kostant (MIT), C. Laurent-Gengoux (Univ. Poitiers), J.-H. Lu (Hong Kong Univ.), K. Mackenzie (Univ. Sheffield), E. Meinrenken (Univ. Toronto), S. Sternberg (Harvard Univ.), X. Tang (Washington Univ., St. Louis), B. Tsygan (Northwestern Univ., Chicago), P. Vanhaecke (Univ. Poitiers), A. Weinstein (UC Berkeley), M. Yakimov (UC Santa Barbara), M. Zabzine (Uppsala Univ.), C. Zhu (Univ. Grenoble).

Information: Visit <http://www.math.uzh.ch/poisson2008/>; email: christiane.depaola@epfl.ch.

Other Information: A pre-school for this conference will be held from July 1 to July 4, 2008, at the Bernoulli Center situated on the campus of EPFL (Lausanne, Switzerland). Lecturers will be: M. Crainic (Univ. Utrecht), G. Felder (ETH Zurich), M. Gualtieri (MIT), R. Sjamaar (Cornell Univ.).

*7-12 **Conference on "Modules and Representation Theory"**, Babes-bolyai University, Cluj- napoca, Romania.

Description: As described in the title, this is an Algebra Conference with special emphasis to Abelian Groups, Modules and Representation Theory (including the usual AGRAM on 2008).

Information: Visit http://math.ubbcluj.ro/~aga_team/AlgebraConferenceCluj2008.html.

*16-18 **60 Miles: A meeting to celebrate Miles Reid's sixtieth birthday**, LMS and University College, London, United Kingdom.

Description: A meeting to celebrate Miles Reid's sixtieth birthday with talks on algebraic surfaces, 3-folds, canonical singularities, the McKay correspondence and moduli problems.

Information: <http://malham.kent.ac.uk/grdb/60Miles/>.

August 2008

*4 **Workshop on Stochastic Loewner Evolution and Scaling Limits**, Centre de recherches mathématiques, Université de Montréal, Montréal, Québec, Canada.

Description: In recent years, the most interesting developments in the theory of two-dimensional critical phenomena have emerged from a developing field that might be called Conformal Probability Theory which complements the extensive work (starting from the 1970's) in the physics community on Conformal Field Theory.

Substantial progress has been made in understanding the random fractal geometry of such two-dimensional systems as critical percolation and critical Ising models and their relation with such classic probabilistic objects as the frontier of two-dimensional Brownian motion.

Topics: Among the topics to be treated in this workshop are: SLE and its Extensions, Critical and Near-Critical Scaling Limits, Gaussian Free Field, Coulomb Gas Methods, Relation to Conformal Field Theory and Quantum Gravity.

Information: <http://www.crm.umontreal.ca/Mathphys2008>.

- * 4–7 **SIAM Conference on the Life Sciences**, Hyatt Regency Montreal, Montreal, Quebec, Canada.

Invited Plenary Speakers: Paul Bressloff, University of Utah; Richard L. Ehman, Mayo Clinic; Jeff Hasty, University of California, San Diego; Sharon Lubkin, North Carolina State University; Ilya Shmulevich, Institute for Systems Biology; Karl Sigmund, University of Vienna, Austria; Kai E. Thomenius, GE Global Research; Claire J. Tomlin, University of California, Berkeley and Stanford University. The Call for Presentations for this conference is available at: <http://www.siam.org/meetings/lso8/>.

Deadlines: Minisymposium proposals: January 4, 2008. Abstracts for all contributed and minisymposium presentations: February 4, 2008.

Information: For additional information, contact SIAM Conference Department at: meetings@siam.org; <http://www.siam.org/meetings/lso8/>.

- * 18–23 **Workshop on Laplacian Growth and Related Topics**, Centre de recherches mathématiques, Université de Montréal, Montréal, Québec, Canada.

Description: This workshop is devoted to mathematical aspects of Laplacian Growth. A broad class of non-equilibrium growth processes have a common law: the normal velocity of the growing boundary of a region is proportional to the gradient of a harmonic field on the exterior. This type of growth (called Laplacian growth) is unstable for nearly all initial configurations. Instabilities develop into fractal singular patterns. Similar instabilities occur in the hydrodynamics of immiscible fluids.

Information: <http://www.crm.umontreal.ca/Mathphys2008>.

- * 25–30 **Workshop on Random Matrices, Related Topics and Applications**, Centre de recherches mathématiques, Université de Montréal, Montréal, Québec, Canada.

Description: The mathematics that has been developed for Random Matrix Theory in the past two decades is astonishingly rich and includes variational techniques, inverse spectral approach to nonlinear integrable differential and difference systems, new asymptotic techniques, such as the nonlinear steepest descent method, free probability and large deviations methods. The results obtained have found new applications in a stunningly wide range of areas of both mathematics and theoretical physics such as, for example, approximation theory, orthogonal polynomials and their asymptotics, number theory, combinatorics, dynamical systems of integrable type, representation theory of finite and infinite groups, growth phenomena, quantum gravity, conformal field theory, supersymmetric Yang-Mills theory and string theory.

Information: <http://www.crm.umontreal.ca/Mathphys2008>.

September 2008

- * 1–6 **Workshop on Random Tilings, Random Partitions and Stochastic Growth Processes**, Centre de recherches mathématiques, Université de Montréal, Montréal, Québec, Canada.

Information: <http://www.crm.umontreal.ca/Mathphys2008>.

Description: Tiling problems have a long tradition in combinatorics and in statistical mechanics. One of the central problems is understanding the statistical structure of the patterns obtained when randomly tiling a large domain. As noticed by N. Elkies and J. Propp a decade ago, random tilings of a large planar domain may

exhibit phase segregation; the density of tiles has a smooth (non-constant) variation in some regions of the domain in coexistence with a frozen region where the density of tiles is constant. In the corresponding surface picture the frozen region corresponds to a facet of constant slope while in the complement one has a rounded surface.

- * 29–October 4 **Workshop on Quantum Many-Body Systems, Bose-Einstein Condensation**, Centre de recherches mathématiques, Université de Montréal, Montréal, Québec, Canada.

Description: The physics of ultracold quantum gases and Bose-Einstein condensation is currently a very active field of both experimental and theoretical research worldwide. Unveiling the fascinating properties of such quantum many-body systems by rigorous mathematical analysis is an important and difficult challenge for mathematical physics. Considerable progress has been made in recent years involving a variety of mathematical techniques, such as spectral theory of partial differential operators with a large number of variables, nonlinear partial differential equations, random walks on lattices and functional integration. Several of the most basic questions are still unanswered, however, and there is much to be learned. The workshop will bring together experts with different backgrounds to review the current status of mathematical results in the field and to discuss new developments where a mathematical approach is potentially fruitful.

Information: <http://www.crm.umontreal.ca/Mathphys2008>.

January 2009

- * 4–9 **Workshop on Random Functions and Random Surfaces and Interfaces**, Centre de recherches mathématiques, Université de Montréal, Montréal, Québec, Canada.

Description: This workshop is devoted to random fields such as Gaussian random fields $ai(w)ji(x)$ where ji is an orthonormal basis for a Hilbert space H and where the coefficients $ai(w)$ are independent (real or complex) Gaussian random variables of mean zero and variance one. Motivated by such physical models as (i) the large scale matter distribution in the universe or (ii) landscape statistics in string theory or (iii) the random wave model in quantum chaos or (iv) limit shapes of phase interfaces in statistical mechanics, the workshop will largely focus on the zeros or critical points of random fields.

Information: <http://www.crm.umontreal.ca/Mathphys2008>.

May 2009

- * 18–23 **Workshop on Interacting Stochastic Particle Systems**, Centre de recherches mathématiques, Université de Montréal, Montréal, Québec, Canada.

Description: Statistical mechanics provides the formalism of Gibbsian ensembles for computing properties of equilibrium systems from a knowledge of the microscopic interactions between the constituent particles. Our understanding of nonequilibrium situations is less satisfactory. In the field of interacting stochastic particle systems nonequilibrium questions are studied in simplified models that are amenable to mathematically rigorous analysis. This workshop brings together researchers from interacting stochastic systems and related areas to survey recent successes and to map out promising future directions.

Information: <http://www.crm.umontreal.ca/Mathphys2008>.

June 2009

- * 8–13 **Workshop on Disordered Systems: Spin Glasses**, Centre de recherches mathématiques, Université de Montréal, Montréal, Québec, Canada.

Organizers: G. Ben Arous (Courant Institute), E. Bolthausen (Zürich), M. Mézard (Paris-Sud), D. Stein (New York).

Information: <http://www.crm.math.ca/Mathphys2008>.