

---

# Meetings & Conferences of the AMS

**IMPORTANT INFORMATION REGARDING MEETINGS PROGRAMS:** AMS Sectional Meeting programs do not appear in the print version of the *Notices*. However, comprehensive and continually updated meeting and program information with links to the abstract for each talk can be found on the AMS website. See <http://www.ams.org/meetings/>. Final programs for Sectional Meetings will be archived on the AMS website accessible from the stated URL and in an electronic issue of the *Notices* as noted below for each meeting.

## Winston-Salem, North Carolina

Wake Forest University

September 24–25, 2011

Saturday – Sunday

### Meeting #1073

Southeastern Section

Associate secretary: Matthew Miller

Announcement issue of *Notices*: June 2011

Program first available on AMS website: August 11, 2011

Program issue of electronic *Notices*: September 2011

Issue of *Abstracts*: Volume 32, Issue 4

### Deadlines

For organizers: Expired

For consideration of contributed papers in Special Sessions: Expired

For abstracts: Expired

*The scientific information listed below may be dated. For the latest information, see [www.ams.org/amsmtgs/sectional.html](http://www.ams.org/amsmtgs/sectional.html).*

### Invited Addresses

**Benjamin B. Brubaker**, Massachusetts Institute of Technology, *Square ice, symmetric functions, and their connections to automorphic forms.*

**Shelly Harvey**, Rice University, *4-dimensional equivalence relations on knots.*

**Allen Knutson**, Cornell University, *Modern developments in Schubert calculus.*

**Seth M. Sullivan**, North Carolina State University, *Algebraic statistics.*

### Special Sessions

*Algebraic and Geometric Aspects of Matroids*, **Hoda Bidkhor**, **Alex Fink**, and **Seth Sullivan**, North Carolina State University.

*Applications of Difference and Differential Equations to Biology*, **Anna Mummert**, Marshall University, and **Richard C. Schugart**, Western Kentucky University.

*Combinatorial Algebraic Geometry*, **W. Frank Moore**, Wake Forest University and Cornell University, and **Allen Knutson**, Cornell University.

*Extremal Combinatorics*, **Tao Jiang**, Miami University, and **Linyuan Lu**, University of South Carolina.

*Geometric Knot Theory and its Applications*, **Yuanan Diao**, University of North Carolina at Charlotte, **Jason Parsley**, Wake Forest University, and **Eric Rawdon**, University of St. Thomas.

*Low-Dimensional Topology and Geometry*, **Shelly Harvey**, Rice University, and **John Etnyre**, Georgia Institute of Technology.

*Modular Forms, Elliptic Curves, and Related Topics*, **Matthew Boylan**, University of South Carolina, and **Jeremy Rouse**, Wake Forest University.

*New Developments in Graph Theory*, **Joshua Cooper** and **Kevin Milans**, University of South Carolina, and **Carlos**

**Nicolas** and **Clifford Smyth**, University of North Carolina at Greensboro.

*Noncommutative Algebra*, **Ellen E. Kirkman** and **James J. Kuzmanovich**, Wake Forest University.

*Nonlinear Boundary Value Problems*, **Maya Chhetri**, University of North Carolina at Greensboro, and **Stephen B. Robinson**, Wake Forest University.

*Nonlinear Dispersive Equations*, **Sarah Raynor**, Wake Forest University, **Jeremy Marzuola**, University of North Carolina at Chapel Hill, and **Gideon Simpson**, University of Toronto.

*Recent Advances in Infectious Disease Modeling*, **Fred Chen** and **Miaohua Jiang**, Wake Forest University.

*Set Theoretic Topology*, **Peter Nyikos**, University of South Carolina.

*Symmetric Functions, Symmetric Group Characters, and Their Generalizations*, **Sarah Mason**, Wake Forest University, **Aaron Lauve**, Loyola University-Chicago, and **Ed Allen**, Wake Forest University.

## Lincoln, Nebraska

*University of Nebraska-Lincoln*

**October 14–16, 2011**

*Friday – Sunday*

### Meeting #1074

Central Section

Associate secretary: Georgia Benkart

Announcement issue of *Notices*: August 2011

Program first available on AMS website: September 1, 2011

Program issue of electronic *Notices*: October 2011

Issue of *Abstracts*: Volume 32, Issue 4

### Deadlines

For organizers: Expired

For consideration of contributed papers in Special Sessions: Expired

For abstracts: Expired

*The scientific information listed below may be dated. For the latest information, see [www.ams.org/amsmtg/sectional.html](http://www.ams.org/amsmtg/sectional.html).*

### Invited Addresses

**Lewis P. Bowen**, Texas A&M University, *Entropy theory for actions of sofic groups*.

**Emmanuel Candes**, Stanford University, *Recovering the unseen: Some recent advances in low-rank matrix reconstruction* (Erdős Memorial Lecture).

**Alina Cojocaru**, University of Illinois at Chicago and Mathematics Institute of the Romanian Academy, *Questions about the reductions modulo primes of an elliptic curve*.

**Michael Zieve**, University of Michigan, *The happy marriage between arithmetic geometry and dynamical systems*.

### Special Sessions

*Algebraic Geometry and Graded Commutative Algebra*, **Susan Cooper** and **Brian Harbourne**, University of Nebraska-Lincoln.

*Algorithmic and Geometric Properties of Groups and Semigroups*, **Susan Hermiller** and **John Meakin**, University of Nebraska-Lincoln.

*Association Schemes and Related Topics*, **Sung Y. Song**, Iowa State University, and **Paul Terwilliger**, University of Wisconsin Madison.

*Asymptotic Behavior and Regularity for Nonlinear Evolution Equations*, **Petronela Radu** and **Lorena Bociu**, University of Nebraska-Lincoln.

*Coding Theory*, **Christine Kelley** and **Judy Walker**, University of Nebraska-Lincoln.

*Commutative Algebra*, **Christina Eubanks-Turner**, University of Louisiana at Lafayette, and **Aihua Li**, Montclair State University.

*Computational and Applied Mathematics*, **Ludwig Kohaupt**, Beuth University of Technology Berlin, Germany, and **Yan Wu**, Georgia Southern University.

*Continuous and Numerical Analysis in the Control of PDE's*, **George Avalos**, **Mohammad Rammaha**, and **Daniel Toundykov**, University of Nebraska-Lincoln.

*Discrete Methods and Models in Biomathematics*, **Dora Matache** and **Jim Rogers**, University of Nebraska-Omaha, and **Alan Veliz-Cuba**, University of Nebraska-Lincoln.

*Dynamic Systems on Time Scales with Applications*, **Lynn Erbe** and **Allan Peterson**, University of Nebraska-Lincoln.

*Dynamical Systems and Operator Algebras*, **Lewis Bowen**, Texas A&M University, and **David Kerr**, Texas A&M University at Galveston.

*Extremal and Probabilistic Combinatorics*, **Stephen Hartke** and **Jamie Radcliffe**, University of Nebraska-Lincoln.

*Invariants in Knot Theory and Low-dimensional Topology*, **Mark Brittenham**, University of Nebraska-Lincoln, and **Robert Todd**, University of Nebraska-Omaha.

*Local Commutative Algebra*, **H. Ananthnarayan**, University of Nebraska-Lincoln, **Inês B. Henriques**, University of California Riverside, and **Hamid Rahmati**, Syracuse University.

*Matrices and Graphs*, **In-Jae Kim**, Minnesota State University, **Adam Berliner**, St. Olaf College, **Leslie Hogben**, Iowa State University, and **Bryan Shader**, University of Wyoming.

*Quantum Groups and Representation Theory*, **Jonathan Kujawa**, University of Oklahoma, and **Natasha Rozhkovskaya**, Kansas State University.

*Recent Directions in Number Theory*, **Alina Cojocaru**, University of Illinois at Chicago, and **Michael Zieve**, University of Michigan.

*Recent Progress in Operator Algebras*, **Allan P. Donsig** and **David R. Pitts**, University of Nebraska-Lincoln.

# Salt Lake City, Utah

*University of Utah*

**October 22–23, 2011**

*Saturday – Sunday*

## Meeting #1075

Western Section

Associate secretary: Michel L. Lapidus

Announcement issue of *Notices*: August 2011

Program first available on AMS website: September 8, 2011

Program issue of electronic *Notices*: October 2011

Issue of *Abstracts*: Volume 32, Issue 4

## Deadlines

For organizers: Expired

For consideration of contributed papers in Special Sessions: Expired

For abstracts: Expired

*The scientific information listed below may be dated. For the latest information, see [www.ams.org/amsmtgs/sectional.html](http://www.ams.org/amsmtgs/sectional.html).*

## Invited Addresses

**Graeme Milton**, University of Utah, *Metamaterials: High contrast composites with unusual properties*.

**Lei Ni**, University of California San Diego, *Gap theorems on Kähler manifolds*.

**Igor Pak**, University of California Los Angeles, *The future of combinatorial bijections*.

**Monica Visan**, University of California Los Angeles, *Dispersive partial differential equations at critical regularity*.

## Special Sessions

*Algebraic Geometry*, **Tommaso de Fernex** and **Christopher Hacon**, University of Utah.

*Applied Analysis*, **Marian Bocea**, North Dakota State University, and **Mihai Mihăilescu**, University of Craiova Romania.

*Category Theory in Graphs, Geometry and Inverse Problems*, **Robert Owczyński**, Enfitec. Inc., and **Hanna Makaruk**, Los Alamos National Laboratory NM.

*Celestial and Geometric Mechanics*, **Lennard Bakker** and **Tiancheng Ouyang**, Brigham Young University.

*Commutative Algebra*, **Chin-Yi Jean Chan**, Central Michigan University, and **Lance E. Miller** and **Anurag K. Singh**, University of Utah.

*Computational and Algorithmic Algebraic Geometry*, **Zach Teitler**, Boise State University, and **Jim Wolper**, Idaho State University.

*Electromagnetic Wave Propagation in Complex and Random Environments*, **David Dobson**, University of Utah, and **Peijun Li**, Purdue University.

*Geometric Evolution Equations and Related Topics*, **Andrius Treibergs**, University of Utah Salt Lake City, **Lei Ni**, University of California San Diego, and **Brett Kotschwar**, Arizona State University.

*Geometric, Combinatorial, and Computational Group Theory*, **Eric Freden**, Southern Utah University, and **Eric Swenson**, Brigham Young University.

*Harmonic Analysis and Dispersive Partial Differential Equations*, **Xiaoyi Zhang**, University of Iowa, and **Monica Visan** and **Betsy Stovall**, University of California Los Angeles.

*Hypergeometric Functions and Differential Equations*, **Laura F. Matusevich**, Texas A&M University, and **Christine Berkesch**, Stockholm University.

*Inverse Problems and Homogenization*, **Elena Cherkaev** and **Fernando Guevara Vasquez**, University of Utah.

*Noncommutative Geometry and Algebra*, **Kenneth R. Goodearl**, University of California Santa Barbara, and **Milen Yakimov**, Louisiana State University.

*Nonlinear Waves*, **Zhi-Qiang Wang** and **Nghiem Nguyen**, Utah State University.

*Recent Progress in Numerical Partial Differential Equations*, **Jichun Li**, University of Nevada, Las Vegas, and **Shue-Sum Chow**, Brigham Young University.

*Reductive Groups and Hecke Algebras*, **Dan Ciubotaru**, University of Utah, **Cathy Krilloff**, Idaho State University, and **Peter Trapa**, University of Utah.

*Understanding Bio-fluids via Modeling, Simulation and Analysis*, **Christel Hohenegger**, University of Utah.

# Port Elizabeth, Republic of South Africa

*Nelson Mandela Metropolitan University*

**November 29 – December 3, 2011**

*Tuesday – Saturday*

## Meeting #1076

*First Joint International Meeting between the AMS and the South African Mathematical Society*.

Associate secretary: Matthew Miller

Announcement issue of *Notices*: July 2011

Program first available on AMS website: To be announced

Program issue of electronic *Notices*: To be announced

Issue of *Abstracts*: Not applicable

## Deadlines

For organizers: Expired

For consideration of contributed papers in Special Sessions: To be announced

For abstracts: To be announced

*The scientific information listed below may be dated. For the latest information, see [www.ams.org/amsmtgs/internmtgs.html](http://www.ams.org/amsmtgs/internmtgs.html).*

**Invited Addresses**

**Mark J. Ablowitz**, University of Colorado, *Nonlinear systems—from oceans to number theory*.

**Zoltan Furedi**, University of Illinois, Urbana-Champaign, *Title to be announced*.

**Mikhail Petrov**, University of Swaziland, *Title to be announced*.

**James Raftery**, University of Kwazulu Natal, *Title to be announced*.

**Daya Reddy**, University of Cape Town, *Title to be announced*.

**Peter Sarnak**, Princeton University, *Mobius randomness and dynamics*.

**Lindi Tshabalala**, Thuthuzekani Primary School, *Title to be announced*.

**Amanda Weltman**, University of Cape Town, *Title to be announced*.

**Special Sessions**

*Combinatorial and Computational Group Theory with Applications*, **Gilbert Baumslag**, City College of New York, **Mark Berman**, University of Cape Town, and **Vladimir Shpilrain**, City College of New York.

*Combinatorics and Graph Theory*, **Michael Henning**, University of Johannesburg, **Robin Thomas**, Georgia Institute of Technology, and **Jacques Verstraete**, University of California, San Diego.

*Computer Vision, High Performance Computing, and Imaging*, **Steve Damelin**, Georgia Southern University and University of the Witwatersrand, and **Hari Kumar**, University of the Witwatersrand.

*Finite Groups and Combinatorial Structures*, **Jashmid Moori**, North-West University, Mafikeng, and **B. Rodrigues**, University of Kwazulu-Natal, Westville.

*Geometry and Differential Equations*, **Jesse Ratzkin**, University of Cape Town.

*High Performance Computing and Imaging*, **Steven B. Damelin**, Georgia Southern University and University of the Witwatersrand, and **Hari Kumar**, University of the Witwatersrand.

*Mathematical Inequalities and Applications*, **Saver S. Dragomir**, University of Witwatersrand and Victoria University, Australia.

*Nonlinear Waves and Integrable Systems*, **Mark Ablowitz**, University of Colorado at Boulder, and **Barbara Prinari**, University of Colorado at Colorado Springs.

*Operator and Banach Algebras, and Noncommutative Analysis*, **David Blecher**, University of Houston, **Garth Dales**, University of Leeds, **Louis Labuschagne**, North-West University, Potchefstroom Campus, and **Anton Stroh**, University of Pretoria.

*Recent Advances in Computational Methods for Partial Differential Equations*, **Kailash C. Patidar**, University of the Western Cape.

*Theoretical and Numerical Aspects of Dynamical Systems, Partial Differential Equations, and Inequalities, Arising in Applications*, **J. M.-S. Lubuma**, University of Pretoria, and **B. D. Reddy**, University of Cape Town.

*Topology and Categories*, **Hans-Peter Kuenzi**, University of Cape Town.

# Boston, Massachusetts

*John B. Hynes Veterans Memorial Convention Center, Boston Marriott Hotel, and Boston Sheraton Hotel*

**January 4–7, 2012**

*Wednesday – Saturday*

**Meeting #1077**

*Joint Mathematics Meetings, including the 118th Annual Meeting of the AMS, 95th Annual Meeting of the Mathematical Association of America, annual meetings of the Association for Women in Mathematics (AWM) and the National Association of Mathematicians (NAM), and the winter meeting of the Association for Symbolic Logic (ASL), with sessions contributed by the Society for Industrial and Applied Mathematics (SIAM).*

Associate secretary: Michel L. Lapidus

Announcement issue of *Notices*: October 2011

Program first available on AMS website: November 1, 2011

Program issue of electronic *Notices*: January 2012

Issue of *Abstracts*: Volume 33, Issue 1

**Deadlines**

For organizers: Expired

For consideration of contributed papers in Special Sessions: Expired

For abstracts: September 22, 2011

*The scientific information listed below may be dated. For the latest information, see [www.ams.org/amsmtg/national.html](http://www.ams.org/amsmtg/national.html).*

**Joint Invited Addresses**

**Erik Demaine**, Massachusetts Institute of Technology, *Geometric puzzles: Algorithms and complexity* (AMS-MAA-SIAM Gerald and Judith Porter Public Lecture).

**Allen Knutson**, Cornell University, *Title to be announced* (AMS-MAA Invited Address).

**Hee Oh**, Brown University, *Title to be announced* (AMS-MAA Invited Address).

**Joint Prize Session**

**Prize Session and Reception:** In order to showcase the achievements of the recipients of various prizes, the AMS and MAA are cosponsoring this event at 4:25 p.m. on Thursday. A cash bar reception will immediately follow. All participants are invited to attend. The AMS, MAA, and SIAM will award the Frank and Brennie Morgan Prize for Outstanding Research in Mathematics by an Undergraduate Student. The AMS will announce the winners of the George David Birkhoff Prize in Applied Mathematics, Frank Nelson Cole Prize for Algebra, Levi L. Conant Prize, Leroy P. Steele Prizes, and the Award for Distinguished Public Service. The MAA will award the Beckenbach Book



Prize, Chauvenet Prize, Euler Book Prize, Yueh-Gin Gung and Dr. Charles Y. Hu Award for Distinguished Service to Mathematics, Deborah and Franklin Tepper Haimo Awards for Distinguished College or University Teaching of Mathematics, and Certificates of Meritorious Service. The AWM will present the Alice T. Schafer Prize for Excellence in Mathematics by an Undergraduate Woman, the Louise Hay Award for Contributions to Mathematics Education, and the Gweneth Humphreys Award for Mentorship of Undergraduate Women in Mathematics.

This session will also be the venue for the announcement of the Joint Policy Board for Mathematics Communication Award.

## 118th Meeting of the AMS

### AMS Invited Addresses

**George E. Andrews**, Penn State University, *Title to be announced* (AMS Retiring Presidential Address).

**Bradley Efron**, Stanford University, *A 250-year argument: Belief, behavior, and the bootstrap* (AMS Josiah Willard Gibbs Lecture).

**Edward Frenkel**, University of California Berkeley, *Langlands program, trace formulas, and their geometrization* (AMS Colloquium Lectures).

**Larry Guth**, University of Toronto, *The polynomial method in combinatorial geometry*.

**Assaf Naor**, Courant Institute of Mathematical Sciences, *The Ribe program*.

**Eric Rains**, California Institute of Technology, *Beyond  $q$ : Special functions on elliptic curves*.

**Wilhelm Schlag**, University of Chicago, *Invariant manifolds and dispersive Hamiltonian evolution equations*.

### AMS Special Sessions

Some sessions are cosponsored with other organizations. These are noted within the parenthesis at the end of each listing, where applicable.

*Advanced Investigations on Applied Optimization and Multiple Fractional Programming* (Code: SS 6A), **Ram U. Verma**, Texas A&M University, and **Alexander J. Zaslavski**, Technion, Israel.

*Advances in Coding Theory* (Code: SS 10A), **Sarah Spence Adams**, Olin College of Engineering, **Gretchen L. Matthews**, Clemson University, and **Judy L. Walker**, University of Nebraska-Lincoln.

*Advances in Mathematical Biology* (Code: SS 56A), **David Chan** and **Rebecca Segal**, Virginia Commonwealth University.

*Algebraic and Geometric Aspects of Integrable Systems and Random Matrices* (Code: SS 58A), **Anton Dzhamay**, University of Northern Colorado, and **Kenichi Maruno** and **Virgil Pierce**, University of Texas, Pan American.

*Arithmetic Geometry* (Code: SS 51A), **Bo-Hae Im**, Chung-Ang University, South Korea, **Jennifer Johnson-Leung**, University of Idaho, and **Jennifer Paulhus**, Grinnell College.

*Calculus of Functors and Its Applications* (Code: SS 11A), **Brian Munson** and **Ismar Volic**, Wellesley College.

*Classical Fourier Analysis and Partial Differential Equations* (Code: SS 27A), **William O. Bray**, University of Maine, and **Mark A. Pinsky**, Northwestern University.

*Climate Modeling and Geophysical Fluid Dynamics* (Code: SS 39A), **Qingshan Chen**, Florida State University, **Nathan Glatt-Holtz**, Indiana University, and **Mickael Chekroun**, University of California, Los Angeles.

*Combinatorial Geometry of Polytopes* (Code: SS 42A), **Egon Schulte**, Northeastern University, and **Asia Ivic Weiss**, York University.

*Computational and Applied Topology (Mathematics Research Communities session)* (Code: SS 61A), **Radmila Sazdonovic**, University of Pennsylvania, **Daniel Mueller**, Stanford University, and **Mikael Vejdemo-Johansson**, University of St. Andrews.

*Control Theory and Inverse Problems for Partial Differential Equations* (Code: SS 18A), **Shitao Liu**, University of Virginia, and **Ting Zhou**, University of California, Irvine.

*Control of Biological and Physical Systems* (Code: SS 36A), **Wandi Ding**, Middle Tennessee State University, **Volodymyr Hrynkyv**, University of Houston-Downtown, and **Suzanne Lenhart**, University of Tennessee, Knoxville, and NIMBioS.

*Difference Equations and Applications* (Code: SS 3A), **Michael Radin**, Rochester Institute of Technology.

*Differential Algebraic Geometry and Galois Theory (in memory of Jerald Kovacic)* (Code: SS 7A), **Phyllis Joan Cassidy**, Smith College and the City University of New York, **Richard Churchill**, Hunter College and Graduate Center at CUNY, **Claude Mitschi**, Université de Strasbourg, France, and **Michael Singer**, North Carolina State University.

*Dynamical Systems in Algebraic and Arithmetic Geometry* (Code: SS 19A), **Patrick Ingram**, University of Waterloo, Canada, **Michelle Manes**, University of Hawaii, Honolulu, and **Clayton Petsche**, Hunter College (CUNY).

*Enumerative and Algebraic Combinatorics* (Code: SS 40A), **Ira Gessel**, Brandeis University, and **Alexander Posnikov** and **Richard Stanley**, Massachusetts Institute of Technology.

*Fractal Geometry in Pure and Applied Mathematics (in memory of Benoit Mandelbrot)* (Code: SS 4A), **Michael L. Lapidus**, University of California, Riverside, **Erin Pearse**, University of Oklahoma, and **Machiel van Frankenhuijsen**, Utah Valley University.

*Fractional, Hybrid, and Stochastic Dynamical Systems with Applications* (Code: SS 12A), **John Graef**, University of Tennessee at Chattanooga, **Gangaram S. Ladde**, University of South Florida, Tampa, and **Aghala S. Vatsala**, University of Louisiana at Lafayette.

*Frontiers in Geomathematics* (Code: SS 55A), **Willi Freeden**, University of Kaiserslautern, **Volker Michel**, University of Siegen, and **M. Zuhair Nashed**, University of Central Florida.

*Generalized Cohomology Theories in Engineering Practice* (Code: SS 37A), **Robert Kotiuga**, Boston University.

*Geometric Invariants of Groups and Related Topics* (Code: SS 14A), **Nic Koban**, University of Maine, Farmington, and **Peter N. Wong**, Bates College.

*Geometry of Real Projective Structures (Mathematics Research Communities session)* (Code: SS 60A), **Jeffrey Danciger**, Stanford University, **Kelly Delp**, Buffalo State College, **Sean Lawton**, University of Texas, Pan American, and **Kathryn Mann**, University of Chicago.

*Global Dynamics of Rational Difference Equations with Applications* (Code: SS 33A), **Mustafa R. S. Kulenovic**, **Gerasimos Ladas**, and **Orlando Merino**, University of Rhode Island.

*Groups, Algorithms, Complexity, and Theory of Security* (Code: SS 28A), **Maggie Habeeb** and **Delaram Kahrobaei**, City University of New York.

*History of Mathematics* (Code: SS 65A), **Sloan Despeaux**, Western Carolina University, **Craig Fraser**, University of Toronto, and **Deborah Kent**, Hillsdale College (AMS-MAA).

*Homotopy Theory* (Code: SS 5A), **Mark Behrens**, Massachusetts Institute of Technology, **Mark W. Johnson**, Pennsylvania State University, Altoona, **Haynes R. Miller**, Massachusetts Institute of Technology, **James Turner**, Calvin College, and **Donald Yau**, Ohio State University.

*Hyperbolicity in Manifolds and Groups* (Code: SS 25A), **David Futer**, Temple University, and **Genevieve Walsh**, Tufts University.

*Life and Legacy of Alan Turing* (Code: SS 13A), **Damir Dzhafarov**, University of Chicago and University of Notre Dame, **Jeff Hirst**, Appalachian State University, and **Carl Mummert**, Marshall University (AMS-ASL).

*Knot Theory* (Code: SS 0A), **Tim Cochran** and **Shelly Harvey**, Rice University.

*Linear Algebraic Groups: Their Arithmetic, Geometry, and Representations* (Code: SS 49A), **R. Skip Garibaldi**, Emory University, and **George McNinch**, Tufts University.

*Local Field Properties, Microstructure, and Multiscale Modeling of Heterogeneous Media* (Code: SS 23A), **Silvia Jiménez** and **Bogdan Vernescu**, Worcester Polytechnic Institute.

*Mathematical Principles and Theories of Integrable Systems* (Code: SS 35A), **Wen-Ziu Ma**, University of South Florida, **Syed Tauseef Mohyud-Din**, HITEC University, and **Zhijun Qiao**, University of Texas, Pan American.

*Mathematical Theory of Control of Quantum Systems* (Code: SS 38A), **Francesca Albertini**, University of Padua, **Domenico D'Alessandro**, Iowa State University, **Raffaele Romano**, University of Trieste, and **Francesco Ticozzi**, University of Padua.

*Mathematics and Education Reform* (Code: SS 41A), **William Barker**, Bowdoin College, **William McCallum**, University of Arizona, and **Bonnie Saunders**, University of Illinois at Chicago (AMS-MAA-MER).

*Mathematics and Statistics in Computational Biology* (Code: SS 52A), **Mark A. Kon**, Boston University.

*Mathematics in Industry* (Code: SS 34A), **Kirk E. Jordan**, IBM T. J. Watson Research, **Donald Schwendeman**, Rensselaer Polytechnic Institute, and **Burt S. Tilley** and **Suzanne L. Weekes**, Worcester Polytechnic Institute.

*Mathematics in Natural Resource Modeling* (Code: SS 9A), **Catherine Roberts**, College of the Holy Cross.

*Mathematics of Computation: Algebra and Number Theory* (Code: SS 16A), **Jean-Marc Couveignes**, Université de Toulouse, **Michael J. Mossinghoff**, Davidson College,

and **Igor E. Shparlinski**, Macquarie University, Australia (AMS-SIAM).

*Mathematics of Computation: Differential Equations, Linear Algebra, and Applications* (Code: SS 26A), **Chi-Wang Shu**, Brown University (AMS-SIAM).

*Mathematics of Decisions, Elections, and Games* (Code: SS 57A), **Karl-Dieter Crisman**, Gordon College, **Michael Jones**, *Mathematical Reviews*, and **Michael Orrison**, Harvey Mudd College.

*Matrices and Graphs* (Code: SS 50A), **Leslie Hogben**, Iowa State University and American Institute of Mathematics, and **Bryan L. Shader**, University of Wyoming.

*My Favorite Graph Theory Conjectures* (Code: SS 29A), **Ralucca Gera**, Naval Postgraduate School, and **Craig Larson**, Virginia Commonwealth University.

*New Perspectives in Multiplicative Number Theory (Mathematics Research Communities session)* (Code: SS 62A), **Leo Goldmakher**, University of Toronto, **Jonathan Kish**, University of Colorado at Boulder, **Micah Millinovich**, University of Mississippi, and **Paul Pollack**, University of British Columbia/Simon Fraser University.

*Noncommutative Birational Geometry and Cluster Algebras* (Code: SS 44A), **Arkady Berenstein**, University of Oregon, and **Vladimir Retakh**, Rutgers University.

*Nonlinear Analysis of Partial Differential Equation Models in Biology and Chemical Physics* (Code: SS 48A), **Zhonghai Ding**, University of Nevada, Las Vegas, and **Zhaosheng Feng**, University of Texas-Pan American.

*Nonlinear Hyperbolic Partial Differential Equations* (Code: SS 32A), **Barbara Lee Keyfitz** and **Charis Tsikkou**, Ohio State University (AMS-AWM).

*Operator Theory on Analytic Function Spaces* (Code: SS 43A), **Robert F. Allen**, University of Wisconsin, La Crosse, and **Katherine C. Heller** and **Matthew A. Pons**, North Central College.

*Optimal Control in Applied Mathematical Modeling* (Code: SS 45A), **Natali Hritonenko**, Prairie View A&M University, and **Yuri Yatsenko**, Houston Baptist University.

*Progress in Free Analysis* (Code: SS 46A), **J. William Helton**, University of California, San Diego, and **Paul S. Muhly**, University of Iowa.

*Radon Transforms and Geometric Analysis (in honor of Sigurdur Helgason's 85th birthday)* (Code: SS 17A), **Jens Christensen**, University of Maryland, and **Fulton Gonzalez** and **Todd Quinto**, Tufts University. A satellite workshop will take place January 8–9 at Tufts University on Geometric Analysis on Euclidean and Homogeneous Spaces; see <http://go.tufts.edu/workshop2012> for details.

*Rational Points on Varieties* (Code: SS 30A), **Jennifer Balakrishnan** and **Bjorn Poonen**, Massachusetts Institute of Technology, **Bianca Viray**, Brown University, and **Kirsten Wickelgren**, Harvard University.

*Reaction Diffusion Equations and Applications* (Code: SS 31A), **Jerome Goddard II** and **Shivaji Ratnasingham**, Mississippi State University, and **Junping Shi**, College of William and Mary.

*Recent Advances in Mathematical Biology, Ecology, and Epidemiology* (Code: SS 21A), **Sophia R. Jang**, Texas Tech University, **Andrew L. Nevai**, University of Central Florida, and **Lih-Ing W. Roeger**, Texas Tech University.

*Recent Trends in Graph Theory* (Code: SS 24A), **Ralucca Gera**, Naval Postgraduate School.

*Research in Mathematics by Undergraduates and Students in Post-Baccalaureate Programs* (Code: SS 66A), **Bernard Brooks** and **Jobby Jacob**, Rochester Institute of Technology, **Jacqueline Jensen**, Sam Houston State University, and **Darren A. Narayan**, Rochester Institute of Technology (AMS-MAA).

*Science for Policy and Policy for Science: Career Opportunities at the Intersection of Science and Policy* (Code: SS 59A), **Cynthia Robinson** and **Shar Steed**, AAAS Science & Technology Fellowships (AMS-AAAS).

*Set-Valued Optimization and Variational Problems* (Code: SS 47A), **Andreas H. Hamel**, Yeshiva University, **Akhtar A. Khan**, Rochester Institute of Technology, and **Miguel Sama**, E.T.S.I. Industriales.

*Several Complex Variables and Multivariable Operator Theory* (Code: SS 8A), **Ronald Douglas**, Texas A&M University, and **John McCarthy**, Washington University.

*Some Nonlinear Partial Differential Equations — Theory and Application* (Code: SS 54A), **Jerry L. Bona**, University of Illinois, Chicago, and **Laihan Luo**, New York Institute of Technology.

*Stability Analysis for Infinite Dimensional Hamiltonian Systems* (Code: SS 63A), **Wilhelm Schlag**, University of Chicago, and **Gene Wayne**, Boston University.

*Stochastic Analysis (in honor of Hui-Hsiung Kuo)* (Code: SS 1A), **Julius Esunge**, University of Mary Washington, and **Aurel Stan**, Ohio State University.

*Tensor Categories and Representation Theory* (Code: SS 22A), **Deepak Naidu**, Northern Illinois University, and **Dmitri Nikshych**, University of New Hampshire.

*Theory and Applications of Stochastic Differential and Partial Differential Equations* (Code: SS 15A), **Edward Allen**, Texas Tech University, **Mahmoud Anabtawi**, American University of Sharjah, **Armando Arciniega**, University of Texas at San Antonio, **Gangaram S. Ladde**, University of South Florida, and **Sivapragasam Sathananthan**, Tennessee State University.

*Topological Graph Theory: Structure and Symmetry* (Code: SS 20A), **Jonathan L. Gross**, Columbia University, and **Thomas W. Tucker**, Colgate University.

*Trends in Representation Theory* (Code: SS 2A), **Donald King**, Northeastern University, and **Alfred Noel**, University of Massachusetts, Boston.

*Uniformly and Partially Hyperbolic Dynamical Systems* (Code: SS 53A), **Todd Fisher**, Brigham Young University, and **Boris Hasselblatt**, Tufts University.

### AMS Contributed Paper Sessions

There will be sessions of ten-minute contributed talks. Although an individual may present only one contributed paper at a meeting, any combination of joint authorship may be accepted, provided no individual speaks more than once on the program. Contributed papers will be grouped together by related subject classifications into sessions.

### Submission of Abstracts for AMS Sessions

Authors must submit abstracts of talks through <http://jointmathematicsmeetings.org/meetings/>

[abstracts/abstract.pl?type=jmm](http://abstracts/abstract.pl?type=jmm). Indicate the number of authors for the paper, click on the “submit” button, and you will be taken to the submission form. Simply follow the step-by-step instructions (read them carefully) until you receive your unique abstract number. No submission is complete until you receive your abstract receipt number. **The deadline for all submissions is September 22, 2011.** Late papers cannot be accommodated. Please email [abs-coord@ams.org](mailto:abs-coord@ams.org) if you have questions. If you make an inquiry about your specific abstract, please include your abstract number.

### Other AMS Sessions

**Administrative Strategies for Dealing with Budget Cuts**, organized by **Al Boggess**, **Don Allen**, and **Jill Zarrestky**, Texas A&M University; Wednesday, 2:15 p.m.–3:35 p.m. This panel will give chairs of mathematics departments the opportunity to share strategies for dealing with budget cuts. Topics covered include: the effect of increasing class size on student learning, balancing teaching and research, differential teaching loads, the changing role of teaching assistants, the appropriate use of technology as an alternative or supplement to lecture, and the use of electronic textbooks. Our target audience will be public universities that have both teaching and research missions. We will first develop a survey of baseline data regarding responses to current budget cuts well before the meeting. The panel (members to be announced) will begin with a presentation of survey results. This will be followed by a discussion on the above topics with heavy participation by members in the audience. Sponsored by the AMS and the MAA.

**Supply, Demand, and the Math Ph.D. Program**, Wednesday, 4:30 p.m.–6:00 p.m. Is there an oversupply of Ph.D. mathematicians? What effect should hiring patterns have on Ph.D. programs in term of size, curriculum, or advising? These and other contentious questions will be addressed during this panel discussion with audience participation. Sponsored by the Committee on the Profession.

**Conversation on Nonacademic Employment**, Thursday, 10:30 a.m.–noon. This session will concentrate on how to find nonacademic positions, types of jobs, the interview process, work environments, and advancement opportunities. The discussion will be led by a panel of mathematical scientists working in government and industry.

**Summer Math Camps: The AMS (and Mathematician’s) Role**, organized by **Glenn Stevens**, Boston University, and **Irwin Kra**, SUNY at Stony Brook; Thursday, 1:00 p.m.–2:30 p.m. The AMS Epsilon Fund, endowed by contributions from mathematicians, supports summer mathematics camps for mathematically talented high school (including junior high school) students. The Young Scholars Awards Committee (YSAC) is sponsoring this event and allocates roughly US\$100,000 per year to about ten applicants representing about 3% of the total budgets of these summer programs. Panelists **Moon Duchin**, Tufts University, representing the Canada/USA Mathcamp; **Glenn Stevens**, and **Max Warshauer**, Texas State University, representing Texas Mathworks, will give short presentations on their successful programs and discuss the main features,



recruiting and selecting students and faculty/mentors, and budgets and funding. We hope these presentations will generate interest among the mathematical community to get involved in starting and supporting such activities. Ample time will be available for audience participation, including a question and answer period.

**Report on the Findings of the 2010 CBMS Survey of Undergraduate Mathematical and Statistical Sciences in the U.S.**, organized by **Ellen J. Kirkman**, Wake Forest University, and **James W. Maxwell**, AMS; Thursday, 11:15 a.m.–12:15 p.m. A comprehensive survey of undergraduate programs in the mathematical sciences, sponsored by the Conference Board of the Mathematical Sciences, was conducted with funding from the National Science Foundation during fall 2010; a similar survey has been conducted every five years since 1965. The survey requested data including: detailed enrollments, the demographics of majors and faculty, the mathematical preparation of teachers, the major, dual enrollment and distance learning, and how college algebra and elementary statistics are taught. The report will be published in the spring 2012. This presentation will preview the interesting findings of this survey.

**Who Wants to Be a Mathematician—National Contest**, organized by **Michael A. Breen**, AMS, and **William T. Butterworth**, DePaul University; Friday, 9:30 a.m.–11:00 a.m. See ten of the nation's best high school students compete for a US\$5,000 first prize for themselves and US\$5,000 for their school's math department. Semifinals are at 9:30 a.m. and finals at 10:30 a.m. You are invited to come and take part in this educational and fun presentation.

**Current Events Bulletin**, organized by **David Eisenbud**, University of California, Berkeley; Friday, 1:00 p.m.–5:00 p.m. Speakers in this session follow the model of the Bourbaki Seminars in that mathematicians with strong expository skills speak on work not their own. Written versions of the talks will be distributed at the meeting and also be available on line at [www.ams.org/ams/current-events-bulletin.html](http://www.ams.org/ams/current-events-bulletin.html) after the conclusion of the meeting.

**Grad School Fair**, Friday, 8:30 a.m.–10:30 a.m. Here is the opportunity for undergrads to meet representatives from mathematical sciences graduate programs from universities all over the country. January is a great time for juniors to learn more, and college seniors may still be able to refine their search. This is your chance for one-stop shopping in the graduate school market. At last year's meeting about 300 students met with representatives from 50 graduate programs. If your school has a graduate program and you are interested in participating, a table will be provided for your posters and printed materials for US\$65 (registration for this event must be made by a person already registered for the JMM), and you are welcome to personally speak to interested students. Complimentary coffee will be served. Cosponsored by the AMS and MAA.

**The Changing Landscape of Research Funding**, organized by **David Manderscheid**, University of Nebraska-Lincoln; Friday, 2:30 p.m.–4:00 p.m. Sponsored by the Committee on Science Policy.

**Congressional Fellowship Session**, organized by **Samuel M. Rankin III**, AMS; Friday, 4:30 p.m.–6:30 p.m. Learn

about this program and speak with current and former AMS Fellows. The application deadline for the 2012–13 AMS Congressional Fellowship is February 15, 2012.

**Models for Engaging Undergraduate Students in Research**, moderated by **David Damiano**, College of the Holy Cross. This panel of faculty and students, including **Dean M. Evasius**, NSF; **Joseph Gallian**, University of Minnesota-Duluth; **Steven J. Miller**, Williams College; **Ivelisse Rubio**, University of Puerto Rico, Rio Piedras; and others, will discuss various types of research experience available to undergraduates. Sponsored by the Committee on Education.

### Other AMS Events

**Council**: Tuesday, 1:30 p.m.

**Business Meeting**: Saturday, 11:45 a.m. The secretary notes the following resolution of the Council: Each person who attends a business meeting of the Society shall be willing and able to identify himself as a member of the Society. In further explanation, it is noted that each person who is to vote at a meeting is thereby identifying himself as and claiming to be a member of the American Mathematical Society. The Society has a Committee on the Agenda for Business Meetings. The purpose is to make business meetings orderly and effective. The committee does not have legal or administrative power. It is intended that the committee consider what may be called "quasipolitical" motions. The committee has several possible courses of action on a proposed motion, including but not restricted to:

- (a) doing nothing,
- (b) conferring with supporters and opponents to arrive at a mutually accepted amended version to be circulated in advance of the meeting,
- (c) recommending and planning a format for debate to suggest to a business meeting,
- (d) recommending referral to a committee, and
- (e) recommending debate followed by referral to a committee.

There is no mechanism that requires automatic submission of a motion to the committee. However, if a motion has not been submitted through the committee, it may be thought reasonable by a business meeting to refer it rather than to act on it without benefit of the advice of the committee.

In order that a motion for this business meeting receive the service offered by the committee in the most effective manner, it should be in the hands of the AMS Secretary by **December 7, 2011**.

### AMS Short Courses

There will be two, two-day Short Courses which will take place on Monday and Tuesday, January 2 and 3, before the meeting actually begins. Titles and organizers are *Random Fields and Random Geometry*, organized by **Robert Adler**, Technion–Israel Institute of Technology, and **Jonathan Taylor**, Stanford University; and *Computing with Elliptic Curves Using Sage*, organized by **William Stein**, University of Washington. There are separate registration fees to participate in these courses. See the complete article



beginning on page 1345 of this issue or at <http://www.ams.org/meetings/short-courses/short-course-general>.

### Department Chairs Workshop

This annual one-day workshop for chairs and leaders of departments of mathematical sciences will be held a day before the start of the Joint Meetings on Tuesday, January 3, 8:00 a.m.–6:30 p.m. The workshop format is intended to stimulate discussion among attending chairs and workshop leaders. Sharing ideas and experiences with peers provides a form of department chair therapy, creating an environment that enables attending chairs to address departmental matters from new perspectives.

Past workshop sessions have focused on a range of issues facing departments today, including personnel issues (staff and faculty), long-range planning, hiring, promotion and tenure, budget management, assessments, outreach, stewardship, junior faculty development, communication, and departmental leadership.

There is a separate registration fee to participate. For further information please contact the AMS Washington Office at 202-588-1100 or [amsdc@ams.org](mailto:amsdc@ams.org).

## 95th Meeting of the MAA

### MAA Invited Addresses

**Jennifer Quinn**, University of Washington Tacoma, *Mathematics to DIE for: The battle between counting and matching*; 2:15 p.m. on Wednesday.

**Seth M. Sullivant**, North Carolina State University, *Phylogenetic algebraic geometry*; 3:20 p.m. on Wednesday.

**Carolyn S. Gordon**, Dartmouth College, *The sound of geometry*; 9:00 a.m. on Thursday.

**Rekha R. Thomas**, University of Washington, *Sum of squares polynomials in optimization*; 9:00 a.m. on Friday.

**Mary Lou Zeeman**, Bowdoin College, *Mathematical challenges in climate and sustainability*; 10:05 a.m. on Saturday.

### Presentations by Teaching Award Recipients

Friday, 2:30 p.m.–3:50 p.m., organized by MAA Secretary **Barbara J. Faïres**, Westminster College, and MAA President, **Paul Zorn**, St. Olaf College. Winners of the Deborah and Franklin Tepper Haimo Awards for Distinguished College or University Teaching will give presentations on the secrets of their success.

### MAA Invited Paper Sessions

*Algebraic Statistics*, organized by **Seth Sullivant**, North Carolina State University. Speakers are **Elizabeth Allman**, University of Alaska Fairbanks; **Dustin Cartwright**, Yale University; **Alex Engstrom**, University of California, Berkeley; **Luis Garcia Puente**, Sam Houston State University; **Jason Morton**, Pennsylvania State University; and **Bernd Sturmfels**, University of California Berkeley; Saturday morning.

*Applications of Dynamical Systems*, organized by **Gene Wayne**, Boston University, Saturday morning.

*The Beauty and Power of Number Theory*, organized by **Thomas Koshy**, Framingham State University. Speakers are **Amanda Folsom**, Yale University; **Ken Ono**, University of Wisconsin-Madison; **Joseph Silverman**, Brown University; and **Frank Thorne**, Stanford University; Thursday morning.

*Clever Counting or Beautiful Bijection?*, organized by **Jennifer Quinn**, University of Washington, Tacoma. Speakers are **Richard Brualdi**, University of Wisconsin-Madison; **David Bressoud**, Macalester College; **Georgia Benkhart**, University of Wisconsin-Madison; **James Propp**, University of Massachusetts, Lowell; and **Tom Roby**, University of Connecticut; Thursday afternoon.

*Climate Change and Sustainability*, organized by **Mary Lou Zeeman**, Bowdoin College; and **Chris Danforth**, University of Vermont; Saturday afternoon.

*Contemporary Unsolved Problems*, organized by **Ellen Kirkman** and **Jeremy Rouse**, Wake Forest University. Speakers are **Joel Hass**, University of California, Davis; **Mike Sipser**, Massachusetts Institute of Technology; **William Stein**, University of Washington, Seattle; and **Gene Wayne**, Boston University; Friday morning.

*Knot Theory Untangled*, organized by **Rolland Trapp**, California State University, San Bernardino; Wednesday morning.

*Semidefinite Optimization and Nonnegative Polynomials*, organized by **Rekha R. Thomas**, University of Washington. Speakers are **Greg Blekherman**, Georgia Institute of Technology; **Amirali Ahmadi**, Massachusetts Institute of Technology; **Steven Gortler**, Harvard University; and **Russ Tedrake**, MIT; Friday afternoon.

*Decoding Geometry*, organized by **Carolyn S. Gordon** and **David Webb**, Dartmouth College; Thursday afternoon.

### MAA-AMS Invited Paper Session

*Recent Developments in the Philosophy of Mathematics*, organized by **Bonnie Gold**, Monmouth University, and **Daniel Sloughter**, Furman University. Speakers are **Arthur Jaffe**, Harvard University; **Charles Parsons**, Harvard University Philosophy Department; **Agustin Rayo** and **Stephen Yablo**, MIT Department of Linguistics and Philosophy; **Juliet Floyd**, Boston University Philosophy Department; and **Jody Azzouni**, Tufts University Philosophy Department; Wednesday afternoon.

### MAA Minicourses

MAA Minicourses are open only to persons who register for the Joint Meetings and pay the Joint Meetings registration fee in addition to the appropriate minicourse fee. The MAA reserves the right to cancel any minicourse that is undersubscribed. Participants in minicourses 10–14 are required to bring their own laptop computer equipped with appropriate software. Instructions on how to download any data files needed for those courses will be provided by the organizers. All minicourses will be held in the fourth floor salons in the Marriott Hotel. The enrollment in each minicourse is limited to 50; the cost is US\$77.

**Minicourse #1: Mathematics and backgammon**, presented by **Arthur Benjamin**, Harvey Mudd College, and **Robert Koca**, Community College of Baltimore County. Part A: Thursday, 9:00 a.m.–11:00 a.m.; Part B: Saturday,

9:00 a.m.–11:00 a.m. The game of backgammon is great fun, but it also leads to some interesting mathematical questions. We will explore these questions and see how a little knowledge of backgammon reasoning can make you a better decision maker. Conversely, we'll see how a little knowledge of mathematics can make you a much better backgammon player. There are no mathematical prerequisites beyond high school algebra, and no prior experience with backgammon is assumed. Since other backgammon experts will assist in the course, participants will get hands-on experience playing with top-notch players.

**Minicourse #2:** *A dynamical systems approach to the differential equations course*, presented by **Paul Blanchard** and **Robert Devaney**, Boston University. Part A: Thursday, 1:00 p.m.–3:00 p.m.; Part B: Saturday, 1:00 p.m.–3:00 p.m. This minicourse will give an overview of the Boston University Differential Equations Project, originally funded by the National Science Foundation. The BU project involves a complete redesign of the sophomore-level ODE course. It includes more emphasis on qualitative and geometric methods as well as the incorporation of technology and numerical methods throughout. This minicourse will be useful to college instructors wishing to restructure their ODE courses. Participants who bring a laptop can load software and follow the demos, but bringing a laptop isn't necessary.

**Minicourse #3:** *Problem-based courses for teachers, future teachers, and math majors*, presented by **Gail Burrill**, Michigan State University; **Darryl Yong**, Harvey Mudd College; **Bowen Kerins**, Education Development Center; and **James King**, University of Washington. Part A: Wednesday, 2:15 p.m.–4:15 p.m.; Part B: Friday, 1:00 p.m.–3:00 p.m. A math course can simultaneously engage a broad range of students and enlarge their understanding of what it means to do math. This minicourse—based on a decade of experience at the Park City Mathematics Institute—will illustrate a problem-based approach for doing just that. Participants will spend most of the time in an interactive, collaborative environment, working on problems connecting algebra, number theory and geometry, involving Pythagorean triples, Gaussian integers, lattice geometry, polynomials with special properties, and complex numbers, which will be central to the investigations. We will discuss issues of teaching such a course, originally developed for teachers at the Park City Mathematics Institute, for undergraduate majors, prospective teachers, or as part of continuing education programs for experienced teachers.

**Minicourse #4:** *Elementary mathematics in architecture*, presented by **Alexander J. Hahn**, University of Notre Dame. Part A: Thursday, 9:00 a.m.–11:00 a.m.; Part B: Saturday, 9:00 a.m.–11:00 a.m. This minicourse will give examples of basic mathematics, chiefly elementary geometry, algebra, and trigonometry, properties of vectors, coordinate geometry in two and three dimensions, and calculus that arise from and inform aspects of architecture. The architecture that is informed includes that of the classical Greeks and Romans; the domes of the Pantheon, the Hagia Sophia, the Cathedral of Florence, and St. Peter's Basilica; the designs of the vaults of the Sagrada Familia;

the concourse beams and roof vaults of the Sydney Opera; as well as the St. Louis Gateway Arch.

**Minicourse #5:** *Dance and mathematics*, presented by **Leon Harkleroad**, Bowdoin College, and **Karl Schaffer**, De Anza College. Part A: Wednesday, 4:45 p.m.–6:45 p.m.; Part B: Friday, 3:30 p.m.–5:30 p.m. Many dances literally embody mathematical ideas from group theory, graph theory, number theory, combinatorics, topology, and other areas. In this “feet-on” minicourse, participants will learn many such examples, ranging from traditional folk dances to modern dance. No prior experience or ability in dancing will be assumed!

**Minicourse #6:** *Getting students involved in undergraduate research*, presented by **Aparna Higgins**, University of Dayton, and **Joseph A. Gallian**, University of Minnesota-Duluth. Part A: Wednesday, 9:00 a.m.–11:00 a.m.; Part B: Friday, 9:00 a.m.–11:00 a.m. This minicourse will cover many aspects of facilitating research by undergraduates, such as getting students involved in research, finding appropriate problems, deciding how much help to provide, and presenting and publishing the results. Similarities and differences between research conducted during summer programs and research that can be conducted during the academic year will be discussed. Although the examples used will be primarily in the area of discrete mathematics, the strategies discussed can be applied to any area of mathematics.

**Minicourse #7:** *Study the masters: Using primary historical sources in mathematics teaching*, presented by **Daniel Otero**, Xavier University, and **David Pengelley**, New Mexico State University. Part A: Wednesday, 2:15 p.m.–4:15 p.m.; Part B: Friday, 1:00 p.m.–3:00 p.m. This minicourse will familiarize participants with the use of primary historical sources as a way to engage mathematics students across a variety of courses. In the first session the organizers will share their experiences with this pedagogy. Participants will discuss in groups how one such unabridged text can be used to teach the relevant mathematics contained therein. In the second session already-developed classroom modules will be examined to illustrate how others have implemented this practice. Participants will also discuss their responses to two articles reflecting on this methodology. Finally we share resources for locating primary historical texts.

**Minicourse #8:** *Preparing to serve as an outside consultant in the mathematical sciences*, presented by **Kyle Riley**, South Dakota School of Mines and Technology, and **Nancy Baxter Hastings**, Dickinson College. Part A: Wednesday, 9:00 a.m.–11:00 a.m.; Part B: Friday, 9:00 a.m.–11:00 a.m. The goal of this minicourse is to help colleagues prepare to serve as outside consultants. The course will use case studies, role-playing, and discussion sessions to explore answers to questions such as the following: What do consultants need to know? What should they do to prepare for a site visit? What can consultants do to help strengthen a department's self-study process? How can they make the most of the on-campus visit? What difficulties might they encounter and how might they respond? How can they provide constructive feedback? What role might they play following the site visit? This course is sponsored by the

MAA Committee on Departmental Review (formerly known as the MAA Committee on Consultants).

**Minicourse #9:** *Reading original sources in Latin for the historian and mathematician*, organized by **Amy Shell-Gellasch**, Beloit College, and **Dominic Klyve**, Central Washington University; and presented by **Kim Plofker**, Union College, and **Stacy Langton**, University of San Diego. Part A: Thursday, 1:00 p.m.–3:00 p.m.; Part B: Saturday, 1:00 p.m.–3:00 p.m. Historians of mathematics as well as mathematicians often find it important to their research to read original mathematical and scientific sources in Latin. Technical Latin of the late medieval, the Renaissance, and post-renaissance periods is slightly different from the classical Latin taught in schools. In this minicourse participants will learn of these differences, and will receive direct instruction in the reading of original sources in Latin from these time periods. Specialists from the field of the history of mathematics will facilitate the readings. Attendees should have a basic knowledge of Latin; review material can be acquired from the organizers in advance.

**Minicourse #10:** *Geometry and art: A Liberal arts mathematics course*, presented by **Anneke Bart**, Saint Louis University. Part A: Thursday, 1:00 p.m.–3:00 p.m.; Part B: Saturday, 1:00 p.m.–3:00 p.m. Motivating mathematical concepts through art is a useful tool. Students are more likely to understand concepts such as symmetry, tessellations, or non-Euclidean geometry if they are shown prints by artists such as Escher that illustrate these topics. The challenge is to connect the art to real mathematical concepts and guide the students through the necessary steps, which takes them from observing patterns to doing real mathematics. During the minicourse we will look at examples from <http://mathcs.slu.edu/escher>, adapt existing explorations, and create new ones. We will discuss possible grading rubrics and explore possibilities for doing projects and field trips. In order to take full advantage of the course, participants should bring their own laptops.

**Minicourse #11:** *Teaching differential equations with modeling*, presented by **Michael Huber**, Muhlenberg College; **Dan Flath**, Macalester College; and **Tom LoFaro**, Gustavus Adolphus College. Part A: Wednesday, 2:15 p.m.–4:15 p.m.; Part B: Friday, 1:00 p.m.–3:00 p.m. Participants will learn about incorporating modeling into their differential equations courses and will do some modeling themselves using technology. The workshop will have three segments: (1) a short overview of curricular goals, what is modeling and why it is important, how modeling benefits student learning in differential equations; (2) activities and discussions in small groups on specific projects, to include modeling the dynamics of flight, stochastic population growth models, modeling malaria outbreaks, deflection in steel beams, and others; and (3) a wrap-up with references, sharing of best practices, and resources that are available to instructors and students. In order to take full advantage of the course, participants should bring their own laptops.

**Minicourse #12:** *Using randomization methods to build conceptual understanding of statistical inference*, presented by **Robin Lock**, St. Lawrence University; **Patti Frazer Lock**, St. Lawrence University; **Kari F. Lock**, Harvard

University/Duke University; **Eric F. Lock**, University of North Carolina; and **Dennis F. Lock**, Iowa State University. Part A: Wednesday, 4:45 p.m.–6:45 p.m.; Part B: Friday, 3:30 p.m.–5:30 p.m. The goal of this minicourse is to demonstrate how computer simulation techniques, such as bootstrap confidence intervals and randomization tests, can be used to introduce students to fundamental concepts of statistical inference in an introductory statistics course. Simulation methods are becoming increasingly important in statistics, and can be effective tools for building student understanding of inference. Through easy to use online tools and class activities, participants will see how to engage students and make these methods readily accessible. In order to take full advantage of the course, participants should bring their own laptops.

**Minicourse #13:** *Interactive applets for calculus and differential equations*, presented by **Haynes Miller**, Massachusetts Institute of Technology. Part A: Thursday, 9:00 a.m.–11:00 a.m.; Part B: Saturday, 9:00 a.m.–11:00 a.m. For the past ten years the basic calculus and differential equations courses at MIT have made extensive use of a suite of highly interactive JAVA applets, both for classroom demonstrations and for use in homework assignments. They can be accessed at <http://math.mit.edu/mathlets>. This course will introduce this set of tools, illustrate how they can be used in a variety of contexts, and encourage the creation of new assignments using them and of variants of them for future development. In order to take full advantage of the course, participants should bring their own laptops.

**Minicourse #14:** *Teaching introductory statistics (for instructors new to teaching intro stats)*, presented by **Michael Posner**, Villanova University, and **Carolyn Cuff**, Westminster College. Part A: Wednesday, 9:00 a.m.–11:00 a.m.; Part B: Friday, 9:00 a.m.–11:00 a.m. This minicourse exposes participants to the big ideas of statistics and the ASA-endorsed “Guidelines for Assessment and Instruction in Statistics Education” report. It considers ways to engage students in statistical literacy and thinking and contrast conceptual and procedural understanding in the first statistics course. Participants will engage in many of the classic activities that all statistics instructors should know. Internet sources of real data, activities, and best practices articles will be examined. Participants will find out how they can continue to answer the three questions by becoming involved in statistics education related conferences, newsletters, and groups. In order to take full advantage of the course, participants should bring their own laptops.

### MAA Contributed Papers

The MAA Committee on Contributed Paper Sessions solicits contributed papers pertinent to the sessions listed below. Contributed Paper Session presentations are limited to fifteen minutes, except in the general session where they are limited to ten minutes. Each session room is equipped with a computer projector, an overhead projector, and a screen. Please note that the dates and times scheduled for these sessions remain tentative. Full descriptions of these sessions may be found at



[http://jointmathematicsm meetings.org/meetings/national/jmm2012/2138\\_maacall](http://jointmathematicsm meetings.org/meetings/national/jmm2012/2138_maacall).

*Arts and Mathematics, Together Again*, organized by **Douglas E. Norton**, Villanova University; Thursday morning and afternoon. Sponsored by SIGMAA ARTS.

*The Capstone Course: Innovations and Implementations*, organized by **Kathryn Weld**, Manhattan College, and **Agnes Rash**, St. Joseph's College; Wednesday morning.

*Developmental Mathematics Education: Helping Under-Prepared Students Transition to College-Level Mathematics*, organized by **Kimberly Presser** and **J. Winston Crawley**, Shippensburg University; Friday afternoon.

*Early Assessment: Find Out What Your Students Understand (and Don't Understand) Before They Take the Test*, organized by **Miriam Harris-Botzum**, Lehigh Carbon Community College, and **Bonnie Gold**, Monmouth University; Saturday afternoon.

*Effective Use of Dynamic Mathematical Software in the Classroom*, organized by **M. E. Waggoner**, Simpson College, and **Therese Shelton**, Southwestern University; Wednesday morning.

*The History of Mathematics and Its Uses in the Classroom*, organized by **Amy Shell-Gellasch**, Beloit College; Saturday morning. Sponsored by the HOM SIGMAA.

*Innovations in Teaching Statistics in the New Decade*, organized by **Andrew Zieffler**, University of Minnesota; **Brian Gill**, Seattle Pacific University; and **Nancy Boynton**, SUNY Fredonia; Friday afternoon. Sponsored by the SIGMAA STAT-ED.

*Innovative and Effective Ways to Teach Linear Algebra*, organized by **David Strong**, Pepperdine University; **Gil Strang**, Massachusetts Institute of Technology; and **David Lay**, University of Maryland; Wednesday afternoon.

*The Mathematical Preparation of Teachers: The Impact of the Common Core State Standards Initiative*, organized by **Kenneth C. Millett**, University of California Santa Barbara; **Elizabeth Burroughs**, Montana State University; **Holly Peters Hirst**, Appalachian State University; and **William McCallum**, University of Arizona; Saturday morning.

*Mathematics and Sports*, organized by **R. Drew Pasteur**, College of Wooster; Wednesday morning.

*Mathematics Experiences in Business, Industry and Government*, organized by **Carla D. Martin**, James Madison University; **Phil Gustafson**, Mesa State College; and **Michael Monticino**, University of North Texas; Thursday morning. Sponsored by the BIG SIGMAA.

*Mathematics of Sudoku and Other Pencil Puzzles*, organized by **Laura Taalman** and **Jason Rosenhouse**, James Madison University; Wednesday and Thursday afternoons.

*Mathematics of Sustainability*, organized by **Elton Graves**, Rose-Hulman Institute of Technology, and **Peter Otto**, Willamette University; Friday afternoon.

*Modeling Across the Mathematics Curriculum*, organized by **Benjamin Galluzzo**, Shippensburg University; **Mariah Birgen**, Wartburg College; and **Joyati Debnath**, Winona State University; Friday morning.

*Motivating Statistical and Quantitative Learning through Social Engagement*, organized by **Brian Gill**, Seattle Pacific University; **Eric Gaze**, Bowdoin College; **Andrew Zieffler**, University of Minnesota; and **Stuart Boersma**, Central

Washington University; Saturday morning and afternoon. Sponsored by the SIGMAA STAT-ED and the QL SIGMAA.

*My Most Successful Math Club Activity*, organized by **Jacqueline Jensen**, Slippery Rock University, and **Deanna Haunsberger**, Carleton College; Thursday morning. Sponsored by the MAA Committee on Undergraduate Student Activities and Chapters.

*Philosophy of Mathematics and Mathematical Practice*, organized by **Dan Sloughter**, Furman University, and **Bonnie Gold**, Monmouth University; Friday afternoon. Sponsored by the POM SIGMAA.

*Preparing College Students for Calculus*, organized by **Andrew Bennett**, Kansas State University; Thursday morning. Sponsored by the CUPM Subcommittee on Curriculum Renewal Across the First Two Years (CRAFTY).

*Projects, Demonstrations, and Activities that Engage Liberal Arts Mathematics Students*, organized by **Sarah Mabrouk**, Framingham State University; Thursday afternoon.

*Quantitative Literacy and Decision Making*, organized by **Eric Gaze**, Bowdoin College; **Cinnamon Hillyard**, University of Washington, Bothell; and **Semra Kilic-Bahi**, Colby Sawyer College; Friday morning. Sponsored by the QL SIGMAA.

*Research on the Teaching and Learning of Undergraduate Mathematics*, organized by **Sean Larsen**, Portland State University; **Stacy Brown**, Pitzer College; and **Karen Mar-ronnelle**, Portland State University; Thursday morning and afternoon. Sponsored by the SIGMAA RUME.

*The Scholarship of Teaching and Learning in Collegiate Mathematics*, organized by **Jackie Dewar**, Loyola Marymount University; **Thomas Banchoff**, Brown University; **Pam Crawford**, Jacksonville University; and **Edwin Herman** and **Nathan Wodarz**, University of Wisconsin-Stevens Point; Wednesday morning and afternoon.

*Topics and Techniques for Teaching Real Analysis*, organized by **Paul Musial**, Chicago State University; **James Peterson**, Benedictine College; **Erik Talvila**, University of the Fraser Valley; and **Robert Vallin**, Slippery Rock University of Pennsylvania; Friday morning.

*Touch it, Feel it, Learn it: Tactile Learning Activities in the Undergraduate Mathematics Classroom*, organized by **Jessica Mikhaylov**, U.S. Military Academy, and **Julie Barnes**, Western Carolina University; Wednesday afternoon.

*Trends in Teaching Mathematics Online*, organized by **Michael B. Scott**, California State University, Monterey Bay; Saturday afternoon. Sponsored by the Committee on Technologies in Mathematics Education (CTiME) and the WEB SIGMAA.

*Trends in Undergraduate Mathematical Biology Education*, organized by **Timothy D. Comar**, Benedictine University; Thursday morning and afternoon. Sponsored by the BIO SIGMAA.

*Wavelets in Undergraduate Education*, organized by **Caroline Haddad**, SUNY Geneseo; **Catherine Beneteau**, University of South Florida; **David Ruch**, Metropolitan State College of Denver; and **Patrick Van Fleet**, University of St. Thomas; Friday afternoon.

*Writing the History of the MAA*, organized by **Victor J. Katz**, University of the District of Columbia; **Janet Beery**, University of Redlands; and **Amy Shell-Gellasch**, Beloit College; Friday morning. Sponsored by the History Subcommittee of the MAA Centennial Committee.

*General Contributed Paper Session*, organized by **Jennifer Beineke**, Western New England College; **Lynnette Boos**, Providence College; and **Aliza Steurer**, Dominican University; Wednesday, Thursday, Friday, and Saturday mornings and afternoons.

### Submission Procedures for MAA Contributed Paper Abstracts

Abstracts must be submitted electronically at <http://jointmathematicsmeetings.org/meetings/abstracts/abstract.pl?type=jmm>. Simply fill in the number of authors, and then follow the step-by-step instructions. **The deadline for abstracts is Thursday, September 22, 2011.**

Participants may submit at most **one abstract** for MAA contributed paper sessions at this meeting. If your paper cannot be accommodated in the session in which it is submitted, it will automatically be considered for the general session.

The organizer(s) of your session will automatically receive a copy of the abstract, so it is not necessary for you to send it directly to the organizer. All accepted abstracts are published in a book that is available to registered participants at the meeting. Questions concerning the submission of abstracts should be addressed to [abs-coord@ams.org](mailto:abs-coord@ams.org).

### MAA Panels, Posters, and Other Sessions

*National Science Foundation Programs Supporting Learning and Teaching in the Mathematical Sciences*, organized by **Dean Evasius**, Division of Mathematical Sciences, National Science Foundation; and **Richard Alo**, **Ron Buckmire**, and **Lee Zia**, Division of Undergraduate Education, National Science Foundation; Wednesday, 9:00 a.m.–10:20 a.m. A number of NSF divisions offer a variety of grant programs that support innovations in learning and teaching in the mathematical sciences. The organizers will discuss these programs along with examples of successful projects. Anticipated budget highlights and other new initiatives for the next fiscal year will also be presented.

*Quantitative Support Center: Common Themes*, organized by **Michael E. Schuckers**, St. Lawrence University; Wednesday, 9:00 a.m.–10:20 a.m. Quantitative Support Centers (QSCs) have arisen in the last 20 to 30 years and nearly every academic institution has some form of mathematics help or tutoring. Each QSC has some characteristics that are specific to its particular institution but there are some commonalities. Some QSCs simply provide drop-in help; others play specific roles in support of quantitative initiatives on their campuses. This panel will bring together the directors of several QSCs from a variety of institutions, including **Grace Coulombe**, Bates College; **Cat McCune**, Smith College; **Tom Roby**, University of Connecticut; and **Michael Schuckers**. Discussion will center on

the issues that often arise in leading a QSC. These include staffing, training, scheduling, interactions with faculty and administrators, etc. There will also be a discussion of resources that are available for QSC directors.

*Why is Transition from High School to College Important? Issues and Next Steps*, organized by **Gail Burrill**, Michigan State University, Wednesday, 9:00 a.m.–10:20 a.m. What high school mathematics prepares which students for what courses at colleges/universities has been of concern in the past. Recent evidence indicates that transition from high school to post-secondary mathematics is becoming even more problematic. Panelists **David Bressoud**, Macalester College; **Dan Teague**, North Carolina School for Science and Mathematics; **Art Benjamin**, Harvey Mudd College; **William McCallum**, University of Arizona; **Paul Zorn**, St. Olaf College; and the session organizer will discuss this evidence, implications for transition policies and practices in light of the Common Core State Standards (CCSS), rethinking the goals of entry-level calculus courses, offer a spirited debate on whether statistics is more appropriate than calculus as an entry-level course for most students, and present recommendations from the Joint MAA/NCTM Mutual Concerns Committee related to these issues. Questions posed for the audience will include 1) Should the focus and goals of introductory calculus change? 2) Are current entry-level courses for potential STEM majors appropriate for all students given the foundation prescribed in the CCSS; and 3) What are your comments and input on the next steps proposed by the Joint Committee? Sponsored by the MAA/NCTM Mutual Concerns Committee.

*Administrative Strategies for Dealing with Budget Cuts*, organized by **Al Boggess**, **Don Allen**, and **Jill Zarestky**, Texas A&M University; Wednesday, 2:15 p.m.–3:35 p.m. This panel will give chairs of mathematics departments the opportunity to share strategies for dealing with budget cuts. Topics covered include: the effect of increasing class size on student learning, balancing teaching and research, differential teaching loads, the changing role of teaching assistants, the appropriate use of technology as an alternative or supplement to lecture, and the use of electronic textbooks. Our target audience will be public universities that have both teaching and research missions. We will first develop a survey of baseline data regarding responses to current budget cuts well before the meeting. The panel (members to be announced) will begin with a presentation of survey results. This will be followed by a discussion on the above topics with heavy participation by members in the audience. Sponsored by the MAA and the AMS.

*Reporting Progress: A Mini-Symposium of Projects from the NSF Mathematics and Science Partnership Program*, organized by **Richard Alo**, **Ron Buckmire**, and **Lee Zia**, Division of Undergraduate Education, National Science Foundation; and **Dan Maki**, Indiana University; Wednesday, 2:15 p.m.–3:35 p.m. In this session selected projects from the NSF Division of Undergraduate Education's Mathematics and Science Partnership Program will provide project updates and present major outcomes. A moderated discussion among principal Investigators from selected MSP projects of common development and implementation

issues will follow with an emphasis on opportunities for increasing the involvement of mathematical scientists.

*Statistics and Probability in the Common Core State Standards*, organized by **Nancy Boynton**, SUNY Fredonia; **Gail Burrill**, Michigan State University; and **Ann Watkins**, California State University Northridge; Wednesday, 2:15 p.m.–3:35 p.m. The Common Core State Standards for mathematics in grades K–12 have been adopted by 41 states and the District of Columbia. The standards for the teaching of statistics and probability range from counting the number in each category to determining statistical significance. Soon, and for the first time, most of our entering students will have been taught some statistics and probability, so our introductory statistics course will have to change. In addition, we must prepare future K–12 teachers to teach this curriculum. Panelists **Christine Franklin**, University of Georgia; **Joan Garfield**, University of Minnesota; **Roxy Peck**, California Polytechnic State University San Luis Obispo; **J. Michael Shaughnessy**, National Council of Teachers of Mathematics; and **Andrew Zieffler**, University of Minnesota, will give an overview of the statistics and probability content of these standards, discuss how the research on learning statistics and probability relates to these standards, consider what should change in our introductory statistics course, and describe the knowledge needed by the future K–12 teachers who will be teaching using these standards. Sponsored by the SIGMAA STAT-ED and the ASA-MAA Joint Committee on Statistics Education

*YMN/Project NEXt Poster Session*, organized by **Mike Axtell**, University of St. Thomas, and **Kim Roth**, Juniata College; Wednesday, 2:15 p.m.–4:15 p.m. This session is intended to highlight the research activities, both mathematical and pedagogical, of recent or future Ph.D.s in mathematics and related fields. The organizers seek to provide an open venue for people who are near completion, or have finished their graduate studies in the last five years, to present their work and make connections with other same-stage professionals, in much the same spirit as YMN and Project NEXt. The poster size will be 48" wide by 36" high. Posters and materials for posting pages on the posters will be provided onsite. We expect to accept about forty posters from different areas within the mathematical sciences. To apply, send a poster abstract, when and where you have or will receive your Ph.D., and your current college or university affiliation to one of the organizers, **Mike Axtell** (maxtell@stthomas.edu) or **Kim Roth** (roth@juniata.edu). Sponsored by the Young Mathematicians Network and Project NEXt.

*Reporting Progress: A Minisymposium of Projects from the NSF Course, Curriculum, and Laboratory Improvement/Transforming Undergraduate Education in STEM Program*, organized by **Richard Alo**, **Ron Buckmire**, and **Lee Zia**, Division of Undergraduate Education, National Science Foundation; Wednesday, 3:50 p.m.–5:10 p.m. In this session selected projects from the NSF Division of Undergraduate Education's Course, Curriculum, and Laboratory Improvement/Transforming Undergraduate Education in STEM Program will provide project updates and present major outcomes. A moderated discussion of

common development and implementation issues will follow with an emphasis on scaling up impact.

*MAA Session for Chairs: Timely and Timeless Aspects of Chairing a Mathematical Sciences Department*, organized by **Daniel Maki**, Indiana University, and **Catherine M. Murphy**, Purdue University Calumet; Thursday, 9:00 a.m.–10:20 a.m. Some roles of chairs of mathematical sciences departments are timeless. However, how they are implemented is affected by the mission of the college/university and time-dependent financial and political pressures. Panelists **Richard Cleary**, Bentley University; **Dennis Luciano**, Western New England College; **Catherine Roberts**, College of the Holy Cross; and **Sheryl Stump**, Ball State University, will share their experiences, which range from a few years to a few decades. One will reflect on how his experience as chair will make him a better faculty member as he returns to the faculty. The Session for Chairs is a great social networking experience. Please participate by attending and contributing to the conversation.

*Graduate School: Choosing One, Getting In, Staying In*, organized by **Aaron Luttmann**, Clarkson University, and **Kristi Meyer**, Wisconsin Lutheran College; Thursday, 9:00 a.m.–10:20 a.m. With so much information about graduate schools available how do you narrow down your list of schools to apply to? How do you get into a program? How do you successfully complete a program? Panelists **Richard McGehee**, University of Minnesota; **Kim Ruane**, Tufts University; and **Bogdan Vernescu**, Worcester Polytechnic Institute, will discuss these and other important issues for those choosing a graduate school or considering switching graduate programs. Sponsored by the Young Mathematicians Network and the MAA Committee on Graduate Students

*Mathematical Outreach Programs for Underrepresented Populations*, organized by **Elizabeth Yanik**, Emporia State University; Thursday, 9:00 a.m.–11:00 a.m. This poster session is designed to highlight special programs which have been developed to encourage students from underrepresented populations to maintain an interest in and commitment to succeeding in mathematics. These programs might include such activities as after school clubs, weekend activities, one day conferences, mentoring opportunities, summer camps, etc. In particular, recipients of Tensor and SUMMA grants will find this an ideal venue in which to share the progress of their funded projects. We encourage everyone involved with offering outreach activities to consider submitting an abstract to the session organizer at eyanik@emporia.edu.

*Improving College Mathematics Teaching Through Faculty Development*, organized by **Jerry Kobylski**, **Alex Heidenberg**, **Hilary Fletcher**, and **Howard McInvale**, U.S. Military Academy; Thursday, 10:35 a.m.–11:55 a.m. From 12–17 June 2011, the Department of Mathematical Sciences at West Point hosted the second annual "Improving College Mathematics Teaching Through Faculty Development" workshop for collegiate educators from across the country. The workshop attendees were professors and leaders in faculty development at their respective schools. This one-week workshop, funded by a grant from the National Science Foundation and also sponsored by



the MAA's PREP program, provided a framework that can be used for faculty members to create/improve faculty development and mentorship programs within their own departments/schools. The purpose of this panel session is to facilitate a discussion in a broader forum about effective faculty development programs. Panelists **Molli Jones**, Immaculata College; **Laurice Garrett**, Edison State College; **Cindy Soderstrom**, Salt Lake Community College; and **Philip Darcy**, Dutchess Community College, will share some of the best teaching practices from the two workshops and participants' lessons learned in developing effective faculty development programs. The panel session is relevant to two-year and four-year programs, as well as developmental and traditional student populations.

*Proposal Writing Workshop for Grant Applications to the NSF Division of Undergraduate Education*, presented by **Richard Alo**, **Ron Buckmire**, and **Lee Zia**, Division of Undergraduate Education, National Science Foundation; Thursday, 10:35 a.m.–11:55 a.m. The presenters will describe the general NSF grant proposal process and consider particular details relevant to programs in the Division of Undergraduate Education. This interactive session will feature a mock panel review using a series of short excerpts from sample proposals.

*Summer Research Programs*, organized by **William Hawkins Jr.**, MAA and University of the District of Columbia, and **Robert Megginson**, University of Michigan; Thursday, 1:00 p.m.–2:20 p.m. The MAA has sponsored Summer Research Programs with funding from NSF and NSA since 2003. Each program consists of a small research group of at least four minority undergraduates mentored by a faculty member. About 85 sites will have been funded as of summer 2011. Panelists **Min-Lin Lo**, California State University San Bernardino, and **Asamoah Nkwanta**, Morgan State University, will discuss their programs. There will be ample time for questions and discussion. Funding will be available for summer 2012. Additional information can be found on the NREUP website at [www.maa.org/nreup](http://www.maa.org/nreup). The session is sponsored by MAA Committee on Minority Participation (CMPM) and the Office of Minority Participation.

*What Can Colleges and Universities Do to Increase Student Success in Calculus?*, organized by **James R. Choike**, Oklahoma State University, and **Carl C. Cowen**, Indiana University Purdue University Indianapolis; Thursday, 1:00 p.m.–2:20 p.m. Many colleges and universities experience DWF rates of 40% or higher in Calculus I [Bressoud, MAA Retiring Presidential Address, 2011]. In addition, AP Calculus AB scores over the last six AP exams show that 40.9% of the AB test takers score less than 3, the equivalent of a D or F [AP Report to the Nation, 2005–2011]. These data have a direct influence on the numbers of students that ultimately will major in the STEM areas in college. The fair assumption is that students enroll in calculus, in college or in AP, because they have the appropriate transcript prerequisites for calculus. But transcript prerequisites, as these data suggest, do not automatically translate into being ready for success in calculus. Panelists **Alison Ahlgren**, University of Illinois Urbana-Champaign; **David Bressoud**, Macalester College; **Marilyn Carlson**, Arizona

State University; and **Bernard Madison**, University of Arkansas, will discuss what the indicators of readiness for calculus are and what colleges and universities can do to increase student success in calculus. Sponsored by The College Board-MAA Committee on Mutual Concerns.

*Career Options for Undergraduate Mathematics Majors*, organized by **Raluca Gera**, Naval Postgraduate School, and **Nyles Breecher**, Hamline University; Thursday, 1:00 p.m.–2:20 p.m. There are a vast amount of options available for students in today's global market. A degree in mathematics continues to be a desirable asset, yet a common question for students to ask is "What options are available for someone with a math degree?". This panel will showcase several options for career paths for students with an undergraduate degree in mathematics. A variety of panelists, including **Emily Kessler**, Society of Actuaries; **Michael Dorff**, Brigham Young University; and **Erin Corman**, National Security Agency, will speak on their own experiences of finding a job. Sponsored by the Young Mathematicians Network,

*Projects Supported by the NSF Division of Undergraduate Education*, organized by **Jon Scott**, Montgomery College; Thursday, 2:00 p.m.–4:00 p.m. This session will feature principal investigators (PIs) presenting progress and outcomes from various NSF funded projects in the Division of Undergraduate Education. The poster session format will permit ample opportunity for attendees to engage in small group discussions with the PIs and to network with each other. Information about presenters and their projects will appear in the meeting program.

*Successful and Diverse Models for Mentoring Research by Undergraduates*, organized by **Sarah Spence Adams**, Franklin W. Olin College of Engineering, and **Angel R. Pineda**, California State University, Fullerton; Thursday, 2:40 p.m.–4:00 p.m. As the popularity of undergraduate research in mathematics has grown over the last several years, interesting and successful models for mentoring research by undergraduates have emerged. The models include short-term (summer) through multi-year programs, those which are targeted to attract underrepresented students and those in a range of mathematical fields (including pure mathematics, applied mathematics and statistics). In this moderated discussion panelists **James Davis**, University of Richmond; **Gary P. Gordon**, Lafayette College; **Kathryn Leonard**, California State University Channel Islands; **Herbert A. Medina**, Loyola Marymount University; **Alison A. Motsinger-Reif**, North Carolina State University; and **Suzanne L. Weekes**, Worcester Polytechnic Institute, will describe and compare a variety of models for mentoring undergraduate students in research. Sponsored by the MAA Subcommittee on Research by Undergraduates.

*Hit the Ground Running! Interview Like a Pro and Land the Job*, organized by **Kristine Roinestad**, Georgetown College, and **Nick Scoville**, Ursinus College; Thursday, 2:40 p.m.–4:00 p.m. Your job applications are in and soon invitations for interviews will follow. Make the most of these opportunities by doing your homework. How do you prepare differently for an interview with a liberal arts school than for an interview with a research university?

What about phone and short-list interviews? Our panelists, **Eric Grinberg**, University of Massachusetts Boston; **David Cox**, Amherst College; **Betty Mayfield**, Hood College; and **Paul Dupuis**, Brown University, representing schools that recently conducted job searches, will share what they look for in a candidate and discuss the differences in how to interview at primarily a teaching school versus primarily a research school. They will also discuss how to score well during a phone interview, a Joint Mathematics Meetings interview, and an on-campus interview. Also on the agenda will be the best ways to prepare for different types of interviews and “what not to do, but what many applicants do anyway”. Copponsored by the Young Mathematicians Network.

*Publishing with the MAA*, organized by **Zaven A. Karian**, Denison University; Thursday, 2:40 p.m.–4:00 p.m. Since it began publishing books in 1925, the MAA has been dedicated to quality exposition. Today the MAA has nine book series that encompass wide areas of mathematics (textbooks, classroom resource materials, history, biography, recreational mathematics, problems, advanced monographs and notes on pedagogy). The MAA publishes about 20 new books each year. Panelists **Don Albers**, MAA, and **Jerry Bryce**, Hampden-Sydney College, will describe MAA's book publications, both traditional and e-publications. The discussion will include a description of the various book series that the MAA publishes, what prospective authors need to know to publish with the MAA, and the advantages of doing so. Time will be set aside for questions from the audience.

*Getting Your Textbook Published*, organized by **James Hamblin**, Shippensburg University; Friday, 9:00 a.m.–10:20 a.m. With the rising costs of textbooks and higher education in general, many faculty are considering their own low-cost alternatives to existing textbooks. However, many of these would-be authors will never get started simply because they think the publishing process is too difficult. Is working through a big publisher the only option? How much creative control do you have when working with a publisher? How difficult is it to publish a book on your own? How do open-source textbooks work? Panelists **Doug Ensley**, Shippensburg University; **Thomas W. Judson**, Stephen F. Austin State University; and **Sheldon Gordon**, Farmingdale State College, will answer these questions and discuss the advantages and disadvantages of each publishing method. Sponsored by the MAA Professional Development Committee.

*Using Data from the Registrar's Office to Better Understand, Plan, and Change Your Undergraduate Mathematics Program*, organized by **Jack Bookman**, Duke University; Friday, 9:00 a.m.–10:20 a.m. Gathering useful data for assessment purposes can often be a daunting and time-consuming task but the answers to many questions we may have about our undergraduate mathematics programs, such what is the first math course that our majors take or what is the persistence rate from Calculus I to Calculus II, are readily available from data that can be provided by the registrar's office at each of our institutions. In this panel discussion including **Bill Martin**, North Dakota State University; **Amy Cohen**, Rutgers University; **Jack**

**Bookman**; and **Mary Callahan**, Massachusetts Institute of Technology, we will hear from a registrar who will discuss what kinds of information the registrar's office can provide and how to clearly present your questions. We will also hear from mathematics faculty who have used registrar data to assess their program and to make better informed decisions about their department's course offerings. Sponsored by the MAA Committee on Assessment.

*Incorporation of the Mathematics of Climate Change and Sustainability into our Undergraduate Courses*, organized by **Robert E. Megginson**, University of Michigan at Ann Arbor; Friday, 9:00 a.m.–10:20 a.m. The growing interest by undergraduates in climate change and sustainability presents a challenge to our mathematics courses and curricula, because we will be called upon increasingly to provide students with the mathematical background needed for careers in these fields that our courses have not traditionally addressed. However, with that challenge also comes the opportunity to bring more undergraduates into contact with interesting mathematics through their attraction to this subject matter. Panelists **Mary Lou Zeeman**, Bowdoin College; **Thomas J. Pfaff**, Ithaca College; **Martin E. Walter**, University of Colorado at Boulder; and **Christopher Jones**, University of North Carolina at Chapel Hill, will address the possibilities for our leveraging this interest in climate change and sustainability, and describe some of the mathematical materials already available.

*A New Look at Math for the Non-STEM Students*, organized by **Joanne Peeples**, El Paso Community College; Friday, 1:00 p.m.–2:20 p.m. The Carnegie Foundation for the Advancement of Teaching, the Dana Center, and AMATYC are creating new math pathways for non-STEM majors. Statway (a statistics pathway) and Quantway (a quantitative literacy pathway) are currently being piloted. Both pathways focus on the math that the students see in everyday life, active student learning, and reducing the number of “exit points” where students abandon their pursuit of a college degree. Panelists **Bruce Yoshiwara**, Los Angeles Pierce College (moderator); **Kris Bishop**, University of Texas Austin; and **Karon Klipple** and **Jane Muhich**, Carnegie Foundation, will give an overview of processes used in developing these courses, and share preliminary results. There will be time for discussion at the end of the panel's presentation. Sponsored by the MAA Committee on Two-Year Colleges.

*Engaging Secondary Teachers in Doing Mathematics*, organized by **Gail Burrill**, Michigan State University; Friday, 2:40 p.m.–4:00 p.m. Park City Mathematics Institute's Professional Development and Outreach (PDO) groups and other PCMI affiliated groups, organized by mathematicians for local teachers in a variety of locations around the nation, provide opportunities for teachers to investigate mathematical ideas and solve mathematical problems, often related to a real context. Each group is organized differently with different activities, but one commonality is a focus on mathematics. Panelists **James King**, University of Washington; **Brian Hopkins**, St. Peters College; **Brynja Kohler**, Utah State University; **Roger Knobel**, University of Texas Pan America; and **Glenn Stevens**, Boston University, will each present an interesting problem they have

used with their teachers, discuss how the work is carried out, and what the mathematical “take-aways” are for the teachers. Participants and the panelists will discuss what is necessary in order to attract and retain teachers’ interests in attending sessions and doing mathematics, what kind of problems seem to be the most successful, and what connections with the work in the PDOs, if any, might be made by the teachers to their own practice of teaching. Sponsored by the Park City Mathematics Institute.

*Poetry Reading*, organized and hosted by **JoAnne Growney**, Silver Spring, MD; **Mark Huber**, Claremont McKenna College; and **Gizem Karaali**, Pomona College; Friday, 5:00 p.m.–7:00 p.m. All mathematical poets and those interested in mathematical poetry are invited. Share your poetry or simply enjoy the company of like-minded poetic-math people! If you who wish to contact the organizers ahead of time to inquire about the session and/or to add your name to the program, please email Gizem Karaali (gizem.karaali@pomona.edu); other interested meeting participants may simply come to the reading and share as they like. Sponsored by the Journal of Humanistic Mathematics (<http://scholarship.claremont.edu/jhm>).

*Mathematically Bent Theater*, presented by **Colin Adams**, Mobisubandaid Theater Company, Friday, 6:00 p.m.–7:00 p.m. What’s funny about math? Come view these short, original, and humorous mathematical pieces and you will see.

*Math Circle Poster and Activity Session*, organized by **Philip B. Yasskin**, Texas A&M University; **James Tanton**, St. Mark’s School; **Tatiana Shubin**, San Jose State University; and **Sam Vandervelde**, St. Lawrence University; Saturday, 1:00 p.m.–4:00 p.m. Come join us for the chance to experience a math circle firsthand. Math circles vary widely in format and frequency, but they all bring groups of interested students or teachers together with professional mathematicians to investigate and discover mathematics. About ten math circles from around the country will display a poster describing that circle along with a live activity to try out. These activities are intended to provide ideas for lessons to use at your own circle or school. Activities will be designed to either restart every 30 minutes or run continuously.

Potential presenters should send the organizers (yasskin@math.tamu.edu) an electronic file (or files) of the sample lesson plan and handouts for their activity. The SIGMAA MCST will post those which are accepted at its website. Those that are not accepted will be automatically considered for future meetings. Sponsored by the SIGMAA MCST.

### Special Interest Groups of the MAA (SIGMAAs)

SIGMAAs are Special Interest Groups of the MAA. SIGMAAs will be hosting a number of activities, sessions, and guest lectures. There are currently twelve such focus groups in the MAA offering members opportunities to interact, not only at meetings, but throughout the year, via newsletters and email-based communications. For more information visit <http://www.maa.org/sigmaa/>.

**SIGMAA Officers Meeting**, Thursday, 10:30 a.m.–noon, chaired by **Amy Shell-Gellasch**, Beloit College.

### Mathematics and the Arts: SIGMAA ARTS

*Arts and Mathematics, Together Again*, Thursday morning and afternoon (see MAA Contributed Paper Sessions).

### Mathematical and Computational Biology: BIO SIGMAA

*Trends in Undergraduate Mathematical Biology Education*, Thursday morning and afternoon (see MAA Contributed Paper Sessions).

**Reception and Business Meeting**, Friday, 6:00 p.m.–7:00 p.m.

**Guest Lecture**, Friday, 7:00 p.m.–8:00 p.m., **Edward Goldstein**, Department of Epidemiology, Harvard School of Public Health, *Epidemiology of influenza strains: Competition, prediction, and associated mortality*.

### Mathematicians in Business, Industry and Government: BIG SIGMAA

*Mathematics Experiences in Business, Industry and Government*, Thursday morning (See MAA Contributed Paper Sessions).

**Guest Lecture**, Thursday, 6:00 p.m.–7:00 p.m., **Sommer Gentry**, U.S. Naval Academy, *Rational rationing in health-care: Observations from organ allocation*.

**Reception**, Thursday, 7:15 p.m.–8:00 p.m.

**Business Meeting**, Thursday, 8:00 p.m.–8:45 p.m.

### History of Mathematics: HOM SIGMAA

*The History of Mathematics and Its Uses in the Classroom*, Saturday morning (see MAA Contributed Paper Sessions).

**Reception and Business Meeting**, Wednesday, 5:30 p.m.–6:30 p.m.

**Guest Lecture**, Wednesday, 6:30 p.m.–7:30 p.m., **William Dunham**, Muhlenberg College, *Title to be announced*.

### Math Circles for Students and Teachers: SIGMAA MCST

*Math Circle Poster and Activity Session*, Saturday, 1:00 p.m.–4:00 p.m. (see MAA Panels, et al).

### Philosophy of Mathematics: POM SIGMAA

Invited Paper Session cosponsored by the AMS on *Recent Developments in the Philosophy of Mathematics*, Wednesday afternoon (see MAA-AMS Invited Paper Sessions).

**Business Meeting**, Thursday, 5:45 p.m.–6:15 p.m.

**Guest Lecture**, Thursday, 6:15 p.m.–7:15 p.m., by **Barry Mazur**, Harvard University, *What is a heuristic?*

*The Philosophy of Mathematics and Mathematical Practice*, Friday afternoon (see MAA Contributed Paper Sessions).

### Quantitative Literacy: SIGMAA QL

*Quantitative Literacy and Decision Making*, Friday morning (see MAA Contributed Paper Sessions).

**Business Meeting**, Friday, 5:00 p.m.–6:00 p.m.



*Motivating Statistical and Quantitative Learning through Social Engagement*, Saturday morning and afternoon (see MAA Contributed Paper Sessions).

#### **Research in Undergraduate Mathematics Education: SIGMAA RUME**

*Research on the Teaching of Learning of Undergraduate Mathematics*, Thursday morning and afternoon (see MAA Contributed Paper Sessions).

#### **Statistics Education: SIGMAA STAT-ED**

*Motivating Statistical and Quantitative Learning through Social Engagement*, Saturday morning and afternoon (see MAA Contributed Paper Sessions).

*Statistics and Probability in the Common Core State Standards*, Wednesday afternoon (see MAA panels et al).

**Business Meeting and Reception**, Thursday, 5:45 p.m.–7:15 p.m.

#### **Mathematics Instruction Using the Web: WEB SIGMAA**

*Trends in Teaching Mathematics Online*, Saturday morning (see MAA Contributed Paper Sessions).

**Business Meeting and Reception**, Friday, 5:00 p.m.–5:30 p.m.

**Guest Lecture**, Friday, 5:30 p.m.–6:30 p.m., **Frank Wattenberg**, U.S. Military Academy, *Examples of how mobile/web technologies can impact how, when, where, what, and why students learn*.

#### **MAA Sessions for Students**

*Grad School Fair*, Friday, 8:30 a.m.–10:30 a.m. Here is the opportunity for undergrads to meet representatives from mathematical sciences graduate programs from universities all over the country. January is a great time for juniors to learn more, and college seniors may still be able to refine their search. This is your chance for one-stop shopping in the graduate school market. At last year's meeting about 300 students met with representatives from 50 graduate programs. If your school has a graduate program and you are interested in participating, a table will be provided for your posters and printed materials for US\$65 (registration for this event must be made by a person already registered for the JMM), and you are welcome to personally speak to interested students. Complimentary coffee will be served. Cosponsored by the AMS and MAA.

**MAA Lecture for Students**, Friday, 1:00 p.m.–1:50 p.m., will be given by **Steve Abbott**, Middlebury College, on *Turning theorems into plays*.

**Undergraduate Student Poster Session**, Friday, 4:00 p.m.–5:30 p.m., organized by **Joyati Debnath**, Winona State University. The session is reserved to undergraduates and first-year graduate students submitting posters on work done while undergraduates. Abstracts are accepted on a first-come basis. Space is limited and students are encouraged to apply early. See <http://www.maa.org/students/undergrad/jmmposterindex.html> for pertinent details, including a link to the abstracts submission form. Examples of poster topics include a new result, a different proof of a known theorem, an innovative solution of a Putnam problem, a new mathematical model, or method

of solution of an applied problem. Purely expository posters cannot be accepted. Prizes will be awarded to the top-rated posters with money provided by the AMS, MAA, AWM, CUR, PME, the Educational Advancement Foundation, and the MAA Committee on Undergraduate Student Activities and Chapters (CUSAC). Trifold, self-standing 48" by 36" tabletop posterboards will be provided. Additional material or equipment is the responsibility of the presenters. Participants must be available for setting up their posters from noon to 1:00 p.m. and then from 2:30 p.m. to 4:00 p.m. to answer questions from the judges. The general public will be allowed in from 4:00 p.m. to 5:30 p.m. Questions regarding this session should be directed to the session organizer at [jdebnath@winona.edu](mailto:jdebnath@winona.edu). The deadline for proposals is **October 28, 2011**.

Some more advanced students might be interested in these sessions listed elsewhere in this announcement: **Graduate School: Choosing One, Getting In, Staying In**, Thursday at 9:00 a.m.; **Career Options for Undergraduate Mathematics Majors**, Thursday at 1:00 p.m.; **Hit the Ground Running! Interview Like a Pro and Land the Job**, Thursday at 2:40 p.m.; see the full descriptions in the "MAA Panels..." section. You may also be interested in the **AMS-MAA-SIAM Special Session on Research in Mathematics by Undergraduates and Students in Post-Baccalaureate Programs** on Friday and Saturday mornings and afternoons, listed in the "AMS Special Sessions" section.

Also see the "Social Events" section for the open hours of the **Student Hospitality Center, Reception for Undergraduates, and Reception for Graduate Students and First-Time Participants**.

#### **MAA Short Course**

This two-day Short Course on *Discrete and Computational Geometry* is organized by **Satyan L. Devadoss**, Williams College, and **Joseph O'Rourke**, Smith College, and will take place on Monday and Tuesday, January 2 and 3, before the annual meeting begins.

Although geometry is as old as mathematics itself, discrete geometry only fully emerged in the 20th century, and computational geometry was only christened in the late 1970s. The terms "discrete" and "computational" fit well together as the geometry must be discretized in preparation for computations. "Discrete" here means concentration on finite sets of points, lines, triangles, and other geometric objects, and is used to contrast with "continuous" geometry, for example, smooth manifolds. Although the two endeavors were growing naturally on their own, it has been the interaction between discrete and computational geometry that has generated the most excitement, with each advance in one field spurring an advance in the other. The interaction also draws upon two traditions: theoretical pursuits in pure mathematics and applications-driven directions often arising in computer science. The confluence has made the topic an ideal bridge between mathematics and computer science. It is precisely to bridge that gap that we hope to accomplish with this short course.

The material that will be covered is accessible to faculty and scholars at several different levels, whether they are interested in teaching or research: whether teaching students at an advanced high school level, a collegiate setting, or at the graduate level, and research specifically on the topics covered or in allied fields. A solid understanding of proofs is all that is needed to tackle some of the most beautiful and intriguing questions in this field. Moreover, a strong intuition of this subject can be obtained and developed through visualization. Due to the relative youth of the field, there are many accessible unsolved problems, which we highlight throughout the course. We hope this course can serve to open the door on this rich and fascinating subject.

This Short Course is broken into eight lectures, all given by the two organizers. The topics covered include *Polygons: Building blocks of discrete and computational geometry*; *Convex hulls: Computing in 2D and 3D*; *Triangulations: Flip graphs and Delaunay triangulations*; *Voronoi Diagrams: Geometry, duality, and hulls revisited*; *Curves: Medial axes, origami crease lines, and the Poincaré conjecture*; *Polyhedra: From Euler to Gauss to Cauchy*; and *Configuration Spaces: Locked polygonal chains and particle collisions*. The concluding session will discuss undergraduate research.

See a longer description at [http://jointmathematicsm meetings.org/2138\\_maasc.html](http://jointmathematicsm meetings.org/2138_maasc.html). There are separate registration fees to participate in this Short Course. See the fee schedule on the registration form at the back of this issue or visit [jointmathematicsm meetings.org/2138\\_regfees.html](http://jointmathematicsm meetings.org/2138_regfees.html).

### Other MAA Events

**Board of Governors**, Tuesday, 9:00 a.m.–5:00 p.m.

**Section Officers**, chaired by **Rick Gillman**, Valparaiso University; Wednesday, 2:30 p.m.–5:00 p.m.

**Business Meeting**, Saturday, 11:10 a.m.–11:40 a.m., chaired by MAA President **Paul Zorn**, Saint Olaf College.

**Department Liaisons Meeting**, Wednesday, 9:30 a.m.–11:00 a.m.

**Joint PME and MAA Student Chapter Advisors' Meeting**, day and time to be determined.

**Minority Chairs Meeting**, day and time to be determined.

See the listings for various receptions in the “Social Events” section.

### MAA Ancillary Workshops

Three ancillary workshops have been scheduled for Tuesday, January 3, the day before the Joint Meetings actually begins, cosponsored by the MAA and the Consortium for the Advancement of Undergraduate Statistics Education (CAUSE). There is no workshop registration fee and advance registration is required through [www.causeweb.org/workshop/jmm12\\_projects/](http://www.causeweb.org/workshop/jmm12_projects/). You will receive notification of acceptance. Please note that walk-ins cannot be accommodated.

**Facilitating Student Projects in Elementary Statistics**, Tuesday, 8:30 a.m.–4:30 p.m., presented by **Brad Bailey**,

**Sherry L. Hix**, and **Dianna Spence**, North Georgia College & State University. Research suggests that having students complete statistics projects which entail identifying a research question, collecting and analyzing the necessary data and interpreting the results leads to deeper student understanding of statistics and fuller appreciation for the usefulness of statistics. Successful such student projects encompass a number of key tasks that students must carry out with guidance from their instructor. These tasks include defining appropriate variables, constructs, and research questions; locating authentic data; designing and implementing a sampling strategy; collecting the data; organizing and analyzing the data; and interpreting and presenting the results. Participants will have the opportunity to become more effective project facilitators by carrying out these key tasks in accelerated projects, using both t-tests and linear regression as contexts for the projects. In addition to providing participant hands-on experience with each of the project tasks, we will review methods for guiding students through these tasks. Finally, we will focus on details of facilitating the overall project, including project phases and organization, assessment methods, and best practices for implementation.

Participants should bring a laptop computer to the workshop, if possible. Participants will be on their own for lunch, suggestions for nearby options will be provided.

**Teaching Modeling-Based Calculus**, Tuesday, 9:00 a.m.–4:30 p.m., presented by **Daniel Kaplan** and **Dan Flath**, Macalester College, **Randall Pruim**, Calvin College, and **Eric Marland**, Appalachian State University. The MAA/CRAFTY reports recommended a strong emphasis on modeling in early university-level math courses, as well as much greater attention to statistics and computing. This workshop will show some techniques for teaching an introductory calculus course that is genuinely based on the process of modeling. By this, we mean using the concepts of calculus to help develop and interpret models of diverse phenomena in biology, economics, physics, etc. There will be a strong link made between calculus and statistical models. And, rather than using technology to carry out traditional symbolic calculus operations, we'll show how technology can be used to aid the modeling process. The workshop will include a general introduction to teaching modeling, several examples of classroom activities and homework projects that help develop modeling concepts and skills, and a broad introduction to the use of computing to support modeling. Participants should bring their laptops with the software they would like to use in their teaching. Recognizing that the choice of software is often determined by external factors including the preferences of colleagues and budgets, we will be ecumenical about software. In addition to providing a basic introduction to two free mathematical software systems—R and Sage—we'll try to support participants who would rather work with Mathematica, Maple, and Matlab. The workshop is an outreach activity of Project MOSAIC (NSF DUE-0920350) as well as CAUSE.

Participants should bring a laptop computer to the workshop, if possible. Lunch will be provided.

**Identifying and Addressing Difficult Concepts for Students in the Introductory Statistics Course**, Tuesday, 8:30 a.m.–4:30 p.m., presented by **Deborah Rumsey**, The Ohio State University. We know that students have difficulty with certain topics in statistics such as sampling distributions, and it can be difficult to determine the best approach to take to help our students work through these topics. In this workshop we take a selection of difficult concepts, zoom in on exactly what the problems are from the student's point of view, and examine where, when, and how to address them in our course. Along the way we will examine these difficult statistical concepts in detail, and look for common threads that may even lead us back to issues from Chapter 1. The workshop is particularly geared toward instructors at two-year colleges.

Participants should bring a laptop computer to the workshop, if possible. Participants will be on their own for lunch, suggestions for nearby options will be provided.

### *Activities of Other Organizations*

This section includes scientific sessions. Several organizations or special groups are having receptions or other social events. Please see the “Social Events” section of this announcement for details.

#### **Association for Symbolic Logic (ASL)**

This two-day program on Friday and Saturday will include sessions of contributed papers as well as Invited Addresses by **John Baldwin**, University of Illinois at Chicago; **Johanna Franklin**, University of Connecticut; **C. Ward Henson**, University of Illinois at Urbana-Champaign; **Julia Knight**, University of Notre Dame; **Roman Kossak**, CUNY Graduate Center; and **Dima Sinapova**, University of California Irvine.

See also the session cosponsored by the ASL, **On the Life and Legacy of Alan Turing**, on Wednesday and Thursday in the “AMS Special Sessions” listings.

#### **Association for Women in Mathematics (AWM)**

**Thirty-Third Annual Emmy Noether Lecture**, Thursday, 10:05 a.m., will be given by **Barbara Lee Keyfitz**, Ohio State University, *Conservation laws—Not exactly à la Noether*.

Also see the session on **Nonlinear Hyperbolic Partial Differential Equations**, jointly sponsored by the AWM, in the “AMS Special Sessions” listings.

**Maintaining an Active Research Career Through Collaboration**, Wednesday, 2:15 p.m.–3:40 p.m. This panel discussion is organized by **Christina Sormani**, CUNY and Lehman College, and **Ami Radunskaya**, Pomona College. Just before the panel, AWM will recognize the honorees of the Alice T. Schafer Prize for Excellence in Mathematics by an Undergraduate Woman. Note that formal prizewinner announcements are made at the Joint Prize Session on Thursday afternoon.

**AWM Business Meeting**, Thursday, 3:45 p.m.–4:15 p.m.

**Workshop**, Saturday, 8:30 a.m.–4:30 p.m. With funding from the National Security Agency, AWM will conduct its workshop for women graduate students and women who have received the Ph.D. within the last five years. Twenty

women mathematicians are selected in advance of this workshop to present their research; graduate students will present posters, and the recent Ph.D.s will give 20-minute talks. At 1:00 p.m. there is a panel discussion on *Career Options: Industry, Government, and Academic*, moderated by **Alissa Crans**, Loyola Marymount University, with panelists **Jennifer Chayes**, Microsoft Research; **Melissa Choi**, MIT Lincoln Laboratory; **Navah Langmeyer**, National Security Agency, and **Peter March**, Ohio State University. All mathematicians (female and male) are invited to attend the entire program. Departments are urged to help graduate students and recent Ph.D.s who do not receive funding to obtain some institutional support to attend the workshop and other meeting sessions. Updated information about the workshop is available at [www.awm-math.org/workshops.html](http://www.awm-math.org/workshops.html). AWM seeks volunteers to lead discussion groups and act as mentors for workshop participants. If you are interested, please contact the AWM office; inquiries regarding future workshops may be made to the office at [awm@awm-math.org](mailto:awm@awm-math.org).

**Reception**, Wednesday, 9:30 p.m.–11:00 p.m. See the listing in the “Social Events,” section of the announcement.

**National Association of Mathematicians (NAM) Granville-Brown-Haynes Session of Presentations by Recent Doctorial Recipients in the Mathematical Sciences**, Friday, 1:00 p.m.–4:00 p.m.

**Cox-Talbot Address**, to be given Friday after the banquet by **Sylvia Bozeman**, Spellman University, *Title to be announced*.

**Panel Discussion**, Saturday, 9:00 a.m.–9:50 a.m., *Title to be announced*.

**Business Meeting**, Saturday, 10:00 a.m.–10:50 a.m.

**Claytor-Woodward Lecture**, Saturday, 1:00 p.m., Speaker and title to be announced.

See details about the banquet on Friday in the “Social Events” section.

#### **National Science Foundation (NSF)**

The NSF will be represented at a booth in the exhibit area. NSF staff members will be available to provide counsel and information on NSF programs of interest to mathematicians. The booth is open the same days and hours as the exhibits. Times that staff will be available will be posted at the booth.

#### **Pi Mu Epsilon (PME)**

**Council Meeting**, Friday, 8:00 a.m.–11:00 a.m.

#### **Rocky Mountain Mathematics Consortium (RMMC)**

**Board of Directors Meeting**, Friday, 2:15 p.m.–4:10 p.m.

#### **Society for Industrial and Applied Mathematics (SIAM)**

This program consists of an Invited Address at 11:10 a.m. on Thursday given by **Edriss S. Titi**, University of California Irvine and Weizmann Institute, *Navier-Stokes, Euler, and other relevant equations*, and a series of Minisymposia on these topics by these organizers:



*Sparsity in Inverse Problems and Signal Processing*, **Otmar Scherzer**, University of Vienna, Wednesday, morning.

*Vistas in Applied, Computational, and Discrete Mathematics*, **Zuhair Nashed**, University of Central Florida, and **Luminita Vese**, University of California Los Angeles; Wednesday afternoon.

*Computational Geometry*, **Suresh Venkatasubramanian**, University of Utah; Thursday morning.

*Probabilistic Combinatorics*, **Jacob Fox**, Massachusetts Institute of Technology, and **Poh-She Loh**, Carnegie Mellon University; Thursday afternoon.

*Applied, Computational, and Discrete Mathematics at National Laboratories and Federal Research Agencies*, **Luminita Vese**, University of California Los Angeles, and **Zuhair Nashed**, University of Central Florida, Friday, afternoon.

*Recent Advances in Fluid Dynamics and Turbulence Models*, **Edriss Titi**, University of California Irvine, Saturday morning.

*Variational and PDE Methods in Imaging Science*, **Luminita Vese**, University of California Los Angeles; **Otmar Scherzer**, University of Vienna; and **Alexandru Tamasan**, University of Central Florida; Saturday afternoon

### Young Mathematicians Network (YMN)

**Open Forum**, Thursday, 7:30 p.m.–8:30 p.m., organized by **Joshua D. Laison**, Willamette University, and **Thomas Wakefield**, Youngstown State University. All meeting participants, especially undergraduates and graduate students, and early career mathematicians are invited to discuss topics and issues affecting young mathematicians.

Also see other details about other sessions cosponsored by the YMN under these headings: **MAA Panels, et al: Project NExT-YMN Poster Session**, Wednesday, 2:15 p.m.; **Graduate School: Choosing One, Getting In, Staying In**, Thursday, 9:00 a.m.; **Career Options for Undergraduate Mathematics Majors**, Thursday, 1:00 p.m.; and **Hit the Ground Running! Interview Like a Pro and Land the Job**, Thursday at 2:40 p.m.

### Others

**Mathematical Art Exhibition**, organized by **Robert Fathauer**, Tessellations Company; **Nathaniel A. Friedman**, ISAMA and SUNY Albany, **Anne Burns**, Long Island University and C. W. Post University, **Reza Sarhangi**, Towson University, and **Nathan Selikoff**, Digital Awakening Studios. A popular feature at the Joint Mathematics Meetings, this exhibition provides a break in your day. On display are works in various media by artists who are inspired by mathematics and by mathematicians who use visual art to express their findings. Fractals, symmetry, and tiling are some of the ideas at play here. Don't miss this unique opportunity for a different perspective on mathematics. The exhibition will be located inside the Joint Mathematics Exhibits and open during the same exhibit hours.

**Summer Program for Women in Mathematics (SPWM) Reunion**, Thursday, 1:00 p.m.–4:00 p.m., organized by **Murli M. Gupta**, George Washington University. This is a reunion of the participants from our past 17 years who

are in various states in their mathematical careers: some are students (undergraduate or graduate), others are in various jobs, both in academia as well as government and industry. The participants will describe their experiences relating to all aspects of their careers, and a few will give talks on the research areas they are exploring. See <http://www.gwu.edu/~spwm>.

## Social Events

All events listed are open to all registered participants. It is strongly recommended that for any event requiring a ticket, tickets should be purchased through advance registration. Only a very limited number of tickets, if any, will be available for sale on site. If you must cancel your participation in a ticketed event, you may request a 50% refund by returning your tickets to the Mathematics Meetings Service Bureau (MMSB) by **December 27**. After that date no refunds can be made. Special meals are available at banquets upon advance request, but this must be indicated on the Advanced Registration/Housing Form.

**AMS Banquet**: As a fitting culmination to the Meetings, the AMS banquet provides an excellent opportunity to socialize with fellow participants in a relaxed atmosphere. The participant who has been a member of the Society for the greatest number of years will be recognized and will receive a special award. The banquet will be held on Saturday evening, with dinner served at 7:30 p.m. Tickets are US\$58 including tax and gratuity. The banquet will be preceded by a reception at 6:30 p.m.

**Association of Christians in the Mathematical Sciences (ACMS) Reception and Banquet**, Friday, 6:00 p.m.–8:00 p.m. This annual dinner at 6:30 p.m. is preceded by a reception at 6:00 p.m. and will be followed by a talk at 7:30 p.m. by **Rosalind Picard**, Massachusetts Institute of Technology Media Lab, *Robots, autism, and God*, presenting her work on affective computing, an interdisciplinary field that explores new systems that recognize and respond to human emotions. See <http://www.acmsonline.org> for details.

**Annual Association of Lesbian, Gay, Bisexual, and Transgendered Mathematicians Reception**, Thursday, 6:00 p.m.–8:00 p.m. All are welcome to attend this open reception affiliated with NOGLSTP, the National Organization of Gay and Lesbian Scientists and Technical Professionals, Inc.

**AWM Reception**: There is an open reception on Wednesday at 9:30 p.m. after the AMS Gibbs Lecture. This year reception attendees are invited to participate in a networking activity based on the game SET which will provide opportunities to meet new people and have added fun at the reception.

**Budapest Semesters in Mathematics Annual Alumni Reunion**, Thursday, 5:30 p.m.–7:00 p.m. All alumni, family, and spouses are welcome to attend.

**University of Chicago Mathematics Alumni Reception**, Thursday, 6:00 p.m.–7:00 p.m.

**Claremont Colleges Alumni Reception**, Thursday, 7:00 p.m.–9:00 p.m. The Claremont Colleges invite alumni,

students, faculty and friends to join us for our annual reception. Drinks and hors d'oeuvres will be served and guests are welcome.

**Reception for Graduate Students and First-Time Participants**, Wednesday, 5:30 p.m.–6:30 p.m. The AMS and MAA cosponsor this social hour. Graduate students and first-timers are especially encouraged to come and meet some old-timers to pick up a few tips on how to survive the environment of a large meeting. Light refreshments will be served.

**University of Illinois at Urbana Champaign, Department of Mathematics Alumni Reception**, Friday, 5:30 p.m.–7:30 p.m. Everyone ever connected with the department is encouraged to get together for conversation and to hear about mathematics at the University of Illinois. For more information please visit <http://www.math.illinois.edu/jmm-reception.html>.

**Knitting Circle**, Thursday, 8:15 p.m.–9:45 p.m. Bring a project (knitting/crochet/tatting/beading/ect.) and chat with other mathematical crafters!

**Reception in Honor of Retiring MAA Executive Director Tina Straley**, Friday, 5:00 p.m.–6:30 p.m. Join the MAA and your colleagues in wishing Tina well as we thank her for her leadership and for her wonderful spirit that has enriched the mathematical community. Tickets are US\$25 each, including tax and gratuity. There will be a cash bar and light hors d'oeuvres will be served.

**MAA/Project NExT Reception**, Friday, 8:30 p.m.–10:30 p.m.; organized by **Judith Covington**, Louisiana State University Shreveport; **Joseph A. Gallian**, University of Minnesota Duluth; **Aparna W. Higgins**, University of Dayton; and **P. Gavin LaRose**, University of Michigan. All Project NExT Fellows, consultants, and other friends of Project NExT are invited.

**MAA Two-Year College Reception**, Wednesday, 5:45 p.m.–7:00 p.m., is open to all meeting participants, particularly two-year faculty members. This is a great opportunity to meet old friends and make some new ones. There will be hot and cold refreshments and a cash bar.

**Mathematical Reviews Reception**, Friday, 6:00 p.m.–7:00 p.m. All friends of the *Mathematical Reviews* (MR) are invited to join reviewers and MR editors and staff (past and present) for a reception in honor of all of the efforts that go into the creation and publication of the *Mathematical Reviews* database. Refreshments will be served.

**Mathematical Institutes Open House**, Wednesday, 5:30 p.m.–8:00 p.m. Participants are warmly invited to attend this open house which is co-sponsored by several of the Mathematical Institutes in North America. This reception precedes the Gibbs Lecture. Come find out about the latest activities and programs at each of the institutes that may be suited to your own research.

**MER/IME Banquet**, Thursday, 6:30 p.m.–9:30 p.m. The Mathematicians and Education Reform (MER) Forum and the Institute for Mathematics and Education (IME) welcome all mathematicians who are interested in precollege, undergraduate, and/or graduate educational issues to attend the MER/IME banquet on Thursday evening. This is an opportunity to make or renew contacts with other mathematicians who are involved in education projects

and to engage in lively conversation about educational issues. The after-dinner discussion is an open forum for participants to voice their impressions, observations, and analyses of the current education scene. There will be a cash bar beginning at 6:30 p.m.; dinner will be served at 7:30 p.m. Tickets are US\$60 each, including tax and gratuity.

**National Association of Mathematicians Banquet**, Friday, 6:00 p.m.–8:40 p.m. A cash bar reception will be held at 6:00 p.m., and dinner will be served at 6:30 p.m. Tickets are US\$58 each, including tax and gratuity. The Cox-Talbot Invited Address will be given after the dinner.

**NSA Women in Mathematics Society Networking Session**, Thursday, 6:00 p.m.–8:00 p.m. All participants are welcome to this annual event. Please stop by the NSA booth in the exhibit hall for the exact location.

**Pennsylvania State University Mathematics Alumni Reception**, Wednesday, 6:30 p.m.–8:15 p.m. Please join us for hors d'oeuvres and beverages and mingle with math alumni, faculty, and College of Science representatives.

**Student Hospitality Center**, Wednesday–Friday, 9:00 a.m.–5:00 p.m., and Saturday, 9:00 a.m.–3:00 p.m., organized by **Richard** and **Araceli Neal**, American Society for the Communication of Mathematics.

**Reception for Undergraduates**, Wednesday, 4:00 p.m.–5:00 p.m.

## Other Events of Interest

**AMS Information Booth**: All meetings participants are invited to visit the AMS Information Booth during the meetings. A special gift will be available for participants, compliments of the AMS. AMS staff will be at the booth to answer questions about AMS programs and membership.

**Book Sales and Exhibits**: All participants are encouraged to visit the book, education media, and software exhibits from 12:15 p.m.–5:30 p.m. on Wednesday, 9:30 a.m.–5:30 p.m. on Thursday and Friday, and 9:00 a.m.–noon on Saturday. Books published by the AMS and MAA will be sold at discounted prices somewhat below the cost for the same books purchased by mail. These discounts will be available only to registered participants wearing the official meetings badge. Participants visiting the exhibits are required to display their meetings badge in order to enter the exhibit area.

The MAA and the AMS cordially invite all registered participants to enjoy complimentary tea and coffee while perusing the associations' booths.

**Mathematical Sciences Employment Center**: Those wishing to participate in the Mathematical Sciences Employment Center should read carefully the important article about the center beginning on page 1343 in this issue of *Notices* or at [www.ams.org/profession/employment-services/employment-services](http://www.ams.org/profession/employment-services/employment-services). Employers should pay the appropriate fees; there are no fees for applicants to participate, except that all Employment Center participants must also register for the Joint Mathematics Meetings (JMM). Official meeting badges are required to enter the Employment Center.

**Networking Opportunities:** There are many opportunities to meet new friends and greet old acquaintances in addition to the vast array of scientific sessions offered at these meetings. These opportunities are listed on the networking page at [jointmathematicsm meetings.org/2138\\_newcomers.html](http://jointmathematicsm meetings.org/2138_newcomers.html).

**First-Time Participants:** A special welcome is extended to all new participants of these meetings. For your convenience tips on how to GET AROUND at these meetings are found at the newcomers page at [jointmathematicsm meetings/2138\\_newcomers.html](http://jointmathematicsm meetings/2138_newcomers.html). You may want to investigate the many receptions listed in the "Social Events" section, the Student Hospitality Center, and the Employment Center. On site you will find a Networking Center featuring casual seating, and lists of registered participants sorted by school and math subject classification will be available for your perusal. This is a great place to relax between sessions and forge new friendships.

### Registering in Advance and Obtaining Hotel Accommodations

The MAA and the AMS make every effort to keep participant expenses at meetings and registration fees for meetings as low as possible. We work hard to negotiate the best hotel rates and to make the best use of your registration dollars to keep the meetings affordable for you. The AMS and the MAA encourage all participants to register for the meeting. When you pay the registration fee, you are helping to support a wide range of activities associated with planning, organizing, and running a major meeting of this size.

**How to Register in Advance:** The importance of advance registration cannot be overemphasized. Advance registration fees are considerably lower than the fees that will be charged for registration at the meetings. Participants registering by **November 18** may receive their badges, programs, and tickets (where applicable) in advance by mail approximately three weeks before the meetings. Those who do not want their materials mailed should check the box on the form. Because of delays that occur in U.S. mail to Canada, advance registrants from Canada must pick up their materials at the meetings. Because of delays that occur in U.S. mail to overseas, materials are never mailed overseas. There will be a special Registration Assistance Desk at the Joint Meetings to assist individuals who either did not receive this mailing or who have a problem with their registration. Please note that a US\$5 replacement fee will be charged for programs and badges that are mailed but not taken to Boston. Acknowledgments of registrations will be sent by email to the email addresses given on the Advance Registration/Housing Form. If you do not wish your registration acknowledged by email, please mark the appropriate box on the form.

**Internet Advance Registration:** This service is available for advance registration and hotel reservations at [jointmathematicsm meetings.org/2138\\_reg.html](http://jointmathematicsm meetings.org/2138_reg.html). VISA, MasterCard, Discover, and American Express are the only methods of payment which are accepted for Internet advance registration, and charges to credit cards will be

made in U.S. funds. All Internet advance registrants will receive acknowledgment of payment upon submission of this completed form.

**Cancellation Policy:** Those who cancel their advance registration for the meetings, minicourses, or short courses by **December 30** will receive a 50% refund of fees paid. Those who cancel their banquet tickets by **December 27** will receive a 50% refund of monies paid. No refunds can be issued after these dates.

### Joint Mathematics Meetings Registration Fees

	by Dec. 15	at meeting
Member of AMS, ASL, CMS, MAA, SIAM	US\$228	US\$300
Emeritus Member of AMS, MAA; Unemployed; High School Teacher; Developing Countries Special Rate; Librarian	50	60
Graduate Student Member of AMS, MAA	50	60
Graduate Student Nonmember	78	88
Undergraduate Student	50	60
High School Student	5	10
Temporarily Employed Nonmember	185	214
One-Day Member of AMS, ASL, CMS, MAA, SIAM	N/A	163
One-Day Nonmember	N/A	255
Nonmathematician Guest	15	15
<b>MAA Minicourses</b> *if space is available	US\$77	77*
<b>Grad School Fair Table</b> (table/posterboard/electricity)	US\$65	65
<b>AMS Short Course</b>		
Member of AMS or MAA	US\$102	US\$136
Nonmember	145	175
Student/Unemployed/Emeritus	50	71
<b>MAA Short Course</b>		
MAA or AMS Member	US\$153	US\$163
Nonmember	204	214
Student/Unemployed/Emeritus	77	87

**Full-Time Students:** Those currently working toward a degree or diploma. Students are asked to determine whether their status can be described as graduate (working toward a degree beyond the bachelor's), undergraduate (working toward a bachelor's degree), or high school (working toward a high school diploma) and to mark the Advance Registration/Housing Form accordingly.

**Graduate Student:** The member status refers to any graduate student who is a member of the AMS or MAA. These students should check with their department administrator to check their membership status.

**Emeritus:** Any person who has been a member of the AMS or MAA for twenty years or more and who retired because of age or long-term disability from his or her latest position.

**Librarian:** Any librarian who is not a professional mathematician.



**Unemployed:** Any person currently unemployed, actively seeking employment, and not a student. It is not intended to include any person who has voluntarily resigned or retired from his or her latest position.

**Developing Country Participant:** Any person employed in developing countries where salary levels are radically noncommensurate with those in the U.S.

**Temporarily Employed:** Any person currently employed but who will become unemployed by June 1, 2012, and who is actively seeking employment.

**Nonmathematician Guest:** Any family member or friend who is not a mathematician and who is accompanied by a participant in the meetings. These official guests will receive a badge and may attend all sessions and the exhibits.

**Participants Who Are Not Members of the AMS or MAA** and register for the meetings as a nonmember will receive mailings after the meetings are over with special membership offers.

Advance registration and on-site registration fees only partially cover the expenses of holding meetings. All mathematicians who wish to attend sessions are expected to register and should be prepared to show their badges if so requested. Badges are required to enter the exhibit area, to obtain discounts at the AMS and MAA Book Sales, and to cash a check with the Joint Meetings cashier.

Advance registration forms accompanied by insufficient payment will be returned, thereby delaying the processing of any housing request; a US\$5 charge will be assessed if an invoice must be prepared to collect the delinquent amount. Overpayments of less than US\$5 will not be refunded.

For each invalid check or credit card transaction that results in an insufficient payment for registration or housing, a US\$5 charge will be assessed. Participants should check with their tax preparers for applicable deductions for education expenses as they pertain to these meetings.

If you wish to be included in a **list of individuals sorted by mathematical interest**, please provide the one mathematics subject classification number of your major area of interest on the Advance Registration/Housing Form. (A list of these numbers is available by sending an empty email message to [abs-submit@ams.org](mailto:abs-submit@ams.org); include the number 1067 as the subject of the message.) Copies of this list will be available for your perusal in the Networking Center.

If you do not wish to be included in any mailing list used for promotional purposes, please indicate this in the appropriate box on the Advance Registration/Housing Form.

### Advance Registration Deadlines

There are three separate advance registration deadlines, each with its own advantages and benefits.

**EARLY** meetings advance registration  
(room drawing) **November 4**

**ORDINARY** meetings advance registration  
(hotel reservations, materials  
mailed) **November 18**

**FINAL** meetings advance registration

(advance registration, short courses,  
Employment Center, minicourses,  
banquets)

**December 15**

**Early Advance Registration:** Those who register by the early deadline of **November 4** will be included in a random drawing to select winners of complimentary hotel rooms in Boston. Multiple occupancy is permissible. The location of rooms to be used in this drawing will be based on the number of complimentary rooms available in the various hotels. Therefore, the free room may not necessarily be in the winner's first-choice hotel. The winners will be notified by mail prior to **December 24**. So register early!

**Ordinary Advance Registration:** Those who register after **November 4** and by the ordinary deadline of **November 18** may use the housing services offered by the MMSB but are not eligible for the room drawing. You may also elect to receive your badge and program by mail in advance of the meetings.

**Final Advance Registration:** Those who register after **November 19** and by the final deadline of **December 15** must pick up their badges, programs, and any tickets for social events at the meetings. Unfortunately, it is sometimes not possible to provide final advance registrants with housing, so registrants are strongly urged to make their hotel reservations by **November 18**. Please note that the **December 15** deadline is firm; any forms received after that date will be returned and full refunds issued. To pick up your materials, please come to the Meetings Registration Desk located on the second floor of the Hynes Convention Center.

### Special Assistance

We strive to take the appropriate steps required to ensure that no individual with a disability is excluded, denied services, segregated, or otherwise treated differently. Please tell us what you require to help make your participation more enjoyable and meaningful. If you require special assistance, auxiliary aids or other reasonable accommodations to fully participate in this event, please check off the appropriate box on the Registration/Housing Form or email the MMSB at [mmsb@ams.org](mailto:mmsb@ams.org). All requests for special accommodations under the Americans with Disabilities Act of 1990 (ADA) must be made allowing enough time for evaluation and appropriate action by the JMM. Any information received about a disability will remain confidential.

### Hotel Reservations

The AMS and MAA contract only with facilities who are working toward being in compliance with the public accommodations requirements of ADA. Participants requiring hotel reservations should read the instructions on the following hotel pages. Participants who did not reserve a room during advance registration and would like to obtain a room at one of the hotels listed on the following pages should call the hotels directly after **December 15**. However, the MMSB can no longer guarantee availability of rooms or special convention rates after that date.

## How to Obtain Hotel Accommodations – 2012 Joint Mathematics Meetings

### General

Participants must register in advance in order to obtain hotel accommodations through the Mathematics Meetings Service Bureau (MMSB). Special rates have been negotiated exclusively for this meeting at the following hotels: Marriott Cop-ley Place Boston, Sheraton Boston, Boston Park Plaza Hotel & Towers, Boston Omni Parker House, Hilton Back Bay, and The Colonnade Hotel. **Reservations can only be made for these hotels through the MMSB to receive JMM rates.**

The hotels will not be able to accept reservations directly until after **December 14**. At that time, rooms and rates will be based on availability. Higher rates may be applied to any rooms reserved directly with the hotels before **December 14**.

**To reserve a room**, please complete the housing section of the Advanced Registration/Housing (ARH) Form (via paper or the web) by **November 18**. All reservations must be guaranteed by either credit card or check deposit in the total amount of your first night stay. If you use the online form, a credit card number will be required for guarantee. If you use the paper form, a credit card number or check may be given for guarantee. For your security, credit card numbers will not be accepted by postal mail, e-mail, or fax. If you wish to guarantee your room by credit card and are submitting a paper form, the MMSB will call you at the number you provided. The online form is located at <https://www.jointmathematicsmeetings.org/meetreg?meetnum=2138>. The paper form is located at the back of this announcement. Participants interested in suites should contact the MMSB at [mmsb@ams.org](mailto:mmsb@ams.org) or 1-800-321-4267 ext. 4137 or 4144 for further information. **Sorry, reservations cannot be taken over the phone.**

### Confirmations

All hotels will be sending e-mail confirmations if e-mail addresses are provided. Please contact the MMSB after **December 14** if you did not receive a confirmation number.

### ADA Accessibility

We strive to take the appropriate steps required to ensure that no individual with a disability is excluded, denied services, segregated or otherwise treated differently. Please tell us what you require to help make your participation more enjoyable

### Deadlines

- Complimentary Room Drawing: **November 4**
- Reservations through MMSB: **November 18**
- Changes/Cancellations through MMSB: **December 6**

### Complimentary Room Drawing

Anyone who reserves a room through the MMSB by **November 4** is eligible for a drawing to receive complimentary room nights during the meeting. See *How to Register in Advance* for details. Good luck!

### Looking for a Roommate?

For your convenience, a search board has been set up at [jointmathematicsmeetings.org/jmm-bboards](http://jointmathematicsmeetings.org/jmm-bboards) to help you find a roommate.

and meaningful. If you require special assistance, auxiliary aids or other reasonable accommodations to fully participate in this meeting, please check off the appropriate box on the ARH Form or e-mail the MMSB at [mmsb@ams.org](mailto:mmsb@ams.org). All requests for special accommodations under the Americans with Disabilities Act of 1990 (ADA) must be made allowing enough time for evaluation and appropriate action by the AMS and MAA. Any information obtained about a disability will remain confidential.

### Environmental Policies

All of the hotels have successful “green” programs in place. The Marriott is the recipient of more ENERGY STAR labels than any other hotel company since 2004. In addition, the Sheraton has numerous guest reward programs in place, including the “Green Guest Linen and Terry Program”.

### Rates

- All rates are subject to applicable local and state taxes in effect at time of check-in; currently 14.45%.

- Only certified students or unemployed mathematicians qualify for student rates.
- See the ARH Form for a detailed breakdown of rates for each hotel.

### Cancellation Policies

- The Omni Parker House and the Sheraton have a 72-hour cancellation policy prior to check-in. The other four hotels have a 24-hour cancellation policy prior to check-in.

### Guarantee Requirements

- One night deposit by check, or
- Credit cards (online only): Visa, MC, AMEX, Diners, and Discover. For your security, we do not accept credit card numbers by postal mail, e-mail or fax. If you reserve a room by paper form and want to guarantee by credit card, the MMSB will contact you at the phone number you provided.

### Check-in/Check-out

Check-in at the Marriott is 4:00 p.m. Check-in at the other five hotels is 3:00 p.m. Check-out at each hotel is noon.

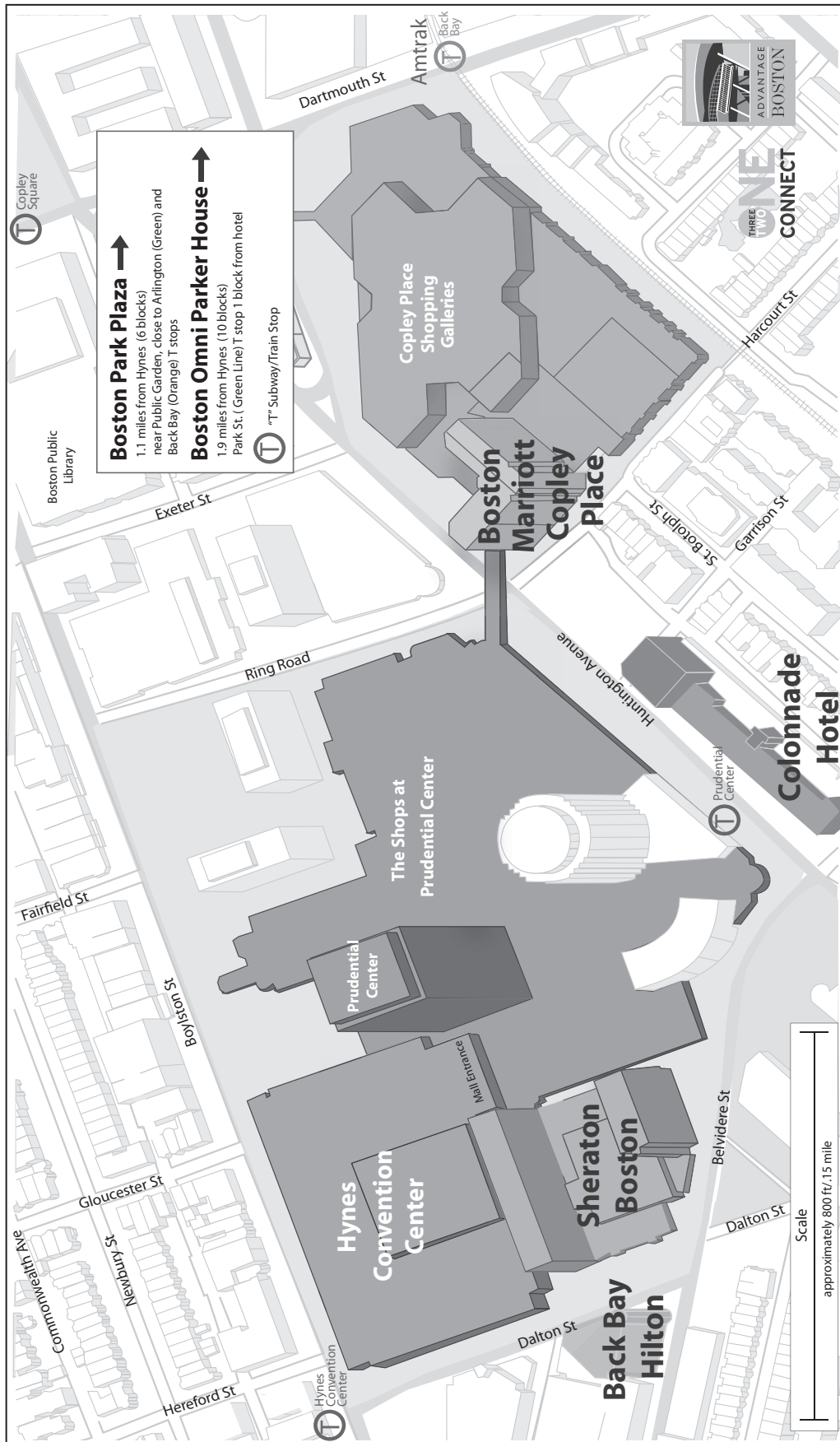
### Internet Access/Wireless

- **Marriott Copley Place:** Complimentary wireless available in the lobby and public areas; wired and wireless in guest rooms for a daily rate of US\$12.95
- **Sheraton Boston:** Complimentary wireless available in the lobby and public areas; wired and wireless in the guest rooms for a daily rate of US\$9.95
- **Boston Omni Parker House:** Wireless is offered in the lobby, restaurants, and all of the guest rooms to hotel guests **ONLY** for a daily rate of US\$9.95.
- **Hilton Back Bay:** Complimentary wireless available in the lobby and public areas; wired **ONLY** in guest rooms for a daily rate of US\$14.95
- **The Colonnade Hotel:** Complimentary wireless available in the lobby and public areas; wired and wireless in guest rooms for a daily rate of US\$13.95
- **Boston Park Plaza Hotel & Towers:** Complimentary wireless available in the lobby and mezzanine level; wired **ONLY** in the guest rooms for a daily rate of US\$10.45

<p><b>Marriott Copley Place Boston</b> (Co-Headquarters)</p> <p>.25 miles, connected to the Hynes Convention Center</p> <p>110 Huntington Avenue Boston, MA 02116 Single/Double Rate: US\$159.00 Student Single/Double: US\$149.00</p> <p>Smoke-free hotel. Restaurants: Champions, Connexion Lounge, and Starbucks; Fitness center; Indoor heated pool; Spa services; Business center; Full amenities in guest rooms; Laptop-sized safes in guest rooms; Windows do not open; Children under 15 free in room with an adult; Cribs available upon request at no charge; Rollaways no charge; No pets allowed except service animals; Valet parking or self-parking US\$44.00 + tax per day; See the travel section of this announcement for other parking options. <b>Confirmations sent by e-mail only.</b></p>	<p><b>Sheraton Boston</b> (Co-Headquarters)</p> <p>Next door, connected to the Hynes Convention Center</p> <p>39 Dalton Street Boston, MA 02199 Single/Double Rate: US\$159.00 Student Single/Double: US\$149.00</p> <p>Smoke-free hotel. Restaurants: Café Apropos, Sidebar &amp; Grille, and Starbucks; Fitness center; Indoor heated pool; Spa services; Business center; Full amenities in guest rooms; Laptop-sized safes in guest rooms; Windows do not open; Children under 18 free in room with an adult; Cribs available upon request at no charge; Rollaways no charge; Pets allowed (under 80 pounds only); Valet parking US\$44.00 + tax per day; Self-parking US\$39.00 + tax per day; See the travel section of this announcement for other parking options. <b>Confirmations sent by e-mail only.</b></p>	<p><b>Boston Omni Parker House</b></p> <p>10 blocks from the Hynes Convention Center Green Line (Park Street stop) - "The T" located 1 block from hotel</p> <p>60 School Street Boston, MA 02108 Single/Double: US\$149.00 Student Single/Double: US\$129.00 (single/double only)</p> <p>Smoke-free hotel. Restaurants: Parker's Restaurant and The Last Hurray; Spa services; Business center; Full amenities in guest rooms; Safe deposit boxes available at front desk; Windows open in all rooms, including suites; Pets allowed (under 25 pounds); Children under 12 free in room with an adult; Cribs available upon request at no charge; Rollaways no charge; Valet parking ONLY for US\$42.00 + tax per day. See the travel section of this announcement for other parking options. <b>Confirmations sent by e-mail only.</b></p>
<p><b>Hilton Back Bay</b></p> <p>3 blocks from the Hynes Convention Center</p> <p>40 Dalton Street Boston, MA 02115 Single/Double Rate: US\$129.00 Student Single/Double US\$119.00</p> <p>Smoke-free hotel. Restaurants: Forty Dalton and Starbucks; Fitness center; Spa services; Business center; Full amenities in guest rooms; Laptop-sized safes in guest rooms; Windows open in all rooms, including suites; Children under 16 free in room with an adult; Cribs available upon request at no charge; Rollaways available US\$25 per night; Pets allowed; Self parking ONLY for US\$41.00 + tax per day; See the travel section of this announcement for other parking options. <b>Confirmations sent by e-mail only.</b></p>	<p><b>The Colonnade Hotel</b></p> <p>3 blocks from the Hynes Convention Center</p> <p>120 Huntington Avenue Boston, MA 02116 Single/Double Rate: US\$124.00 Student Single/Double: US\$114.00</p> <p>Smoke-free hotel. Restaurant: Brasserie Jo; Fitness center; Spa services; Business center; Full amenities in guest rooms; Laptop-sized safes in guest rooms; Windows open in all rooms, including suites; Children under 16 free in room with an adult; Cribs available upon request at no charge; Rollaways no charge; Pets allowed; Self-parking ONLY for US\$38.00 per day; See the travel section of this announcement for other parking options. <b>Confirmations sent by e-mail only.</b></p>	<p><b>Boston Park Plaza Hotel &amp; Towers</b></p> <p>6 blocks from the Hynes Convention Center - Green line (Arlington stop) or Orange line ( Back Bay stop) - "The T" located on same block as hotel</p> <p>50 Park Plaza at Arlington Boston, MA 02116 Single/Double Rate: US\$122.00 Student Single/Double: US\$112.00</p> <p>Smoke-free hotel. Restaurants: McCormick &amp; Schmick's, Grand Lobby and Pairing Lounge; Spa services; Business center; Full amenities in guest rooms; Safe deposit boxes available at front desk; Windows open in all rooms, including suites; Pets allowed; Children under 18 free in room with an adult; Cribs available upon request at no charge; Rollaways available US\$25 per stay; Valet parking ONLY for US\$44.00 + tax per day. See the travel section of this announcement for other parking options. <b>Confirmations sent by e-mail only.</b></p>



# 2012 Joint Mathematics Meetings Hotel Map



Participants should be aware that most hotels are starting to charge a penalty fee to guests for departure changes made before or after guests have checked into their rooms. These hotels are indicated on the hotel page at [jointmathematicsm meetings.org/2138\\_hotelpage.html](http://jointmathematicsm meetings.org/2138_hotelpage.html). Participants should also inquire about this at check-in and make their final plans accordingly.

Participants should also be aware that it is general hotel practice in most cities to hold a nonguaranteed reservation until 6:00 p.m. only. When one guarantees a reservation by paying a deposit or submitting a credit card number as a guarantee in advance, however, the hotel will usually honor this reservation until checkout time the following day. If the individual holding the reservation has not checked in by that time, the room is then released for sale, and the hotel retains the deposit or applies a room charge to the credit card number submitted equivalent to a one-night stay.

If you hold a guaranteed reservation at a hotel but are informed upon arrival that there is no room for you, there are certain things you can request the hotel do. First, they should provide for a room at another hotel in town for that evening at no charge. (You already paid for the first night when you made your deposit.) Second, they should pay for taxi fares to the other hotel that evening and back to the hotel the following morning, assuming a room is available. Third, they should pay for one telephone call so that you can notify people of where you are staying. The hotel should make every effort to find a room for you in their hotel the following day and, if successful, pay your taxi fares to and from the second hotel so that you can pick up your baggage and bring it to the first hotel. Not all hotels in all cities follow this practice, so your request for these services may bring mixed results or none at all. If you did not receive satisfactory service in this regard, please inform the Housing Coordinator for this meeting.

**Importance of Staying in the Official Meetings Hotels:** Your patronage of the official Meetings hotels enables the JMM to secure the meeting space at a greatly reduced cost which helps to keep the cost of the meeting and your registration fees down.

**Room Drawing:** Win FREE room nights at our official hotels as listed on the hotel pages. Multiple winners! Participants who register and reserve a room at any of the listed meetings hotels by **November 4**, will automatically be included in a random drawing to select a winner of free room nights in that hotel. The number of drawings to be made will be based on the number of complimentary room nights available in the various hotels. Multiple occupancy is permissible. The winners will be drawn at random from the hotel reservation lists and notified by email or phone prior to **December 24**.

## Miscellaneous Information

**Audio-Visual Equipment:** Standard equipment in all session rooms is one overhead projector and screen. Invited 50-minute speakers are automatically provided with an ELMO visual presenter (document camera/projector), one overhead projector, and a laptop projector; AMS Spe-

cial Sessions and Contributed Papers, and MAA Invited and Contributed Paper Sessions, are provided with the standard equipment and a laptop projector. Blackboards are not available, nor are Internet hookups in session rooms. Any request for additional equipment should be sent to [meet@ams.org](mailto:meet@ams.org) and **received by November 1**.

Equipment requests made at the meetings most likely will not be granted because of budgetary restrictions. Unfortunately no audio-visual equipment can be provided for committee meetings or other meetings or gatherings not on the scientific program.

**Childcare:** The AMS and the MAA will again offer childcare services for the Joint Mathematics Meetings to registered participants.

The childcare will be offered through KiddieCorp Children's Program. KiddieCorp is an organization that has been providing high-quality programs for children of all ages at meetings throughout the United States and Canada since 1986. Read all about them at [www.kiddiecorp.com/](http://www.kiddiecorp.com/).

The childcare services provided at the JMM are for children ages 6 months through 12 years old. Space per day will be limited and is on a space available basis. The dates and times for the program are January 4-7, 2012, 8:00 a.m.-5:00 p.m. each day. It will be located at the Sheraton Boston. If you would like to know how many children will be in the same age group as your child's, please call KiddieCorp. Parents are encouraged to bring snacks and beverages for their children but items such as juice boxes, Cheerios, and crackers will be provided. KiddieCorp can arrange meals for children at cost plus 15% or parents can be responsible for meals for their children. Parents who have questions about specific programs that will be offered or special requests, rules, or needs for their children must call KiddieCorp ahead of time.

Registration starts on **September 1**. The registration fee is US\$30 per family (nonrefundable). Additional cost will be US\$12 per hour per child or US\$9 per hour per child for graduate students. These reduced child care rates are made possible to the meetings participant by the MAA and the AMS, who heavily subsidize the cost of this service, thus keeping this program affordable for families. Parents must be registered for the JMM to participate. Full payment is due at the time of registration with KiddieCorp. Deadline for registering is **December 9, 2011**.

If parents do not pick up their children at the time scheduled or by the end of the day (no later than 5:00 p.m.), they will be charged a late fee of US\$5 per child for every 15 minutes thereafter.

**Cancellations must be made to KiddieCorp prior to December 9, 2011, for a full refund.** Cancellations made after that date will be subject to a 50% cancellation fee. Once the program has begun, no refunds will be issued.

To register, go to <https://www.kiddiecorp.com/jmmkids.htm> or [jointmathematicsm meetings.org/2138\\_daycare.html](http://jointmathematicsm meetings.org/2138_daycare.html), or call KiddieCorp at 858-455-1718 to request a form.

**Email Services:** Limited email access for all Joint Meetings participants will be available in an email center located near the JMM Registration Desk. The hours of

operation will be published in the program. Participants should be aware that **complimentary Internet access** will be available in the public areas of the Hynes Convention Center.

**Information Distribution:** Tables are set up in the exhibit area for dissemination of general information of possible interest to the members and for the dissemination of information of a mathematical nature not promoting a product or program for sale. Information must be approved by the director of meetings prior to being placed on these tables.

If a person or group wishes to display information of a mathematical nature promoting a product or program for sale, they may do so in the exhibit area at the Joint Books, Journals, and Promotional Materials exhibit for a fee of US\$50 (posters are slightly higher) per item. Please contact the exhibits manager, MMSB, P.O. Box 6887, Providence, RI 02940, or by email at [cpd@ams.org](mailto:cpd@ams.org) for further details.

The administration of these tables is in the hands of the AMS-MAA Joint Meetings Committee, as are all arrangements for Joint Mathematics Meetings.

**Local Information:** For information about the city see [www.bostonusa.com/visit](http://www.bostonusa.com/visit).

**Petition Table:** At the request of the AMS Committee on Human Rights of Mathematicians, a table will be made available in the exhibit area at which petitions on behalf of named individual mathematicians suffering from human rights violations may be displayed and signed by meetings participants acting in their individual capacities. For details contact the director of meetings in the Providence office at 401-455-4145 or by email at [pop@ams.org](mailto:pop@ams.org).

Signs of moderate size may be displayed at the table but must not represent that the case of the individual in question is backed by the Committee on Human Rights unless it has, in fact, so voted. Volunteers may be present at the table to provide information on individual cases, but notice must be sent at least seven days in advance of the meetings to the director of meetings in the Providence office. Since space is limited, it may also be necessary to limit the number of volunteers present at the table at any one time. The AMS Committee on Human Rights may delegate a person to be present at the table at any or all times, taking precedence over other volunteers.

Any material that is not a petition (e.g., advertisements, résumés) will be removed by the staff. At the end of the exhibits on Saturday, any material on the table will be discarded, so individuals placing petitions on the table should be sure to remove them prior to the close of exhibits.

**Telephone Messages:** The most convenient method for leaving a message is to do so with the participant's hotel. Another method would be to leave a message at the meetings registration desk from January 4 through 7 during the hours that the desk is open. These messages will be posted on the Mathematics Meetings Message Board; however, staff at the desk will try to locate a participant in the event of a bona fide emergency. The telephone number will be published in the program and daily newsletter.

## Travel/Transportation

Boston is on Eastern Standard Time. Boston's Logan International Airport (BOS) is located within 10 miles of the John B. Hynes Veterans Memorial Convention Center (Hynes) and is served by all major airlines. For more information about Logan Airport, see [www.massport.com](http://www.massport.com).

The **official airline** for the meeting is **United Airlines**. Participants are encouraged to book their flights for the meeting, where possible, with United or United Express and receive special pricing on scheduled service to Boston on applicable carriers. Book your airline reservation with United by calling the toll free reservation line (1-800-521-4041), through [www.united.com](http://www.united.com), or going through your preferred travel professional. Please be sure to reference the Meeting ID **Tour Code 587FL**. Reservation agents are available Monday thru Friday from 8:00 a.m. to 10:00 p.m. (ET) at 1-800-521-4041. The specialized meeting reservations center will be closed on all major holidays.

There is special discounted pricing on published fares for qualifying travel in or between the domestic 48 States, Hawaii, and Canada when the tickets are purchased subject to all restrictions and rules applicable to the fare purchased and issued in the United States. Discounted rates are

<b>Domestic 48 states, Hawaii, Canada</b>	
classes F, J, A, C, D, and Y—L	5%
<b>Over 30 days advance ticketing</b>	
classes A, Q, V, and W	7%
classes M, E, U, H, F, J, C, D, Y, B	10%
<b>Bookings through <a href="http://www.united.com">www.united.com</a></b>	5%

This special discount pricing is not applicable to Internet-only fares. Mileage Plus members will receive full credit to their account for all their miles flown when attending this meeting.

**Special Discounts on Car Rentals with Hertz:** Participants of the Joint Mathematics Meetings are eligible for discounts of up to 20% off the applicable rental rates plus unlimited mileage when reservations are made in conjunction with United Airlines air reservations. To take advantage of this discount, call 888-444-1074 or to go [www.Hertz.com](http://www.Hertz.com). Please make sure you reference use **Hertz Discount number CV# 02R30006**. To make reservations with Hertz without using United Airlines, see below.

**Car Rental:** Hertz is the official car rental company for the meeting. To make a reservation using the special meeting rates, please provide the convention number **CV# 04N30002** when making reservations. Details on rates and general instructions can be found at <http://jointmathematicsm meetings.org/meetings/national/jmm2012/04N30002.bos12.pdf>. You can make reservations online at [http://link.hertz.com/link.html?id=23051&LinkType=HZLK&TargetType=Homepage&ret\\_url=www.ams.org](http://link.hertz.com/link.html?id=23051&LinkType=HZLK&TargetType=Homepage&ret_url=www.ams.org) or call Hertz directly at 800-654-2240 (U.S. and Canada) or 405-749-4434 (other countries). At the time of reservation, the meeting rates will be automatically compared to other



Hertz rates and you will be quoted the best comparable rate available.

### Traveling from the Airport

**Taxi Service:** Taxis are available outside the baggage claim areas at all terminals 24 hours a day. The fares currently range from US\$25–30 (for the Omni Parker House) to US\$35–40 for the hotels close to the Hynes (Sheraton and Marriott). Travel time will be approximately 15–20 minutes. It is recommended that you ask the taxi driver for a receipt showing the driver's name, company, and amount paid.

**Airport Shuttle:** Service is available through GOBostonShuttle (formerly Ultimate Shuttle), 888-437-4379, or [www.gobostonshuttle.com/](http://www.gobostonshuttle.com/); reservations are required. The shuttle operates 24 hours/seven days a week. Fees are currently US\$17 per person each way for the Hynes and all meeting hotels except the Colonnade, which is US\$21 per person each way. If you have more than two bags per person, an additional US\$5 per bag fee applies. There is no charge for children under three years. Please check the <http://jointmathematicsmeetings.org> website for information on how to receive a discount on GoBostonShuttle. To find the shuttles, exit the terminals from the baggage claim area and look for signs that say "Shared and Scheduled Vans".

**Driving Directions to the Hynes Convention Center:** The Hynes Convention Center is located at 900 Boylston Street, Boston, MA 02115. Please see the hotel pages for the specific addresses of the meeting hotels. Also see the map online at [http://jointmathematicsmeetings.org/meetings/national/jmm2012/google\\_map\\_bos](http://jointmathematicsmeetings.org/meetings/national/jmm2012/google_map_bos). This map gives the option of directions from Google maps when you click on a meeting hotel. The Sheraton Boston and the Marriott Copley Place are connected to the Hynes/Prudential Center complex, which includes the Convention Center, the Prudential Center, the Prudential Center Mall and the Copley Place Shopping Galleries. The Colonnade Hotel and the Hilton Back Bay Hotel are adjacent to the complex.

**From Logan International Airport and I-90 Westbound:** Merge onto I-90 West/Mass Pike/Ted Williams tunnel and take exit 24 toward I-93. Merge onto I-93 South via exit on the left. Take the Massachusetts Avenue exit, Exit 18. Take a slight right onto the Massachusetts Avenue Connector and take your next right onto Massachusetts Avenue. Follow Massachusetts Avenue 1.4 miles and take a right onto Boylston Street. The Hynes Convention Center is on the right.

**From I-90 (Mass Pike) Eastbound:** Take Exit 22 (Prudential/Copley Place). Stay left and take the ramp toward the Prudential Center as you exit onto Huntington Avenue. Stay right while on Huntington Avenue, and at the next set of lights turn right onto Belvidere Street, then take a right onto Dalton Street. At the first set of lights on Dalton Street take a right onto Boylston Street. The Hynes Convention Center's main entrance and driveway will be immediately on the right.

**From I-93 Southbound:** Follow I-93 South, staying to the far right as you approach Boston. Take Exit 26 (Stor-

row Drive). Follow Storrow Drive for approximately two miles to the Fenway/Kenmore Exit, which is the first exit after Massachusetts Avenue, on the left. Stay left as you exit Storrow Drive, going toward the Fenway. Continue to the first set of lights, staying left, onto Boylston Street. Go through four sets of lights on Boylston Street. The Hynes Convention Center's main entrance and driveway will be immediately on the right.

**From I-93 Northbound:** Take Exit 18 (Mass Avenue/Roxbury). At the third set of lights, turn left onto the Massachusetts Avenue Connector, then turn right onto Massachusetts Avenue. Follow Massachusetts Avenue for 1.4 miles, and take a right onto Boylston Street. The Hynes Convention Center's main entrance and driveway will be on the right.

### Public Transportation

The Massachusetts Bay Transportation Authority (MBTA, known locally as the "T") is Boston's public transit system. It includes the subway system, buses, boat/ferries, and the commuter rail. Please refer to [www.mbta.com](http://www.mbta.com) for information, schedules and maps. All subway trips are US\$2; the senior/disabled fare is US\$0.60. Bus fare is US\$1.50 per trip; the senior/disabled rate is US\$0.40. The commuter rail fares range from US\$1.70 to US\$8.25.

### From Logan Airport to the Hynes Convention Center by Public Transportation

**Via the MBTA (subway):** Board the complimentary Massport shuttle bus which stops outside the baggage claim area of all terminals, and get off at the Airport "T" station. Take an inbound Blue Line train (marked Bowdoin Station) to Government Center. Change at Government Center to an outbound Green Line. Follow the signs to board either the Green Line "B", "C", or "D" trains to the Hynes Convention Center stop. Turn left as you leave the subway, and left again at Boylston Street. The Hynes (and the Prudential Tower) will be straight ahead. An alternative route is to board the Green Line "E" train ("Arborway/Heath Street") and exit at Prudential Station. Enter the Prudential Center Mall, go up the escalator, turn left and proceed down the Belvidere Arcade to the end where you will see a Dunkin Donuts. There will be a garden on your right most of the way. Go past Dunkin Donuts (turning slightly left) into Hynes Court. The entrance to the Hynes is just past Dunkin Donuts. The entrance to the Sheraton is to the left of the entrance to the Hynes.

**Via MBTA (bus):** Take the Silver Line Bus (SL1) which stops at Logan Airport's Terminals A, B, C, and E. There are signs directing you to the Silver Line bus as you leave the baggage claim areas. Take this bus to South Station. See below for directions to the Hynes from South Station.

### From the Boston Train Stations to the Hynes/Prudential Center Complex

There are usually taxis waiting near the train stations. To take public transportation, please refer to the following directions.

**Back Bay Station** (Amtrak's Acela and Regional trains, MBTA Commuter Rail and the "T" Orange Line): Exit the Back Bay station onto Dartmouth Street. Cross Dartmouth Street and enter the Copley Place Mall (to the left of Neiman Marcus entrance). Go up the escalator and walk

straight through the Copley Place Mall to the Marriott Copley Place. To get to the Hynes Convention Center, cross the glass footbridge connecting the Marriott to the Prudential Center Mall, and walk through to the Center Court. Go straight through the Center Court down the Prudential Arcade and turn right at the end of the arcade at the Dunkin Donuts as you enter Hynes Court. The entrance to the Hynes is to the left of the Dunkin Donuts. The entrance to the Sheraton is near the entrance to the Hynes.

**North Station** (Amtrak's Downeaster trains, the MBTA Commuter Rail, "T" station for Orange and Green Lines): Take the outbound Green Line "B", "C", or "D" trains to the Hynes Convention Center stop. Once you get off the subway, go toward Boylston Street. Turn left at Boylston Street and the Hynes will be straight ahead. It is also possible to take the Green Line "E" train ("Arborway/Heath Street") to Prudential station, and enter the Hynes through the Prudential Center Mall. When you enter the mall, take the escalator up and at the top turn left into Belvidere Arcade. Go straight to the end until you see Dunkin Donuts. The entrance to the Hynes is just past Dunkin Donuts.

**South Station** (Amtrak's Acela and Regional trains, MBTA Commuter Rail and the "T" Red Line, also the bus terminal): From the South Station bus terminal or train station, go to the Red Line subway "T" entrance. Take an outbound Red Line train toward "Alewife" to the Park Street station. At Park Street, change to the outbound Green line "B", "C", or "D" trains to the Hynes Convention Center stop. Exit the subway turning left, and turn left again at Boylston Street. The Hynes will be straight ahead. You can also take the outbound Green Line "E" train to Prudential Station. (See directions from North Station.)

### Parking

See hotel pages for parking information and rates at the meeting hotels. Parking at the Hilton, Marriott Copley Place, Sheraton Boston, and the Colonnade Hotels is convenient to the Hynes. Additional information on parking can be found at [www.celebrateboston.com/parking.htm](http://www.celebrateboston.com/parking.htm). All rates are subject to change. Other parking options include:

**Auditorium Parking Garage**, 50 Dalton St., 617-247-8006, [pilgrimparking.com/boston-parking-garages/hynes-auditorium-garage.htm](http://pilgrimparking.com/boston-parking-garages/hynes-auditorium-garage.htm). Rates: US\$5 each ½ hour; US\$25 maximum up to 6:00 p.m.; US\$30 maximum up to 24 hours. Early Bird Special is US\$18 (arrive 3:00 a.m. to 9:00 a.m. and leave by 6:00 p.m.).

**Belvidere Street Lot**, 53 Belvidere St, Boston, 617-536-0910, [www.celebrateboston.com/parking.53-belvidere-street-parking-lot.htm](http://www.celebrateboston.com/parking.53-belvidere-street-parking-lot.htm) (only 50 parking spaces in lot). Rates: up to 1 hour: US\$12; up to 2 hours: US\$20; 2-3 hours: US\$24; 3-12 hours: US\$26; 24 hours: US\$29. Early Bird Special is US\$19 (in before 9:00 a.m. and out before 7:00 p.m.).

**Copley Place Parking Garage**, 100 Huntington Ave. (corner of Huntington Ave. and Dartmouth St.), 617-369-5025. Rates: 1 hour: US\$9; 2 hours: US\$18; 3 hours: US\$25; 3-10 hours: US\$30; 10-20 hours: US\$34; 24 hours: US\$35. Early Bird Special: US\$20 (Monday to Friday, in before 9:00 a.m., leave between 1:00 p.m. and 8:00 p.m.).

**Prudential Center Parking Garage**, 800 Boylston St., 617-236-3060, <http://www.prudentialcenter.com/parking/rates.php>. Rates: up to 1 hour: US\$9; 1 to 1.5 hours: US\$18; 1.5 to 2 hours: US\$27; 2-10 hours: US\$35; 10-24 hours: US\$39. Early Bird Special: US\$19 (Monday to Friday, arrive between 6:00 a.m. and 9:00 a.m., leave between 3:00 p.m. and 6:00 p.m.).

**MotorMart Garage**, 201 Stuart St., 617-482-8380, <http://www.motormartgarage.com>. The garage is located across the street from The Boston Park Plaza Hotel & Towers. Rates: up to 1 hour US\$8; up to 2 hours US\$12; 2-3 hours US\$16.00; 3-12 hours US\$20.00; 12-24 hours US\$31.

**Boston Common Garage**, Zero Charles St., 617-954-2098, [www.massconvention.com/bcg.html](http://www.massconvention.com/bcg.html). This garage is located near the Public Gardens and approximately eight blocks from the Hynes. Rates: up to 1 hour: US\$10; up to 2 hours US\$14; up to 3 hours US\$18; up to 10 hours, US\$23; 24-hour maximum charge: US\$28. Weekend rates: US\$11 (Enter after 6:00 a.m. on Saturday or Sunday and exit by 8:00 a.m. the next morning).

# Honolulu, Hawaii

*University of Hawaii at Manoa*

**March 3-4, 2012**

*Saturday - Sunday*

### Meeting #1078

Western Section

Associate secretary: Michel L. Lapidus

Announcement issue of *Notices*: October 2012

Program first available on AMS website: January 26, 2012

Program issue of electronic *Notices*: March 2012

Issue of *Abstracts*: Volume 33, Issue 2

### Deadlines

For organizers: Expired

For consideration of contributed papers in Special Sessions: November 22, 2011

For abstracts: December 13, 2011

*The scientific information listed below may be dated. For the latest information, see [www.ams.org/amsmtgs/sectional.html](http://www.ams.org/amsmtgs/sectional.html).*

### Invited Addresses

**Zhiqin Lu**, University of California Irvine, *Title to be announced.*

**Peter Schroder**, California Institute of Technology, *Title to be announced.*

**Pham Tiep**, University of Arizona, Tucson, *Title to be announced.*

**Lauren Williams**, University of California Berkeley, *Title to be announced.*

## Special Sessions

*Algebraic Number Theory, Diophantine Equations and Related Topics* (Code: SS 6A), **Claude Levesque**, Université de Laval, Quebec, Canada.

*Applications of Nonstandard Analysis* (Code: SS 14A), **Tom Lindstrom**, University of Oslo, Norway, **Peter Loeb**, University of Illinois at Urbana-Champaign, and **David Ross**, University of Hawaii, Honolulu.

*Arithmetic Geometry* (Code: SS 5A), **Xander Faber**, **Michelle Manes**, and **Gretel Sia**, University of Hawaii.

*Asymptotic Group Theory* (Code: SS 12A), **Tara Davis**, Hawaii Pacific University, **Erik Guentner**, University of Hawaii, and **Michael Hull** and **Mark Sapir**, Vanderbilt University.

*Automorphic and Modular Forms* (Code: SS 4A), **Pavel Guerzhoy**, University of Hawaii, and **Zachary A. Kent**, Emory University.

*Geometry and Analysis on Fractal Spaces* (Code: SS 3A), **Michel Lapidus**, University of California, Riverside, **Hung Lu**, Hawaii Pacific University, **John A. Rock**, California State Polytechnic University, Pomona, and **Machiel van Frankenhuysen**, Utah Valley University.

*Holomorphic Spaces* (Code: SS 8A), **Hyungwoon Koo**, Korea University, and **Wayne Smith**, University of Hawaii.

*Kaehler Geometry and Its Applications* (Code: SS 1A), **Zhiqin Lu**, University of California Irvine, **Jeff Streets**, Princeton University, **Li-Sheng Tseng**, Harvard University, and **Ben Weinkove**, University of California San Diego.

*Linear and Permutation Representations* (Code: SS 2A), **Robert Guralnick**, University of Southern California, and **Pham Huu Tiep**, University of Arizona.

*Mathematical Coding Theory and its Industrial Applications* (Code: SS 13A), **J. B. Nation**, University of Hawaii, and **Manabu Hagiwara**, National Institute of Advanced Industrial Science and Technology, Japan.

*Model Theory* (Code: SS 11A), **Isaac Goldbring**, University of California Los Angeles, and **Alice Medvedev**, University of California Berkeley.

*Noncommutative Algebra and Geometry* (Code: SS 15A), **Jason Bell**, Simon Fraser University, and **James Zhang**, University of Washington.

*Nonlinear Partial Differential Equations at the Common Interface of Waves and Fluids* (Code: SS 9A), **Ioan Bejenaru** and **Vlad Vicol**, University of Chicago.

*Nonlinear Partial Differential Equations of Fluid and Gas Dynamics* (Code: SS 7A), **Elaine Cozzi**, Oregon State University, and **Juhi Jang** and **Jim Kelliher**, University of California Riverside.

*Universal Algebra and Lattice Theory* (Code: SS 10A), **Ralph Freese**, **William Lampe**, and **J. B. Nation**, University of Hawaii.

# Tampa, Florida

University of South Florida

March 10–11, 2012

Saturday – Sunday

## Meeting #1079

Southeastern Section

Associate secretary: Matthew Miller

Announcement issue of *Notices*: January

Program first available on AMS website: February 2, 2012

Program issue of electronic *Notices*: March 2012

Issue of *Abstracts*: Volume 33, Issue 2

## Deadlines

For organizers: Expired

For consideration of contributed papers in Special Sessions: November 29, 2011

For abstracts: January 18, 2012

*The scientific information listed below may be dated. For the latest information, see [www.ams.org/amsmtgsectional.html](http://www.ams.org/amsmtgsectional.html).*

## Invited Addresses

**Anne Condon**, University of British Columbia, *Some why's and how's of programming DNA molecules.*

**Mark Ellingham**, Vanderbilt University, *Title to be announced.*

**Mauro Maggioni**, Duke University, *Digital data sets: Geometry, random walks, multiscale analysis, and applications.*

**Weiqiang Wang**, University of Virginia, *Title to be announced.*

## Special Sessions

*Algebraic and Combinatorial Structures in Knot Theory* (Code: SS 2A), **J. Scott Carter**, University of South Alabama, and **Mohamed Elhamedi** and **Masahico Saito**, University of South Florida.

*Analysis in Metric Spaces* (Code: SS 3A), **Thomas Bieske**, University of South Florida, and **Jason Gong**, University of Pittsburgh.

*Applications of Complex Analysis in Mathematical Physics* (Code: SS 9A), **Razvan Teodorescu**, University of South Florida, **Mihai Putinar**, University of California, Santa Barbara, and **Pavel Bleher**, Indiana University-Purdue University Indianapolis.

*Complex Analysis and Operator Theory* (Code: SS 8A), **Sherwin Koučekian**, University of South Florida, and **William Ross**, University of Richmond.

*Discrete Models in Molecular Biology* (Code: SS 1A), **Alessandra Carbone**, Université Pierre et Marie Curie and Laboratory of Microorganisms Genomics, **Natasha Jonoska**, University of South Florida, and **Reidun Twarock**, University of York.

*Extremal Combinatorics* (Code: SS 13A), **Brendan Nagle**, University of South Florida.



*Finite Fields and Their Applications* (Code: SS 15A), **Xiang-dong Hou**, University of South Florida, and **Gary Mullen**, Pennsylvania State University.

*Graph Theory* (Code: SS 14A), **Mark Ellingham**, Vanderbilt University, and **Xiaoya Zha**, Middle Tennessee State University.

*Hopf Algebras and Galois Module Theory* (Code: SS 7A), **James Carter**, College of Charleston, and **Robert Underwood**, Auburn University Montgomery.

*Interaction between Algebraic Combinatorics and Representation Theory* (Code: SS 4A), **Mahir Can**, Tulane University, and **Weiqiang Wang**, University of Virginia.

*Modeling Crystalline and Quasi-Crystalline Materials* (Code: SS 5A), **Mile Krjacevski** and **Gregory McColm**, University of South Florida.

*Representations of Algebraic Groups and Related Structures* (Code: SS 12A), **Joerg Feldvoss** and **Cornelius Pillen**, University of South Alabama.

*Solvability and Integrability of Nonlinear Evolution Equations* (Code: SS 6A), **Wen-Xiu Ma**, University of South Florida, and **Ahmet Yildirim**, Ege University and University of South Florida.

*Spectral Theory* (Code: SS 11A), **Anna Skripka** and **Maxim Zinchenko**, University of Central Florida.

*Stochastic Analysis and Applications* (Code: SS 16A), **Sivapragasam Sathananthan**, Tennessee State University, and **Gangaram Ladde**, University of South Florida.

*Stochastic Partial Differential Equations and Random Global Dynamics* (Code: SS 10A), **Yuncheng You**, University of South Florida, and **Shanjian Tang**, Fudan University.

## Washington, District of Columbia

George Washington University

March 17–18, 2012

Saturday – Sunday

### Meeting #1080

Eastern Section

Associate secretary: Steven H. Weintraub

Announcement issue of *Notices*: January 2012

Program first available on AMS website: February 9, 2012

Program issue of electronic *Notices*: March 2012

Issue of *Abstracts*: Volume 33, Issue 2

### Deadlines

For organizers: Expired

For consideration of contributed papers in Special Sessions: December 6, 2011

For abstracts: January 31, 2012

*The scientific information listed below may be dated. For the latest information, see [www.ams.org/amsmtgs/sectional.html](http://www.ams.org/amsmtgs/sectional.html).*

### Invited Addresses

**Jim Geelen**, University of Waterloo, *Title to be announced*.

**Boris Solomyak**, University of Washington, *Title to be announced*.

**Gunther Uhlmann**, University of Washington, *Title to be announced* (Einstein Public Lecture in Mathematics).

**Anna Wienhard**, Princeton University, *Title to be announced*.

### Special Sessions

*Computable Mathematics (in honor of Alan Turing)* (Code: SS 8A), **Douglas Cenzer**, University of Florida, **Valentina Harizanov**, George Washington University, and **Russell Miller**, Queens College and Graduate Center–CUNY.

*Convex and Discrete Geometry* (Code: SS 9A), **Jim Lawrence** and **Valeriu Soltan**, George Mason University.

*Dynamics of Complex Networks* (Code: SS 7A), **Yongwu Rong**, **Guanyu Wang**, and **Chen Zeng**, George Washington University.

*Homology Theories Motivated by Knot Theory* (Code: SS 3A), **Jozef H. Przytycki**, George Washington University, **Radmila Sazdanovic**, University of Pennsylvania, and **Alexander N. Shumakovitch** and **Hao Wu**, George Washington University.

*Matroid Theory* (Code: SS 1A), **Joseph E. Bonin**, George Washington University, and **Sandra Kingan**, Brooklyn College.

*Nonlinear Dispersive Equations* (Code: SS 10A), **Manoussos Grillakis**, University of Maryland, **Justin Holmer**, Brown University, and **Svetlana Roudenko**, George Washington University.

*Optimization: Theory and Applications* (Code: SS 2A), **Roman Sznajder**, Bowie State University.

*Self-organization Phenomena in Reaction Diffusion Equations* (Code: SS 5A), **Xiaofeng Ren**, George Washington University, and **Junping Shi**, College of William and Mary.

*Structural and Extremal Problems in Graph Theory* (Code: SS 4A), **Daniel Cranston**, Virginia Commonwealth University, and **Gexin Yu**, College of William & Mary.

*Tilings, Substitutions, and Bratteli-Vershik Transformations* (Code: SS 6A), **E. Arthur Robinson**, George Washington University, and **Boris Solomyak**, University of Washington.

## Lawrence, Kansas

University of Kansas

March 30 – April 1, 2012

Friday – Sunday

### Meeting #1081

Central Section

Associate secretary: Georgia Benkart

Announcement issue of *Notices*: February 2012

Program first available on AMS website: March 8, 2012

Program issue of electronic *Notices*: March 2012

Issue of *Abstracts*: Volume 33, Issue 2

### Deadlines

For organizers: Expired

For consideration of contributed papers in Special Sessions: December 20, 2011

For abstracts: February 14, 2012

*The scientific information listed below may be dated. For the latest information, see [www.ams.org/amsmtgs/sectional.html](http://www.ams.org/amsmtgs/sectional.html).*

### Invited Addresses

**Frank Calegari**, Northwestern University, *Title to be announced.*

**Christopher Leininger**, University of Illinois at Urbana-Champaign, *Title to be announced.*

**Alina Marian**, University of Illinois at Chicago, *Title to be announced.*

**Catherine Yan**, Texas A&M University, *Title to be announced.*

### Special Sessions

*Combinatorial Commutative Algebra* (Code: SS 1A), **Christopher Francisco** and **Jeffrey Mermin**, Oklahoma State University, and **Jay Schweig**, University of Kansas.

*Enumerative and Geometric Combinatorics* (Code: SS 5A), **Margaret Bayer**, University of Kansas, **Joseph P. King**, University of North Texas, **Svetlana Poznanovik**, Georgia Institute of Technology, and **Catherine Yan**, Texas A&M University.

*Geometric Representation Theory* (Code: SS 4A), **Zongzhu Lin**, Kansas State University, and **Zhiwei Yun**, Massachusetts Institute of Technology.

*Harmonic Analysis and Applications* (Code: SS 6A), **Arpad Benyi**, Western Washington University, **David Cruz-Urbe**, Trinity College, and **Rodolfo Torres**, University of Kansas.

*Invariants of Knots* (Code: SS 3A), **Heather A. Dye**, McKendree University, and **Aaron Kaestner** and **Louis H. Kauffman**, University of Illinois at Chicago.

*Partial Differential Equations* (Code: SS 2A), **Milena Stanislavova** and **Atanas Stefanov**, University of Kansas.

*Singularities in Commutative Algebra and Algebraic Geometry* (Code: SS 7A), **Hailong Dao**, University of Kansas, **Lance E. Miller**, University of Utah, and **Karl Schwede**, Pennsylvania State University.

*Topics in Commutative Algebra* (Code: SS 8A), **Hailong Dao**, **Craig Huneke**, and **Daniel Katz**, University of Kansas.

# Rochester, New York

*Rochester Institute of Technology*

**September 22–23, 2012**

*Saturday – Sunday*

### Meeting #1082

Eastern Section

Associate secretary: Steven H. Weintraub

Announcement issue of *Notices*: May 2012

Program first available on AMS website: July 19, 2012

Program issue of electronic *Notices*: September 2012

Issue of *Abstracts*: Volume 33, Issue 3

### Deadlines

For organizers: February 22, 2012

For consideration of contributed papers in Special Sessions: May 15, 2012

For abstracts: July 10, 2012

*The scientific information listed below may be dated. For the latest information, see [www.ams.org/amsmtgs/sectional.html](http://www.ams.org/amsmtgs/sectional.html).*

### Invited Addresses

**Steve Gonek**, University of Rochester, *Title to be announced.*

**James Keener**, University of Utah, *Title to be announced.*

**Dusa McDuff**, Barnard College, *Title to be announced.*

**Peter Winkler**, Dartmouth College, *Title to be announced.*

# New Orleans, Louisiana

*Tulane University*

**October 13–14, 2012**

*Saturday – Sunday*

### Meeting #1083

Southeastern Section

Associate secretary: Matthew Miller

Announcement issue of *Notices*: June 2012

Program first available on AMS website: September 6, 2012

Program issue of electronic *Notices*: October 2012

Issue of *Abstracts*: Volume 33, Issue 3

### Deadlines

For organizers: March 13, 2012

For consideration of contributed papers in Special Sessions: July 3, 2012

For abstracts: August 28, 2012

The scientific information listed below may be dated.  
For the latest information, see [www.ams.org/amsmtgs/sectional.html](http://www.ams.org/amsmtgs/sectional.html).

### Invited Addresses

**Anita Layton**, Duke University, *Title to be announced.*  
**Lenhard Ng**, Duke University, *Title to be announced.*  
**Henry K. Schenck**, University of Illinois at Urbana-Champaign, *From approximation theory to algebraic geometry: The ubiquity of splines.*  
**Milen Yakimov**, Louisiana State University, *Title to be announced.*

## Akron, Ohio

*University of Akron*

**October 20–21, 2012**

*Saturday – Sunday*

### Meeting #1084

Central Section  
Associate secretary: Georgia Benkart  
Announcement issue of *Notices*: August 2012  
Program first available on AMS website: September 27, 2012  
Program issue of electronic *Notices*: October 2012  
Issue of *Abstracts*: Volume 33, Issue 4

### Deadlines

For organizers: March 22, 2012  
For consideration of contributed papers in Special Sessions: July 10, 2012  
For abstracts: September 4, 2012

The scientific information listed below may be dated.  
For the latest information, see [www.ams.org/amsmtgs/sectional.html](http://www.ams.org/amsmtgs/sectional.html).

### Invited Addresses

**Tanya Christiansen**, University of Missouri, *Title to be announced.*  
**Tim Cochran**, Rice University, *Title to be announced.*  
**Ronald Solomon**, Ohio State University, *Title to be announced.*  
**Ben Weinkove**, University of California San Diego, *Title to be announced.*

## Tucson, Arizona

*University of Arizona, Tucson*

**October 27–28, 2012**

*Saturday – Sunday*

### Meeting #1085

Western Section  
Associate secretary: Michel L. Lapidus

Announcement issue of *Notices*: August 2012  
Program first available on AMS website: October 4, 2012  
Program issue of electronic *Notices*: October 2012  
Issue of *Abstracts*: Volume 33, Issue 4

### Deadlines

For organizers: March 27, 2012  
For consideration of contributed papers in Special Sessions: July 17, 2012  
For abstracts: September 11, 2012

The scientific information listed below may be dated.  
For the latest information, see [www.ams.org/amsmtgs/sectional.html](http://www.ams.org/amsmtgs/sectional.html).

### Invited Addresses

**Michael Hutchings**, University of California Berkeley, *Title to be announced.*  
**Kenneth McLaughlin**, University of Arizona, Tucson, *Title to be announced.*  
**Ken Ono**, Emory University, *Title to be announced* (Erdős Memorial Lecture).  
**Jacob Sterbenz**, University of California San Diego, *Title to be announced.*  
**Goufang Wei**, University of California, Santa Barbara, *Title to be announced.*

### Special Sessions

*Harmonic Maass Forms and  $q$ -Series* (Code: SS 1A), **Ken Ono**, Emory University, **Amanda Folsom**, Yale University, and **Zachary Kent**, Emory University.

## San Diego, California

*San Diego Convention Center and San Diego Marriott Hotel and Marina*

**January 9–12, 2013**

*Wednesday – Saturday*

### Meeting #1086

*Joint Mathematics Meetings, including the 119th Annual Meeting of the AMS, 96th Annual Meeting of the Mathematical Association of America, annual meetings of the Association for Women in Mathematics (AWM) and the National Association of Mathematicians (NAM), and the winter meeting of the Association for Symbolic Logic (ASL), with sessions contributed by the Society for Industrial and Applied Mathematics (SIAM).*  
Associate secretary: Georgia Benkart  
Announcement issue of *Notices*: October 2012  
Program first available on AMS website: November 1, 2012  
Program issue of electronic *Notices*: January 2012  
Issue of *Abstracts*: Volume 34, Issue 1

### Deadlines

For organizers: April 1, 2012



For consideration of contributed papers in Special Sessions: To be announced  
For abstracts: To be announced

## Oxford, Mississippi

*University of Mississippi*

**March 1–3, 2013**

*Friday – Sunday*

Southeastern Section

Associate secretary: Matthew Miller

Announcement issue of *Notices*: To be announced

Program first available on AMS website: To be announced

Program issue of electronic *Notices*: To be announced

Issue of *Abstracts*: To be announced

### Deadlines

For organizers: August 1, 2012

For consideration of contributed papers in Special Sessions: To be announced

For abstracts: To be announced

## Chestnut Hill, Massachusetts

*Boston College*

**April 6–7, 2013**

*Saturday – Sunday*

Eastern Section

Associate secretary: Steven H. Weintraub

Announcement issue of *Notices*: To be announced

Program first available on AMS website: To be announced

Program issue of electronic *Notices*: To be announced

Issue of *Abstracts*: To be announced

### Deadlines

For organizers: September 6, 2012

For consideration of contributed papers in Special Sessions: To be announced

For abstracts: To be announced

## Ames, Iowa

*Iowa State University*

**April 27–28, 2013**

*Saturday – Sunday*

Central Section

Associate secretary: Georgia Benkart

Announcement issue of *Notices*: To be announced

Program first available on AMS website: To be announced

Program issue of electronic *Notices*: April 2013

Issue of *Abstracts*: To be announced

### Deadlines

For organizers: September 27, 2012

For consideration of contributed papers in Special Sessions: To be announced

For abstracts: To be announced

*The scientific information listed below may be dated. For the latest information, see [www.ams.org/amsmtg/sectional.html](http://www.ams.org/amsmtg/sectional.html).*

### Special Sessions

*Operator Algebras and Topological Dynamics* (Code: SS 1A), **Ken Ono**, Emory University, **Amanda Folsom**, Yale University, and **Zachary Kent**, Emory University.

## Alba Iulia, Romania

**June 27–30, 2013**

*Thursday – Sunday*

*First Joint International Meeting of the AMS and the Romanian Mathematical Society, in partnership with the “Simion Stoilow” Institute of Mathematics of the Romanian Academy.*

Associate secretary: Steven H. Weintraub

Announcement issue of *Notices*: To be announced

Program first available on AMS website: Not applicable

Program issue of electronic *Notices*: Not applicable

Issue of *Abstracts*: Not applicable

### Deadlines

For organizers: To be announced

For consideration of contributed papers in Special Sessions: To be announced

For abstracts: To be announced

## Louisville, Kentucky

*University of Louisville*

**October 5–6, 2013**

*Saturday – Sunday*

Southeastern Section

Associate secretary: Matthew Miller

Announcement issue of *Notices*: To be announced

Program first available on AMS website: To be announced

Program issue of electronic *Notices*: To be announced

Issue of *Abstracts*: To be announced

### Deadlines

For organizers: March 5, 2013

For consideration of contributed papers in Special Sessions: To be announced

For abstracts: To be announced

## St. Louis, Missouri

*Washington University*

**October 18–20, 2013**

*Friday – Sunday*

Central Section

Associate secretary: Georgia Benkart

Announcement issue of *Notices*: To be announced

Program first available on AMS website: To be announced

Program issue of electronic *Notices*: To be announced

Issue of *Abstracts*: To be announced

### Deadlines

For organizers: March 20, 2013

For consideration of contributed papers in Special Sessions: To be announced

For abstracts: To be announced

## Riverside, California

*University of California Riverside*

**November 2–3, 2013**

*Saturday – Sunday*

Western Section

Associate secretary: Michel L. Lapidus

Announcement issue of *Notices*: To be announced

Program first available on AMS website: To be announced

Program issue of electronic *Notices*: To be announced

Issue of *Abstracts*: To be announced

### Deadlines

For organizers: April 2, 2013

For consideration of contributed papers in Special Sessions: To be announced

For abstracts: To be announced

## Baltimore, Maryland

*Baltimore Convention Center, Baltimore Hilton, and Marriott Inner Harbor*

**January 15–18, 2014**

*Wednesday – Saturday*

*Joint Mathematics Meetings, including the 120th Annual Meeting of the AMS, 97th Annual Meeting of the Mathematical Association of America, annual meetings of the Association for Women in Mathematics (AWM) and the National Association of Mathematicians (NAM), and the winter meeting of the Association of Symbolic Logic, with sessions contributed by the Society for Industrial and Applied Mathematics (SIAM).*

Associate secretary: Matthew Miller

Announcement issue of *Notices*: October 2013

Program first available on AMS website: November 1, 2013

Program issue of electronic *Notices*: January 2013

Issue of *Abstracts*: Volume 35, Issue 1

### Deadlines

For organizers: April 1, 2013

For consideration of contributed papers in Special Sessions: To be announced

For abstracts: To be announced

## Tel Aviv, Israel

*Bar-Ilan University, Ramat-Gan and Tel-Aviv University, Ramat-Aviv*

**June 16–19, 2014**

*Monday – Thursday*

*The 2nd Joint International Meeting between the AMS and the Israel Mathematical Union.*

Associate secretary: Michel L. Lapidus

Announcement issue of *Notices*: To be announced

Program first available on AMS website: To be announced

Program issue of electronic *Notices*: To be announced

Issue of *Abstracts*: To be announced

### Deadlines

For organizers: To be announced

For consideration of contributed papers in Special Sessions: To be announced

For abstracts: To be announced

## San Antonio, Texas

*Henry B. Gonzalez Convention Center and Grand Hyatt San Antonio*

**January 10–13, 2015**

*Saturday – Tuesday*

*Joint Mathematics Meetings, including the 121st Annual Meeting of the AMS, 98th Annual Meeting of the Mathematical Association of America, annual meetings of the Association for Women in Mathematics (AWM) and the National Association of Mathematicians (NAM), and the winter meeting of the Association of Symbolic Logic, with sessions contributed by the Society for Industrial and Applied Mathematics (SIAM).*

Associate secretary: Steven H. Weintraub

Announcement issue of *Notices*: October 2014

Program first available on AMS website: To be announced

Program issue of electronic *Notices*: January 2015

Issue of *Abstracts*: Volume 36, Issue 1

### Deadlines

For organizers: April 1, 2014

For consideration of contributed papers in Special Sessions: To be announced

For abstracts: To be announced

# Porto, Portugal

*University of Porto*

**June 11–14, 2015**

*Thursday – Sunday*

Associate secretary: Georgia Benkart

Announcement issue of *Notices*: To be announced

Program first available on AMS website: To be announced

Program issue of electronic *Notices*: To be announced

Issue of *Abstracts*: Not applicable

## Deadlines

For organizers: To be announced

For consideration of contributed papers in Special Sessions: To be announced

For abstracts: To be announced

# Seattle, Washington

*Washington State Convention Center and the Sheraton Seattle Hotel*

**January 6–9, 2016**

*Wednesday – Saturday*

*Joint Mathematics Meetings, including the 122nd Annual Meeting of the AMS, 99th Annual Meeting of the Mathematical Association of America, annual meetings of the Association for Women in Mathematics (AWM) and the National Association of Mathematicians (NAM), and the winter meeting of the Association of Symbolic Logic, with sessions contributed by the Society for Industrial and Applied Mathematics (SIAM).*

Associate secretary: Michel L. Lapidus

Announcement issue of *Notices*: October 2015

Program first available on AMS website: To be announced

Program issue of electronic *Notices*: January 2016

Issue of *Abstracts*: Volume 37, Issue 1

## Deadlines

For organizers: April 1, 2015

For consideration of contributed papers in Special Sessions: To be announced

For abstracts: To be announced

# Atlanta, Georgia

*Hyatt Regency Atlanta and Marriott Atlanta Marquis*

**January 4–7, 2017**

*Wednesday – Saturday*

*Joint Mathematics Meetings, including the 123rd Annual Meeting of the AMS, 100th Annual Meeting of the Mathematical Association of America, annual meetings of the Association for Women in Mathematics (AWM) and the*

*National Association of Mathematicians (NAM), and the winter meeting of the Association of Symbolic Logic, with sessions contributed by the Society for Industrial and Applied Mathematics (SIAM).*

Associate secretary: Georgia Benkart

Announcement issue of *Notices*: October 2016

Program first available on AMS website: To be announced

Program issue of electronic *Notices*: January 2017

Issue of *Abstracts*: Volume 38, Issue 1

## Deadlines

For organizers: April 1, 2016

For consideration of contributed papers in Special Sessions: To be announced

For abstracts: To be announced

# San Diego, California

*San Diego Convention Center and San Diego Marriott Hotel and Marina*

**January 10–13, 2018**

*Wednesday – Saturday*

*Joint Mathematics Meetings, including the 124th Annual Meeting of the AMS, 101st Annual Meeting of the Mathematical Association of America, annual meetings of the Association for Women in Mathematics (AWM) and the National Association of Mathematicians (NAM), and the winter meeting of the Association of Symbolic Logic, with sessions contributed by the Society for Industrial and Applied Mathematics (SIAM).*

Associate secretary: Matthew Miller

Announcement issue of *Notices*: October 2017

Program first available on AMS website: To be announced

Program issue of electronic *Notices*: To be announced

Issue of *Abstracts*: To be announced

## Deadlines

For organizers: April 1, 2017

For consideration of contributed papers in Special Sessions: To be announced

For abstracts: To be announced