

Baltimore, Maryland

Timetable

Baltimore Convention Center



M O N D A Y , J A N U A R Y 1 3

- 9:00 a.m. — 5:00 p.m. **AMS SHORT COURSE ON PUBLIC-KEY CRYPTOGRAPHY**
9:00 a.m. — 5:00 p.m. **MAA SHORT COURSE ON MATHEMATICS IN THE ANCIENT WORLD**

T U E S D A Y , J A N U A R Y 1 4

- 8:30 a.m. — 4:00 p.m. **MAA BOARD OF GOVERNORS**
9:00 a.m. — 5:00 p.m. **AMS SHORT COURSE ON PUBLIC-KEY CRYPTOGRAPHY**
9:00 a.m. — 5:00 p.m. **MAA SHORT COURSE ON MATHEMATICS IN THE ANCIENT WORLD**
1:00 p.m. — 6:00 p.m. **AMS COUNCIL**
3:00 p.m. — 7:00 p.m. **JOINT MEETINGS REGISTRATION**

W E D N E S D A Y , J A N U A R Y 1 5

- 7:30 a.m. — 4:00 p.m. **JOINT MEETINGS REGISTRATION**
7:30 a.m. — 5:00 p.m. **EMPLOYMENT CENTER**
8:00 a.m. — 10:55 a.m. **AMS-MAA-MER SPECIAL SESSION ON MATHEMATICS AND EDUCATION REFORM, I**
8:00 a.m. — 10:55 a.m. **AMS-SIAM SPECIAL SESSION ON DYNAMICAL SYSTEMS AND OCEANOGRAPHY, I**
8:00 a.m. — 10:55 a.m. **AMS-ASL SPECIAL SESSION ON INTERACTIONS BETWEEN LOGIC, GROUP THEORY AND COMPUTER SCIENCE, I**
8:00 a.m. — 10:55 a.m. **AMS-ASL SPECIAL SESSION ON COMPUTABILITY AND MODELS, I**
- AMS SPECIAL SESSIONS**
8:00 a.m. — 10:55 a.m. *Advances in Spherical Designs and Codes, I*
8:00 a.m. — 10:55 a.m. *Algebras, Actions, and Algorithms, I*
8:00 a.m. — 10:55 a.m. *Quantum Computation and Information: Mathematical Challenges, I*
8:00 a.m. — 10:55 a.m. *Discrete Models, I*
8:00 a.m. — 10:55 a.m. *Recent Advances in Riemannian and Lorentzian Geometries, I*
8:00 a.m. — 10:55 a.m. *Primes and Knots, I*
8:00 a.m. — 10:55 a.m. *Operator Algebras, Quantization, and Noncommutative Geometry: A Centennial Celebration in Honor of J. V. Neumann and M. H. Stone, I*
8:00 a.m. — 10:55 a.m. *Special Functions and q-Series, I*
8:00 a.m. — 10:55 a.m. *Nonstandard Models of Arithmetic and Set Theory, I*
- 8:00 a.m. — 10:55 a.m. **SIAM MINISYMPOSIUM ON LIFE SCIENCES**
8:00 a.m. — 10:55 a.m. **SIAM MINISYMPOSIUM ON OPTIMIZATION**

MAA CONTRIBUTED PAPER SESSIONS

- 8:00 a.m. — 10:55 a.m. *Innovative Use of the World Wide Web in Teaching Mathematics, I*
 8:00 a.m. — 10:55 a.m. *Classroom Demonstrations and Course Projects that Make a Difference, I*
 8:00 a.m. — 10:55 a.m. *The History of Mathematics in the Americas*
 8:00 a.m. — 10:55 a.m. *General Contributed Paper Session, II*

8:00 a.m. — 10:55 a.m. **AMS SESSIONS FOR CONTRIBUTED PAPERS**

- 9:00 a.m. — 11:00 a.m. **MAA MINICOURSE #12: PART A** *Getting students involved in undergraduate research.*
 9:00 a.m. — 11:00 a.m. **MAA MINICOURSE #1: PART A** *Teaching introductory statistics using a workshop approach.*
 9:00 a.m. — 11:00 a.m. **MAA MINICOURSE #7: PART A** *The mathematics of presidential and other elections.*

9:00 a.m. — 10:20 a.m. **MAA CUPM SUBCOMMITTEE ON CURRICULUM REFORM ACROSS THE FIRST TWO YEARS
 PANEL DISCUSSION** *Reflections on the Conference to Improve College Algebra.*

10:05 a.m. — 10:55 a.m. **AMS INVITED ADDRESS** *Partial hyperbolicity.* **Charles C. Pugh**

11:10 a.m. — 12:00 p.m. **AMS-MAA INVITED ADDRESS** *Discrete mathematics and mechanical engineering.* **Edward R. Scheinerman**

12:00 p.m. — 5:00 p.m. **EXHIBITS AND BOOK SALES**, Exhibit Halls A & B, Baltimore Convention Center

1:00 p.m. — 2:00 p.m. **AMS COLLOQUIUM LECTURES:LECTURE I** *Spectra of hyperbolic surfaces and applications, I.*
Peter Sarnak

2:15 p.m. — 3:05 p.m. **MAA INVITED ADDRESS** *Four colors suffice: A history and proof of the four-color problem.* **Robin Wilson**

2:15 p.m. — 6:05 p.m. **AMS-MAA-MER SPECIAL SESSION ON MATHEMATICS AND EDUCATION REFORM, II**

2:15 p.m. — 6:05 p.m. **AMS-SIAM SPECIAL SESSION ON DYNAMICAL SYSTEMS AND OCEANOGRAPHY, II**

2:15 p.m. — 6:05 p.m. **AMS-ASL SPECIAL SESSION ON INTERACTIONS BETWEEN LOGIC, GROUP THEORY AND
 COMPUTER SCIENCE, II**

2:15 p.m. — 6:05 p.m. **AMS-ASL SPECIAL SESSION ON COMPUTABILITY AND MODELS, II**

AMS SPECIAL SESSIONS

- 2:15 p.m. — 6:05 p.m. *Advances in Spherical Designs and Codes, II*
 2:15 p.m. — 6:05 p.m. *Algebras, Actions, and Algorithms, II*
 2:15 p.m. — 6:05 p.m. *Quantum Computation and Information: Mathematical Challenges, II*
 2:15 p.m. — 6:05 p.m. *Discrete Models, II*
 2:15 p.m. — 6:05 p.m. *Recent Advances in Riemannian and Lorentzian Geometries, II*
 2:15 p.m. — 6:05 p.m. *Primes and Knots, II*
 2:15 p.m. — 6:05 p.m. *Operator Algebras, Quantization, and Noncommutative Geometry: A Centennial Celebration in Honor
 of J. V. Neumann and M. H. Stone, II*
 2:15 p.m. — 6:05 p.m. *Special Functions and q-Series, II*
 2:15 p.m. — 6:00 p.m. *Dynamics, Physics, and Probability: The Work of the 2002 Nemmers Prize Winner, Yakov Sinai*
 2:15 p.m. — 6:05 p.m. *Nonstandard Models of Arithmetic and Set Theory, II*

2:15 p.m. — 4:15 p.m. **MAA MINICOURSE #13: PART A** *Incorporating discrete mathematics in the preparation of K-12
 mathematics teachers.*

2:15 p.m. — 4:15 p.m. **MAA MINICOURSE #2: PART A** *Java applets in teaching mathematics.*

2:15 p.m. — 4:15 p.m. **MAA MINICOURSE #8: PART A** *Mathematical finance.*

2:15 p.m. — 6:00 p.m. **SIAM MINISYMPOSIUM ON THE STABILITY OF NONLINEAR DISPERSIVE WAVES, I**

MAA CONTRIBUTED PAPER SESSIONS

- 2:15 p.m. — 6:00 p.m. *Getting Students to Discuss and to Write About Mathematics*
 2:15 p.m. — 6:00 p.m. *Quantitative Literacy in Practice: What Is it and What Works?*
 2:15 p.m. — 6:00 p.m. *Environmental Mathematics in the Classroom*

W E D N E S D A Y , J A N U A R Y 1 5 (c o n t ' d)

- 2:15 p.m. — 4:15 p.m. **AMS-MAA JOINT COMMITTEE ON TEACHING ASSISTANTS AND PART-TIME INSTRUCTORS POSTER SESSION** *Implementing preparation and development programs for college mathematics instructors.*
- 2:15 p.m. — 6:00 p.m. **AMS SESSIONS FOR CONTRIBUTED PAPERS**
- 2:15 p.m. — 3:35 p.m. **MAA COMMITTEE ON THE UNDERGRADUATE PROGRAM IN MATHEMATICS AND THE CUPM SUBCOMMITTEE ON CURRICULUM REFORM ACROSS THE FIRST TWO YEARS PANEL DISCUSSION** *The impact of technology in calculus courses on long-term student performance and employment.*
- 2:15 p.m. — 3:35 p.m. **MAA SPECIAL PRESENTATION** *An overview of interviews.*
- 3:20 p.m. — 4:10 p.m. **MAA INVITED ADDRESS** *Some comments on early Greek mathematics.* **David H. Fowler**
- 3:30 p.m. — 5:00 p.m. **MAA PROJECT NEXT PANEL DISCUSSION** *Expanding your research horizons.*
- 3:45 p.m. — 4:45 p.m. **MAA SPECIAL PRESENTATION** *Doctorates in mathematics education: Why the shortage? Where do they go? What do they do?*
- 3:45 p.m. — 5:05 p.m. **MAA CUPM SUBCOMMITTEE ON CURRICULUM REFORM ACROSS THE FIRST TWO YEARS PANEL DISCUSSION** *Small group projects in college algebra.*
- 4:00 p.m. — 5:00 p.m. **AWM PANEL DISCUSSION** *Mathematics educators and mathematicians working together.*
- 4:30 p.m. — 6:30 p.m. **MAA MINICOURSE #14: PART A** *Teaching a course in the history of mathematics.*
- 4:30 p.m. — 6:30 p.m. **MAA MINICOURSE #3: PART A** *Optimization of technology in the geometry classroom.*
- 4:30 p.m. — 6:30 p.m. **MAA MINICOURSE #9: PART A** *Fair enough? Mathematics of equity.*
- 4:30 p.m. — 6:00 p.m. **AMS COMMITTEE ON THE PROFESSION PRESENTATION**
- 4:30 p.m. — 6:30 p.m. **MAA COMMITTEE ON THE TEACHING OF UNDERGRADUATE MATHEMATICS WORKSHOP** *Student writing: A hands-on approach.*
- 4:30 p.m. — 6:30 p.m. **MAA SECTION OFFICERS**
- 5:00 p.m. — 6:00 p.m. **GRADUATE STUDENT RECEPTION**
- 5:00 p.m. — 5:30 p.m. **AWM BUSINESS MEETING**
- 5:15 p.m. — 6:45 p.m. **MAA HISTORY OF MATHEMATICS SIGMAA PANEL DISCUSSION** *Truth in using the history of mathematics in teaching mathematics.*
- 5:30 p.m. — 7:30 p.m. **MATHEMATICAL SCIENCES INSTITUTES RECEPTION**
- 6:00 p.m. — 7:00 p.m. **RECEPTION FOR FIRST-TIME PARTICIPANTS**
- 7:15 p.m. — 8:15 p.m. **YOUNG MATHEMATICIANS NETWORK TOWN MEETING**
- 8:30 p.m. — 9:30 p.m. **AMS JOSIAH WILLARD GIBBS LECTURE** *The shape of objects in two and three dimensions: Mathematics meets computer vision.* **David B. Mumford**
- 9:30 p.m. — 11:00 p.m. **AWM RECEPTION**

T H U R S D A Y , J A N U A R Y 1 6

- 7:00 a.m. — 7:00 p.m. **EMPLOYMENT CENTER**
- 7:30 a.m. — 4:00 p.m. **JOINT MEETINGS REGISTRATION**
- 8:00 a.m. — noon **AMS-MAA-MER SPECIAL SESSION ON MATHEMATICS AND EDUCATION REFORM, III**
- 8:00 a.m. — noon **AMS-SIAM SPECIAL SESSION ON DYNAMICAL SYSTEMS AND OCEANOGRAPHY, III**

- 8:00 a.m. — noon **AMS-ASL SPECIAL SESSION ON INTERACTIONS BETWEEN LOGIC, GROUP THEORY AND COMPUTER SCIENCE, III**
- 8:00 a.m. — noon **AMS-ASL SPECIAL SESSION ON COMPUTABILITY AND MODELS, III**
- AMS SPECIAL SESSIONS**
- 8:00 a.m. — noon *Advances in Spherical Designs and Codes, III*
- 8:00 a.m. — noon *Algebras, Actions, and Algorithms, III*
- 8:00 a.m. — noon *Quantum Computation and Information: Mathematical Challenges, III*
- 8:00 a.m. — noon *Discrete Models, III*
- 8:00 a.m. — noon *Recent Advances in Riemannian and Lorentzian Geometries, III*
- 8:00 a.m. — noon *Primes and Knots, III*
- 8:00 a.m. — noon *Operator Algebras, Quantization, and Noncommutative Geometry: A Centennial Celebration in Honor of J. V. Neumann and M. H. Stone, III*
- 8:00 a.m. — noon *Special Functions and q-Series, III*
- 8:00 a.m. — noon *Inverse Problems and Sampling Theory in Signal Analysis, I*
- 8:00 a.m. — 10:00 a.m. **MAA MINICOURSE #4: PART A** *Visual linear algebra.*
- 8:00 a.m. — noon **SIAM MINISYMPOSIUM ON MATHEMATICAL PROBLEMS IN IMAGE ANALYSIS**
- 8:00 a.m. — noon **SIAM MINISYMPOSIUM ON DYNAMICAL SYSTEMS**
- MAA CONTRIBUTED PAPER SESSIONS**
- 8:00 a.m. — noon *Incorporating History of Mathematics in the Mathematics Classroom*
- 8:00 a.m. — noon *Helping Students Give Effective Mathematics Presentations*
- 8:00 a.m. — noon *Mathematics Experiences in Business, Industry, and Government*
- 8:00 a.m. — noon *Applications of Abstract Algebra*
- 8:00 a.m. — noon *General Contributed Paper Session, II*
- 8:00 a.m. — noon **AMS SESSIONS FOR CONTRIBUTED PAPERS**
- 8:30 a.m. — 10:00 a.m. **MAA PROJECT NEXT PANEL DISCUSSION** *Writing and publishing expository articles about mathematics.*
- 9:00 a.m. — 9:50 a.m. **AWM EMMY NOETHER LECTURE** *Five little crystals and how they grew.* **Jean E. Taylor**
- 9:00 a.m. — 11:00 a.m. **MAA MINICOURSE #10: PART A** *Turning a nonscience or developmental course into a capstone mathematical experience.*
- 9:00 a.m. — 11:00 a.m. **MAA MINICOURSE #15: PART A** *Real fun exploring basic mathematics.*
- 9:00 a.m. — 10:20 a.m. **MAA COMMITTEE ON MATHEMATICS AND THE ENVIRONMENT PANEL DISCUSSION** *Sample mathematics lessons integrating environmental issues.*
- 9:00 a.m. — 10:20 a.m. **MAA PANEL DISCUSSION** *NSF funding opportunities for learning and teaching in the mathematical sciences.*
- 9:00 a.m. — 10:20 a.m. **MAA COMMITTEE ON THE UNDERGRADUATE PROGRAM IN MATHEMATICS PANEL DISCUSSION** *Undergraduate Programs and Courses in the Mathematical Sciences: A CUPM curriculum guide.*
- 9:00 a.m. — 11:00 a.m. **MAA COMMITTEE ON THE UNDERGRADUATE PROGRAM IN MATHEMATICS POSTER SESSION** *First college-level mathematics courses.*
- 9:30 a.m. — 5:30 p.m. **EXHIBITS AND BOOK SALES**
- 10:00 a.m. — 11:00 a.m. **AMS SPECIAL PRESENTATION** *Who wants to be a mathematician?*
- 10:05 a.m. — 10:55 a.m. **MAA INVITED ADDRESS** *Some mathematical insights into car and bicycle racing.* **Richard A. Tapia**
- 10:15 a.m. — 12:15 p.m. **MAA MINICOURSE #5: PART A** *Using and adapting online materials.*

- 10:45 a.m. — 12:05 p.m. **MAA PROJECT NEXT-YOUNG MATHEMATICIANS NETWORK PANEL DISCUSSION** *Keeping the platters spinning: Effective time management.*
- 10:45 a.m. — 12:05 p.m. **MAA PANEL DISCUSSION** *How can placement testing be improved?*
- 10:45 a.m. — 12:05 p.m. **MAA COMMITTEE ON THE MATHEMATICAL EDUCATION OF TEACHERS PANEL DISCUSSION** *The nature of mathematics knowledge and knowledge of mathematics learning needed by secondary school mathematics teachers in an era of technology.*
- 11:10 a.m. — noon **SIAM INVITED ADDRESS** *Title to be announced* **John A. Burns**
- 1:00 p.m. — 2:00 p.m. **AMS COLLOQUIUM LECTURES:LECTURE II** *Spectra of hyperbolic surfaces and applications, II.* **Peter Sarnak,**
- 1:00 p.m. — 4:10 p.m. **AMS-MAA-MER SPECIAL SESSION ON MATHEMATICS AND EDUCATION REFORM, IV**
- 1:00 p.m. — 4:10 p.m. **AMS-SIAM SPECIAL SESSION ON DYNAMICAL SYSTEMS AND OCEANOGRAPHY, IV**
- AMS SPECIAL SESSIONS**
- 1:00 p.m. — 4:10 p.m. *Advances in Spherical Designs and Codes, IV*
- 1:00 p.m. — 4:10 p.m. *Highlights of Recent Workshops Held by the Board on Mathematical Sciences and their Applications*
- 1:00 p.m. — 4:10 p.m. *Quantum Computations and Information: Mathematical Challenges, IV*
- 1:00 p.m. — 4:10 p.m. *Computational Algebraic and Analytic Geometry for Low-Dimensional Varieties, I*
- 1:00 p.m. — 4:10 p.m. *Modular Forms, Elliptic Curves, and Related Topics, I*
- 1:00 p.m. — 4:10 p.m. *Discrete Models, IV*
- 1:00 p.m. — 4:10 p.m. *Banach Space Theory and Convex Geometry, I*
- 1:00 p.m. — 4:10 p.m. *Primes and Knots, IV,*
- 1:00 p.m. — 4:10 p.m. *Operator Algebras, Quantization, and Noncommutative Geometry: A Centennial Celebration in Honor of J. V. Neumann and M. H. Stone, IV*
- 1:00 p.m. — 4:10 p.m. *Nonstandard Models of Arithmetic and Set Theory, III*
- 1:00 p.m. — 4:10 p.m. *Inverse Problems and Sampling Theory in Signal Analysis, II*
- 1:00 p.m. — 3:00 p.m. **MAA MINICOURSE #11: PART A** *Symmetry for all.*
- 1:00 p.m. — 3:00 p.m. **MAA MINICOURSE #16: PART A** *Cwatsets: A research experience for undergraduates.*
- 1:00 p.m. — 3:00 p.m. **MAA MINICOURSE #6: PART A** *WeBWork, an internet-based system for generating and delivering homework problems to students.*
- 1:00 p.m. — 4:10 p.m. **SIAM MINISYMPOSIUM ON THE STABILITY OF NONLINEAR DISPERSIVE WAVES, II**
- MAA CONTRIBUTED PAPER SESSIONS**
- 1:00 p.m. — 4:10 p.m. *Innovative Use of the World Wide Web in Teaching Mathematics, II*
- 1:00 p.m. — 4:10 p.m. *Classroom Demonstrations and Course Projects that Make a Difference, II*
- 1:00 p.m. — 4:10 p.m. *Initiating and Sustaining Undergraduate Research Projects and Programs*
- 1:00 p.m. — 4:10 p.m. **AMS SESSIONS FOR CONTRIBUTED PAPERS**
- 1:00 p.m. — 2:20 p.m. **MAA PANEL DISCUSSION** *Improving graduate education: Lessons learned on what works.*
- 1:00 p.m. — 2:20 p.m. **MAA PANEL DISCUSSION** *Successful strategies for implementing a Texas-style (modified Moore method) course.*
- 1:00 p.m. — 2:30 p.m. **MAA PROJECT NEXT PANEL DISCUSSION** *How to assess a mathematics program.*
- 1:00 p.m. — 2:20 p.m. **MAA PANEL DISCUSSION** *Integrating calculus, precalculus, and algebra.*
- 2:00 p.m. — 4:00 p.m. **MAA PROJECT NEXT-YOUNG MATHEMATICIANS NETWORK POSTER SESSION**
- 2:15 p.m. — 3:05 p.m. **AMS INVITED ADDRESS** *Dimer model and geometry.* **Andrei Okounkov**
- 2:45 p.m. — 4:05 p.m. **MAA-ASL PANEL DISCUSSION** *The role of logic in learning to write proofs.*
- 2:45 p.m. — 4:05 p.m. **MAA SESSION FOR CHAIRS**
- 3:00 p.m. — 4:20 p.m. **MAA HISTORY OF MATHEMATICS SIGMAA PANEL DISCUSSION** *The history of curricular change: Linear algebra 1950–2000.*

T H U R S D A Y , J A N U A R Y 1 6 (c o n t ' d)

- 3:20 p.m. — 4:10 p.m. **AMS INVITED ADDRESS** *Title to be announced.* **Weinan E**
- 4:25 p.m. — 6:30 p.m. **AMS-MAA JOINT PRIZE SESSION AND RECEPTION**
- 5:45 p.m. — 7:00 p.m. **LEHIGH UNIVERSITY RECEPTION**
- 6:00 p.m. — 8:00 p.m. **SIGMAA ON STATISTICS EDUCATION** *2003 business meeting and lecture.*
- 6:00 p.m. — 8:00 p.m. **ASSOCIATION OF GAY, LESBIAN, BISEXUAL AND TRANSGENDERED MATHEMATICIANS RECEPTION**
- 6:00 p.m. — 7:00 p.m. **NEW MEXICO STATE UNIVERSITY MATHEMATICS ASSOCIATION RECEPTION**
- 6:30 p.m. — 9:30 p.m. **MER BANQUET**
- 7:30 p.m. — 9:00 p.m. **MAA SPECIAL PRESENTATION** *Eine Klein (Mathematische) Nachtmusik*
- 8:15 p.m. — 9:45 p.m. **KNITTING NETWORK**

F R I D A Y , J A N U A R Y 1 7

- 7:00 a.m. — 8:00 a.m. **PME AND MAA STUDENT CHAPTER ADVISORS' BREAKFAST**
- 7:00 a.m. — 7:30 p.m. **EMPLOYMENT CENTER**
- 7:30 a.m. — 4:00 p.m. **JOINT MEETINGS REGISTRATION**
- 8:00 a.m. — 10:55 a.m. **AMS-MAA-SIAM SPECIAL SESSION ON RESEARCH IN MATHEMATICS BY UNDERGRADUATES, I**
- 8:00 a.m. — 10:55 a.m. **AMS-MAA SPECIAL SESSION ON THE HISTORY OF MATHEMATICS, I**
- AMS SPECIAL SESSIONS**
- 8:00 a.m. — 10:55 a.m. *Stochastic and Multiscale Problems in the Sciences, I*
- 8:00 a.m. — 10:55 a.m. *Wavelets, Frames and Operator Theory, I*
- 8:00 a.m. — 10:55 a.m. *Discrete Dynamics and Difference Equations, I*
- 8:00 a.m. — 10:55 a.m. *Homotopy Theory, I*
- 8:00 a.m. — 10:55 a.m. *Algebraic Topology Based on Knots, I*
- 8:00 a.m. — 10:55 a.m. *Computational Algebraic and Analytic Geometry for Low-Dimensional Varieties, II*
- 8:00 a.m. — 10:55 a.m. *Modular Forms, Elliptic Curves, and Related Topics, II*
- 8:00 a.m. — 10:55 a.m. *Banach Space Theory and Convex Geometry, II*
- MAA CONTRIBUTED PAPER SESSIONS**
- 8:00 a.m. — 10:55 a.m. *SIGMAA on Research in Undergraduate Mathematics Education, I*
- 8:00 a.m. — 10:55 a.m. *Best Statistics Projects/Activities, I*
- 8:00 a.m. — 10:55 a.m. *Rethinking the Courses Below Calculus, I*
- 8:00 a.m. — 10:55 a.m. *Assessment of Student Learning: Models and Methodology, I*
- 8:00 a.m. — 10:55 a.m. *Strategies for Increasing the Diversity of Students in Mathematics*
- 8:00 a.m. — 10:55 a.m. *General Contributed Paper Session, III*
- 8:00 a.m. — 10:55 a.m. **AMS SESSIONS FOR CONTRIBUTED PAPERS**
- 8:00 a.m. — 5:00 p.m. **ASL INVITED ADDRESSES AND CONTRIBUTED PAPERS**
- 8:00 a.m. — 11:00 a.m. **PME COUNCIL**
- 9:00 a.m. — 9:50 a.m. **AMS INVITED ADDRESS** *Efficient algorithms for finding a random needle in a combinatorial haystack.* **Dana Randall**
- 9:00 a.m. — 11:00 a.m. **MAA MINICOURSE #12: PART B** *Getting students involved in undergraduate research.*
- 9:00 a.m. — 11:00 a.m. **MAA MINICOURSE #1: PART B** *Teaching introductory statistics using a workshop approach.*
- 9:00 a.m. — 11:00 a.m. **MAA MINICOURSE #7: PART B** *The mathematics of presidential and other elections.*

- 9:00 a.m. — 10:20 a.m. **MAA COMMITTEE ON THE PARTICIPATION OF WOMEN SPECIAL PRESENTATION** *Can this graduate student be saved?*
- 9:00 a.m. — 10:20 a.m. **MAA SPECIAL PRESENTATION** *Proposal writing workshop for grant applications to the NSF Division of Undergraduate Education.*
- 9:00 a.m. — 11:00 a.m. **MAA WOMEN AND MATHEMATICS NETWORK POSTER SESSION** *Special programs to encourage young women in mathematics.*
- 9:30 a.m. — 5:30 p.m. **EXHIBITS AND BOOK SALES**
- 10:05 a.m. — 10:55 a.m. **AMS INVITED ADDRESS** *Motivic homotopy theory.* **Vladimir Voevodsky**
- 11:10 a.m. — noon **AMS-MAA INVITED ADDRESS** *Some novel uses of lattice reduction.* **Noam D. Elkies**
- 1:00 p.m. — 2:00 p.m. **AMS COLLOQUIUM LECTURES:LECTURE III** *Spectra of hyperbolic surfaces and applications, III.* **Peter Sarnak**
- 1:00 p.m. — 1:50 p.m. **MAA STUDENT LECTURE** *What drives mathematics and where is mathematics driving innovation?* **Donna L. Beers**
- 1:00 p.m. — 5:00 p.m. **AMS-MAA-SIAM SPECIAL SESSION ON RESEARCH IN MATHEMATICS BY UNDERGRADUATES, II**
- 1:00 p.m. — 6:00 p.m. **AMS-MAA SPECIAL SESSION ON THE HISTORY OF MATHEMATICS, II**
- AMS SPECIAL SESSIONS**
- 1:00 p.m. — 6:00 p.m. *Stochastic and Multiscale Problems in the Sciences, II*
- 1:00 p.m. — 6:00 p.m. *Wavelets, Frames and Operator Theory, II*
- 1:00 p.m. — 6:00 p.m. *The Many Lives of Lattice Theory and the Theory of Ordered Sets, with Connections to Combinatorics, I*
- 1:00 p.m. — 6:00 p.m. *C*-Extensions and Classifications of C*-Algebras, I*
- 1:00 p.m. — 6:00 p.m. *Homotopy Theory, II*
- 1:00 p.m. — 6:00 p.m. *Algebraic Topology Based on Knots, II*
- 1:00 p.m. — 6:00 p.m. *Computational Algebraic and Analytic Geometry for Low-Dimensional Varieties, III*
- 1:00 p.m. — 6:00 p.m. *Banach Space Theory and Convex Geometry, III*
- 1:00 p.m. — 6:00 p.m. *Mathematical Current Events: Expository Reports,*
- 1:00 p.m. — 6:00 p.m. *Inverse Problems and Sampling Theory in Signal Analysis, III*
- 1:00 p.m. — 3:00 p.m. **MAA MINICOURSE #13: PART B** *Incorporating discrete mathematics in the preparation of K-12 mathematics teachers.*
- 1:00 p.m. — 3:00 p.m. **MAA MINICOURSE #2: PART B** *Java applets in teaching mathematics.*
- 1:00 p.m. — 3:00 p.m. **MAA MINICOURSE #8: PART B** *Mathematical finance.*
- 1:00 p.m. — 3:00 p.m. **MAA POSTER SESSION ON PROJECTS SUPPORTED BY THE NSF DIVISION OF UNDERGRADUATE EDUCATION**
- MAA CONTRIBUTED PAPER SESSIONS**
- 1:00 p.m. — 3:30 p.m. *Encouraging Underrepresented Groups of Students in Math Contests*
- 1:00 p.m. — 3:30 p.m. *Mathematical Modeling In and Out of the Classroom*
- 1:00 p.m. — 3:30 p.m. *Philosophy of Mathematics*
- 1:00 p.m. — 3:30 p.m. *Integrating Undergraduate Research with the Mathematics Curriculum*
- 1:00 p.m. — 5:00 p.m. **AMS SESSIONS FOR CONTRIBUTED PAPERS**
- 1:00 p.m. — 2:30 p.m. **MAA PROJECT NEXT PANEL DISCUSSION** *Undergraduate seminars in mathematics.*
- 1:00 p.m. — 2:20 p.m. **MAA COMMITTEE ON THE UNDERGRADUATE PROGRAM IN MATHEMATICS AND THE CUPM SUBCOMMITTEE ON MATHEMATICS ACROSS THE DISCIPLINES PANEL DISCUSSION** *Mathematics educators, computer science educators: Working together.*
- 2:15 p.m. — 4:00 p.m. **NAM GRANVILLE-BROWN-HAYNES SESSION OF PRESENTATIONS BY RECENT DOCTORAL RECIPIENTS IN THE MATHEMATICAL SCIENCES**

FRIDAY, JANUARY 17 (cont'd)

- 2:30 p.m. — 4:00 p.m. **PRESENTATIONS BY MAA TEACHING AWARD RECIPIENTS**
- 2:30 p.m. — 4:00 p.m. **AMS COMMITTEE ON SCIENCE POLICY PANEL DISCUSSION**
- 3:15 p.m. — 5:15 p.m. **MAA MINICOURSE #9: PART B** *Fair enough? Mathematics of equity.*
- 3:15 p.m. — 5:15 p.m. **MAA MINICOURSE #3: PART B** *Optimization of technology in the geometry classroom.*
- 4:00 p.m. — 6:30 p.m. **MAA COMMITTEE ON THE UNDERGRADUATE PROGRAM IN MATHEMATICS AND THE COMMITTEE ON STUDENT CHAPTERS UNDERGRADUATE POSTER SESSION**
- 4:00 p.m. — 6:00 p.m. **SIGMAA ON RESEARCH ON UNDERGRADUATE MATHEMATICS EDUCATION** *Business meeting and invited address by Rina Zazkis.*
- 4:20 p.m. — 5:10 p.m. **AMS COMMITTEE ON SCIENCE POLICY-MAA SCIENCE POLICY COMMITTEE GOVERNMENT SPEAKER** *Speaker and title to be announced*
- 4:30 p.m. — 6:30 p.m. **MAA MINICOURSE #14: PART B** *Teaching a course in the history of mathematics.*
- 5:00 p.m. — 7:00 p.m. **MAA INFORMAL SESSION ON ACTUARIAL EDUCATION**
- 5:00 p.m. — 6:00 p.m. **MAA BIG SIGMAA RECEPTION** *Welcome reception for mathematicians in business, industry, and government.*
- 5:15 p.m. — 7:15 p.m. **UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN DEPARTMENT OF MATHEMATICS RECEPTION**
- 5:30 p.m. — 9:30 p.m. **NAM RECEPTION, BANQUET, AND COX-TALBOT ADDRESS** *Speaker and title to be announced.*
- 6:00 p.m. — 7:00 p.m. **MATHEMATICAL REVIEWS RECEPTION**
- 8:30 p.m. — 10:30 p.m. **MAA PROJECT NEXT RECEPTION**

SATURDAY, JANUARY 18

- 7:30 a.m. — 2:30 p.m. **JOINT MEETINGS REGISTRATION**
- 8:00 a.m. — 10:55 a.m. **AMS-MAA-SIAM SPECIAL SESSION ON RESEARCH IN MATHEMATICS BY UNDERGRADUATES, III**
- 8:00 a.m. — 10:55 a.m. **AMS-MAA SPECIAL SESSION ON THE HISTORY OF MATHEMATICS, III**
- AMS SPECIAL SESSIONS**
- 8:00 a.m. — 10:55 a.m. *Stochastic and Multiscale Problems in the Sciences, III*
- 8:00 a.m. — 10:55 a.m. *Wavelets, Frames and Operator Theory, III*
- 8:00 a.m. — 10:55 a.m. *The Many Lives of Lattice Theory and the Theory of Ordered Sets, with Connections to Combinatorics, II*
- 8:00 a.m. — 10:55 a.m. *C*-Extensions and Classifications of C*-Algebras, II*
- 8:00 a.m. — 10:55 a.m. *Discrete Dynamics and Difference Equations, II*
- 8:00 a.m. — 10:55 a.m. *Homotopy Theory, III*
- 8:00 a.m. — 10:55 a.m. *Algebraic Topology Based on Knots, III*
- 8:00 a.m. — 10:55 a.m. *Modular Forms, Elliptic Curves, and Related Topics, III*
- MAA CONTRIBUTED PAPER SESSIONS**
- 8:00 a.m. — 10:55 a.m. *SIGMAA on Research in Undergraduate Mathematics Education, II*
- 8:00 a.m. — 10:55 a.m. *Best Statistics Projects/Activities, II*
- 8:00 a.m. — 10:55 a.m. *Rethinking the Courses Below Calculus, II*
- 8:00 a.m. — 10:55 a.m. *Assessment of Student Learning: Models and Methodology, II*
- 8:00 a.m. — 10:55 a.m. *General Contributed Paper Session, IV*
- 8:00 a.m. — 10:55 a.m. **AMS SESSIONS FOR CONTRIBUTED PAPERS**
- 8:00 a.m. — 5:00 p.m. **ASL INVITED ADDRESSES AND CONTRIBUTED PAPERS**

- 8:30 a.m. — 10:00 a.m. **AMS COMMITTEE ON EDUCATION PANEL DISCUSSION**
- 9:00 a.m. — 9:55 a.m. **MAA INVITED ADDRESS** *The ubiquity of elliptic curves.* **Joseph H. Silverman**
- 9:00 a.m. — 11:00 a.m. **MAA MINICOURSE #10: PART B** *Turning a nonscience or developmental course into a capstone mathematical experience.*
- 9:00 a.m. — 11:00 a.m. **MAA MINICOURSE #15: PART B** *Real fun exploring basic mathematics.*
- 9:00 a.m. — 11:00 a.m. **MAA MINICOURSE #4: PART B** *Visual linear algebra.*
- 9:00 a.m. — 10:20 a.m. **MAA COMMITTEE FOR CURRICULUM REFORM ACROSS THE FIRST TWO YEARS AND THE MAA TASK FORCE ON THE FIRST COLLEGE-LEVEL MATHEMATICS COURSE PANEL DISCUSSION** *Rethinking the courses below calculus.*
- 9:00 a.m. — 10:20 a.m. **MAA PANEL DISCUSSION** *The intersection of the life sciences, mathematical sciences, and computer science: Implications for the undergraduate curriculum.*
- 9:00 a.m. — 10:00 a.m. **NAM PANEL DISCUSSION**
- 9:00 a.m. — noon **EMPLOYMENT CENTER**
- 9:30 a.m. — noon **EXHIBITS AND BOOK SALES**
- 10:00 a.m. — 10:55 a.m. **NAM BUSINESS MEETING**
- 10:05 a.m. — 10:55 a.m. **MAA INVITED ADDRESS** *Is teaching about mathematics the same as teaching mathematics?* **Paul J. Sally Jr.**
- 11:10 a.m. — 11:40 a.m. **MAA BUSINESS MEETING**
- 11:45 a.m. — 12:15 p.m. **AMS BUSINESS MEETING**
- 1:00 p.m. — 1:50 p.m. **NAM CLAYTOR-WOODARD LECTURE** *Speaker and title to be announced.*
- 1:00 p.m. — 5:30 p.m. **AMS-MAA-SIAM SPECIAL SESSION ON RESEARCH IN MATHEMATICS BY UNDERGRADUATES, IV**
- 1:00 p.m. — 5:30 p.m. **AMS-MAA SPECIAL SESSION ON THE HISTORY OF MATHEMATICS, IV**
- AMS SPECIAL SESSIONS**
- 1:00 p.m. — 5:30 p.m. *Stochastic and Multiscale Problems in the Sciences, IV*
- 1:00 p.m. — 5:30 p.m. *Wavelets, Frames and Operator Theory, II*
- 1:00 p.m. — 5:30 p.m. *The Many Lives of Lattice Theory and the Theory of Ordered Sets, with Connections to Combinatorics, III*
- 1:00 p.m. — 5:30 p.m. *C*-Extensions and Classifications of C*-Algebras, III*
- 1:00 p.m. — 5:30 p.m. *Discrete Dynamics and Difference Equations, III*
- 1:00 p.m. — 5:30 p.m. *Homotopy Theory, II*
- 1:00 p.m. — 5:30 p.m. *Algebraic Topology Based on Knots, II*
- 1:00 p.m. — 3:00 p.m. **MAA MINICOURSE #11: PART B** *Symmetry for all.*
- 1:00 p.m. — 3:00 p.m. **MAA MINICOURSE #16: PART B** *Cwatsets: A research experience for undergraduates.*
- 1:00 p.m. — 3:00 p.m. **MAA MINICOURSE #5: PART B** *Using and adapting online materials.*
- MAA CONTRIBUTED PAPER SESSIONS**
- 1:00 p.m. — 5:30 p.m. *Courses and Projects Addressing the Shortage of K–12 Teachers*
- 1:00 p.m. — 5:30 p.m. *Creative Visualization Labs*
- 1:00 p.m. — 5:30 p.m. *Linking Mathematics with Other Disciplines*
- 1:00 p.m. — 5:30 p.m. *Mathematical Connections in Art, Music, and Science*
- 1:00 p.m. — 5:30 p.m. *Computation Mathematics in Linear Algebra and Differential Equations*
- 1:00 p.m. — 5:00 p.m. **AMS SESSIONS FOR CONTRIBUTED PAPERS**

- 1:00 p.m. — 2:20 p.m. **MAA INTERACTIVE DISCUSSION** *Forging relationships between professional organizations to improve mathematics learning from kindergarten through graduate school.*
- 1:00 p.m. — 2:20 p.m. **MAA COMMITTEE ON THE UNDERGRADUATE PROGRAM IN MATHEMATICS OPEN DISCUSSION** *First college-level mathematics courses.*
- 2:45 p.m. — 4:05 p.m. **SIGMAA ON STATISTICS EDUCATION PANEL DISCUSSION** *The state of statistics education.*
- 2:45 p.m. — 4:05 p.m. **SUMMA SPECIAL PRESENTATION**
- 3:15 p.m. — 5:15 p.m. **MAA MINICOURSE #6: PART B** *WeBWork, an internet-based system for generating and delivering homework problems to students.*