Program Timetable

This document provides an at-a-glance timetable of all scientific and social events scheduled for the JMM, so you can easily see which events may overlap and better plan your time.

AMS American Mathematical Society

MAA Mathematical Association of America

JMM Joint Mathematics Meetings
Baltimore • Jan 16–19, 2019
AMS • MAA

Monday, January 14

8:00 am–5:00 pm	**AMS SHORT COURSE ON SUM OF SQUARES: THEORY AND APPLICATIONS, PART I**
5:00 pm–6:00 pm	**AMS SHORT COURSE RECEPTION**

Tuesday, January 15

8:00 am–5:00 pm	**AMS SHORT COURSE ON SUM OF SQUARES: THEORY AND APPLICATIONS, PART II**
8:00 am–6:30 pm	**AMS DEPARTMENT CHAIRS WORKSHOP**
1:30 pm–10:00 pm	**AMS COUNCIL**
3:00 pm–7:00 pm	**JOINT MEETINGS REGISTRATION**, Pratt Street Lobby, 300 Level, BCC

Wednesday, January 16

7:00 am–6:00 pm	**JOINT MEETINGS REGISTRATION**, Pratt Street Lobby, 300 Level, BCC
7:00 am–5:30 pm	**EMAIL CENTER**
7:00 am–8:45 am	**MAA MINORITY CHAIRS MEETING**
	AMS SPECIAL SESSIONS
8:00 am–11:00 am	*Algorithmic Dimensions and Fractal Geometry, I (AMS-ASL)*
8:00 am–11:00 am	*How to Guard an Art Gallery and Other Discrete Mathematical Adventures (In Memory of T. S. Michael, 1960 to 2016), I*
8:00 am–11:00 am	*Analysis of Fractional, Stochastic, and Hybrid Dynamic Systems with Applications, I*
8:00 am–11:00 am	*New Directions in the Theory of Complex Multiplication, I*
8:00 am–11:00 am	*Nonlinear Evolution Equations and Their Applications, I*
8:00 am–11:00 am	*Quaternions, I*
8:00 am–11:00 am	*Numerical Methods for PDEs and Applications, I*
8:00 am–11:00 am	*Recent Advancements in Mathematical Modeling of Cancer, I*
8:00 am–11:00 am	*Natural Resources Modeling, I*
8:00 am–11:00 am	*Geometry Labs United: Research, Visualization, and Outreach, I*
8:00 am–11:00 am	*Commutative Ring Theory: Research for Undergraduate and Early Graduate Students, I*
8:00 am–11:00 am	*Hopf Algebras and Tensor Categories, I*
8:00 am–11:00 am	*Mappings on Metric and Banach Spaces with Applications to Fixed Point Theory, I*
8:00 am–11:00 am	*Recent Advances and Trends in Computable Structure Theory (in honor of J. Remmel), I*
8:00 am–11:00 am	*Financial Mathematics, I*
8:00 am–11:00 am	*Recent Advances in Regularity Lemmas, I*

8:00 am–11:00 am	*Bifurcations of Difference Equations and Discrete Dynamical Systems with Applications, I*
8:00 am–11:00 am	*A Showcase of Number Theory at Undergraduate Institutions, I*
8:00 am–11:00 am	*Optimal Methods in Applicable Analysis: Variational Inequalities, Low Rank Matrix Approximations, Systems Engineering, Cyber Security, I*
8:00 am–11:00 am	*25 years of Conferences for African-American Researchers in the Mathematical Sciences (CAARMS times 25), I*
8:00 am–11:00 am	*Symbolic Dynamics, I*
	MAA INVITED PAPER SESSIONS
8:00 am–10:50 am	*Trends in Mathematical and Computational Biology*
8:00 am–11:00 am	*Building Successful Communities in Mathematics*
	MAA CONTRIBUTED PAPER SESSIONS
8:00 am–11:00 am	*The Scholarship of Teaching and Learning in Collegiate Mathematics, I*
8:00 am–11:00 am	*Inquiry-Based Learning and Teaching, I*
8:00 am–11:00 am	*Discrete Mathematics in the Undergraduate Curriculum—Ideas and Innovations in Teaching, I*
8:00 am–11:00 am	*Innovative Curricular Strategies for Increasing Mathematics Majors*
8:00 am–11:00 am	*Mathematics and the Arts, I*
8:00 am–10:55 am	**SIAM MINISYMPOSIUM ON ADVANCES IN MATHEMATICAL MODELING OF COMPLEX MATERIALS SYSTEMS**
8:00 am– 6:00 pm	**PROJECT NEXT WORKSHOP**
8:00 am–10:55 am	**AMS CONTRIBUTED PAPER SESSIONS**
8:00 am–10:55 am	**MAA GENERAL CONTRIBUTED PAPER SESSIONS**
8:00 am– 5:30 pm	**EMPLOYMENT CENTER**
9:00 am–11:00 am	**MAA MINICOURSE #1: PART A** *Mathematical Inquiry and Writing through Sports*
9:00 am–11:00 am	**MAA MINICOURSE #2: PART A** *Start Teaching Statistics using R and RStudio*
9:00 am–11:00 am	**MAA MINICOURSE #7: PART A** *Using Data Applications to Inspire Linear Algebra Topics in the Classroom*
9:00 am– 9:50 am	**MAA-SIAM-AMS HRABOWSKI–GATES–TAPIA–MCBAY SESSION: LECTURE**
9:00 am–10:20 am	**MAA PANEL** *What Every Student Should Know about the JMM*
9:35 am–10:55 am	**MAA PANEL** *Mathematics Placement Trends and Innovations that Increase Equitable Access & Success*
9:35 am–10:55 am	**MAA WORKSHOP** *NSF Funding Opportunities in the Education and Human Resources Directorate and the Division of Mathematical Sciences*
9:50 am–10:30 am	**MAA-SIAM-AMS HRABOWSKI–GATES–TAPIA–MCBAY PANEL** *Actions to increase the participation of underrepresented minority groups in mathematics.*
10:05 am–10:55 am	**AMS INVITED ADDRESS** *Algebraic, Geometric, and Topological Methods in Optimization.* **Jesus A. De Loera**
10:20 am–10:50 am	**RADICAL DASH KICKOFF MEETING**
11:10 am–12:00 pm	**AMS-MAA INVITED ADDRESS** *What is the shape of a rational map?* **Sarah Koch**
12:15 pm– 5:30 pm	**EXHIBITS AND BOOK SALES**
1:00 pm– 1:50 pm	**AMS COLLOQUIUM LECTURES: LECTURE I** *Complex multiplication: past, present, future.* **Benedict H. Gross**
2:15 pm– 3:05 pm	**MAA INVITED ADDRESS** *Symmetry, almost.* **Amanda Folsom**
	AMS SPECIAL SESSIONS
2:15 pm– 6:15 pm	*Algorithmic Dimensions and Fractal Geometry, II (AMS-ASL)*
2:15 pm– 6:15 pm	*How to Guard an Art Gallery and Other Discrete Mathematical Adventures (In Memory of T. S. Michael, 1960 to 2016), II*
2:15 pm– 6:15 pm	*Analysis of Fractional, Stochastic, and Hybrid Dynamic Systems with Applications, II*
2:15 pm– 6:15 pm	*New Directions in the Theory of Complex Multiplication, II*

2:15 pm–6:15 pm *Nonlinear Evolution Equations and Their Applications, II*
2:15 pm–6:15 pm *Quaternions, II*
2:15 pm–6:15 pm *Algebraic and Geometric Methods in Discrete Optimization, I*
2:15 pm–6:16 pm *Numerical Methods for PDEs and Applications, II*
2:15 pm–6:15 pm *Recent Advancements in Mathematical Modeling of Cancer, II*
2:15 pm–6:15 pm *Natural Resources Modeling, II*
2:15 pm–6:15 pm *Geometry Labs United: Research, Visualization, and Outreach, II*
2:15 pm–6:15 pm *Commutative Ring Theory: Research for Undergraduate and Early Graduate Students, II*
2:15 pm–6:15 pm *Hopf Algebras and Tensor Categories, II*
2:15 pm–6:15 pm *Mappings on Metric and Banach Spaces with Applications to Fixed Point Theory, II*
2:15 pm–6:15 pm *Financial Mathematics, II*
2:15 pm–6:15 pm *Recent Advances in Regularity Lemmas, II*
2:15 pm–6:15 pm *Bifurcations of Difference Equations and Discrete Dynamical Systems with Applications, II*
2:15 pm–6:15 pm *A Showcase of Number Theory at Undergraduate Institutions, II*
2:15 pm–6:15 pm *Optimal Methods in Applicable Analysis: Variational Inequalities, Low Rank Matrix Approximations, Systems Engineering, Cyber Security, II*
2:15 pm–6:15 pm *25 years of Conferences for African-American Researchers in the Mathematical Sciences (CAARMS times 25), II*
2:15 pm–6:15 pm *Symbolic Dynamics, II*

MAA INVITED PAPER SESSIONS

2:15 pm–5:35 pm *Using Research about Teaching and Learning to Inform the Preparation of Graduate Students to Teach*
2:15 pm–4:15 pm **MAA MINICOURSE #3: PART A** *Advanced Authoring in WeBWorK: Turn good math problems into great ones & submit them to the OpenProblemLibrary*
2:15 pm–4:15 pm **MAA MINICOURSE #4: PART A** *Teaching an Undergraduate Computational Science Course*
2:15 pm–4:15 pm **MAA MINICOURSE #9: PART A** *Mathematical Art from Complex Analysis*

MAA CONTRIBUTED PAPER SESSIONS

2:15 pm–6:00 pm *The Scholarship of Teaching and Learning in Collegiate Mathematics, II*
2:15 pm–6:00 pm *Infusing Data Science and Big Data into the Statistics Classroom*
2:15 pm–6:00 pm *Inquiry-Based Learning and Teaching, II*
2:15 pm–6:00 pm *Integrating Research into the Undergraduate Classroom*
2:15 pm–6:00 pm *Discrete Mathematics in the Undergraduate Curriculum—Ideas and Innovations in Teaching, II*
2:15 pm–6:00 pm *Mathematics and the Arts, II*
2:15 pm–6:00 pm *Mathematics and Sports, I*
2:15 pm–6:00 pm *Undergraduate Student TAs in Mathematics*
2:15 pm–6:00 pm **SIAM MINISYMPOSIUM ON MATHEMATICAL MODELS IN CANCER**
2:15 pm–3:35 pm **MAA PANEL** *Pursuing New Directions in Your Academic Career*
2:15 pm–3:35 pm **MAA PANEL** *Mental Health in the Mathematics Profession*
2:15 pm–3:25 pm **MAA WORKSHOP** *Discussing Project Ideas with NSF/EHR Program Officers, Part I*
2:15 pm–3:40 pm **ASSOCIATION FOR WOMEN IN MATHEMATICS PANEL DISCUSSION** *Promoting Inclusion in STEM.*
2:15 pm–6:00 pm **AMS CONTRIBUTED PAPER SESSIONS**
2:15 pm–6:00 pm **MAA GENERAL CONTRIBUTED PAPER SESSIONS**
2:15 pm–4:30 pm **AMS SPECIAL EVENT** *Activities in NSF's Division of Mathematical Sciences*
3:20 pm–4:10 pm **MAA INVITED ADDRESS** *Title to be announced.* **Emmanuel Candes**
3:35 pm–4:15 pm **MAA PANEL** *Impacting Mathematics Instruction Through Meaningful Collaboration with Partner Discipline Faculty*
3:45 pm–4:15 pm **AWM BUSINESS MEETING**
4:00 pm–5:00 pm **MAA SECTION OFFICERS**

4:30 pm–6:00 pm	**AMS COMMITTEE ON THE PROFESSION PANEL DISCUSSION** *Permanent teaching faculty in research oriented departments*
4:30 pm–5:50 pm	**TOWN HALL MEETING** *Spectra: Identifying Workplace Best Practices for LGBTQ Mathematicians*
4:30 pm–5:30 pm	**RECEPTION FOR UNDERGRADUATE STUDENTS**
5:30 pm–6:30 pm	**RECEPTION FOR GRADUATE STUDENTS AND FIRST-TIME PARTICIPANTS**
5:30 pm–8:00 pm	**MATHEMATICAL INSTITUTES OPEN HOUSE**
6:15 pm–7:15 pm	**SIGMAA ON THE HISTORY OF MATHEMATICS (HOM SIGMAA) BUSINESS MEETING AND RECEPTION**
7:00 pm–8:30 pm	***MATHILY*, *MATHILY-ER* YEARLY GATHER**
7:15 pm–8:15 pm	**SIGMAA ON THE HISTORY OF MATHEMATICS (HOM SIGMAA) GUEST LECTURE**
8:30 pm–9:20 pm	**AMS JOSIAH WILLARD GIBBS LECTURE** *Title to be announced.* **Alan Perelson**
9:30 pm–11:00 pm	**ASSOCIATION FOR WOMEN IN MATHEMATICS RECEPTION AND AWARDS PRESENTATION**

Thursday, January 17

7:30 am–4:00 pm	**JOINT MEETINGS REGISTRATION**, Pratt Street Lobby, 300 Level, BCC
7:30 am–5:30 pm	**EMAIL CENTER**
	AMS SPECIAL SESSIONS
8:00 am–12:00 pm	*Definability and Decidability Problems in Number Theory, I (AMS-ASL)*
8:00 am–12:00 pm	*The Mathematics of Gravity and Light (a Mathematics Research Communities Session), I*
8:00 am–12:00 pm	*Harmonic Analysis: Recent Developments on Oscillatory Integrals (a Mathematics Research Communities Session), I*
8:00 am–12:00 pm	*Quantum Symmetries: Subfactors and Fusion Categories (a Mathematics Research Communities Session), I*
8:00 am–12:00 pm	*Number Theoretic Methods in Hyperbolic Geometry (a Mathematics Research Communities Session), I*
8:00 am–12:00 pm	*Agent-based Modeling in Biological and Social Systems (a Mathematics Research Communities Session), I*
8:00 am–12:00 pm	*New Directions in the Theory of Complex Multiplication, III*
8:00 am–12:00 pm	*Algebraic and Geometric Methods in Discrete Optimization, II*
8:00 am–12:00 pm	*Continued Fractions, I*
8:00 am–12:00 pm	*Problems in Partial Differential Equations, I*
8:00 am–12:00 pm	*Riordan Arrays, I*
8:00 am–12:00 pm	*Stochastic Differential Equations and Applications, I*
8:00 am–12:00 pm	*Recent Advances and Trends in Computable Structure Theory (in honor of J. Remmel), II*
8:00 am–12:00 pm	*Analysis and Geometry of Nonlinear Evolution Equations, I*
8:00 am–12:00 pm	*Women in Topology, I*
8:00 am–12:00 pm	*Lattice Path Combinatorics and Applications, I*
8:00 am–12:00 pm	*Recent Advances in Homological and Commutative Algebra, I*
8:00 am–12:00 pm	*Research in Mathematics by Early Career Graduate Students, I*
8:00 am–12:00 pm	*Mathematical Models in Ecology, Epidemiology, and Medicine, I*
8:00 am–12:00 pm	*Recent Progress in Multivariable Operator Theory, I*
8:00 am–12:00 pm	*Differential Equations on Fractals, I*
8:00 am–12:00 pm	*The Mathematics of Historically Black Colleges and Universities (HBCUs) in the Mid-Atlantic, I*
	MAA INVITED PAPER SESSIONS
8:00 am–11:00 am	*Inspiring Diversity in Mathematics: Culture, Community, and Collaboration*
8:00 am–11:00 am	*Research in Improving Undergraduate Mathematical Sciences Education: Examples Supported by the National Science Foundation's IUSE: EHR Program*

MAA CONTRIBUTED PAPER SESSIONS

8:00 am–12:00 pm *Introducing Mathematical Modeling through Competitions*
8:00 am–12:00 pm *Mathematics and the Life Sciences: Initiatives, Programs, Curricula*
8:00 am–12:00 pm *Humanistic Mathematics*
8:00 am–12:00 pm *Inequalities and Their Applications*
8:00 am–12:00 pm *Innovative and Effective Ways to Teach Linear Algebra*
8:00 am–12:00 pm *Research in Undergraduate Mathematics Education (RUME), I*
8:00 am–11:00 am **SIAM MINISYMPOSIUM ON DATA ASSIMILATION: THEORY AND PRACTICE**
8:00 am–6:00 pm **PROJECT NEXT WORKSHOP**
8:00 am–11:55 am **AMS CONTRIBUTED PAPER SESSIONS**
8:00 am–12:00 pm **MAA GENERAL CONTRIBUTED PAPER SESSIONS**
8:00 am–11:00 am **PME COUNCIL MEETING**
8:00 am–5:30 pm **EMPLOYMENT CENTER**
9:00 am–9:50 am **MAA INVITED ADDRESS** *The past 50 years of African Americans in the mathematical sciences.* **Edray Goins**
9:00 am–11:00 am **MAA MINICOURSE #2: PART B** *Start Teaching Statistics using R and RStudio*
9:00 am–11:00 am **MAA MINICOURSE #5: PART A** *IBL SIGMAA Minicourse: Introduction to Inquiry-Based Learning*
9:00 am–11:00 am **MAA MINICOURSE #8: PART A** *Dance and Mathematics*
9:00 am–10:00 am **SIGMAA ON BUSINESS, INDUSTRY, AND GOVERNMENT (BIG SIGMAA) BUSINESS MEETING**
9:00 am–10:20 am **MAA PANEL** *Connecting High School and Post High School Mathematics*
9:00 am–10:20 am **MAA PANEL** *Preparing Math and Stats Students for Industry Careers*
9:00 am–10:20 am **MAA WORKSHOP** *Making it Happen: Modeling in Your Differential Equations Course*
9:30 am–5:30 pm **EXHIBITS AND BOOK SALES**
10:00 am–12:00 pm **ESTIMATHON!** *A mindbending mixture of math and trivia.*
10:00 am–12:00 pm **MAA POSTER SESSION** *Mathematical Outreach Programs*
10:05 am–10:55 am **AWM-AMS NOETHER LECTURE** *Dynamics of systems with low complexity.* **Bryna Kra**
10:30 am–12:00 pm **SIGMAA OFFICERS MEETING**
10:35 am–11:55 am **MAA WORKSHOP** *For Faculty on Fostering Student Engagement: Experience Classroom Practices from the MAA IP Guide*
11:10 am–12:00 pm **MAA PROJECT NEXT LECTURE ON TEACHING AND LEARNING**
11:10 am–12:00 pm **SIAM INVITED ADDRESS** *Recent advances in mathematical theory and scientific computation for biological fluids.* **Suncica Canic**
1:00 pm–1:50 pm **AMS COLLOQUIUM LECTURES: LECTURE II** *Complex multiplication: past, present, future.* **Benedict H. Gross**

AMS SPECIAL SESSIONS

1:00 pm–4:00 pm *Definability and Decidability Problems in Number Theory, II (AMS-ASL)*
1:00 pm–4:00 pm *The Mathematics of Gravity and Light (a Mathematics Research Communities Session), II*
1:00 pm–4:00 pm *Harmonic Analysis: Recent Developments on Oscillatory Integrals (a Mathematics Research Communities Session), II*
1:00 pm–4:00 pm *Quantum Symmetries: Subfactors and Fusion Categories (a Mathematics Research Communities Session), II*
1:00 pm–4:00 pm *Number Theoretic Methods in Hyperbolic Geometry (a Mathematics Research Communities Session), II*
1:00 pm–4:00 pm *Agent-based Modeling in Biological and Social Systems (a Mathematics Research Communities Session), II*
1:00 pm–4:00 pm *Algebraic and Geometric Methods in Discrete Optimization, III*
1:00 pm–4:00 pm *Continued Fractions, II*
1:00 pm–4:00 pm *Problems in Partial Differential Equations, II*

1:00 pm–4:00 pm *Riordan Arrays, II*
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1:00 pm–4:00 pm *Recent Advances and Trends in Computable Structure Theory (in honor of J. Remmel), III*
1:00 pm–4:00 pm *Analysis and Geometry of Nonlinear Evolution Equations, II*
1:00 pm–4:00 pm *Women in Topology, II*
1:00 pm–4:00 pm *Lattice Path Combinatorics and Applications, II*
1:00 pm–4:00 pm *Recent Advances in Homological and Commutative Algebra, II*
1:00 pm–4:00 pm *Recent Advances in Regularity Lemmas, III*
1:00 pm–4:00 pm *Research in Mathematics by Early Career Graduate Students, II*
1:00 pm–4:00 pm *Mathematical Models in Ecology, Epidemiology, and Medicine, II*
1:00 pm–4:00 pm *Recent Progress in Multivariable Operator Theory, II*
1:00 pm–4:00 pm *The Mathematics of Historically Black Colleges and Universities (HBCUs) in the Mid-Atlantic, II*
1:00 pm–4:00 pm *Symbolic Dynamics, III*

MAA INVITED PAPER SESSIONS

1:00 pm–4:00 pm *Modular Forms: Aesthetics and Applications*
1:00 pm–3:00 pm **MAA MINICOURSE #10: PART A** *Object Based Learning and the Smithsonian Learning Lab*
1:00 pm–3:00 pm **MAA MINICOURSE #11: PART A** *Object Based Learning and the Smithsonian Learning Lab*
1:00 pm–3:00 pm **MAA MINICOURSE #9: PART B** *Mathematical Art from Complex Analysis*

MAA CONTRIBUTED PAPER SESSIONS

1:00 pm–4:15 pm *Integrated STEM Instruction in Undergraduate Mathematics*
1:00 pm–4:15 pm *Revitalizing Complex Analysis*
1:00 pm–4:15 pm *The EDGE (Enhancing Diversity in Graduate Education) program: Pure and Applied talks by Women Math Warriors*
1:00 pm–4:15 pm *Formative and Summative Assessment of Mathematical Communication and Conceptual Understanding*
1:00 pm–4:15 pm *Mathematics and Sports, II*
1:00 pm–4:15 pm *Touch it, Feel it, Learn it: Tactile Learning Activities in the Undergraduate Mathematics Classroom*
1:00 pm–4:15 pm *Research in Undergraduate Mathematics Education (RUME), II*
1:00 pm–4:10 pm **SIAM MINISYMPOSIUM ON HUMAN FACTORS IN MATHEMATICS EDUCATION**
1:00 pm–2:30 pm **AMS COMMITTEE ON EDUCATION PANEL DISCUSSION**
1:00 pm–2:20 pm **MAA PANEL** *Advising and Mentorship: Fostering Successful Students*
1:00 pm–2:20 pm **MAA PANEL** *Coping Professionally with Unprofessional Behavior*
1:00 pm–4:00 pm **AMS CONTRIBUTED PAPER SESSIONS**
1:00 pm–2:00 pm **THE DOLCIANI AWARD LECTURES**
1:00 pm–4:00 pm **MAA GENERAL CONTRIBUTED PAPER SESSIONS**
1:00 pm–3:00 pm **SUMMER PROGRAM FOR WOMEN IN MATHEMATICS (SPWM) REUNION**
2:00 pm–4:00 pm **MAA POSTER SESSION: PROJECTS SUPPORTED BY THE NSF DIVISION OF UNDERGRADUATE EDUCATION**
2:15 pm–3:05 pm **AMS INVITED ADDRESS** *Title to be announced.* **Peter Oszvath**
2:35 pm–3:55 pm **MAA PANEL** *Pathways to Leadership*
2:35 pm–3:55 pm **MAA WORKSHOP** *How to Talk About Math So People Want to Listen*
2:45 pm–4:15 pm **AMS EDUCATION AND DIVERSITY DEPARTMENT PANEL** *Bridge-to-PhD and Postbac Programs Working to Open Doors for Students from Underrepresented Groups*
3:20 pm–4:10 pm **AMS INVITED ADDRESS** *Title to be announced.* **Lior Pachter**
4:25 pm–5:25 pm **JOINT PRIZE SESSION**
5:30 pm–6:00 pm **SIGMAA ON THE PHILOSOPHY OF MATHEMATICS (POM SIGMAA) RECEPTION**

5:30 pm–6:30 pm	**JOINT PRIZE SESSION RECEPTION**
5:30 pm–7:30 pm	**ASSOCIATION OF CHRISTIANS IN THE MATHEMATICAL SCIENCES RECEPTION AND LECTURE**
5:30 pm–6:30 pm	**BUDAPEST SEMESTERS IN MATHEMATICS ANNUAL ALUMNI REUNION**
5:30 pm–7:00 pm	**MAA TWO-YEAR COLLEGE RECEPTION**
5:30 pm–7:00 pm	**UNIVERSITY OF MICHIGAN MATHEMATICS ALUMNI AND FRIENDS RECEPTION**
5:30 pm–7:30 pm	**UNIVERSITY OF TENNESSEE MATHEMATICS DEPARTMENT ALUMNI AND FRIENDS RECEPTION**
6:00 pm–6:15 pm	**SIGMAA ON THE PHILOSOPHY OF MATHEMATICS (POM SIGMAA) BUSINESS MEETING**
6:00 pm–7:30 pm	**SIGMAA ON QUANTITATIVE LITERACY (SIGMAA QL) JOINT GUEST LECTURE AND RECEPTION**
6:00 pm–8:00 pm	**SPECTRA RECEPTION FOR LGBT MATHEMATICIANS AND ALLIES**
6:00 pm–8:00 pm	**NSA'S WOMEN IN MATHEMATICS SOCIETY NETWORKING SESSION**
6:00 pm–8:00 pm	**UNIVERSITY OF WATERLOO FACULTY OF MATHEMATICIANS ALUMNI & FRIENDS RECEPTION**
6:15 pm–7:05 pm	**SIGMAA ON THE PHILOSOPHY OF MATHEMATICS (POM SIGMAA) GUEST LECTURE**
6:30 pm–8:00 pm	**MSRI RECEPTION FOR CURRENT AND FUTURE DONORS**
6:30 pm–8:30 pm	**PROMYS AND ROSS RECEPTION FOR ALUMNI AND FRIENDS**
8:15 pm–9:45 pm	**KNITTING CIRCLE** *Knitting Circle: Bring a project (knitting/crochet/tatting/beading/etc.) and chat with other mathematical crafters*

Friday, January 18

7:17 am–9:00 am	**YP17 HCSSIM REUNION BREAKFAST**
7:30 am–4:00 pm	**JOINT MEETINGS REGISTRATION**, Pratt Street Lobby, 300 Level, BCC
7:30 am–5:30 pm	**EMAIL CENTER**
	AMS SPECIAL SESSIONS
8:00 am–11:00 am	*Research in Mathematics by Undergraduates and Students in Post-Baccalaureate Programs, I (AMS-MAA-SIAM)*
8:00 am–11:00 am	*Stochastic Analysis and Applications in Finance, Actuarial Science and Related Fields, I*
8:00 am–11:00 am	*Mathematics in the Realm of Cyber Research, I*
8:00 am–11:00 am	*Recent Advances in Inverse Problems and Imaging, I*
8:00 am–11:00 am	*Advances in Operator Theory, Operator Algebras, and Operator Semigroups, I*
8:00 am–11:00 am	*Mathematical Analysis in Fluid Dynamics, I*
8:00 am–11:00 am	*Analytic Number Theory, I*
8:00 am–11:00 am	*Geometric and Topological Combinatorics, I*
8:00 am–11:00 am	*Harmonic Analysis, Partial Differential Equations, and Applications, I*
8:00 am–11:00 am	*Multiscale Problems in the Calculus of Variations, I*
8:00 am–11:00 am	*Geometry and Dynamics of Continued Fractions, I*
8:00 am–11:00 am	*Topology, Structure and Symmetry in Graph Theory, I*
8:00 am–11:00 am	*Algebraic Structures Motivated by Knot Theory, I*
8:00 am–11:00 am	*Arithmetic Statistics, I*
8:00 am–11:00 am	*If You Build It They Will Come: Presentations by Scholars in the National Alliance for Doctoral Studies in the Mathematical Sciences, I*
8:00 am–11:00 am	*Low Complexity Models in Data Analysis and Machine Learning, I*
8:00 am–11:00 am	*Recent Advances in Biological Modeling and Related Dynamical Analysis, I*
8:00 am–11:00 am	*Counting Methods in Number Theory, I*
8:00 am–11:00 am	*Geometric and Topological Generalization of Groups, I*

8:00 am–11:00 am	*Mathematical Investigations of Spatial Ecology and Epidemiology, I*
8:00 am–11:00 am	*Differential Equations on Fractals, II*
	MAA INVITED PAPER SESSIONS
8:00 am–11:00 am	*The Past 50 Years of African Americans in the Mathematical Sciences*
	MAA CONTRIBUTED PAPER SESSIONS
8:00 am–11:00 am	*Open Educational Resources: Combining Technological Tools and Innovative Practices to Improve Student Learning*
8:00 am–11:00 am	*Mathematical Experiences and Projects in Business, Industry, and Government (BIG)*
8:00 am–11:00 am	*Ethnomathematics: Ideas and Innovations in the Classroom*
8:00 am–11:00 am	*Philosophy of Mathematics*
8:00 am–11:00 am	*Inquiry-Based Learning and Teaching, III*
8:00 am–11:00 am	*Technology and Resources in Statistics Education, I*
8:00 am–11:00 am	*Research in Undergraduate Mathematics Education (RUME), III*
8:00 am–10:55 am	**SIAM MINISYMPOSIUM ON RECENT ADVANCES IN MATHEMATICAL THEORY AND SCIENTIFIC COMPUTATION FOR BIOLOGICAL FLUIDS.**
8:00 am– 9:20 am	**MAA PANEL** *Advanced Placement Calculus and Student Understanding*
8:00 am–6:00 pm	**PROJECT NEXT WORKSHOP**
8:00 am–10:55 am	**AMS CONTRIBUTED PAPER SESSIONS**
8:00 am–11:00 am	**MAA GENERAL CONTRIBUTED PAPER SESSIONS**
8:00 am– 5:30 pm	**EMPLOYMENT CENTER**
8:30 am–10:30 am	**AMS-MAA GRAD SCHOOL FAIR** *Undergrads! Take this opportunity to meet representatives from mathematical science graduate programs.*
9:00 am– 9:50 am	**MAA INVITED ADDRESS** *A mathematical journey of culture, community, and collaboration.* **Pamela Harris**
9:00 am– 9:50 am	**ASL INVITED ADDRESS** *Colorings of finite subgraphs of the Henson graphs.* **Natasha Dobrinen**
9:00 am–11:00 am	**MAA MINICOURSE #1: PART B** *Mathematical Inquiry and Writing through Sports*
9:00 am–11:00 am	**MAA MINICOURSE #6: PART A** *Visualizing Multivariable Calculus & Differential Equations using CalcPlot3D*
9:00 am–11:00 am	**MAA MINICOURSE #7: PART B** *Using Data Applications to Inspire Linear Algebra Topics in the Classroom*
9:00 am–11:00 am	**MAA POSTER SESSION** *Recreational Mathematics: Puzzles, Card Tricks. Games, and Gambling*
9:30 am–5:30 pm	**EXHIBITS AND BOOK SALES**
9:35 am–10:55 am	**MAA PANEL** *Increasing Diversity and Retention in STEM Through Math-Focused First-Year Seminars*
9:45 am–10:55 am	**MAA WORKSHOP** *Discussing Project Ideas with NSF/EHR Program Officers, Part II*
10:00 am–10:50 am	**ASL INVITED ADDRESS** *35 years later: A fresh perspective on classifiable theories.* **Michael C Laskowski**
10:05 am–10:55 am	**AMS INVITED ADDRESS** *The Roaring Twenties in American Mathematics.* **Karen Hunger Parshall**
10:30 am–11:00 am	**RADICAL DASH PRIZE SESSION**
11:10 am–12:00 pm	**AMS-MAA INVITED ADDRESS** *Miracles of Algebraic Graph Theory* **Daniel Spielman**
12:00 pm–1:00 pm	**BUDAPEST SEMESTERS IN MATHEMATICS EDUCATION (BSME) INFORMATIONAL SESSION**
1:00 pm–1:50 pm	**AMS COLLOQUIUM LECTURES: LECTURE III** *Complex multiplication: past, present, future.* **Benedict H. Gross**

1:00 pm–1:50 pm **MAA LECTURE FOR STUDENTS** *Drawing conclusions from drawing a square.* **Annalisa Crannell**

1:00 pm–4:45 pm **CURRENT EVENTS BULLETIN**

AMS SPECIAL SESSIONS

1:00 pm–6:00 pm *Research in Mathematics by Undergraduates and Students in Post-Baccalaureate Programs, II (AMS-MAA-SIAM)*
1:00 pm–6:00 pm *Stochastic Analysis and Applications in Finance, Actuarial Science and Related Fields, II*
1:00 pm–6:00 pm *Mathematics in the Realm of Cyber Research, II*
1:00 pm–6:00 pm *Recent Advances in Inverse Problems and Imaging, II*
1:00 pm–6:00 pm *Orthogonal Polynomials, Quantum Probability, Harmonic and Stochastic Analysis, I*
1:00 pm–6:00 pm *Advances in Operator Theory, Operator Algebras, and Operator Semigroups, II*
1:00 pm–6:00 pm *Mathematical Analysis in Fluid Dynamics, II*
1:00 pm–6:00 pm *Analytic Number Theory, II*
1:00 pm–6:00 pm *Geometric and Topological Combinatorics, II*
1:00 pm–6:00 pm *Harmonic Analysis, Partial Differential Equations, and Applications, II*
1:00 pm–6:00 pm *Multiscale Problems in the Calculus of Variations, II*
1:00 pm–6:00 pm *Geometry and Dynamics of Continued Fractions, II*
1:00 pm–6:00 pm *Topology, Structure and Symmetry in Graph Theory, II*
1:00 pm–6:00 pm *Algebraic Structures Motivated by Knot Theory, II*
1:00 pm–6:00 pm *Arithmetic Statistics, II*
1:00 pm–6:00 pm *If You Build It They Will Come: Presentations by Scholars in the National Alliance for Doctoral Studies in the Mathematical Sciences, II*
1:00 pm–6:00 pm *Low Complexity Models in Data Analysis and Machine Learning, II*
1:00 pm–6:00 pm *Recent Advances in Biological Modeling and Related Dynamical Analysis, II*
1:00 pm–6:00 pm *Geometric and Topological Generalization of Groups, II*
1:00 pm–6:00 pm *Mathematical Investigations of Spatial Ecology and Epidemiology, II*

MAA INVITED PAPER SESSIONS

1:00 pm–3:30 pm *Mathematical Thinking for Modern Data Science Problems*

AMS SPECIAL SESSIONS

1:00 pm–6:00 pm *History of Mathematics, I (AMS-MAA-ICHM)*

1:00 pm–3:00 pm **MAA MINICOURSE #12: PART A** *Keep Teaching Statistics using R and RStudio*

1:00 pm–3:00 pm **MAA MINICOURSE #3: PART B** *Advanced Authoring in WeBWorK: Turn good math problems into great ones & submit them to the OpenProblemLibrary*

1:00 pm–3:00 pm **MAA MINICOURSE #4: PART B** *Teaching an Undergraduate Computational Science Course*

MAA CONTRIBUTED PAPER SESSIONS

1:00 pm–5:00 pm *Mathematical Themes in a First-Year Seminar*
1:00 pm–5:00 pm *Good Math from Bad: Crackpots, Cranks, and Progress*
1:00 pm–5:00 pm *It's Circular: Conjecture, Compute, Iterate*
1:00 pm–5:00 pm *The Teaching and Learning of Undergraduate Ordinary Differential Equations*
1:00 pm–6:00 pm *Inquiry-Based Learning and Teaching, IV*
1:00 pm–6:00 pm *Research in Undergraduate Mathematics Education (RUME), IV*

1:00 pm–6:00 pm **SIAM MINISYMPOSIUM ON RECENT DEVELOPMENTS IN NUMERICAL METHODS FOR FLUIDS.**

1:00 pm–5:00 pm **NAM HAYNES-GRANVILLE-BROWNE SESSION OF PRESENTATIONS BY RECENT DOCTORAL RECIPIENTS**

1:00 pm–2:20 pm **MAA PANEL** *MAA Instructional Practices Guide's Value for Your Department*

1:00 pm–6:00 pm **AMS CONTRIBUTED PAPER SESSIONS**

1:00 pm–6:00 pm **MAA GENERAL CONTRIBUTED PAPER SESSIONS**

1:30 pm–3:30 pm	**MAA POSTER SESSION** *Activities for Teaching Multivariable Thinking through Data Visualization in introductory Statistics*
2:00 pm–2:50 pm	**ASL INVITED ADDRESS** *Some questions and results for classical algebraic structures.* **Sergey Goncharov**
2:15 pm–4:00 pm	**ROCKY MOUNTAIN MATHEMATICS CONSORTIUM BOARD OF DIRECTORS MEETING**
2:30 pm–3:45 pm	**PRESENTATIONS BY MAA TEACHING AWARD RECIPIENTS**
2:30 pm–4:00 pm	**AMS COMMITTEE ON SCIENCE POLICY PANEL DISCUSSION**
3:00 pm–3:50 pm	**ASL INVITED ADDRESS** *Valuations and o-minimality.* **Jana Marikova**
3:30 pm–6:00 pm	**MAA CONTRIBUTED PAPER SESSIONS** *Technology and Resources in Statistics Education, II*
4:00 pm–5:50 pm	**ASL CONTRIBUTED PAPER SESSION**
4:30 pm–5:15 pm	**SIGMAA ON BUSINESS, INDUSTRY, AND GOVERNMENT (BIG SIGMAA) GUEST LECTURE**
4:30 pm–6:00 pm	**MAA STUDENT POSTER SESSION**
4:30 pm–6:30 pm	**AMS CONGRESSIONAL FELLOWSHIP SESSION**
5:00 pm–6:15 pm	**AWM WORKSHOP: POSTER PRESENTATIONS BY WOMEN GRADUATE STUDENTS AND RECEPTION**
5:00 pm–7:00 pm	**MAA PANEL** *Advising Actuarial Science Students*
5:15 pm–6:00 pm	**SIGMAA ON BUSINESS, INDUSTRY, AND GOVERNMENT (BIG SIGMAA) RECEPTION**
5:30 pm–7:30 pm	**TEXAS A & M UNIVERSITY MATHEMATICS DEPARTMENT ALUMNI, STUDENT, AND FACULTY RECEPTION**
6:00 pm–7:00 pm	**SIGMAA ON MATHEMATICAL AND COMPUTATIONAL BIOLOGY(BIO SIGMAA) RECEPTION AND BUSINESS MEETING**
6:00 pm–7:30 pm	**SIGMAA ON MATHEMATICS INSTRUCTION USING THE WEB (WEB SIGMAA) BUSINESS MEETING, RECEPTION, AND GUEST LECTURE**
6:00 pm–7:00 pm	**MATHEMATICALLY BENT THEATER** *Performed by Colin Adams and the Mobiusbandaid Players.*
6:00 pm–7:00 pm	**AMS *MATHEMATICAL REVIEWS* RECEPTION**
6:00 pm–8:40 pm	**NAM RECEPTION AND BANQUET**
6:00 pm–8:00 pm	**UNIVERSITY OF CALIFORNIA, SAN DIEGO RECEPTION FOR MATHEMATICS**
6:00 pm–7:30 pm	**UNIVERSITY OF ILLINOIS AT URBANA–CHAMPAIGN DEPARTMENT OF MATHEMATICS ALUMNI RECEPTION**
6:30 pm–7:30 pm	**SIGMAA ON INQUIRY BASED LEARNING BUSINESS MEETING**
6:30 pm–7:30 pm	**SIGMAA ON MATH CIRCLES FOR STUDENTS AND TEACHERS BUSINESS MEETING**
6:30 pm–7:30 pm	**SIGMAA ON STATISTICS EDUCATION BUSINESS MEETING**
7:00 pm–8:00 pm	**SIGMAA ON MATHEMATICAL AND COMPUTATIONAL BIOLOGY GUEST LECTURE**
7:00 pm–8:30 pm	**MAA SPECIAL PRESENTATION:** *Poetry Reading*
7:00 pm–8:30 pm	**SCUDEM GATHERING AND REUNION**
7:30 pm–8:30 pm	**SIGMAA ON STATISTICS EDUCATION GUEST LECTURE**
7:45 pm–8:35 pm	**NAM COX–TALBOT ADDRESS** *A Seat at the Table: Equity and Social Justice in Mathematics Education.* **Talitha Williams**
8:00 pm–10:00 pm	**PROJECT NEXT RECEPTION** *All Project NExT Fellows, consultants, and other friends of Project NExT are invited.*
8:00 pm–10:00 pm	**BACKGAMMON!** *Learn to play backgammon from expert players.*

Saturday, January 19

7:30 am–1:00 pm	**JOINT MEETINGS REGISTRATION**, Pratt Street Lobby, 300 Level, BCC
7:30 am–1:00 pm	**EMAIL CENTER**
	AMS SPECIAL SESSIONS
8:00 am–10:00 am	*Research in Mathematics by Undergraduates and Students in Post-Baccalaureate Programs, III (AMS-MAA-SIAM)*
8:00 am–12:00 pm	*Advances in Quantum Walks, Quantum Simulations, and Related Quantum Theory, I*
8:00 am–12:00 pm	*Mathematicians at Sea (in the Sky, or on Land): Defense Applications of Mathematics, I*
8:00 am–12:00 pm	*Enumerative Combinatorics, I*
8:00 am–12:00 pm	*Orthogonal Polynomials, Quantum Probability, Harmonic and Stochastic Analysis, II*
8:00 am–12:00 pm	*Using Modeling to Motivate the Study of Differential Equations, I*
8:00 am–12:00 pm	*Latinx in Math, I*
8:00 am–12:00 pm	*Group Representation Theory and Character Theory, I*
8:00 am–12:00 pm	*Advances and Applications in Integral and Differential Equations, I*
8:00 am–12:00 pm	*Algebraic, Discrete, Topological and Stochastic Approaches to Modeling in Mathematical Biology, I*
8:00 am–12:00 pm	*Statistical, Variational, and Learning Techniques in Image Analysis and their Applications to Biomedical, Hyperspectral, and Other Imaging, I*
8:00 am–12:00 pm	*Network Science, I*
8:00 am–12:00 pm	*Geometry of Representation Spaces, I*
8:00 am–12:00 pm	*Number Theory, Arithmetic Geometry, and Computation, I*
8:00 am–12:00 pm	*Topological Data Analysis: Theory and Applications, I*
8:00 am–12:00 pm	*Advances by Early Career Women in Discrete Mathematics, I*
8:00 am–12:00 pm	*Not KNerds: A Community for Knot Theory, I*
8:00 am–12:00 pm	*Mathematics of Coding Theory and Applications, I*
8:00 am–12:00 pm	*Partition Theory and Related Topics, I*
8:00 am–12:00 pm	*Localization and Delocalization for Disordered Quantum Systems, I*
	MAA INVITED PAPER SESSIONS
8:00 am–11:00 am	*Beauty and Art from Research Mathematics*
	AMS SPECIAL SESSIONS
8:00 am–12:00 pm	*History of Mathematics, II (AMS-MAA-ICHM)*
8:00 am–10:00 am	**MAA MINICOURSE #11: PART B** *Object Based Learning and the Smithsonian Learning Lab*
	MAA CONTRIBUTED PAPER SESSIONS
8:00 am–12:00 pm	*Approaches to Mathematics Remediation in Baccalaureate-Granting Institutions*
8:00 am–12:00 pm	*Fostering Creativity in Undergraduate Mathematics Courses*
8:00 am–12:00 pm	*Incorporating Programming and Computing in the Math Major Curriculum*
8:00 am–12:00 pm	*Innovative Pathways to Quantitative Literacy*
8:00 am–12:00 pm	*Inclusive Excellence—Attracting, Involving, and Retaining Women and Underrepresented Groups in Mathematics*
8:00 am–12:00 pm	**SIAM MINISYMPOSIUM ON ANALYTICAL TECHNIQUES IN IMAGING ELECTRICAL PROPERTIES OF TISSUE IN COUPLED PHYSICS MODELS.**
8:00 am–5:00 pm	**AWM WORKSHOP:WINCOMPTOP: APPLIED AND COMPUTATIONAL TOPOLOGY**
8:00 am–6:00 pm	**PROJECT NEXT WORKSHOP**
8:00 am–12:00 pm	**AMS CONTRIBUTED PAPER SESSIONS**
8:00 am–12:00 pm	**MAA GENERAL CONTRIBUTED PAPER SESSIONS**

MAA INVITED PAPER SESSIONS

8:30 am–10:50 am *Research in Undergraduate Mathematics Education: Highlights from the Annual SIGMAA on RUME Conference*

9:00 am– 9:50 am **AMS INVITED ADDRESS** *Title to be announced.* **Lillian Pierce**

9:00 am– 9:50 am **ASL INVITED ADDRESS** *Computable aspects of homogeneous structures.* **Douglas Cenzer**

9:00 am–11:00 am **MAA MINICOURSE #5: PART B** *IBL SIGMAA Minicourse: Introduction to Inquiry-Based Learning*

9:00 am–11:00 am **MAA MINICOURSE #8: PART B** *Dance and Mathematics*

9:00 am–10:20 am **MAA PANEL** *Calculus before the Senior Year of High School: Issues and Options*

9:00 am– 9:50 am **NAM PANEL DISCUSSION** *NAM 2019–2069: Where Do We Go from Here?*

9:00 am–12:00 pm **EXHIBITS AND BOOK SALES**

9:45 am–10:55 am **MAA WORKSHOP** *Calculus: Near-Numbers*

10:00 am–10:50 am **MAA INTERACTIVE LECTURE FOR STUDENTS AND TEACHERS**

10:00 am–10:50 am **ASL INVITED ADDRESS** *A forcing axiom for a non-special Aronszajn tree.* **John Krueger**

AMS SPECIAL SESSIONS

10:00 am–12:00 pm *Counting Methods in Number Theory, II*

10:00 am–10:50 am **NAM BUSINESS MEETING**

10:00 am–10:50 am **MAA INVITED ADDRESS** *The Inclusion Principle: the importance of community in mathematics.* **Deanna Haunsperger**

10:30 am–11:50 am **MAA PANEL** *Listening and Responding to Students' Thinking, from Elementary to Undergraduate Mathematics*

11:00 am–12:00 pm **MATHEMATI-CON PRESENTS: SHOWTIME!**

11:10 am–11:40 am **MAA BUSINESS MEETING**

11:45 am–12:15 pm **AMS BUSINESS MEETING**

1:00 pm– 1:50 pm **NAM CLAYTOR–WOODARD LECTURE** *On Mathematical Problems in Geometric Optics* **Henok Mawi**

1:00 pm– 1:50 pm **ASL INVITED ADDRESS** *Fifty years in the model theory of differential fields.* **David Marker**

AMS SPECIAL SESSIONS

1:00 pm– 6:00 pm *Research in Mathematics by Undergraduates and Students in Post-Baccalaureate Programs, IV (AMS-MAA-SIAM)*

1:00 pm– 6:00 pm *Advances in Quantum Walks, Quantum Simulations, and Related Quantum Theory, II*

1:00 pm– 6:00 pm *Mathematicians at Sea (in the Sky, or on Land): Defense Applications of Mathematics, II*

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1:00 pm– 6:00 pm *Advances and Applications in Integral and Differential Equations, II*

1:00 pm– 6:00 pm *Algebraic, Discrete, Topological and Stochastic Approaches to Modeling in Mathematical Biology, II*

1:00 pm– 6:00 pm *Statistical, Variational, and Learning Techniques in Image Analysis and their Applications to Biomedical, Hyperspectral, and Other Imaging, II*

1:00 pm– 6:00 pm *Network Science, II*

1:00 pm– 6:00 pm *Geometry of Representation Spaces, II*

1:00 pm– 6:00 pm *Number Theory, Arithmetic Geometry, and Computation, II*

1:00 pm– 6:00 pm *Counting Methods in Number Theory, III*

1:00 pm– 6:00 pm *Topological Data Analysis: Theory and Applications, II*

1:00 pm– 6:00 pm *Advances by Early Career Women in Discrete Mathematics, II*

1:00 pm– 6:00 pm *Not KNerds: A Community for Knot Theory, II*

1:00 pm– 6:00 pm *Mathematics of Coding Theory and Applications, II*

1:00 pm–6:00 pm *Partition Theory and Related Topics, II*
1:00 pm–6:00 pm *Localization and Delocalization for Disordered Quantum Systems, II*

MAA INVITED PAPER SESSIONS
1:00 pm–4:40 pm *Mathematics and Policy*

AMS SPECIAL SESSIONS
1:00 pm–6:00 pm *History of Mathematics, III (AMS-MAA-ICHM)*
1:00 pm–3:00 pm **MAA MINICOURSE #10: PART B** *Object Based Learning and the Smithsonian Learning Lab*
1:00 pm–3:00 pm **MAA MINICOURSE #12: PART B** *Keep Teaching Statistics using R and RStudio*
1:00 pm–3:00 pm **MAA MINICOURSE #6: PART B** *Visualizing Multivariable Calculus & Differential Equations using CalcPlot3D*

MAA CONTRIBUTED PAPER SESSIONS
1:00 pm–5:00 pm *Meaningful Modeling in the First Two Years of College*
1:00 pm–5:30 pm **SIAM MINISYMPOSIUM ON FLOW-INDUCED (IN)STABILITY OF ELASTIC STRUCTURES**
1:00 pm–2:45 pm **AMS SPECIAL PRESENTATION** *Who Wants to Be a Mathematician—Championship Contest.*
1:00 pm–6:00 pm **AMS CONTRIBUTED PAPER SESSIONS**
1:00 pm–6:00 pm **MAA GENERAL CONTRIBUTED PAPER SESSIONS**
3:00 pm–4:00 pm **MAA-AMS-SIAM GERALD AND JUDITH PORTER PUBLIC LECTURE** *Big data, inequality, and democracy.* **Cathy O'Neil**
7:00 pm–9:30 pm **2019 AMS "UNTIL NEXT TIME" SOCIAL**, Maryland Science Center

The times noted above and in the full JMM Program listing were current as of press time.

For the most up to date scheduling information, please see:

http://jointmathematicsmeetings.org/meetings/national/jmm2019/2217_timetable.html