At-A-Glance

Annual Meeting

2018 SIAM

July 9–13, 2018
Oregon Convention Center (OCC)
Portland, Oregon, USA

SIAM Workshop on
Network Science

July 12-13, 2018
Oregon Convention Center
Portland, Oregon, USA

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www.siam.org/meetings/
# 2018 SIAM Annual Meeting At-A-Glance

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<th>Sunday, July 8</th>
<th>Monday, July 9</th>
<th>Monday, July 9</th>
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</table>
| 2:00 PM - 8:00 PM | **MS11** Student Days: Undergraduate Research Presentations - Part I of II  
**B115** | **2:00 PM - 2:45 PM**  
**JP1** The Mathematics of Wrinkles and Folds  
Robert V. Kohn, Courant Institute of Mathematical Sciences, New York University, USA  
Oregon Ballroom 202/203 |
| Registration  
**Holladay Lobby** | **MS12** AWM Workshop: Shape Analysis and Modeling - Part I of II  
**B116** | **2:45 PM - 3:30 PM**  
**SP1** The AWM-SIAM Sonia Kovalevsky Lecture: Learning and Efficiency of Outcomes in Games  
Eva Tardos, Cornell University, USA  
Oregon Ballroom 202/203 |
| 5:00 PM - 6:00 PM | **MS13** Recent Advances in Eigenvalue Solvers - Part I of II  
**B117** | **3:30 PM - 5:30 PM**  
Career Fair: Careers in Business, Industry, and Government  
Oregon Ballroom 201 |
| Student Orientation  
**B116** | **MS14** Numerical Algorithms with Guaranteed Accuracy and Computational Cost  
**B118** |  
**4:00 PM - 6:00 PM**  
Concurrent Sessions  
**MS16** Algebraic Statistics: Graphical and Network Models  
Oregon Ballroom 202/203 |
| 6:00 PM - 8:00 PM | **MS15** Applications in Optimization  
**B119** | **MS17** Applications of Dynamical Systems Methods to Emergent Dynamics and Patterns - Part II of II  
Oregon Ballroom 204 |
| Welcome Reception  
Prefunction Lobby A | **CP1** UQ, Data Assimilation and Dimension Reduction  
**C123** |  
**MS18** Numerical Algebraic Geometry - Part I of II  
**A105** |

**Monday, July 9**

| 7:00 AM - 8:30 PM | **Committee on Committees & Appointments**  
**Doubletree Hotel - Jefferson** |
| 7:15 AM - 4:30 PM | Registration  
**Holladay Lobby** |
| 8:30 AM - 10:30 AM | **Concurrent Sessions**  
**MS1** Current Topics in Cardiovascular Modeling and Simulation  
Oregon Ballroom 202/203  
**MS2** Applications of Dynamical Systems Methods to Emergent Dynamics and Patterns - Part I of II  
Oregon Ballroom 204  
**MS3** Geometry of Tensors  
**A105**  
**MS4** Control and Estimation of Distributed Systems  
**A106**  
**MS5** Algebraic Statistics: Data Analysis  
**A107**  
**MS6** Recent Advances in Integral Equation Methods - Part I of II  
**A109**  
**MS7** Polytopal Discretization Methods for Partial Differential Equations - Part I of II  
**B110**  
**MS8** Highly Effective Numerical Methods for Systems of Partial Differential Equations - Part I of II  
**B111**  
**MS9** System Identification and Uncertainty Quantification for Biological Systems  
**B112**  
**MS10** Coupled Scales, Processes, and Data in Geosciences - Part I of III  
**B113** |
| 9:30 AM - 4:30 PM | **Exhibit Hall Open**  
**Oregon Ballroom Lobby** |
| 10:30 AM - 11:00 AM | **Coffee Break**  
**Oregon Ballroom Lobby** |
| 10:50 AM - 11:00 AM | Opening Remarks  
**Oregon Ballroom 202/203** |
| 11:00 AM - 11:45 AM | **IP1** Bridging Scales  
Martin Hairer, Imperial College of London, United Kingdom  
**Oregon Ballroom 202/203** |
| 11:45 AM - 12:30 PM | **IP2** Algebraic Vision  
Rekha Thomas, University of Washington, USA  
**Oregon Ballroom 202/203** |
| 12:30 PM - 2:00 PM | Lunch Break  
Attendees on their own  
Major Awards Committee  
**Doubletree Hotel - Jefferson**  
MMS Editorial Board Meeting  
**Doubletree Hotel - Roosevelt** |
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<thead>
<tr>
<th>Time</th>
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<th>Location</th>
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<tbody>
<tr>
<td><strong>Monday, July 9</strong></td>
<td><strong>Tuesday, July 10</strong></td>
<td><strong>Tuesday, July 10</strong></td>
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<tr>
<td>8:30 AM - 10:30 AM</td>
<td>Concurrent Sessions</td>
<td>MT1 Simulation-based Statistics</td>
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<td>MS2 Simulation-based Statistics</td>
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<td>MS3 Innovative Pedagogical Practices, Curricular Reforms and Teaching Resources in Applied Mathematics Education - Part I of II</td>
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<td>MS33 Numerical Algebraic Geometry - Part II of II</td>
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<td>MS34 Machine Learning for Scientific Computing - Part I of II</td>
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<td>MS35 Tutorials for Students: Accessible Introductions to Active Research Areas – Part II of II</td>
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<td>MS36 Recent Trends in Discretization for Linear and Nonlinear Problems - Part I of II</td>
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<td>MS37 Modeling and Uncertainty Quantification: Algorithms and Applications - Part I of II</td>
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<td>MS38 Coupled Scales, Processes, and Data in Geosciences - Part III of III</td>
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<td>MS39 DOE High-performance Mathematical Software - Part I of II</td>
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<td>MS40 Stochastic Dynamics on Graphs - Part II of II</td>
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<td>MS41 Student Days: Student Chapter Presentations - Part I of II</td>
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<td>MS42 Mathematical Advances in Motility and Collective Behavior in Living Systems</td>
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<td>MS43 Low-rank Tensors and High-dimensional Problems - Part I of II</td>
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<td>MS44 Data-driven Modeling and Control of Complex Systems - Part I of II</td>
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<td>MS45 Numerical Discretizations of Nonlinear Hyperbolic and Parabolic Partial Differential Equations - Part I of II</td>
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<td>MS46 Numerical Methods for Photonics, Optics, and Metamaterials - Part II of II</td>
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<td>CP5 Life Sciences and Medicine II</td>
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<td>CP6 Inverse Problems</td>
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<tr>
<td>9:30 AM - 4:30 PM</td>
<td>Exhibit Hall Open</td>
<td>Coffee Break</td>
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<tr>
<td>10:30 AM - 11:00 AM</td>
<td>Coffee Break</td>
<td>Coffee Break</td>
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<tr>
<td>11:00 AM - 11:45 AM</td>
<td>IP3 Structure and Randomness in Encrypted Computation</td>
<td>Craig Gentry, IBM T.J. Watson Research Center, USA</td>
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<tr>
<td>11:45 AM - 12:30 PM</td>
<td>IP4 Automatic Behavioral Analysis for Computational Psychiatry at Home</td>
<td>Guillermo Sapiro, Duke University, USA</td>
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<tr>
<td>12:30 PM - 2:30 PM</td>
<td>Lunch Break</td>
<td>Attendees on their own</td>
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<tr>
<td>2:30 PM - 3:30 PM</td>
<td>SP2 The John Von Neumann Lecture: Untangling Random Polygons and Other Things</td>
<td>Charles F. Van Loan, Cornell University, USA</td>
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<tr>
<td>3:30 PM - 4:00 PM</td>
<td>Coffee Break</td>
<td>Coffee Break</td>
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<td>3:30 PM - 5:00 PM</td>
<td>SIAM Publications Coffee Break (Visit the SIAM Booth to chat about publications.)</td>
<td>Oregon Ballroom Lobby</td>
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<td>4:00 PM - 6:00 PM</td>
<td>Concurrent Sessions</td>
<td>MS47 Advances in Data Assimilation for Geosciences - Part I of II</td>
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<td>MS48 Innovative Pedagogical Practices, Curricular Reforms and Teaching Resources in Applied Mathematics Education - Part II of II</td>
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## Tuesday, July 10

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<tr>
<th>Time</th>
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<tbody>
<tr>
<td>6:15 PM - 7:00 PM</td>
<td>SIAM Business Meeting and 2018 Fellows Recognition</td>
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<td>Complimentary beer and wine will be served.</td>
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<tr>
<td>7:00 PM - 7:30 PM</td>
<td>Fellows Reception</td>
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<td>Oregon Ballroom 202/203</td>
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<tr>
<td>8:00 PM - 10:00 PM</td>
<td>PP1 Poster Session and Dessert Reception</td>
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<td>Exhibit Hall A</td>
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<td>PP2 Minisymposium: Association for Women in Mathematics (AWM)</td>
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<td>Exhibit Hall A</td>
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<td>PP3 Minisymposium: Current Trends in Mathematical Modeling and Simulation of Problems in Cardiovascular Medicine</td>
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<td>Exhibit Hall A</td>
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<td>PP4 Minisymposium: DOE High-Performance Mathematical Software</td>
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<td>PP5 Minisymposium: Numerical Methods for Graph and Matrix Algorithms Using Kokkos</td>
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<td>Exhibit Hall A</td>
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<td>PP6 Minisymposium: Student Days Student Chapter Posters</td>
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<td>Exhibit Hall A</td>
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<td>PP7 Minisymposium: Student Days Undergraduate Posters</td>
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<td>Exhibit Hall A</td>
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<td>PP8 Minisymposium: Software for Numerical Linear Algebra</td>
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<td>Exhibit Hall A</td>
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## Wednesday, July 11

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>7:00 AM - 8:30 AM</td>
<td>Membership Committee</td>
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<td>Doubletree Hotel - Washington</td>
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<td></td>
<td>Education Committee</td>
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<td></td>
<td>Doubletree Hotel - Jefferson</td>
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<tr>
<td>8:00 AM - 4:30 PM</td>
<td>Registration</td>
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<td>Holladay Lobby</td>
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<tr>
<td>8:30 AM - 10:30 AM</td>
<td>Concurrent Sessions</td>
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<td></td>
<td>MS63 Advances in Data Assimilation for Geosciences - Part II of II</td>
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<td>Oregon Ballroom 202/203</td>
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## Event Details

- **MS49** Algebraic Statistics: Hidden Variable Models
- **MS50** Machine Learning for Scientific Computing - Part II of II
- **MS51** Financial Risk after the Crisis
- **MS52** Recent Trends in Discretization for Linear and Nonlinear Problems - Part II of II
- **MS53** Modeling and Uncertainty Quantification: Algorithms and Applications -- Part II of II
- **MS54** Poro-mechanics and Multi-physics Phenomena - Part I of III
- **MS55** Improving Convergence of Stochastic Gradient Descent Methods
- **MS56** DOE High-performance Mathematical Software - Part II of II
- **MS57** Nonlinear Dynamics and Complex Systems
- **MS58** Student Days: Student Chapter Presentations - Part II of II
- **MS59** AWM Workshop Panel: Perspectives and Advice from Women in Research
- **MS60** Low-rank Tensors and High-dimensional Problems - Part II of II
- **MS61** Data-driven Modeling and Control of Complex Systems - Part II of II
- **MS62** Numerical Discretizations of Nonlinear Hyperbolic and Parabolic Partial Differential Equations - Part II of II
- **CP7** Life Sciences and Bio Medicine III
- **CP8** Topics in Applied Mathematics
- **CP9** Dynamical Systems
- **6:00 PM - 6:15 PM** | Intermission
Wednesday, July 11

11:00 AM - 11:45 AM
Jeffrey Humpherys, Brigham Young University, USA
Oregon Ballroom 202/203

11:45 AM - 12:30 PM
IP5 Challenges for Numerical Analysis in Large-Scale Simulation
Barbara Wohlmuth, Technische Universität München, Germany
Oregon Ballroom 202/203

12:30 PM - 2:00 PM
Industry Committee
Doubletree Hotel - Jefferson

Journal Committee
Doubletree Hotel - Roosevelt

Lunch Break
Attendees on their own

Workshop Celebrating Diversity (WCD)
Luncheon (by invitation)
B113

2:00 PM - 3:00 PM
SP3 Julian Cole Lectureship: Modeling of Complex Fluids: Wormlike Micellar Solutions, Polymers and Mucins
L. Pamela Cook, University of Delaware, USA
Oregon Ballroom 202/203

3:00 PM - 3:30 PM
SP4 W.T. and Idalia Reid Prize Lecture: Modeling, Simulation, and Control of Differential-Algebraic Port-Hamiltonian Systems
Volker Mehrmann, Technische Universität Berlin, Germany
Oregon Ballroom 202/203

3:30 PM - 4:00 PM
Coffee Break
Oregon Ballroom Lobby

3:30 PM - 5:00 PM
SIAM Publications Coffee Break
(Visit the SIAM Booth to chat about publications.)
Oregon Ballroom Lobby

4:00 PM - 6:00 PM
Concurrent Sessions

MS79 Theoretical Challenges of Tensor Decomposition - Part I of II
Oregon Ballroom 202/203

MS80 Financial Tech - Part II of II
Oregon Ballroom 204

MS81 New Methodologies for Uncertainty Quantification and Applications to the Geosciences
A105

MS82 Model Validation for Image Guided Therapy Response Prediction
A106

MS83 Analysis, Design, and Control of Neural Systems
A107

MS84 Advances in Computational Methods for Hyperbolic and Other Time Dependent Problems - Part II of II
A108

MS85 Expansion Complexes: From Finite Subdivision Rules to Circle Packing - Part II of II
A109

MS86 Large-scale Data Analytics and Predictive Simulation of Complex Systems
B110

MS87 Poro-mechanics and Multi-physics Phenomena - Part III of III
B111

MS88 Defects and Inhomogeneities in Pattern Forming Systems - Part I of II
B112

MS89 Analysis, Algorithms, and Simulations for the Study of Physical Phenomena
B114

MS90 Student Days: An Informal Meeting with the Co-chairs and Invited Speakers
B115

MS91 Nonsmooth Optimization
B116

MS92 Advances in Preconditioned Iterative Methods for Linear Systems - Part I of II
B117

MS93 Recent Advances in Numerical Methods for Maxwell’s Equations in Complex Media - Part II of II
B118

MS94 Matrices, Moments and Quadrature with Applications - Part II of II
B119

CP12 Fluid Structure Interactions
C122

CP13 Geometry and Graph Theory
C123

CP14 Probability and Statistics
C124

6:00 PM - 6:15 PM
Intermission

6:15 PM - 7:15 PM
SP5 I.E. Block Community Lecture: How Paradoxes Shape Mathematics and Give Us Self-Verifying Computer Programs
Thomas Hales, University of Pittsburgh, USA
Oregon Ballroom 202/203

7:15 PM - 8:15 PM
Community Reception
Prefunction Lobby A

Thursday, July 12

7:00 AM - 8:30 AM
Programs & Conferences Committee
Doubletree Hotel - Jefferson

8:00 AM - 4:30 PM
Registration
Holladay Lobby

8:15 AM - 5:00 PM
SIAM Workshop on Network Science (NS18)
Oregon Ballroom 201

8:30 AM - 10:30 AM
Concurrent Sessions

MT2 Geometric Deep Learning on Graphs and Manifolds Going Beyond Euclidean Data - Part I of II
Oregon Ballroom 202/203

MS95 Theoretical Challenges of Tensor Decomposition - Part II of II
Oregon Ballroom 204

MS96 Data-driven Identification of Infectious Disease Dynamics - Part I of II
A105
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<tr>
<td>8:30 AM - 10:50 AM</td>
<td>CP19 Flow through Porous Media *</td>
<td>C124</td>
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<tr>
<td>9:30 AM - 4:30 PM</td>
<td>Exhibit Hall Open</td>
<td>Oregon Ballroom Lobby</td>
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<tr>
<td>10:30 AM - 11:00 AM</td>
<td>Coffee Break</td>
<td>Oregon Ballroom Lobby</td>
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<tr>
<td>11:00 AM - 11:45 AM</td>
<td>IP6 Recent Advances in Dimensionality Reduction with Provable Guarantees Jelani Nelson, Harvard University, USA</td>
<td>Oregon Ballroom 202/203</td>
</tr>
<tr>
<td>11:45 AM - 12:30 PM</td>
<td>IP7 Nonlinear Patterns and Waves: From Spectra to Stability and Dynamics Bjorn Sandstede, Brown University, USA</td>
<td>Oregon Ballroom 202/203</td>
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<tr>
<td>12:30 PM - 2:00 PM</td>
<td>Lunch Break</td>
<td>Oregon Ballroom Lobby</td>
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<tr>
<td>2:00 PM - 2:45 PM</td>
<td>IP8 Understanding Network Structure and Function in the Human Brain Danielle S. Bassett, University of Pennsylvania, USA</td>
<td>Oregon Ballroom 202/203</td>
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<td>2:45 PM - 3:30 PM</td>
<td>Concurrent Sessions</td>
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<tr>
<td>3:30 PM - 4:00 PM</td>
<td>Coffee Break</td>
<td>Oregon Ballroom Lobby</td>
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<tr>
<td>4:00 PM - 6:00 PM</td>
<td>Concurrent Sessions</td>
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### Thursday, July 12

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<tr>
<th>MS129</th>
<th>Graph-enabled Science Applications at Scale - Part II of II</th>
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<tr>
<td>MS130</td>
<td>Fast Algorithms for Integral Equations and their Applications - Part II of II</td>
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<tr>
<td>CP20</td>
<td>Linear Algebra II</td>
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<tr>
<td>CP21</td>
<td>PDEs II</td>
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<tr>
<td>CP22</td>
<td>Optimization and Operations Research*</td>
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**4:00 PM - 11:00 PM**
- SIAM Council Meeting
  - **Doubletree Hotel - Oregon**

**4:30 PM - 4:30 PM**
- **Exhibit Hall Closes**

**6:00 PM - 6:15 PM**
- Intermission

**6:15 PM - 9:15 PM**
- Professional Development Evening
  - **D136**

**7:00 PM - 8:00 PM**
- Council Dinner
  - **Doubletree - Alaska/Idaho**

### Friday, July 13

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<tr>
<th>MS135</th>
<th>Mean Field Games - Part I of II</th>
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<tr>
<td>MS136</td>
<td>Uncertainty Quantification and Data - Part II of III</td>
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<tr>
<td>MS137</td>
<td>Quantum Dynamics - Part II of II</td>
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<tr>
<td>MS138</td>
<td>Nonlinear Waves, Long-time Dynamics, and Stability - Part II of II</td>
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<td>MS139</td>
<td>Geophysical Flow Modeling in Natural Hazards - Part II of II</td>
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<tr>
<td>MS140</td>
<td>Women Advancing Mathematical Biology - Understanding Complex Biological Systems with Mathematics - Part I of II</td>
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<td>MS141</td>
<td>Tensor Advances in Many Directions - Part II of II</td>
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<td>MS142</td>
<td>Mathematics of Signal Processing, Optimization and Inverse Problems - Part I of II</td>
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<td>MS143</td>
<td>Advances in Preconditioned Iterative Methods for Linear Systems - Part II of II</td>
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<td>MS144</td>
<td>Numerical Methods for Mesoscale Modeling of Complex Fluids and Soft Matter - Part III of III</td>
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<tr>
<td>MS145</td>
<td>Innovations in Linear &amp; Eigen Solvers: From Algorithm to HPC</td>
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<td>MS146</td>
<td>Harmonic Analysis in Imaging and Signal Processing - Part I of II</td>
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<td>MS147</td>
<td>The Generalised Langevin Equation: Analysis, Applications, Numerical Algorithms - Part I of II</td>
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<td>MS148</td>
<td>Recent Advances in Numerical Methods for Electrostatics and Structural Biology - Part I of II</td>
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<td>MS149</td>
<td>Numerical Methods in Clifford Algebras- Part I of II</td>
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<tr>
<td>MS150</td>
<td>Low Precision Arithmetic for Dense Numerical Linear Algebra</td>
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<td>CP23</td>
<td>Control Theory II</td>
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<td>CP24</td>
<td>Fluids</td>
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**8:00 AM - 4:30 PM**
- Registration
  - **Holladay Lobby**

**8:30 AM - 4:30 PM**
- SIAM Workshop on Network Science (NS18)
  - **Oregon Ballroom 201**

**8:30 AM - 10:30 AM**
- **Concurrent Sessions**
  - **MS131** Acquisition, Reconstruction, Processing, Learning and Analysis of Low Dimensional Manifolds
  - **Oregon Ballroom 202/203**
  - **MS132** Transport, Mixing, and Optimality in Fluids - Part II of II
  - **Oregon Ballroom 204**
  - **MS133** Optimization and Algebraic Geometry - Part II of III
  - **A105**
  - **MS134** Data-driven Identification of Infectious Disease Dynamics - Part II of II
  - **A106**

**9:00 AM - 11:00 AM**
- Compensation Committee
  - **Doubletree Hotel - Madison**

**10:30 AM - 11:00 AM**
- Coffee Break
  - **Oregon Ballroom**

**11:00 AM - 11:45 AM**
- IP9 American Mathematical Society (AMS) Invited Address -- Snow Business: Computational Elastoplasticity in the Movies and Beyond
  - Joseph Teran, University of California, Los Angeles, USA
  - **Oregon Ballroom 202/203**

**11:00 AM - 12:00 PM**
- Systems Oversight Committee
  - **Doubletree Hotel - Roosevelt**

**11:45 AM - 12:30 PM**
- IP10 Connections and Reconnections: A Link Between Mathematics, Physics and DNA
  - Mariel Vazquez, University of California, Davis, USA
  - **Oregon Ballroom 202/203**

**12:00 PM - 1:00 PM**
- Math in Industry Book Series Ed Board Meeting
  - **Doubletree Hotel - Alaska/Idaho**

**1:00 PM - 4:00 PM**
- Financial Management Committee
  - **Doubletree Hotel - Roosevelt**

**2:00 PM - 2:45 PM**
- IP11 The Future of Scientific Computation
  - Bruce Hendrickson, Lawrence Livermore National Laboratory, USA
  - **Oregon Ballroom 202/203**
### Friday, July 13

#### 2:45 PM - 3:30 PM
**IP12 Seeing Through Rock: Mathematics of Inverse Wave Propagation**  
William Symes, Rice University, USA  
*Oregon Ballroom 202/203*

#### 3:30 PM - 4:00 PM
Coffee Break  
*Oregon Ballroom Lobby*

#### 4:00 PM - 6:00 PM
**Concurrent Sessions**
- **MS151 Recent Advances in Seismic Inversion**  
  *Oregon Ballroom 202/203*
- **MS152 Randomized Numerical Algorithms: Foundations and Practice**  
  *Oregon Ballroom 204*
- **MS153 Optimization and Algebraic Geometry - Part III of III**  
  *A105*
- **MS154 Math Tools for Optimization, Uncertainty Quantification, and Sensitivity Analysis in Numerical Simulations**  
  *A106*
- **MS155 Mean Field Games - Part II of II**  
  *A107*
- **MS156 Uncertainty Quantification and Data - Part III of III**  
  *B110*
- **MS157 Developments in WENO and Discontinuous Galerkin Methods for Gas Dynamics**  
  *B111*
- **MS158 New Perspectives on Model Inversion Enabled by Model Reduction and Machine Learning Algorithms**  
  *B112*
- **MS159 Lessons from Early Applications Success on Quantum Computers**  
  *B113*
- **MS160 Women Advancing Mathematical Biology - Understanding Complex Biological Systems with Mathematics - Part II of II**  
  *B114*
- **MS161 From Gene to Migration in Cancer and Stem Cell Differentiation**  
  *B115*
- **MS162 Mathematics of Signal Processing, Optimization and Inverse Problems - Part II of II**  
  *B116*
- **MS163 Distance Geometry**  
  *B117*
- **MS164 Joining Algorithmic Differentiation with Automatic Simulation**  
  *B118*

#### 2018 SIAM Annual Meeting At-A-Glance

---

### Saturday, July 14

#### 8:30 AM - 4:00 PM
**Board of Trustees Regular Session**  
*Doubletree Hotel - Oregon*
VISIT THE EXHIBITS!

OREGON CONVENTION CENTER
PORTLAND, OREGON, USA
OREGON BALLROOM LOBBY–UPPER LEVEL

EXHIBIT HALL
HOURS

Monday 7/9
9:30 AM–4:30 PM

Tuesday 7/10
9:30 AM–4:30 PM

Wednesday 7/11
9:30 AM–4:30 PM

Thursday 7/12
9:30 AM–4:30 PM

BOOTH EXHIBITORS

- Association for Women in Mathematics......24
- American Mathematical Society...........7, 8
- MathWorks........................................10
- Oxford University Press.....................11
- Princeton University Press..................9
- Springer.............................................6
- SIAM................................................5, 18–23

TABLETOP EXHIBITORS

ICIAM 2019

This exhibitor list is current at press time.

EXHIBIT HALL

ENTRANCE

ENTRANCE

ENTRANCE

LOBBY/COFFEE

Coffee breaks will be served in the exhibit hall.
## SIAM Conference on Mathematical Aspects of Materials Science - At-A-Glance

### Sunday, July 8

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:00 PM - 8:00 PM</td>
<td>Registration</td>
<td>Holladay Lobby</td>
</tr>
<tr>
<td>5:00 PM - 6:00 PM</td>
<td>Student Orientation</td>
<td>B116</td>
</tr>
<tr>
<td>6:00 PM - 8:00 PM</td>
<td>Welcome Reception</td>
<td>Prefunction Lobby A</td>
</tr>
</tbody>
</table>

### Monday, July 9

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:30 AM - 11:00 AM</td>
<td>Coffee Break</td>
<td>Oregon Ballroom Lobby</td>
</tr>
<tr>
<td>11:00 AM - 11:45 AM</td>
<td>IT1 Symmetry Matters: Machine-learning of Scalar and Tensorial Atomic-Scale Properties Michele Ceriotti, EPFL, Switzerland</td>
<td>Oregon Ballroom 204</td>
</tr>
<tr>
<td>11:45 AM - 12:30 PM</td>
<td>IT2 Equations of Motion for Grain Boundaries in Polycrystalline Materials David J. Srolovitz, University of Pennsylvania, USA</td>
<td>Oregon Ballroom 204</td>
</tr>
<tr>
<td>12:30 PM - 2:00 PM</td>
<td>Lunch Break</td>
<td>Attendees on their own</td>
</tr>
<tr>
<td>2:00 PM - 2:45 PM</td>
<td>JP1 The Mathematics of Wrinkles and Folds Robert V. Kohn, Courant Institute of Mathematical Sciences, New York University, USA</td>
<td>Oregon Ballroom 202/203</td>
</tr>
<tr>
<td>2:45 PM - 3:30 PM</td>
<td>SP1 The AWM-SIAM Sonia Kovalevsky Lecture: Learning and Efficiency of Outcomes in Games Eva Tardos, Cornell University, USA</td>
<td>Oregon Ballroom 202/203</td>
</tr>
<tr>
<td>3:30 PM - 4:00 PM</td>
<td>Coffee Break</td>
<td>Oregon Ballroom Lobby</td>
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<tr>
<td>3:30 PM - 5:30 PM</td>
<td>Career Fair: Careers in Business, Industry, and Government</td>
<td>Oregon Ballroom 201</td>
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### Tuesday, July 10

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<td>8:30 AM - 10:30 AM</td>
<td>Concurrent Sessions</td>
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</tr>
</tbody>
</table>

### Notes
- **MS15** Variational Methods in Material Sciences - Part II of III  
  **D130**
- **MS16** Hydrodynamics at Small Scales: Passive and Active Fluctuations - Part II of III  
  **C121**
- **MS17** Computational Techniques for Additive Manufacturing Modeling - Part II of II  
  **D131**
- **MS18** Models and Mechanisms for Nanoscale Crystal Growth - Part II of IV  
  **C125**
- **MS19** Mathematical Aspects of Programmable Self-assembly - Part II of IV  
  **D129**
- **MS20** Nonlocal Differential Operators - Analysis and Applications - Part II of II  
  **D133**
- **MS21** Data-driven Modeling in Multiscale Materials Physics - Part II of IV  
  **C126**
- **MS22** Aggregation, Growth, and Coarsening Phenomena - Part II of II  
  **D134**
The tenth Gene Golub SIAM Summer School will take place in France, at the Paul Langevin conference center in Aussois, in the French Alps.

The focus of the school will be on large-scale data analytics, which lies at the intersections of data analytics algorithms and high performance computing. Students will be introduced to problems in data analytics arising from both the machine learning and the scientific computing communities. The school will include perspectives from industry, such as Amazon, Google, and IBM, as well as from academic instructors.

Students will be exposed to “end-to-end” multidisciplinary topics, which span several traditionally disparate areas. The series of lectures will develop background on methods and algorithms for data analytics, approximation algorithms to deal with large volumes of data, languages and tools for implementing those algorithms on large scale computers, and data-driven applications from scientific computing and machine learning.

The summer school is being organized by Laura Grigori (Inria and Sorbonne University), Matthew Knepley (University at Buffalo) Olaf Schenk (Università della Svizzera Italiana), and Rich Vuduc (Georgia Institute of Technology).

The intended audience is intermediate graduate students (students with a Master’s degree, 2nd-3rd year Ph.D. students without an MS, or equivalent). Applicants selected to participate pay no registration fee. Funding for local accommodations and meal expenses will be available for all participants.

Application deadline: February 1, 2019
As information becomes available on how to apply, it will be posted at: http://www.siam.org/students/g2s3/

Sponsored by SIAM through an endowment from the estate of Gene Golub.

For more information about prior summer schools and Professor Gene Golub go to http://www.siam.org/students/g2s3/

Society for Industrial and Applied Mathematics
3600 Market Street, 6th Floor • Philadelphia, PA 19104-2688 USA • +1-215-382-9800
siam@siam.org • www.siam.org
### Tuesday, July 10

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<th>Time</th>
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<td>Coffee Break Oregon Ballroom Lobby</td>
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<tr>
<td>4:00 PM - 6:00 PM</td>
<td>Concurrent Sessions</td>
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<tr>
<td>6:00 PM - 6:15 PM</td>
<td>Intermission</td>
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### Wednesday, July 11

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>7:30 AM - 4:30 PM</td>
<td>Registration Holladay Lobby</td>
</tr>
<tr>
<td>8:30 AM - 10:30 AM</td>
<td>Concurrent Sessions</td>
</tr>
<tr>
<td>12:30 PM - 2:30 PM</td>
<td>Prizes and Awards Luncheon (separate fee applies) Portland Ballroom</td>
</tr>
<tr>
<td>6:15 PM - 7:00 PM</td>
<td>SIAM Business Meeting and 2018 Fellows Recognition Oregon Ballroom 202/203 Complimentary beer and wine will be served.</td>
</tr>
<tr>
<td>7:00 PM - 7:30 PM</td>
<td>Fellows Reception Oregon Ballroom 202/203</td>
</tr>
<tr>
<td>7:30 PM - 8:00 PM</td>
<td>SIAG/MS Business Meeting Oregon Ballroom 204 Complimentary beer and wine will be served.</td>
</tr>
<tr>
<td>8:00 PM - 10:00 PM</td>
<td>PP1 Poster Session and Dessert Reception Exhibit Hall A</td>
</tr>
</tbody>
</table>

### Notes
- Attendees are on their own for lunch and pricier events.
- Mineralogical knowledge of various materials can enhance understanding of these sessions.
SIAM Conference on Mathematical Aspects of Materials Science - At-A-Glance

**Wednesday, July 11**

<table>
<thead>
<tr>
<th>Time</th>
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| 10:00 AM - 11:00 AM | MS1 Analytical Methods for Singular Phenomena in Materials Science - Part I of IV  
|               | MS2 Numerical Methods in Multiscale Materials Modelling - Part I of IV  
|               | MS3 Variational Problems from Materials Science - Part III of IV  |
| 11:00 AM - 11:45 AM | IT5 Modeling Microstructure and Defects with Peridynamics  
|               | Stewart Silling, Sandia National Laboratories, USA  
|               | Oregon Ballroom 204  |
| 11:45 AM - 12:30 PM | IT6 Atomistic Simulation of Crystalline Defects [A Numerical Analysis Perspective]  
|               | Christoph Ortner, University of Warwick, United Kingdom  
|               | Oregon Ballroom 204  |
| 12:30 PM - 2:00 PM | Lunch Break  
|               | Attendees on their own  |
| 2:00 PM - 3:00 PM | SP3 Julian Cole Lectureship: Modeling of Complex Fluids: Wormlike Micellar Solutions, Polymers and Mucins  
|               | L. Pamela Cook, University of Delaware, USA  
|               | Oregon Ballroom 202/203  |
| 3:00 PM - 3:30 PM | SP4 W.T. and Idalia Reid Prize Lecture: Modeling, Simulation, and Control of Differential-Algebraic Port-Hamiltonian Systems  
|               | Volker Mehrmann, Technische Universitaet Berlin, Germany  
|               | Oregon Ballroom 202/203  |
| 3:30 PM - 4:00 PM | Coffee Break  
|               | Oregon Ballroom Lobby  |
| 4:00 PM - 6:00 PM | Concurrent Sessions  
|               | MS4 Recent Advances in Phase-field Modeling and Analysis of Microstructural Evolution - Part I of V  
|               | MS5 Geometry and Elasticity - Part II of IV  
|               | MS6 Variational Approaches to Pattern Formations in Nonconvex and Nonlocal Models - Part III of III  
|               | MS7 Electronic Structure of Materials - Part II of IV  
|               | MS8 The Interaction of Light with Materials - Part II of IV  
|               | MS9 Modeling, Analysis and Numerical Computation for 2D Materials - Part III of III  
|               | MS10 Mathematics and Mechanics of Composite and Phase Change Materials - Part II of V  
|               | MS11 Grain Boundaries and Interfaces from Atomistic Structures to Continuum Modeling - Part III of IV  
|               | MS12 Analytical Methods for Singular Phenomena in Materials Science - Part II of IV  
|               | MS13 Numerical Methods in Multiscale Materials Modelling - Part II of IV  
|               | MS14 Variational Problems from Materials Science - Part IV of IV  
| 6:00 PM - 6:15 PM | Intermission  |

**Thursday, July 12**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
</table>
| 8:00 AM - 4:30 PM | Registration  
|               | Holladay Lobby  |
| 8:30 AM - 10:30 AM | Concurrent Sessions  
|               | MS5 Recent Advances in Phase-field Modeling and Analysis of Microstructural Evolution - Part II of V  
|               | MS6 Geometry and Elasticity - Part III of IV  
|               | MS7 Statistical Descriptors of Materials at Multiple Length Scales - Part I of III  
|               | MS8 Advances in CALPHAD Methods - Part I of II  
|               | MS9 Analytical Methods for Singular Phenomena in Materials Science - Part III of IV  
|               | MS12 Mathematics and Mechanics of Composite and Phase Change Materials - Part III of V  
|               | MS13 Grain Boundaries and Interfaces from Atomistic Structures to Continuum Modeling - Part IV of IV  
|               | MS14 Dislocation Mechanics: Continuum Versus Discrete Approach - Part I of III  
| 10:30 AM - 11:00 AM | Coffee Break  
|               | Oregon Ballroom Lobby  |
| 11:00 AM - 11:45 AM | IT7 From Atoms to Macroscopic Laws: The Case of Epitaxial Growth  
|               | Dionisos Margetis, University of Maryland, College Park, USA  
|               | Oregon Ballroom 204  |
Thursday, July 12

11:45 AM - 12:30 PM
IT8 An Emerging Mechanistic Paradigm for Self-organization and Functional Properties of Biological Materials: The Power of Weak Binding
M. Gregory Forest, University of North Carolina at Chapel Hill, USA
Oregon Ballroom 204

12:30 PM - 2:00 PM
Lunch Break
Attendees on their own

2:00 PM - 2:45 PM
IT9 Models for Thin Prestrained Structures
Annie Raoult, Université Paris Descartes, France
Oregon Ballroom 204

2:45 PM - 3:30 PM
IT10 Cornered: Anisotropic Fluids in Confined Geometries
Nigel Mottram, University of Strathclyde, United Kingdom
Oregon Ballroom 204

Friday, July 13

8:00 AM - 4:30 PM
Registration
Holladay Lobby

8:30 AM - 10:30 AM
Concurrent Sessions
MS87 Machine Learning for Predictive Atomistic Simulation of Materials - Part I of II
D135
MS88 Recent Advances in Phase-field Modeling and Analysis of Microstructural Evolution - Part IV of V
D134
MS89 Geometrical Aspects of Defects in Solids - Part II of III
D132
MS90 Statistical Descriptors of Materials at Multiple Length Scales - Part III of III
C120
MS91 Mathematics and Mechanics of Composite and Phase Change Materials - Part V of V
D133
MS92 Dislocation Mechanics: Continuum Versus Discrete Approach - Part III of III
D130
MS93 Applications of Herglotz-Nevanlinna Function Theory to Electromagnetics, Composites, and Dirichlet-to-Neumann Maps - Part II of II
D131
MS94 Machine Learning for Predictive Atomistic Simulation of Materials - Part II of II
D135
MS95 Geometrical Aspects of Defects in Solids - Part III of III
D132
MS96 Recent Advances in Phase-field Modeling and Analysis of Microstructural Evolution - Part V of V
D134
MS97 Applications of Herglotz-Nevanlinna Function Theory to Electromagnetics, Composites, and Dirichlet-to-Neumann Maps - Part II of II
D131
MS98 Advances in CALPHAD Methods - Part II of II
C121
MS99 The Interaction of Light with Materials - Part IV of IV
D135
MS100 Electronic Structure of Materials - Part IV of IV
C125
MS101 Mathematics and Mechanics of Composite and Phase Change Materials - Part IV of V
D133

10:30 AM - 11:00 AM
Coffee Break
Oregon Ballroom Lobby

11:00 AM - 11:45 AM
IT11 Materials Discovery and Scientific Design By Computation: What Does It Take?
Giulia Galli, University of Chicago and Argonne National Laboratory, USA
Oregon Ballroom 204

2:00 PM - 2:45 PM
IT13 Spinning Top-ology: Order, Disorder and Topology in Mechanical Gyro-materials and Fluids
William Thomas M. Irvine, University of Chicago, USA
Oregon Ballroom 204

3:30 PM - 4:00 PM
Coffee Break
Oregon Ballroom Lobby

4:00 PM - 6:00 PM
Concurrent Sessions
MS76 Recent Advances in Phase-field Modeling and Analysis of Microstructural Evolution - Part III of V
D134
MS77 Geometrical Aspects of Defects in Solids - Part I of III
D132
MS78 Statistical Descriptors of Materials at Multiple Length Scales - Part II of III
C120
MS79 Geometry and Elasticity - Part IV of IV
D131
MS80 Advances in CALPHAD Methods - Part II of II
C121
MS81 The Interaction of Light with Materials - Part IV of IV
D135
MS82 Electronic Structure of Materials - Part IV of IV
C125
MS83 Mathematics and Mechanics of Composite and Phase Change Materials - Part IV of V
D133

6:00 PM - 6:15 PM
Intermission

6:15 PM - 9:15 PM
Professional Development Evening
D136
SIAM PRESENTS IS AN AUDIO-VISUAL ARCHIVE
COMPRISED OF MORE THAN 2,000 PRESENTATIONS
POSTED IN OVER 40 SEARCHABLE TOPICS, INCLUDING:

- algebraic geometry
- atmospheric and oceanographic science
- computational science
- data mining
- geophysical science
- optimization
- uncertainty quantification and more...

The collection, *Featured Lectures from our Archives*, includes audio and slides from more than 30 conferences since 2008, including talks by invited and prize speakers, select minisymposia, and minitutorials. Presentations from SIAM meetings are being added throughout the year.

In addition you can view short video clips of speaker interviews from sessions at Annual Meetings starting in 2010.

Plans for adding more content are on the horizon. Keep an eye out!

The audio, slide, and video presentations are part of SIAM’s outreach activities to increase the public’s awareness of mathematics and computational science in the real world, and to bring attention to exciting and valuable work being done in the field. Funding from SIAM, the National Science Foundation, and the Department of Energy was used to partially support this project.

www.siam.org/meetings/presents.php
### Sunday, July 8
- **2:00 PM - 8:00 PM**
  - Registration
  - Holladay Lobby

### Monday, July 9
- **2:00 PM - 2:45 PM**
  - JP1 The Mathematics of Wrinkles and Folds
  - Robert V. Kohn, Courant Institute of Mathematical Sciences, New York University, USA
  - Oregon Ballroom 202/203

### Tuesday, July 10
- **7:15 AM - 9:15 PM**
  - Graduate Student Reception and Industry Reception
  - Prefunction Lobby A

### Wednesday, July 11
- **7:30 AM - 4:30 PM**
  - Registration
  - Holladay Lobby

- **8:30 AM - 10:30 AM**
  - Concurrent Sessions
  - MS9 Best Practices in Promoting Diversity and Inclusiveness in and Outside the Applied Mathematics Classroom - Part I of II
  - D136

- **10:30 AM - 11:00 AM**
  - Coffee Break
  - Oregon Ballroom Lobby

- **11:00 AM - 11:45 AM**
  - IT5 Fostering and Promoting Mathematics of Planet Earth Education: Community Dialogue to Multi-level Research
  - Kathleen Kavanagh, Clarkson University, USA
  - D136

- **11:45 AM - 12:30 PM**
  - IT4 Teaching About Learning
  - Gilbert Strang, Massachusetts Institute of Technology, USA
  - D136

- **12:30 PM - 2:30 PM**
  - Prizes and Awards Luncheon (separate fee applies)
  - Portland Ballroom

- **2:45 PM - 3:30 PM**
  - SP1 The AWM-SIAM Sonia Kovalevsky Lecture: Learning and Efficiency of Outcomes in Games
  - Eva Tardos, Cornell University, USA
  - Oregon Ballroom 202/203

- **3:30 PM - 4:00 PM**
  - Coffee Break
  - Oregon Ballroom Lobby

- **3:30 PM - 5:30 PM**
  - Career Fair: Careers in Business, Industry, and Government
  - Oregon Ballroom 201

- **3:30 PM - 5:30 PM**
  - MS1 Mathematical Modeling: Practice and Education
  - D136

- **4:00 PM - 6:00 PM**
  - Concurrent Sessions
  - MS5 Communities of Practice for Math Modeling Education
  - D136

- **4:00 PM - 6:00 PM**
  - D137

- **4:00 PM - 6:00 PM**
  - MS7 Mathematical Modeling in Graduate Education
  - D138

- **4:00 PM - 6:00 PM**
  - MS8 Modeling in Differential Equations Courses – SIMIODE Resources and Community
  - D139

- **5:00 PM - 6:00 PM**
  - Welcome Reception
  - Prefunction Lobby A

- **5:00 PM - 6:00 PM**
  - Student Orientation
  - B116

- **6:00 PM - 8:00 PM**
  - Welcome Reception
  - Prefunction Lobby A

- **6:00 PM - 8:00 PM**
  - Registration
  - Holladay Lobby

- **6:30 PM - 8:30 PM**
  - Welcome Reception
  - Prefunction Lobby A

### Monday, July 9
- **7:15 AM - 4:30 PM**
  - Registration
  - Holladay Lobby

- **8:30 AM - 10:30 AM**
  - Concurrent Sessions
  - MS1 Mathematical Modeling: Practice and Education
  - D136

- **8:30 AM - 10:30 AM**
  - MS2 Exploring the Nature and Practices of Mathematical Modeling in the Early Grades - Part I of II
  - D137

- **8:30 AM - 10:30 AM**
  - MS3 Incorporating Real-world Data into the Undergraduate Mathematics Curriculum
  - D138

- **8:30 AM - 10:30 AM**
  - MS4 Mathematics and Social Justice in the Classroom
  - D139

- **10:30 AM - 11:00 AM**
  - Coffee Break
  - Oregon Ballroom Lobby

- **11:00 AM - 11:45 AM**
  - IT1 Mathematical Modeling from Kindergarten to Industry
  - Rachel Levy, Harvey Mudd College, USA
  - Oregon Ballroom 202/203

- **11:00 AM - 11:45 AM**
  - IT2 Toward a Mathematics of Opportunity
  - Pamela Burdman, Just Equations Project, USA
  - D136

- **11:45 AM - 12:30 PM**
  - IT3 Fostering and Promoting Mathematics of Planet Earth Education: Community Dialogue to Multi-level Research
  - Kathleen Kavanagh, Clarkson University, USA
  - D136

- **11:45 AM - 12:30 PM**
  - IT4 Teaching About Learning
  - Gilbert Strang, Massachusetts Institute of Technology, USA
  - D136

- **12:30 PM - 2:00 PM**
  - Lunch Break
  - Attendees on their own
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Charles F. Van Loan, Cornell University, USA  
*Oregon Ballroom 202/203* |
| 3:30 PM - 4:00 PM | Coffee Break  
*Oregon Ballroom Lobby* |
| 4:00 PM - 6:00 PM | Concurrent Sessions  
MS12 Best Practices in Promoting Diversity and Inclusiveness in and Outside the Applied Mathematics Classroom - Part II of II  
*DI36*  
MS13 Mathematics of Planet Earth Education  
*DI37*  
MS14 Rethinking Calculus Education in the 21st Century - Part II of II  
*DI38*  
MS15 Mathematical Modeling and Career Readiness  
*DI39*  
CP2  
*DI40* |
| 6:00 PM - 6:15 PM | Intermission |
| 6:15 PM - 7:00 PM | SIAM Business Meeting and 2018 Fellows Recognition  
*Oregon Ballroom 202/203*  
Complimentary beer and wine will be served. |
| 7:00 PM - 7:30 PM | Fellows Reception  
*Oregon Ballroom 202/203* |
| 7:30 PM - 8:00 PM | SIAG/ED Business Meeting  
*DI36*  
Complimentary beer and wine will be served. |
| 8:00 PM - 10:00 PM | Poster Session and Dessert Reception  
*Exhibit Hall A* |
| 7:30 AM - 4:30 PM | Registration  
*Holladay Lobby* |
| 8:30 AM - 10:30 AM | Concurrent Sessions  
MS16 Industry and University Working Together to Prepare Students for Careers - Part I of II  
*DI36*  
MS17 Challenging Our Definition of ‘Mathematician’: A New Approach to Inclusion  
*DI37*  
MS18 Some Fundamental Ideas Not Appearing in the Standard Curriculum  
*DI38*  
MS19 An Integrated Cohort Approach to Design and Technology Education: One School’s Story  
*DI39* |
| 10:30 AM - 11:00 AM | Coffee Break  
*Oregon Ballroom Lobby* |
| 11:00 AM - 11:45 AM | **JP2** Applied and Computational Mathematics: A New Curriculum for 21st Century Discovery and Innovation  
Jeffrey Humpherys, Brigham Young University, USA  
*Oregon Ballroom 202/203*  
11:45 AM - 12:30 PM | **IT5** Lessons in Mathematical Modeling: From Research Practice to Mathematics Education Collaboration  
Ricardo Cortez, Tulane University, USA  
*DI36* |
| 12:30 PM - 2:00 PM | Lunch Break  
Attendees on their own |
| 2:00 PM - 3:00 PM | **SP3** Julian Cole Lectureship: Modeling of Complex Fluids: Wormlike Micellar Solutions, Polymers and Mucins  
L. Pamela Cook, University of Delaware, USA  
*Oregon Ballroom 202/203* |
| 3:00 PM - 3:30 PM | **SP4** W.T. and Idalia Reid Prize Lecture: Modeling, Simulation, and Control of Differential-Algebraic Port-Hamiltonian Systems  
Volker Mehrmann, Technische Universitaet Berlin, Germany  
*Oregon Ballroom 202/203* |
| 3:30 PM - 4:00 PM | Coffee Break  
*Oregon Ballroom Lobby* |
| 4:00 PM - 6:00 PM | Concurrent Sessions  
MS20 Industry and University Working Together to Prepare Students for Careers - Part II of II  
*DI36*  
MS21 Ethics Education as Part of the Math Undergraduate Curriculum  
*DI37*  
MS22 Bridging Network Science and Graph Theory  
*DI38*  
CP3  
*DI39* |
| 6:15 PM - 7:15 PM | **SP5** I.E. Block Community Lecture: How Paradoxes Shape Mathematics and Give Us Self-Verifying Computer Programs  
Thomas Hales, University of Pittsburgh, USA  
*Oregon Ballroom 202/203*  
7:15 PM - 8:15 PM | Community Reception  
*Prefunction Lobby A* |
| 7:30 AM - 3:30 PM | Registration  
*Holladay Lobby*  
8:30 AM - 10:30 AM | Concurrent Sessions  
MS16 Industry and University Working Together to Prepare Students for Careers - Part I of II  
*DI36*  
MS17 Challenging Our Definition of ‘Mathematician’: A New Approach to Inclusion  
*DI37*  
MS18 Some Fundamental Ideas Not Appearing in the Standard Curriculum  
*DI38*  
MS19 An Integrated Cohort Approach to Design and Technology Education: One School’s Story  
*DI39* |
| 10:30 AM - 11:00 AM | Coffee Break  
*Oregon Ballroom Lobby* |
| 11:00 AM - 11:45 AM | **JP2** Applied and Computational Mathematics: A New Curriculum for 21st Century Discovery and Innovation  
Jeffrey Humpherys, Brigham Young University, USA  
*Oregon Ballroom 202/203*  
11:45 AM - 12:30 PM | **IT5** Lessons in Mathematical Modeling: From Research Practice to Mathematics Education Collaboration  
Ricardo Cortez, Tulane University, USA  
*DI36* |
| 12:30 PM - 2:00 PM | Lunch Break  
Attendees on their own |
| 2:00 PM - 3:00 PM | **SP3** Julian Cole Lectureship: Modeling of Complex Fluids: Wormlike Micellar Solutions, Polymers and Mucins  
L. Pamela Cook, University of Delaware, USA  
*Oregon Ballroom 202/203* |
<table>
<thead>
<tr>
<th>Time</th>
<th>Thursday, July 12</th>
<th>Friday, July 13</th>
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<tbody>
<tr>
<td>8:15-8:45</td>
<td>Coffee break</td>
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<td>*Oregon Ballroom 201</td>
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<tr>
<td>8:45-8:50</td>
<td>Welcome</td>
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<td>8:50-9:40</td>
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<td></td>
<td>Raissa D'Souza</td>
<td>*David Bindel</td>
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<td>9:40-10:30</td>
<td>Contributed Session 1</td>
<td>Poster Session and coffee break</td>
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<td>11:00-12:15</td>
<td>Contributed Session 2</td>
<td>Contributed Session 4</td>
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<tr>
<td>12:15-12:30</td>
<td>Short Talk Session 1</td>
<td>Lunch Break</td>
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<td>12:30-2:00</td>
<td>Lunch Break</td>
<td>Short Talk Session 4</td>
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<td>2:00-2:45</td>
<td>Danielle S. Bassett, University of Pennsylvania, USA (AN18 IP18)</td>
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<td>2:45-3:30</td>
<td>Tammy Kolda, SIMODS (AN18, MS113)</td>
<td>Closing Remarks</td>
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<td>3:30-4:00</td>
<td>Coffee Break</td>
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<td>4:00-4:50</td>
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<td>4:50-5:15</td>
<td>Short Talk Session 2</td>
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**KEY TO ABBREVIATIONS AND SYMBOLS**

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<tr>
<th>Abbreviation</th>
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<tbody>
<tr>
<td>CP</td>
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<tr>
<td>PP</td>
<td>Poster Presentation</td>
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<td>IT, IP</td>
<td>Invited Presentation</td>
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<tr>
<td>MS</td>
<td>Minisymposium</td>
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<td>MT</td>
<td>Invited Minitutorial</td>
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<td>SP</td>
<td>Special Lecture</td>
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<td>*</td>
<td>Extended Session</td>
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<td>🗓️</td>
<td>Business Meeting</td>
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<td>Refreshments Served</td>
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<td>Poster Session</td>
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<td>🍽</td>
<td>Meal Provided</td>
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</table>

**Page 18**
SIAM Activity Group on Applied Mathematics Education (SIAG/ED)

**Eligibility:**
- Be a current SIAM member.

**Cost to Join SIAG:**
- $15 per year
- Student members can join 2 activity groups for free!

**Activities Include:**
- Special sessions at SIAM meetings
- Biennial conference

**Benefits of SIAG/ED Membership:**
- Listing in the SIAG’s online membership directory
- Additional $15 discount on registration for the SIAM Conference on Applied Mathematics Education (excludes students)
- Electronic communications about recent developments in your specialty
- Eligibility for candidacy for SIAG/ED office
- Participation in the selection of SIAG/ED officers

2017–2018 SIAG/ED Officers
- Chair: Ben Galluzzo, Shippensburg University
- Vice Chair: Rosalie Belanger-Rioux, Harvard University
- Program Director: Eric Kostelich, Arizona State University
- Secretary: Kathleen Kavanagh, Clarkson University

www.siam.org/activity/ed

SIAM Activity Group on Mathematical Aspects of Materials Science (SIAG/MS)

**Eligibility:**
- Be a current SIAM member.

**Cost to Join SIAG:**
- $15 per year
- Student members can join 2 activity groups for free!

**Activities Include:**
- Special sessions at SIAM Annual Meetings
- Biennial conference
- Wiki

**Benefits of SIAG/MS Membership:**
- Listing in the SIAG’s online membership directory
- Additional $15 discount on registration for the SIAM Conference on Mathematical Aspects of Materials Science (excludes students)
- Electronic communications about recent developments in your specialty
- Eligibility for candidacy for SIAG/MS office
- Participation in the selection of SIAG/MS officers

2017–2018 SIAG/MS Officers
- Chair: Patricia Bauman, Purdue University
- Vice Chair: Dmitry Golovaty, University of Akron
- Program Director: Govind Menon, Brown University
- Secretary: Elena Cherkaevev, University of Utah

www.siam.org/activity/ed

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