

Sessions at the Joint Mathematics Meetings (JMM 2023)

January 4–7, 2023 • Boston, Massachusetts

SIAM Coordinating Committee for the Joint Mathematics Meetings

Lorena Bociu (Chair)
North Carolina State University

Maria Emelianenko
George Mason University

Suzanne Shontz
University of Kansas

SIAM Invited Address

Bounded-Confidence Models of Opinion Dynamics on Networks

Mason Porter, *University of California, Los Angeles*

Thursday, January 5, 2023, 11:10 a.m.–12:00 p.m.

Ballroom AB, Hynes Convention Center

ABSTRACT

I will discuss the modeling of opinion dynamics on various types of networks. I will start by introducing some general questions and ideas in the modeling of social dynamics. I will then focus on bounded-confidence models (BCMs), in which nodes have continuous-valued opinions and update those opinions when they interact with nodes with sufficiently similar opinions. I will discuss various generalizations of BCMs and examine how they affect consensus, polarization, and fragmentation of opinions in BCMs.



Mason A. Porter is a professor in the Department of Mathematics at UCLA. He earned his B.S. in Applied Mathematics at Caltech in 1998 and his Ph.D. from the Center for Applied Mathematics at Cornell University in 2002. After postdoctoral positions at Georgia Tech, Mathematical Sciences Research Institute, and Caltech, Mason joined the faculty in the Mathematical Institute at University of Oxford in 2007. He moved to UCLA in 2016. Mason studies many topics in complex systems, networks, and nonlinear systems. Thus far, twenty-five PhD students have completed their doctorates under Mason's mentorship; he has also mentored many postdoctoral scholars and undergraduate students. He is proud both their scientific achievements and of the "good trouble" that they undertake to make the world a better place. In 2017, Mason received the Council on Undergraduate Research (CUR) Faculty Mentoring Award (Advanced Career Category) in the Mathematics and Computer Science Division. Mason is a Fellow of the American Mathematical Society, the American Physical Society, and the Society for Industrial and Applied Mathematics.

Special Events

SIAM Panel on a BIG World View Business-Industry-Government Careers for Mathematicians

Organizer: **Nessy Tania**, *Pfizer*

Thursday, January 5, 2023, 8:00 a.m.–9:30 a.m.

Curious about careers outside of academia? Come get an insider's view about BIG, exciting, impactful careers. This discussion will feature panelists who will share their experiences and insights working as applied mathematicians in a variety of BIG careers.

SIAM Reception on Industrial Math Modeling

Thursday, January 5, 2023, 7:00 p.m.–9:00 p.m.

A big part of SIAM's mission is to build community around the application of mathematical modeling, analysis, and computation to real-world problems. Join us in celebrating the many ways that mathematical modeling has improved our lives, and learn more about SIAM's collaborative efforts to build a workforce dedicated to mathematical modeling in industry, including programs such as the MathWorks Math Modeling (M3) Challenge, Preparation for Industrial Careers in Mathematical Sciences (PIC Math, in collaboration with MAA), Graduate Student Mathematical Modeling Camp (GSMMC), Mathematical Problems in Industry (MPI) Workshop, Math Modeling Hub (in collaboration with COMAP and NCTM), and BIG Math Network.

SIAM Minisymposia, Special Session, and Joint Session details on reverse.

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SIAM Minisymposia

SIAM Minisymposium on Combinatorial Optimization

Organizer: Annie Raymond, *University of Massachusetts*

Wednesday, January 4, 2023, 8:00 a.m.–12:00 p.m.

Room 310, Hynes Convention Center

SIAM Minisymposium on Numerical Linear Algebra: Algorithms, Computations, and Application

Organizers: James Nagy, *Emory University*

Elizabeth Newman, *Emory University*

Wednesday, January 4, 2023, 1:00 p.m.–6:00 p.m.

Room 310, Hynes Convention Center

SIAM Minisymposium on Quantum Algorithms

Organizers: Dong An, *University of Maryland*

Di Fang, *University of California, Berkeley*

Lin Lin, *University of California, Berkeley*

Thursday, January 5, 2023, 1:00 p.m. – 5:00 p.m.

Room 310, Hynes Convention Center

SIAM Minisymposium on Imaging and Inverse Problems

Organizer: Andrea Arnold, *Worcester Polytechnic Institute*

Friday, January 6, 2023, 8:00 a.m. – 12:00 p.m.

310, Hynes Convention Center

SIAM Minisymposium on Applications of the Maslov Index

Organizers: Christopher K. R. T. Jones, *University of North Carolina*

Emmanuel Fleurantin, *University of North Carolina*

Friday, January 6, 2023, 1:00 p.m. – 6:00 p.m.

Room 310, Hynes Convention Center

SIAM Minisymposium on Fractional Dynamics

Organizers: Lukasz Plociniczak, *Wrocław University of Science and Technology*

Krzysztof Burnecki, *Wrocław University of Science and Technology*

Saturday, January 7, 2023, 8:00 a.m. – 12:00 p.m.

Room 310, Hynes Convention Center

SIAM Minisymposium on Education as Research and Research as Education to include a panel discussion on the benefits and challenges of integrating research and teaching.

Organizers: Benjamin Galluzzo, *Clarkson University*

Kathleen Kavanagh, *Clarkson University*

Saturday, January 7, 2023, 1:00 p.m.–6:00 p.m.

Room 310, Hynes Convention Center

Joint Sessions

SIAM Minisymposium on Quantitative Justice (a NAM-SIAM Joint Session), I

Organizers: Ron Buckmire, *Occidental College*

Omayra Ortega, *Sonoma State University*

Carrie Diaz Eaton, *Bates College*

Thursday, January 5, 2023, 8:00 a.m. – 11:00 a.m.

Room 310, Hynes Convention Center

SIAM Minisymposium on Quantitative Justice (a NAM-SIAM Joint Session), II

Organizers: Carrie Diaz Eaton, *Bates College*

Omayra Ortega, *Sonoma State University*

Ron Buckmire, *Occidental College*

Saturday, January 7, 2023, 8:00 p.m. – 11:00 a.m.

Room 311, Hynes Convention Center

MAA-AMS-SIAM Gerald and Judith Porter Public Lecture

Speaker: Bernd Sturmfels, *University of California, Berkeley*

Saturday, January 7, 2023, 3:00 p.m.–3:50 p.m.

Ballroom AB, Hynes Convention Center

MAA-SIAM-AMS Hrabowski-Gates-Tapia-McBay Lecture

Speaker: Omayra Ortega, *Sonoma State University*

Friday, January 6, 2023, 9:00 a.m.–9:50 a.m.

(followed by panel ending at 10:30 a.m.)

Ballroom AB, Hynes Convention Center

AMS-SIAM Special Session on Research in Mathematics by Undergraduates and Students in Post-Baccalaureate Programs

Organizers: Darren A. Narayan, *Rochester Institute of Technology*

Khang Tran, *California State University, Fresno*

Mark Daniel Ward, *Purdue University*

John C. Wierman, *Johns Hopkins University*

Christopher O'Neil, *San Diego State University*

Session I: Friday, January 6, 2023, 8:00 a.m.–12:00 p.m.

Session II: Friday, January 6, 2023, 1:00 p.m.–6:00 p.m.

Session III: Saturday, January 7, 2023: 8:00 a.m.–12:00 p.m.

Session IV: Saturday, January 7, 2023: 1:00 p.m.–6:00 p.m.

Fairfax A, Sheraton Boston Hotel

JPBM Communications Award Lecture

Speaker: Grant Sanderson, *3blue1brown*

Thursday, January 5, 2023, 3:50 p.m.–4:50 p.m.

Ballroom AB, Hynes Convention Center

JPBM Communications Award Lecture

Speaker: Jordan S. Ellenberg, *University of Wisconsin-Madison*

Saturday, January 7, 2023, 10:05 a.m.–11:05 a.m.

Ballroom AB, Hynes Convention Center

JPBM Communications Award Lecture (2022 Recipient)

Speaker: Talithia Williams, *Harvey Mudd College*

Saturday, January 7, 2023, 1:00 p.m.–2:00 p.m.

Ballroom AB, Hynes Convention Center



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The program for these meetings will occur in Eastern Standard Time (EST).