

About **SIAM** 2019

www.siam.org

siam® | Society for Industrial and Applied Mathematics

SIAM is a leading international organization of professionals and students whose primary interest is in mathematics and computational science and their applications. SIAM's mission is to advance and raise awareness about applied math and related fields through its books, journals, conferences, online resources, and a variety of programs and initiatives.

Incorporated in 1952 as a non-profit organization, SIAM has worked for more than 65 years to:

- advance the application of mathematics and computational science to engineering, industry, science, and society;
- promote research that will lead to effective new mathematical and computational methods and techniques for science, engineering, industry, and society;
- provide media for the exchange of information and ideas among mathematicians, engineers, and scientists.

As an international society of more than 14,500 individual members, SIAM represents applied and computational mathematicians, computer scientists, engineers, physicists, and other scientists. Members include researchers, educators, practitioners, and students from more than 100 countries working in industry, laboratories, government, and academia. SIAM also has about 500 corporate and academic institutional members.

SIAM serves its diverse group of professionals through:

- Activity groups
- Career development
- Chapters
- Conferences
- Membership
- Prizes and recognition
- Public awareness and advocacy
- Publications
- Sections
- Student resources

SIAM's constant and continuous role in fostering cooperation between the mathematics community and science and technology through its many programs is essential to the continued growth of many fields.



WAYS TO GET INVOLVED

Activity Groups

Communicate and stay current. Activity group members organize conferences and minisymposia, distribute newsletters and electronic communications, maintain websites and wikis, and award prizes. They receive targeted communication from peers, access to electronic membership directories, and additional discounts on activity group-sponsored conferences.

Algebraic Geometry

Jon Hauenstein, chair

Analysis of Partial Differential Equations

Eitan Tadmor, chair

Applied Mathematics Education

Benjamin Galluzzo, chair

Computational Science and Engineering

Hans De Sterck, chair

Control and Systems Theory

Kirsten Morris, chair

Data Mining and Analytics

Ali Pinar, chair

Discrete Mathematics

Bojan Mohar, chair

Dynamical Systems

Andy Bernoff, chair

Financial Mathematics and Engineering

Sebastian Jaimungal, chair

Geometric Design

Kai Hormann, chair

Geosciences

Susan Minkoff, chair

Imaging Science

Gitta Kutyniok, chair

Life Sciences

Mary Ann Horn, chair

Linear Algebra

James G. Nagy, chair

Mathematical Aspects of Materials Science

Patricia Bauman, chair

Mathematics of Planet Earth

Hans P. Engler, chair

Nonlinear Waves and Coherent Structures

Peter D. Miller, chair

Optimization

Tamás Terlaky, chair

Orthogonal Polynomials and Special Functions

Walter Van Assche, chair

Supercomputing

Rich Vuduc, chair

Uncertainty Quantification

Roger Ghanem, chair

Student Chapters

SIAM Student Chapters promote applied mathematics and computational science to young mathematicians and scientists on college and university campuses. Chapters provide students with opportunities to get to know faculty members outside of the classroom, share ideas and research with people with similar interests, learn about career options, and develop networks with professors and fellow students. Interdisciplinary participation by a variety of departments is encouraged.

Activities often include professional development opportunities; guest lecturers; research presentations by faculty, graduate students, and undergraduates; team projects; social functions; outreach activities; and field trips to industrial laboratories or SIAM Section meetings. Visit the website to find out how to start a SIAM Student Chapter and for a current list of chapters.

Sections

SIAM encourages the formation of sections comprised of members residing in a defined geographic region. Sections organize lectures, meetings, and other activities that serve their members. Some sections include nearby student chapters in their activities.

North America

Central States

Arkansas, Colorado, Iowa, Kansas, Mississippi, Missouri, Nebraska, Oklahoma

Great Lakes

Michigan, northern Ohio, northern Indiana, southern Ontario, and surrounding areas

Mexico

Northern States

Montana, North Dakota, South Dakota, Utah, and Wyoming

Pacific Northwest

Idaho, Oregon, Washington, and the province of British Columbia

Southeastern Atlantic

Alabama, Florida, Georgia, North Carolina, South Carolina, Tennessee

Southern California

Texas-Louisiana

Washington-Baltimore

Outside North America

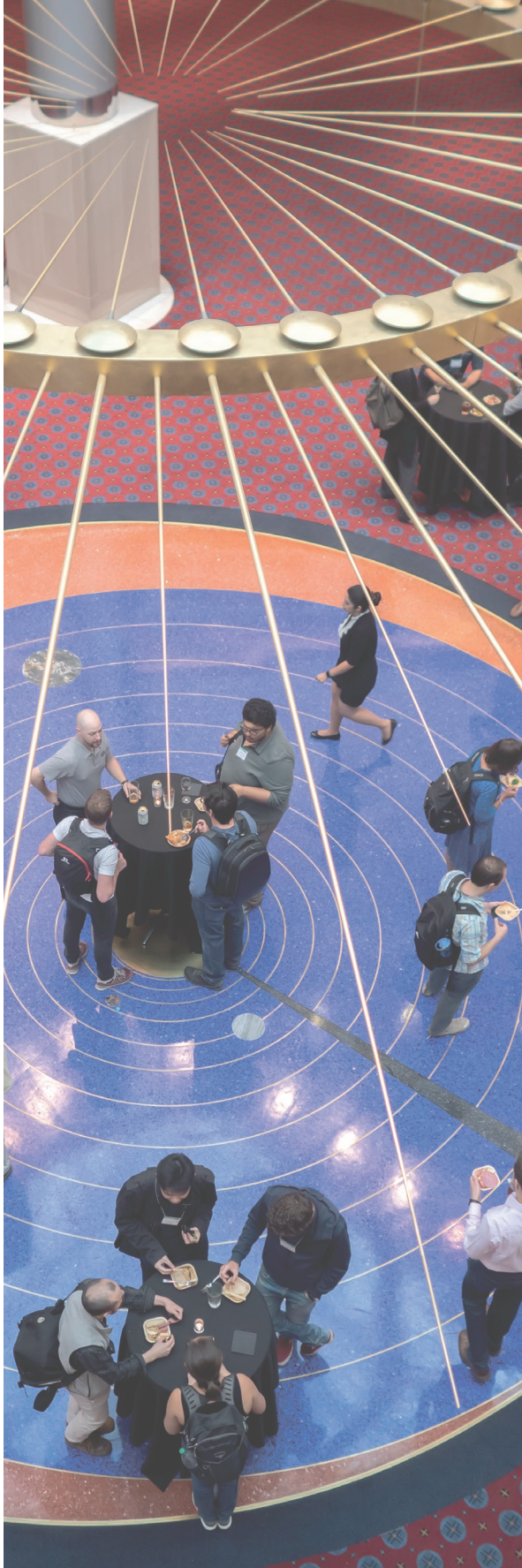
Argentina Section (AR-SIAM)

Bulgaria Section (BG-SIAM)

Colombia Section (COSIAM)

East Asia Section (EASIAM)

United Kingdom and Republic of Ireland Section (UKIE SIAM)



MEMBERS

Individual Members

Individual members enjoy:

- Networking opportunities with students and high level professionals
- Career resources
- Access to cutting-edge research
- Subscriptions to *SIAM News*, *SIAM Review*, and *Unwrapped* e-newsletter
- Discounts on print and electronic journal content and archives
- Discounts on SIAM books
- Discounts on SIAM conferences and workshops
- Eligibility to hold office and serve on SIAM committees
- Eligibility to nominate or be nominated as a SIAM Fellow
- Opportunity to join SIAM Activity Groups
- Eligibility to vote in SIAM elections (paid memberships)
- Ability to nominate two students for free SIAM membership (non-student members)
- Opportunity to enroll in group insurance plan

Student Members

Full-time students can join SIAM for free if they:

- attend a SIAM academic member institution
- are a member of a SIAM Student Chapter, or
- are nominated by a non-student member of SIAM

Student members receive two free activity group memberships.

Academic Members

Academic membership is available to degree-granting institutions. Colleges, universities, and their departmental units receive a selection of SIAM journals that match their needs, as well as discounts on the purchase of SIAM books, and Locus, SIAM's online journal archive. To apply for academic membership, visit the SIAM website.

Complimentary student memberships are available to full-time students who attend an institution that is an academic member of SIAM. Additional information on academic membership, including a list of nearly 460 SIAM institutional members, can be found on the website.

Corporate Members, Partners, and Sponsors

Corporate Membership is offered to non-degree granting institutions that value SIAM for its resources and research support.

SIAM Corporate Membership addresses a full-range of corporate/institutional research demands, including discounted subscriptions to SIAM's prestigious journals, reduced prices on exhibiting at SIAM meetings, discounts on book purchases, employee discounts at conferences, and public acknowledgement of members' support in SIAM publications and at SIAM conferences.

SIAM Partners have a business relationship with SIAM and receive discounts on advertising and exhibiting.

SIAM Sponsors are organizations that wish to contribute to SIAM (either with a general donation or one earmarked for a particular activity) without receiving any subscriptions or discounts in return.

Corporate Members

The Aerospace Corporation	IDA Institute for Defense Analyses, Bowie, Maryland
Air Force Office of Scientific Research	Lawrence Berkeley National Laboratory
Amazon.com	Lawrence Livermore National Labs
Argonne National Laboratory	Lockheed Martin Maritime Systems & Sensors
Bechtel Marine Propulsion Laboratory	Los Alamos National Laboratory
The Boeing Company	Max-Planck-Institute
CEA/DAM	Mentor Graphics
Cirrus Logic	National Institute of Standards and Technology (NIST), Colorado
Department of National Defence (DND/CSEC)	National Security Agency
DSTO - Defence Science and Technology Organisation, Edinburgh	Oak Ridge National Laboratory
Exxon Mobil	Sandia National Laboratories
ICERM Institute for Computational and Experimental Research in Mathematics	Schlumberger
IDA Center for Communications Research, La Jolla	Simons Foundation
IDA Institute for Defense Analyses, Princeton	United States Department of Energy
	U.S. Army Corps of Engineers, Engineer Research and Development Center

PUBLICATIONS

SIAM has a comprehensive publishing program in applied and computational mathematics. Each journal has its own webpage with links to its editorial policy, its editorial board, instructions for authors, TeX resources, staff and subscription information, tables of contents, and more.

A sophisticated search interface, including the ability to search across SIAM journals, books, and proceedings at the same time, helps users find what they need in one search. Subscribers can access reference links to MathSciNet, Zentralblatt für Mathematik, Inspec, MEDLINE, and go directly to cited articles via Crossref.

SIAM Journal on Mathematics of Data Science (SIMODS)

SIAM's newest journal begins publishing Volume 1 in early 2019. SIMODS seeks to advance mathematical, statistical, and computational methods in the context of data and information sciences. It invites papers that present significant advances, including applications to science, engineering, business, and medicine.

Journals

SIAM Review (SIREV)

Desmond Higham, Editor-in-Chief
Published quarterly electronically and in print

SIAM Journal on Applied Algebra and Geometry (SIAGA)

Bernd Sturmfels, Editor-in-Chief
Electronically published continuously

SIAM Journal on Applied Dynamical Systems (SIADS)

Evelyn Sander, Editor-in-Chief
Electronically published continuously

SIAM Journal on Applied Mathematics (SIAP)

Paul A. Martin, Editor-in-Chief
Electronically published continuously and available in print

SIAM Journal on Computing (SICOMP)

Robert Krauthgamer, Editor-in-Chief
Electronically published continuously and available in print

SIAM Journal on Control and Optimization (SICON)

George Yin, Editor-in-Chief
Electronically published continuously and available in print

SIAM Journal on Discrete Mathematics (SIDMA)

Daniel Kral, Editor-in-Chief
Electronically published continuously and available in print

SIAM Journal on Financial Mathematics (SIFIN)

Jean-Pierre Fouque, Editor-in-Chief
Electronically published continuously

SIAM Journal on Imaging Sciences (SIIMS)

Michael Elad, Editor-in-Chief
Electronically published continuously

SIAM Journal on Mathematical Analysis (SIMA)

Robert Lipton, Editor-in-Chief
Electronically published continuously and available in print

SIAM Journal on Matrix Analysis and Applications (SIMAX)

Daniel B. Szyld, Editor-in-Chief
Electronically published continuously and available in print

SIAM Journal on Numerical Analysis (SINUM)

Angela Kunoth, Editor-in-Chief
Electronically published continuously and available in print

SIAM Journal on Optimization (SIOPT)

Stephen J. Wright, Editor-in-Chief
Electronically published continuously and available in print

SIAM Journal on Scientific Computing (SISC)

Jan S. Hesthaven, Editor-in-Chief
Electronically published continuously and available in print

SIAM/ASA Journal on Uncertainty Quantification (JUQ)

Andrew Stuart and Peter Challenor
Editors-in-Chief
Electronically published continuously

Multiscale Modeling and Simulation: A SIAM Interdisciplinary Journal (MMS)

Jack Xin, Editor-in-Chief
Electronically published continuously and available in print

Theory of Probability and Its Applications

An English translation of a Russian journal, edited by Michael Reyz
Published quarterly electronically and in print





SIAM E-books

bookstore.siam.org/e-books/

SIAM's institutional e-book program, hosted on a reliable and secure platform, offers online access to about 460 titles in 16 series. SIAM e-books are available to individuals for sale or rent on Google Play™.

SIAM Digital Library (1997-Present)

epubs.siam.org

All SIAM journal content from 1997 to present is published electronically and is included with a current journal subscription. Users can download article citations in BiBTeX format as well as in other reference manager™ types.

Locus (1953-1996)

locus.siam.org

SIAM's online journal archive contains electronic full text for every SIAM journal article published from each journal's inception through 1996. Available as a one-time purchase.

SIAM Undergraduate Research Online (SIURO)

This web-based open access publication is devoted to undergraduate research in applied and computational mathematics. Undergraduates engage in the peer-review process as authors, revising their work based on referee and review editor feedback. Referee turnaround times are short and papers are posted online immediately upon acceptance.

Luis Melara, Editor-in-Chief



Books

For nearly six decades, SIAM has published research monographs and textbooks written by renowned experts, addressing fundamental subjects and emerging topics of vital interest in academia, industry, and government.

Book Series

Advances in Design and Control
Ralph C. Smith, Editor-in-Chief

ASA-SIAM Series on Statistics and Applied Probability

CBMS-NSF Regional Conference Series in Applied Mathematics

Classics in Applied Mathematics
Susanne Brenner, Editor-in-Chief

Computational Science and Engineering
Donald Estep, Editor-in-Chief

Data Science
Ilse Ipsen, Editor-in-Chief

NEW!

Discrete Mathematics and Applications

Financial Mathematics
Thaleia Zariphopoulou, Editor-in-Chief

Frontiers in Applied Mathematics

Fundamentals of Algorithms
Nicholas J. Higham, Editor-in-Chief

Mathematical Modeling and Computation
Hans Kaper, Editor-in-Chief

Mathematics in Industry
Thomas A. Grandine, Editor-in-Chief

MOS-SIAM Series on Optimization
Katya Scheinberg, Editor-in-Chief

Other Titles in Applied Mathematics

SIAM Spotlights

Software, Environments, and Tools
Jack J. Dongarra, Editor-in-Chief

Studies in Applied and Numerical Mathematics

CONFERENCES

SIAM conferences focus on timely topics in applied and computational mathematics and applications such as algebraic geometry, combustion, computational science and engineering, computer and communications networks, data mining, discrete algorithms in computer science, dynamical systems, financial engineering, imaging science, ocean and climate modeling, modeling of materials, the application of mathematics and computation to the life sciences, and uncertainty quantification. SIAM conferences provide a place for members to exchange ideas and expand their network of colleagues in both academia and industry.

SIAM Annual Meeting

The SIAM Annual Meeting provides a broad view of the state of the art in applied mathematics, computational science, and their applications through invited presentations, prize lectures, minisymposia, minitutorials, and contributed papers and posters.

Gene Golub SIAM Summer School (G2S3)

G2S3 serves graduate students in mathematics and computational science and is supported by a generous bequest from Gene Golub, a long-time SIAM member and premier numerical analyst of his generation. Proposals to run a G2S3 session in any relevant area of applied mathematics, computational sciences, and industrial mathematics are considered.

Proceedings

SIAM produces electronic proceedings for six of its meetings. Proceedings include peer-reviewed papers and are a record of the research presented at the meeting.

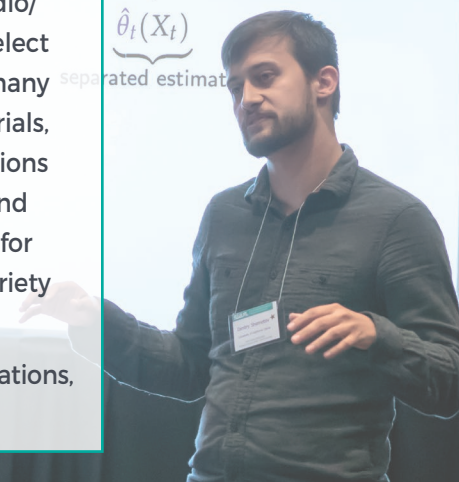
Featured Lectures from Our Archives (SIAM Presents)

Since 2008, SIAM has produced audio/slide captures of presentations at select meetings each year. This includes many invited and prize lectures, minitutorials, and minisymposia. Some presentations synchronize the slides with audio and include PDFs of the slides available for download. Short video clips on a variety of topics are also available.

The archive contains 2,000+ presentations, and more are added each year.

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INDUSTRY CONNECTIONS

SIAM is committed to promoting the application of high quality research results to solving real world problems in industry. SIAM's Career Opportunities Committee organizes SIAM career fairs as well as workshops on careers in industry to help members at every stage identify opportunities and obtain sought after jobs.

Industry, government, and laboratories confront many important mathematical problems and SIAM has developed programs to bring the applicable methodologies into focus. One such effort is Mathematics in Industry, a study of the industrial environment for applied and computational mathematicians that resulted in recommendations for improving graduate education to match the needs of industry. You can find Mathematics in Industry reports on the SIAM website.





MATHWORKS MATH MODELING CHALLENGE

m3challenge.siam.org

MathWorks Math Modeling (M3) Challenge is the prestigious Internet-based competition known for providing a pinnacle high school experience for juniors and seniors and inspiring them to pursue STEM majors and careers. The contest, organized by SIAM and sponsored by leading software developer MathWorks, is free and open to all U.S. students. M3 Challenge awards top teams annually with \$100,000 in scholarships toward the pursuit of higher education; it has granted more than \$1.3 million in scholarships to date and has been endorsed by the National Association of Secondary School Principals (NASSP) since 2010.



2018 M3 Challenge Championship team and winner of the Technical Computing Award from Los Altos High School in Los Altos, California.

ADVOCACY

A champion for applied mathematics and computational science on the national and international level, SIAM has its own voice in Washington, D.C., and speaks on behalf of its members to key congressional representatives, agencies, and other organizations to promote research funding and development of science policy in these important areas of research. To further these purposes, SIAM is a member of various advocacy organizations such as the Coalition for National Science Funding, which advocates on behalf of the National Science Foundation, the Computing Research Association, and the Joint Policy Board for Mathematics.

SIAM promotes an understanding of the applications of mathematics both in daily life and in the advanced sciences by sharing news stories through social networks such as Facebook and Twitter.

SIAM is a founding member of the International Council on Industrial and Applied Mathematics (ICIAM), which promotes industrial and applied mathematics to a global audience through the quadrennial ICIAM Congress.

EDUCATION

GAIMME Report

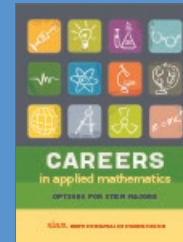
Guidelines for Assessment and Instruction in Mathematical Modeling Education (GAIMME)



SIAM and Consortia for Mathematics and Its Applications (COMAP) produced GAIMME to define core competencies to include in

student experiences, suggest assessment methods, and provide direction to enhance math modeling education at all levels. GAIMME is freely available online.

Careers Brochure



Highlights career titles that fall under applied mathematics, with profiles of professional mathematicians and computational scientists.

Order, download, or read it online.

Math Matters, Apply It!

Colorful, downloadable flyers featuring real-world uses of math (some available in Spanish).





PRIZES AND RECOGNITION

SIAM Prize Program

SIAM conducts an extensive prize program to recognize outstanding applied mathematicians and computational scientists. Prize recipients are individuals and teams, students, early career researchers, accomplished lecturers, and distinguished scientists.

Prizes are awarded for individual papers, research contributions, lifetime achievement, and service to the mathematical sciences community. More than two dozen plenary lectures and award-winning papers are presented at SIAM conferences as part of the prize program.

Major Prizes

SIAM's major prizes include many named in honor of distinguished applied mathematicians and computational scientists. They are awarded to contributors currently building on their legacy. Prizes are generally presented at the SIAM Annual Meeting. Major prizes also include similar prizes co-sponsored with other societies and awarded jointly at a variety of meetings. Others recognize scholarship and contributions of students.

Major Prizes for Students

- Frank and Brennie Morgan Prize for Outstanding Research in Mathematics by an Undergraduate Student (with AMS and MAA)
- SIAM Award in the Mathematical Contest in Modeling
- SIAM Student Paper Prize

Activity Group Prizes

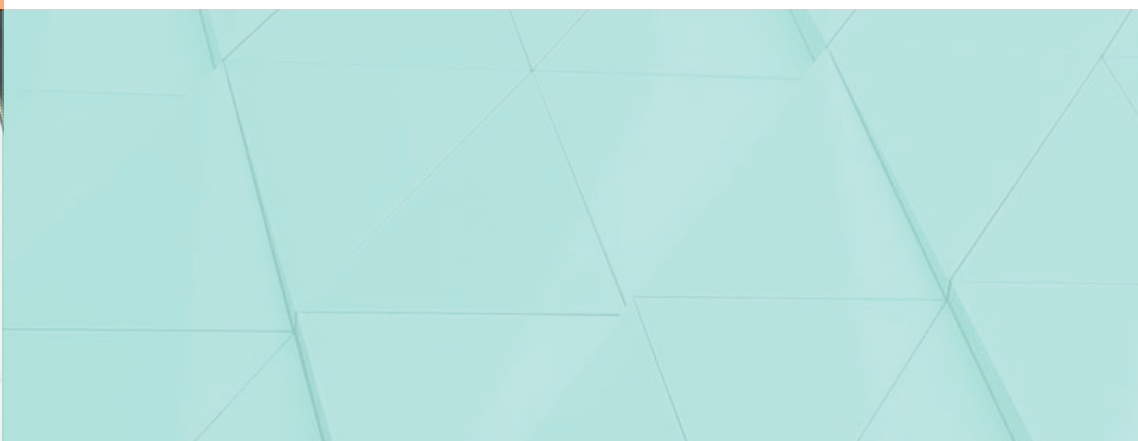
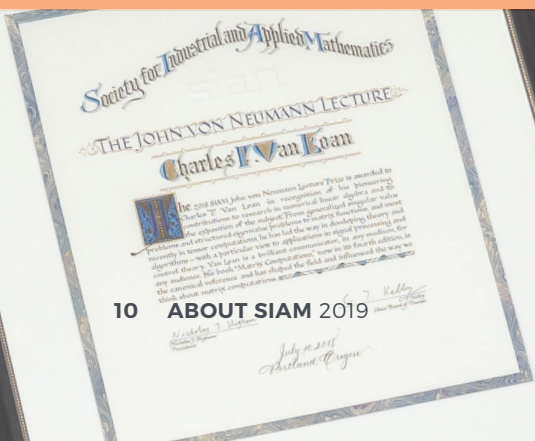
A majority of SIAM Activity Groups award prizes at their own activity group sponsored conferences to contributors in their field.

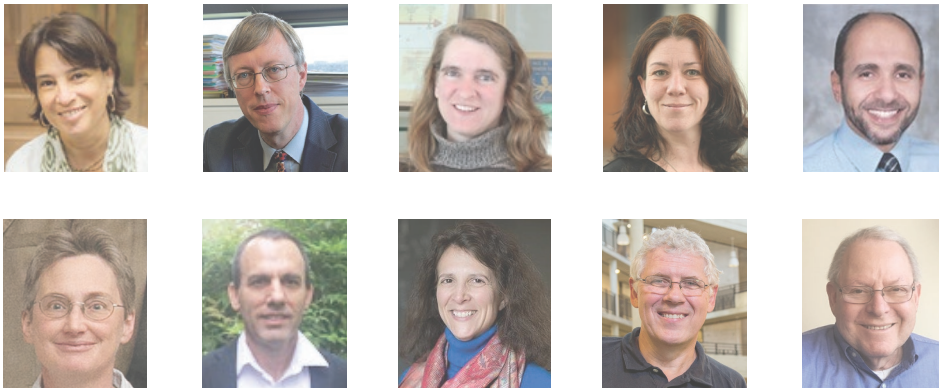
Major Prizes Co-sponsored with Other Societies

- George David Birkhoff Prize (with AMS)
- George B. Dantzig Prize (with MOS)
- Peter Henrici Prize (with ETH Zürich)
- JPBM Communications Award (with AMS, ASA, and MAA)
- Lagrange Prize in Continuous Optimization (with MOS)
- Pioneer Prize (with ICIAM)
- Gerald and Judith Porter Public Lecture (with AMS and MAA)
- Norbert Wiener Prize (with AMS)

Major Prizes and Special Lectures

- The John von Neumann Lecture
- AWM-SIAM Sonia Kovalevsky Lecture
- I. E. Block Community Lecture
- Julian Cole Lectureship
- Germund Dahlquist Prize
- Richard C. DiPrima Prize
- Ralph E. Kleinman Prize
- George Pólya Prize in Applied Combinatorics
- George Pólya Prize for Mathematical Exposition
- George Pólya Prize in Mathematics
- W. T. and Idalia Reid Prize in Mathematics
- SIAM Prize for Distinguished Service to the Profession
- SIAM/ACM Prize in Computational Science and Engineering
- Theodore von Kármán Prize
- James H. Wilkinson Prize in Numerical Analysis and Scientific Computing
- James H. Wilkinson Prize for Numerical Software





SIAM OFFICERS

The most up-to-date list of SIAM officers and Board and Council members can be viewed on the SIAM website.

President

Lisa Fauci
Tulane University

Past President

Nicholas Higham
University of Manchester

Vice President at Large

Carol Woodward
Lawrence Livermore National Laboratory

Secretary

Chen Greif
University of British Columbia

Treasurer

Samuel Gubins
Annual Reviews, Inc.

Vice President for Education

Kathleen Kavanagh
Clarkson University

Vice President for Industry

Amr El-Bakry
Exxon Mobil Upstream Research Company

Vice President for Programs

Cynthia A. Phillips
Sandia National Laboratories

Vice President for Publications

Michael J. Miksis
Northwestern University

Vice President for Science Policy

Anne Gelb
Dartmouth College

Travel Awards Program

SIAM Student Travel Awards provide support for travel to SIAM conferences. Funding is awarded on a competitive basis. The awards are in the form of partial reimbursement of eligible travel expenses. Attendees just starting out in their career may apply for SIAM Early Career Travel Awards.



Fellows Program

The SIAM Fellows Program recognizes members of the Society who have made outstanding contributions to fields served by SIAM.

Pictured at left are those members of the 2018 Class of SIAM Fellows who were present at the 2018 SIAM Annual Meeting.

COMMITTEES

SIAM has several committees that work to promote SIAM's mission and to fulfill specific objectives of the Society. SIAM also appoints representatives to national and joint committees. SIAM encourages diverse participation and seeks appointments from the entire SIAM membership.

STAFF

More than 70 full- and part-time employees work at SIAM in Philadelphia, Pennsylvania.

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Applied Mathematics

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Science and Industry Advance with Mathematics



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