

Report of the Executive Director: State of the AMS, 2016



Courtesy of Marc Studios.

Catherine A. Roberts,
Executive Director

The American Mathematical Society embarks in new directions as we continue to serve our members and the mathematics community. The 2016 year was one of change in terms of key personnel and in beginning to implement our Strategic Plan for 2016–2020. Notable highlights of the year include:

- Our respected Mathematics Research Communities program (MRC) welcomed its one thousandth participant in 2016. This program helps early-career mathematicians launch their research careers by fostering ongoing collaborations and mentorships within their area of study.
- MathSciNet® continues to incorporate new features to enhance user search and usability. New partnerships with arXiv and MathOverflow are expediting access to the literature.
- The Education and Diversity Department launched in June 2016 with Helen G. Grundman as Director. She joins us from Bryn Mawr College and was recently awarded the M. Gweneth Humphreys Award for Mentoring Undergraduate Women by the Association for Women in Mathematics.
- Attendance at the Joint Mathematics Meetings (JMM) in Seattle totaled 6,252, which made it the third largest JMM since 2011. Attendance has remained at 5,900 or above since 2011.
- The AMS book *Gallery of the Infinite* by Richard Evan Schwartz, received an honorary mention at the American Association of Publishers 2016 PROSE Awards for books published in the mathematics category.
- Sam Rankin retired after 21 years as Associate Executive Director of our Washington, DC, office and was succeeded by Karen Saxe in January 2017. Karen is from Macalester College in St. Paul, MN, and brings

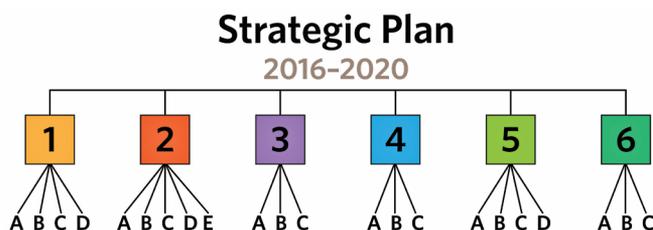
important experience to us from her 2013–2014 year as the AMS/AAAS Science and Technology Policy Congressional Fellow.

- The AMS received several bequests in 2016, ranging from \$2,500 to \$1.25 million. These thoughtful legacy gifts provide direct support to our programs and we are grateful to those of you who remember the AMS in your estate planning.

Don McClure retired as executive director after eight years and I started in August of 2016. Previously, I was department chair and professor at the College of the Holy Cross in Worcester, MA, and editor of the journal *Natural Resource Modeling*. As of this writing, I am completing my tenth month as the executive director. I grow increasingly inspired by the activity of the mathematics community. It is a personal honor to contribute to the essential role our professional society plays to connect mathematicians, and to support and communicate advances in research mathematics. Our multifaceted work engages with our profession in many ways. Please read on for more details about our efforts in 2016.

Strategic Plan 2016–2020

How can the AMS best serve our members and the larger mathematics community? This question helped drive the formulation of the new AMS Strategic Plan. Just as the previous Strategic Plan from 1991 led to many effective changes, including the establishment of five policy committees to streamline our governance structure, this new plan offers a framework to move the Society forward with six over-arching initiatives described below. The plan was approved by the Executive Committee and Board of



Trustees in November 2015 and by the Council in January 2016. Our work has begun in earnest.

Changes will continue to roll out as we implement this thoughtful and ambitious plan. Below are some highlights from 2016 in each of the six major initiatives.

Advocacy, Awareness, and Visibility

The AMS is a volunteer-driven organization with a spectacular range of valuable programs, publications, and services. We want to increase members' awareness of and participation in our offerings, including connecting people more efficiently to resources, helping professionals become involved in advancing public policy around mathematics, and by promoting a broader public appreciation for mathematics.

With the goal of improved communications, the Strategic Plan calls for the creation of new and consistent branding across the AMS for its publications, programs, and services. A working group consisting of our AMS president, representatives from our Board of Trustees, Council, and AMS staff worked with a design firm to update and improve our visual presence and messaging. You will hear more about this new approach to enhancing the visibility for all AMS endeavors in the coming months.

Develop and Promote a Coherent Portfolio of Programs, Meetings, Publications, and Professional Services

Member feedback and strategic planning analyses directed us to assess existing AMS programs, meetings, and professional services which advance mathematics research, education, and careers. We are taking stock of what we do, evaluating it in terms of efficacy, content, and costs, to craft a portfolio to deliver on our mission for all mathematics professionals. We are identifying ways in which existing programs can reinforce one another and are determining whether new programs are needed to complement ones that already exist.

Diversity and Inclusion

In June 2016, Helen G. Grundman became our first Director of the newly established Department of Education and Diversity. The initial focus for the Department is on graduate education in the mathematical sciences, the preparation of students to enter graduate programs, mentoring of students for success in graduate school, and the promotion of diversity and inclusiveness at the graduate level.

Mathematical Reviews/MathSciNet®

Research mathematicians recognize the value provided by MathSciNet, our online database of the mathematical literature containing expert reviews as well as additional resources. Our intent is to ensure that Mathematical Reviews provides an effective and useful guide to the literature and that it evolves with the changing needs of researchers and with advances in technology. In order to integrate MathSciNet into the daily habits of mathematicians, we are improving the user interface, creating new

features and tools, and building partnerships with valued resources such as the arXiv and MathOverflow.

Membership Development

Why join your professional society? Because the AMS supports you and all mathematicians through many stages of a career. Our unified presence helps advocate for funding, policies, and programming, as well as improved collaboration across fields of study. The AMS helps us connect as a community of mathematicians through our meetings and conferences, and with our many excellent publications. We develop and maintain products like MathSciNet, MathJobs.org, and MathJax™ to support your work. We have a presence in Washington, DC, to advocate for NSF-funding and other matters impacting mathematics. To be successful, we need to serve each rising generation of mathematics professionals and to keep our communication channels open to hear what the membership needs. To help in this direction, we made Membership its own department and hired Megan Turcotte as its first Director.

Publishing

To accommodate the growth in the volume of research literature, the AMS is striving to publish more high quality content through our Book and Journal programs. We encourage our members to discuss new book or journal ideas with us, as publishing with the AMS generates income to the Society used to support our conferences, programs, and services. We are always working to develop innovative tools for research and teaching. With eBooks, blogs, and other emerging forms of publishing, we continue to enrich the professional work of mathematicians. For example, this year we developed AMS Open Math Notes—www.ams.org/open-math-notes—launched in January 2017, to host freely available course notes and syllabi from undergraduate and graduate mathematics courses.

Washington, DC, Office

The AMS Washington Office advocates for science and mathematics at the national level. Staff members and member volunteers represent the interests of the mathematical community to federal agencies, legislative offices, and other science policy groups, coalitions, and professional organizations. We aim to strengthen the public perception of the significance of mathematics to impact science policy considerations. If you are interested in being a part of our grassroots advocacy efforts, keep an eye out for forthcoming announcements.

Knowing Sam Rankin was planning to retire at the end of 2016, much of the year was spent searching for and preparing for his replacement. Karen Saxe started in January 2017 as the new Director of the Washington, DC, Office. Karen brings great experience as a department chair, professor, and as a former AMS/AAAS Science and Technology Policy Congressional Fellow.

In 2016, the Washington Office continued to provide support and leadership for the Coalition for National Sci-

Courtesy of Macalester College.



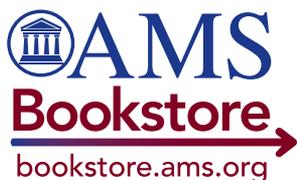
Karen Saxe

ence Funding (CNSF) — an alliance of over 140 science organizations committed to increasing the national investment in the National Science Foundation (NSF). The Washington Office continues to monitor the development of open access publishing policies of the federal government, as well as other issues of importance to mathematicians.

Our DC office organized several events in 2016, including the 19th annual AMS Department Chairs Workshop, annual meetings of the AMS Committee on Science Policy and the AMS Committee on Education, and panels at the Joint Mathematics Meetings. We support a mathematics graduate student as a Mass Media Science & Engineering Fellow through the American Association for the Advancement of Science (AAAS); Kelsey Houston-Edwards, a PhD student at Cornell University, worked at NOVA. The Washington Office also runs the AMS/AAAS Congressional Fellows program and selected mathematician Catherine Paolucci from State University of New York (SUNY), New Paltz. She is spending her year working in the office of Senator Al Franken (MN) on science education matters.

Publishing

Mathematics professionals need access to high-quality mathematics; publishing is thus an essential component of the AMS mission. The AMS publishing program is multifaceted and consists primarily of our Book Program, our Journal Program, and the Mathematical Reviews Database (MRDB), which feeds our online tool, MathSciNet.



visit bookstore.ams.org, our new online bookstore, to see what we're up to! AMS members receive a 40 percent discount.

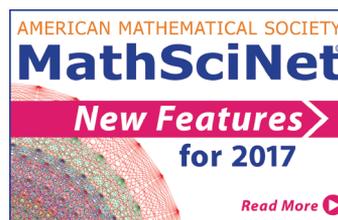
The AMS published 70 books in 2016, including: *Algebraic Spaces and Stacks* by Martin Olsson (Colloquium Publications), *The Case of Academician Nikolai Nikolaevich Luzin* edited by Sergei S.

Demidov and Boris V. Lëvshin (*History of Mathematics*), and *Polynomial Methods in Combinatorics* by Larry Guth (University Lecture Series). Our Book Program underwent its usual periodic review by the AMS Committee on Publications in 2016. They concluded that we are achieving our main goals of publishing books of high scientific quality and adequately representing all areas of mathematics. The support the AMS provides to authors and editors of the books it publishes was recognized as very valuable — this year we improved our internal publication tracking system to continue to improve our author support. We are exploring new modes of accessibility and usage for AMS eBooks, based on a Committee suggestion.

AMS journals remain a highly respected venue for the publication of important mathematics research. We continue to publish two Gold Open Access journals, *Proceedings of the AMS, Series B* and *Transactions of the AMS, Series B*. We are actively addressing backlog issues and are seeing some improvements. This year we developed AMS MathViewer as a new option for viewing online journal articles. In addition, the AMS released STIX™ Version 2.0, a redesigned and expanded font to support the mathematics community.

As the research literature grows, we strive to maintain MathSciNet so it can continue to serve as a valuable resource to the mathematics community. The total number of regular items added to our Mathematical Reviews Database (MRDB) has, overall, increased 39 percent since 2007. In 2016, we received 2,491 books and 9,828 journal issues to evaluate for inclusion in the MRDB. We added 125,489 items and 88,921 reviews to MathSciNet in 2016. As the volume of mathematics literature continues its relentless growth, the AMS carefully considers which journals to include in MRDB. Currently, more than 1,900 journals are listed in MathSciNet. Highlights this year include the addition of 50,869 author profiles to MathSciNet. We accelerated updates to the system and added live links from MathSciNet reference lists to the arXiv.

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The AMS continues to expand its promotion and marketing to help mathematicians access our strong publishing program's products. Please

visit bookstore.ams.org, our new online bookstore, to see what we're up to! AMS members receive a 40 percent discount.

Meetings and Professional Services

The importance of gathering with colleagues to share ideas and new research cannot be overestimated. AMS professional meetings, programs, and services support the continuing professional development of our membership and the mathematics community at large. We run a rich constellation of mathematical programs, such as the successful ninth year of our Mathematics Research Communities program. This program helps early-career mathematicians launch their research programs by fostering collaborations during weeklong workshops. Three



Steve Schneider/JMM.



JMM 2016 attendees.

MRC conferences drew 119 early-career mathematicians last year. The workshops in 2016 were Lie group representations, discretization, and Gelfand pairs; Character Varieties: Experiments and New Frontiers; and Algebraic Statistics.

We also provide support for several programs benefiting the entire mathematics community. As just one example, we conduct the annual survey for the Conference Board of the Mathematical Sciences, an umbrella organization of 17 professional societies in the United States. Results of this survey appear in the *Notices*.

The AMS writes grant proposals to external agencies and in 2016 received continued support of the AMS-Simons Travel Grants and for travel grants to US mathematicians participating in the Mathematical Congress of the Americas in 2017. The MRC program is funded, in part, by the National Science Foundation.

In addition to running our recurring meetings and conferences, such as the Joint Mathematics Meetings (held in Seattle in January 2016), eight regional Sectional Meet-



MRC 2016 participants.

ings, and the MRCs, we also provided financial and operational support for the 2016 von Neumann Symposium.

Our Public Awareness Office maintained and expanded its activities to promote mathematics in general, as well as to promote the Society and its programs. It continues

to run our popular *Who Wants to Be a Mathematician* games, and produces the *Calendar of Mathematical Imagery* and *Mathematical Moments* (a series of posters that promotes appreciation and understanding of the role mathematics plays in science, nature, technology, and human culture).

Gratitude to our Members and Supporters

If you are reading this, you are part of our mathematics community and hopefully a member of the AMS. I am pleased to have you join in our important work. There are many ways to get involved—for example, you could: volunteer to serve on a committee at www.ams.org/committee-nominate; let our Public Awareness Office know of an interesting math event by contacting them at paoffice@ams.org; share and explore math opportunities with fellow members at

www.ams.org/opportunities; or offer to write for *Notices* by sending a message to notices@ams.org. Additionally, you could reach out to ask us to consider a book proposal or to share an idea you have about our publications, our programs, or mathematics in general.

Thank you for all the ways in which you advance mathematics and keep our community strong!

"If I have seen further, it is by standing on the shoulders of giants."

—Sir Isaac Newton

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