

# Report of the Executive Director: State of the AMS, 2017



Courtesy of Maré Studios.

**Catherine A. Roberts, Executive Director**

The American Mathematical Society continues to advance research and to create connections in the mathematics community. Notable highlights of the year include:

- The acquisition of the Mathematical Association of America (MAA) book program. Over 450 titles have been added to our rich publication program of books, journals, and MathSciNet®. In addition, the AMS published 78 new books, and we are seeing sales of our eBooks continue to grow.
- Extensive efforts went into creating a new logo and tagline:



- Over 6,100 people attended the Joint Mathematics Meetings in Atlanta. Almost a third of these attendees were students.
- In 2017, sixty-five new mathematical scientists from around the world were named Fellows of the American Mathematical Society. Among the many prizes and awards in 2017, the Leroy P. Steele Prize for Lifetime Achievement went to James G. Arthur.
- We launched our new Membership Department with Megan Turcotte as its Director.
- The National Science Foundation awarded us \$297,000 for travel grants to US mathematicians participating in the International Congress of Mathematicians in 2018.
- The AMS regularly sponsors a mathematician each year as a Congressional Fellow. Typically, only one or two of the over 300 scientists serving in this way are mathematicians. Our Office of Government Relations is pleased to let our community know that in 2017 there were five mathematicians (including our own AMS Fellow, Margaret Callahan) serving as Congressional Fellows.

## Strategic Plan 2016–2020

How can the AMS best serve our members and the larger mathematics community? This question helped drive the formulation of a 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, our new plan offers a framework to move the Society forward with six overarching initiatives. The plan was approved by the Executive Committee and Board of Trustees in November 2015 and by the Council in January 2016.

Changes will continue to be rolled out as we implement this thoughtful and ambitious plan. Here are some highlights from 2017 in each of the six major initiatives:

### 1. 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 with helpful resources, helping professionals become involved in advancing public policy around mathematics, and promoting a broader public appreciation for mathematics.

Our Strategic Plan calls for the creation of new and consistent branding across the AMS for its publications, programs, and services. A working group of our AMS president, representatives from our Board of Trustees, Council, and AMS staff collaborated with a design firm to update and improve our visual presence and messaging. Tremendous efforts are underway in our Computer Services Division to update our website with the new branding. The public spaces in our Providence headquarters were updated in 2017 with this branding and also now display the *Concinnitas* art prints, generously donated to us by David Mumford.

On the advocacy front, software was purchased to launch an AMS Grassroots Advocacy Network in 2018.

### 2. Develop and promote a coherent portfolio of programs, meetings, publications, and professional services

We are taking stock of what we do, evaluating it in terms of efficacy, content, and costs, to craft a portfolio that delivers on our mission for all mathematics professionals. We are identifying ways in which existing programs can reinforce one another, and determining whether new programs are needed to complement ones that already exist. In 2017, we concluded the initial phase of a systemic assessment of our meetings, programs, and activities. The Math in Moscow scholarship program will end after the final scholarships to support students in spring 2018 are granted. The AMS Activity Groups were terminated due to lack of interest.

### 3. Diversity and Inclusion

In 2016, Helen G. Grundman became our first Director of the newly established Department of Education and Diversity. Her initial focus is on graduate education in the mathematical sciences, preparation of students entering graduate programs, mentoring for success in graduate school, and the promotion of diversity and inclusiveness at the graduate level. This office joined several other organizations in organizing the highly successful panel “The Mathematics and Mathematicians Behind Hidden Figures” at the 2017 Joint Mathematics Meetings.

### 4. Mathematical Reviews/MathSciNet

Research mathematicians recognize the value provided by MathSciNet, our online database of the mathematical literature containing expert reviews and additional resources. The AMS will ensure that the Mathematical Reviews database 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.

### 5. Membership Development

To be successful, we need to serve each rising generation of mathematics professionals and to keep our communication channels open in order to hear what the membership needs. In 2017, we established a Membership Department and hired Megan Turcotte as its first Director.

The AMS supports you and all mathematicians at many stages of your careers. Our unified presence helps advocate for funding, policies, and programming, as well as improving collaboration across fields of study. The AMS helps us connect as a community of mathematicians through our meetings and conferences, with programs like the Mathematics Research Communities (MRC), 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 that impact mathematics. We also honor mathematicians through the AMS Fellows and many prizes and awards. With the generous help of donors, we established new awards in 2017, including the Joan and Joseph Birman Fellowship for Women Scholars and the Mary P. Dolciani Prize for Excellence in Research. We also received a generous challenge grant that led us to begin fundraising for a new Campaign for the Next Generation. You'll hear more about all these exciting opportunities in the coming months.

### 6. Publishing

There are more than a dozen projects underway as part of our implementation of the AMS Strategic Plan within 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. In 2017, we acquired the MAA book program, which adds over 450 new titles to our library.

We are always working to develop innovative tools for research and teaching. With blogs, eBooks, and other emerging forms of publishing, we continue to enrich the professional work of mathematicians. For example, in January 2017, we launched AMS Open Math Notes—[ams.org/open-math-notes](http://ams.org/open-math-notes)—to host freely available course notes and syllabi from undergraduate and graduate mathematics courses. We also modified the online version of the *Notices* to create a more dynamic and streamlined look.

### Washington, DC, Office is now the AMS Office of Government Relations

The AMS Office of Government Relations 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 announcements in the coming months.

Karen Saxe started in January 2017 as the new Associate Executive Director for the Division of Government Relations. This division organized several events in 2017, including the 20<sup>th</sup> annual AMS Department Chairs Workshop, meetings of the AMS Committee on Science Policy and the AMS Committee on Education, and panels at the Joint Mathematics Meetings. This year, we sponsored an exhibit entitled “Berry Smart: Mathematics for Food and Water Security” at the Coalition for National Science Foundation Exhibition presented by Lea Jenkins (Clemson University). Our Office of Government Relations joined with the Mathematical Sciences Research Institute to host two Congressional lunch briefings on Capitol Hill for members of Congress and their staff. In June, David Donoho (Stanford University) presented “Blackboard to Bedside: How High-Dimensional Geometry is Transforming the MRI Industry” and in December, Shafi Goldwasser (MIT) presented “Cryptography: How to Enable Privacy in a Data-Driven World.”

The AMS selects and sponsors one Congressional Fellow in concert with the American Association for the Advancement of Science (AAAS). This year’s fellow is Margaret Callahan (PhD from Case Western Reserve University) who is working in the office of Senator Amy Klobuchar (MN). We also select and support one Mass Media Science & Engineering Fellow through AAAS. In 2017, we selected Ben Thompson, a PhD student at Boston University who spent the summer at Voice of America.

### Publishing

Mathematics professionals need access to high-quality mathematics; publishing is thus an essential component of the AMS mission. The AMS publishing program is multi-faceted and consists primarily of our book program, our journal program, and the Mathematical Reviews database, which feeds our online tool, MathSciNet.

As mentioned above, the big news in 2017 was our acquisition of the MAA book program. The MAA has long-published high-quality books. Their acquisitions editor, Stephen Kennedy, is now bringing new MAA manuscripts to the AMS. Additionally, we published 78 new AMS books. 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. Our production staff provide excellent author support and our books, as you surely know, are priced reasonably.

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.

As the research literature grows, we strive to maintain our Mathematical Reviews database so it can continue to serve as a valuable resource to the mathematics community. This year, we added 133,581 bibliographic items and 105,563 reviews to the database that feeds MathSciNet. As the volume of mathematics literature continues to grow, the AMS is increasingly cautious about adding new journals for coverage. This will help preserve the excellent quality of this important research tool.

The AMS continues to expand its promotion and marketing to help mathematicians access our strong publishing program’s products. In 2017, Marketing became a stand-alone department and received new resources to help support these efforts.

### 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 tenth year of our Mathematics Research Communities (MRC) program. This program helps early-career mathematicians launch their research programs by fostering collaborations during week-long workshops. Three MRC conferences served early-career mathematicians last year.

The workshops in 2017 were “Homotopy Type Theory”; “Beyond Planarity: Crossing Numbers of Graphs”; and “Dynamical Systems: Smooth, Symbolic, and Measurable.” We also provide support for several programs benefiting the entire mathematics community. For example, we conduct the survey for the Conference Board of the Mathematical Sciences, an umbrella organization of seventeen professional societies in the United States.

## FROM THE AMS SECRETARY

The AMS writes grant proposals to external agencies and in 2017 received continued support of the AMS-Simons Travel Grants. The MRC program is funded, in part, by the National Science Foundation. Additionally, a new grant from the Simons Foundation is supporting ongoing enhancements to MathJax, an open-source cross-browser JavaScript library that displays mathematical notation in web browsers.

In addition to running our recurring meetings and conferences, such as the Joint Mathematics Meetings (held in Atlanta in January 2017) and eight regional Sectional meetings, we also provided financial and operational support for the MRC workshops in Snowbird, UT. We note that the MRC program will be held in Rhode Island in 2018.

Our Public Awareness Office maintained and expanded its activities to promote mathematics and to promote the Society and its programs. We continued to bring our popular *Who Wants to Be a Mathematician?* game to new audiences. We produced the printed Calendar of Mathematical Imagery and new Mathematical Moments.

### AMS Operations

The AMS has over 200 employees working in Rhode Island, Michigan, and Washington, DC. All of our efforts are facilitated by professionals who help us support our human resources and manage our fiscal health, investments, and budget. In light of the upcoming implementation of the European Union's General Data Protection Regulation, staff have received legal advice and professional training to help ensure we stay on the leading edge of security. I am reminded daily how the tremendous efforts of AMS staff and volunteer leaders come together to create the wonderful world of AMS activities.

### To Our Members and Supporters

If you are reading this you are part of our mathematics community and hopefully a member of the AMS. The AMS is responding to evolution in the mathematics landscape, and 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/about-us/governance/committees/comm-all.htm](http://www.ams.org/about-us/governance/committees/comm-all.htm) or contact our publisher, Sergei Gelfand ([sxg@ams.org](mailto:sxg@ams.org)), with your ideas for new books. Our Public Awareness Office might be able to help publicize your math event on AMS social media (contact [paoffice@ams.org](mailto:paoffice@ams.org) or tag your posts with #amermathsoc). If you are a member, let us know about any professional accomplishments!

Please drop in to visit us at our Providence, RI, headquarters or in our Ann Arbor, MI, (Mathematical Reviews) or Washington, DC, (Government Relations) locations. Visit our refreshed website at [www.ams.org](http://www.ams.org) for more details on anything described in this report.

Thank you for all the ways in which you advance mathematics.

—Catherine A. Roberts  
Executive Director  
April 2018



## Beyond Reviews

A blog about MathSciNet®

From the Executive Editor of  
Mathematical Reviews,  
Edward Dunne

A blog created to highlight the innovative features of MathSciNet. Updates will include particularly informative reviews and will discuss tips and tricks for navigating MathSciNet, all with the goal of being helpful to users both old and new.

[blogs.ams.org/beyondreviews](http://blogs.ams.org/beyondreviews)

