



Reinhard Laubenbacher

Mathematics Needs AAAS

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Note: The opinions expressed here are not necessarily those of Notices.

All of us in the mathematical sciences community are aware that the deep connection of mathematics to the sciences has always been a major positive influence in its development. This has never been more true than today, as we are entering another “golden age” of mathematics, driven by the ubiquity of data and the need for new mathematical discoveries that will propel forward both pure and applied mathematics. And most of us agree likewise that it has never been more important than today to communicate the power and beauty of mathematics to non-mathematicians, whether scientists or the general public. Many members of the mathematical sciences community are already engaged with practitioners from other fields or in outreach to the general public, including the American Mathematical Society (AMS)¹.

The American Association for the Advancement of Science (AAAS) is an organization one of whose broad goals is to “enhance communication among scientists, engineers, and the public.” It provides a tremendously useful and greatly underutilized resource for the mathematical sciences community in pursuing this very same goal. The

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¹The AMS Fellowship Program <https://www.ams.org/programs/ams-fellowships/ams-fellowships>.

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annual AAAS meeting² provides a ready-made forum for mathematicians to present their work to researchers, and to learn about new developments in other fields. For instance, one participant of this year’s annual meeting in Austin, TX, who is head of a science department, told me that she is using scientific symposia at the AAAS annual meeting to identify good speakers from other fields to invite for lectures, as her department is developing a strategic plan to create an interdisciplinary research and graduate program.

The accompanying Opinion piece by H. G. Kaper and H. Engler, reprinted from *SIAM News*, provides a more detailed view of the opportunities at the annual meeting. In this article, I will provide an overview of other opportunities AAAS presents for mathematicians.

AAAS is an international organization with approximately 130,000 members, focused on the advancement of science, as the name says, through various activities, including interdisciplinary scientific meetings, education and training in outreach and communication, advocacy with government offices, and resources, such as a collection of scientists who will provide timely expertise to journalists who are writing about science. Many K–12 students attend special science programs at the annual meeting every year. Outreach and advocacy for science has never been more important than now, as science and its value to society are increasingly questioned.

AAAS provides resources that can be immensely helpful in accomplishing goals that the professional mathematics societies are also pursuing. For example, besides providing opportunities for interdisciplinary interactions and col-

²The annual AAAS meeting meetings.aaas.org/program.

laborations, AAAS has a well-recognized and prestigious fellows program that can draw attention to mathematicians' accomplishments³. In order to make the most of AAAS as a resource for mathematicians, we need to engage and "provide content."

A large part of success is "just showing up," whether as a member, a conference participant or speaker, or as a member of the governance body of Section A, the mathematics section. Each of the twenty-four AAAS sections receives funds based on membership numbers, and is allotted a certain number of annual fellows the same way. Currently, the mathematics section of the AAAS has slightly more than 2,000 members. It is governed by an eight-member steering group, with Dr. Deborah Lockhart, NSF, as the 2018 section chair. The two most important activities of the steering group are to nominate fellows and to solicit proposals for scientific symposia at the annual AAAS meeting that focus on mathematics in a substantial way. Through generous support from the AMS, as well as AAAS funds, the section can support some or all of the symposium speakers' expenses. Successful symposia are aimed at attracting a broad cross-section of the membership. While this typically favors applied topics, a well-done program on a topic in foundational mathematics could also be very successful. I hear repeatedly from scientists in other fields that they are very curious about research in foundational, "pure" mathematics.

The 2019 AAAS meeting will take place in Washington, DC, February 14–17, and promises to once again give a view of cutting-edge advances across all fields and a vigorous discussion of the place of science in society (see p xxx of this issue). We are planning several activities at the meeting, such as presentations by the newly elected AAAS Fellows, a meeting with the editorial staff of *Science Magazine*, and participation from local and regional undergraduate and graduate mathematics students. There is no better time than now to join AAAS and participate.

Credits

Author photo by Lanny Nagler for UConn Health.

How to Become Involved

- Become an AAAS member⁴—you cannot become a fellow without being a member.
- Attend the annual meeting and attend the Section A business meeting to contribute your ideas of how to prominently feature mathematics through AAAS venues.
- Propose a symposium for the next annual meeting (typically three speakers, thirty minutes each).
- Become involved in Section A and AAAS governance activities.
- Use AAAS resources in building your interdisciplinary research or outreach program.
- Attend the AMS-AAAS Liaison Committee meeting at the Joint Mathematics Meetings.

⁴<https://www.aaas.org/membercentral>

³AAAS Fellowship Programs <https://www.aaas.org/general-process>.