Mathematics at the 2015 AAAS Meeting

San Jose Convention Center
San Jose, California
February 12–16, 2015

The American Association for the Advancement of Science (AAAS), founded in 1848, is the world’s largest general scientific society and is the publisher of Science. The AAAS is divided into twenty-four disciplinary-based sections, including Section A (Mathematics). The 2015 annual meeting of the AAAS will be held in San Jose on February 12–16. The theme of this year’s meeting is “Innovations, Information, and Imaging,” and this year’s meeting features sessions that will be of special interest to mathematicians, mathematics educators, and students of mathematics.

The AAAS Annual Meeting is organized into symposia which have three or more speakers and often a discussant who reflects on the talks that are given. Section A is sponsoring three symposia this year, featuring outstanding expository talks by prominent mathematicians and scientists. The three symposia sponsored by Section A this year are:

From Art to Mathematics: A Visual Mode of Communication
Recent years have witnessed an explosion of scholarly activity in which mathematics inspires artists to communicate innovative ideas through artistic channels. This symposium showcases three experts who crosscut between the world of mathematics and technology and the world of the practicing artist. They will present examples of their artwork, explain how each work represents or images a mathematical idea, and discuss the relevance of artistic modes of thought to solving practical problems in communicating science.
Organizer: George W. Hart, Stony Brook University

Preparing Researchers for the Quantitative Biology of the Future
Advances in quantification of biology and medicine will soon render obsolete researchers and practitioners who are not fluent in quantitative assessment of data and mechanistic understanding of biological and medical systems through modeling and simulation. Stakeholder disciplines include genomics, bioinformatics, molecular and systems biology, medicine, statistics, mathematics, and computer science. Speakers, experts in these areas and in STEM education and evaluation, will address the justifications and challenges for quantitative curricular reform. A final panel discussion will identify national actions in the US to overcome cultural obstacles, share methods, and build consensus.
Organizer: Frederick R. Adler, University of Utah

Bounded Gaps between Prime Numbers: Individual Research vs. Crowdsourcing
Studied since antiquity, our knowledge of prime numbers recently took a giant leap forward. This leap was accomplished both by the old-school method of an individual quietly working out intricate details and the decidedly new-school paradigm of crowdsourcing. What was not known before had been famously conjectured for centuries: infinitely often there are two primes a bounded distance away from each other. A proof was announced a year ago by Yitang Zhang. It was quickly realized that his proof was correct, and then many people chipped away at Zhang’s initial bound of $7 \times 10^7$. Now, the bound is down to 246. So should mathematics progress with single researchers plugging away, as did Zhang? Or is crowdsourcing really the wave of the future?
Organizer: Carl Pomerance, Dartmouth College

These symposia are only a few of the more than one hundred fifty AAAS symposia this year in the physical, life, social, and biological sciences. For further information, including the schedule of talks, go to www.aaas.org/meetings. Section A acknowledges the generous contributions of the American Mathematical Society for travel support for speakers this year, continuing a multidecade commitment to the mathematics program at the AAAS.

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The AAAS Annual Meeting is the showcase of American science, with about 10,000 people attending some part of the meeting each year. The AAAS Program Committee is genuinely interested in offering symposia on topics in pure and applied mathematics. In recent years there have been symposia on subjects such as compressive sensing, multiscale modeling of cancer, quantum computing, and the changing nature of mathematical proof.

The 2016 meeting will be February 11–15, 2016, in Washington DC, and the Steering Committee for Section A seeks organizers and speakers who can present substantial new material in an accessible manner to a large scientific audience. All are invited to attend the Section A Committee business meeting in San Jose on Friday, February 13, 2015, at 7:30 p.m., where we will brainstorm ideas for symposia. In addition, I invite you to send me, and encourage your colleagues to send me, ideas for future AAAS Annual Meeting symposia.

The following are the members of the Steering Committee for Section A from February 2014 to February 2015.

Chair: David M. Bressoud (Macalester College)
Chair-elect: Martin Golubitsky (Ohio State University)
Retiring Chair: Juan C. Meza (University of California, Merced)
Secretary: Andy R. Magid (University of Oklahoma)

Members-at-Large:
Joceline Lega (University of Arizona)
Sheldon Katz (University of Illinois, Urbana-Champaign)
Susan Friedlander (University of Southern California)
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