Inside the AMS

Announcements from the AMS Office of Government Relations

Next Steps in the Evolution of Mathematics Education: Moving Beyond Pilots

Over the last decade, mathematicians have engaged in many innovations in mathematics education and, more generally, in STEM education. These can be viewed as pilots for larger-scale changes in the teaching and learning of mathematics that are now taking off nationally. On October 12, 2018, the Committee on Education of the AMS will host a mini-conference on education in Washington, DC. The conference will provide an opportunity for these changes to be discussed among mathematicians, experts from adjacent fields, and legal experts focused on the intersection between math education and civil rights. Confirmed speakers include:

- Christopher Edley (President, Opportunity Institute; Professor of Law, UC Berkeley)
- Ellen Hildreth (Professor of Computer Science, Wellesley College)
- Brit Kirwan (Retired Chancellor of the University of Maryland System, Executive Director, TPSE Math)
- Sonin Kwon (Managing Director, Investment Management Group, Mass Mutual)
- Rachel Levy (Deputy Executive Director, Mathematical Association of America)
- Jake Steel (invited), (Chief of Staff, Office of Planning, Evaluation, and Policy Development, US Department of Education)
- Manil Suri (Mathematics Professor, University of Maryland Baltimore County, & NYT Op-Ed contributor)

This meeting will provide mathematicians, particularly chairs, an opportunity to be informed of national trends in education that impact mathematics. Participants will be encouraged to share their experiences and make their voices heard both within and beyond the mathematical community. That communication is both important and urgent. In the past, it may have been enough for the math chair to occupy herself with the business of running a department while navigating campus politics. This is no longer the case, as demonstrated by the abrupt elimination in fall 2018 of all mathematics remediation at the twenty-three California State University (CSU) campuses. This was ordered by the CSU Chancellor's Office with one year's notice, due in part to legislative pressure. Math chairs cannot afford to be ignorant of issues like opportunity and achievement gaps, outcomes-based funding, or validation of placement and admissions criteria. It is clear in state after state that legislation and legal structures are being employed to change what happens in the classroom. It is vital that mathematicians engage in these discussions if we are to have a say in the outcomes.

The Committee on Education needs strong and well-informed voices to inspire a healthy debate on how mathematics education will meet future needs. The discussions at the mini-conference will inform the Committee's internal discussion regarding its role and goals in the coming years. Campus teams are encouraged to coordinate their participation. We look forward to a strong turnout for the mini-conference.

There is a registration fee of **$200** to help offset meeting costs. If you are interested in attending, please register by **September 26, 2018** at bit.ly/2JjKCJC.

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Boost Your Career in Washington

With assignments in federal agencies, on Capitol Hill, and in the judicial branch, AAAS Science & Technology Policy Fellows are on the front line of vital issues that impact society. The AAAS Science & Technology Policy Fellowships (STPF) are the premier opportunity for outstanding PhD mathematicians, scientists, and engineers to learn first-hand about policymaking while contributing their STEM knowledge to American government.

The Fellowship is yearlong and runs from September through August. Fellows broaden their career paths while engaging with policymakers, administrators, and thought leaders. They represent a broad range of backgrounds, disciplines, and career stages and are members of a strong corps of 3,000+ policy-savvy STEM leaders across academia, government, nonprofits, and industry. Currently, there are not many mathematicians in the STPF ranks: Change that by applying to become a fellow today!

The AMS sponsors one Fellowship placement in Congress each year. Learn more at bit.ly/2LaVLlB.

The AMS Congressional Fellow is one of about 300 PhD scientists serving in the federal government each year, as part of the large Science & Technology Policy Fellowship program run by the American Association for the Advance-

ment of Science (AAAS). Applications for the AMS Congressional Fellowship and the AAAS S&T Policy Fellowship are separate, and applying to both is recommended.

The first class of AAAS fellows was in 1973 and consisted of seven scientists hosted by the American Physical Society, the American Society of Mechanical Engineers, and the Institute for Electrical and Electronic Engineering. Today, the AAAS partners with several dozen professional associations—including the AMS—and places nearly 300 fellows each year in all branches of the federal government. Each year, roughly 30–35 fellows are sponsored by one of the AMS's sister associations to work in Congress, one fellow can be placed in the Judicial Branch, and the remaining 250 or so work in the Executive Branch. Hosting offices covet their fellows. Executive Branch fellows work in many, many agencies and not just ones mathematicians might think of, like the National Science Foundation and the Department of Defense.

Mathematician STPF alumni leverage their fellowship experience in many different ways. Our own Associate Executive Director Karen Saxe was an AMS Congressional Fellow. Fellow Carla Cotwright-Williams is a scientist at the US Department of Defense. Fellow Karoline Pershell directs research at a tech company and is Executive Director of the Association for Women in Mathematics. Fellow Boris Granovskiy works for the Congressional Research Service, the public policy group within the Library of Congress that publishes thousands of nonpartisan reports per year at the request of Congressional members. Fellow Richard Yamada serves as the Deputy Assistant Administrator for the Office of Research and Development at the EPA.

Read more about these fellowships, and about the work of the mathematicians serving in the 2017–2018 Fellowship class at bit.ly/2LpWsHO.

Application deadline is **November 1, 2018,** for AAAS S&T Policy fellowships. Read more at www.stpf-aaas.org.

Application deadline is **February 15, 2019,** for the AMS Congressional Fellowship. Read more at bit.ly/2LaVLlB.

Reach out to the AMS Government Relations Office with questions: amsdc@ams.org.

From the AMS Public Awareness Office

Math in the Media is a survey of math and mathematicians in the news. Here you'll find Tony Phillips' Take and summaries of, as well as links to, articles and radio segments from *Science, Nature, Quanta Magazine, The Guardian, The Conversation,* National Public Radio, *Science News, Forbes*, university news offices, and other sources. Recent topics include calculus, Alan Turing, puzzles, math history, math and taxonomy, book reviews, and much more. www.ams.org/mathmedia.

Six-color map on the Klein bottle, Moira Chas.

Feature Column features essays for those who enjoy mathematics—novices and experts alike. Recent columns include: "Reading the Bakhshali Manuscript," "Crochet Topology," "Mathematical Economics," "Neural Nets and How They Learn." www.ams.org/featurecolumn.