

Inside the AMS

AMS Congressional Fellow Chosen



Anthony J. Macula

The AMS is pleased to announce the selection of ANTHONY J. MACULA of the State University of New York, College at Geneseo, as its Congressional Fellow for 2015–16.

The fellowship provides a unique public policy learning experience,

demonstrates the value of science-government interaction, and brings a technical background and external perspective to the decision-making process in Congress.

Macula received his PhD in mathematics from Wesleyan University. He has been a rotating program officer in the Directorate for Mathematical and Physical Sciences at the National Science Foundation (NSF), where he served the broad mathematical community in the Division of Mathematical Sciences (DMS). He has done research in pure and applied mathematics, primarily in combinatorics, group testing, information theory, mathematical biology, math education, and topology.

The Congressional Fellowship program is administered by the American Association for the Advancement of Science (AAAS). Fellows spend a year working on the staff of a member of Congress or a congressional committee, working as a special legislative assistant in legislative and policy areas requiring scientific and technical input. The fellowship program includes an orientation on congressional and executive branch operations and a year-long seminar series on issues involving science, technology, and public policy. For more information on the AMS-AAAS Congressional Fellowship go to bit.ly/AMSCongressionalFellowship.

—AMS Washington Office

2015 AMS-AAAS Mass Media Fellow Chosen

RACHEL CROWELL, a graduate of the University of Missouri, Kansas City, has been awarded the 2015 AMS-AAAS Mass Media Fellowship. The AMS will sponsor her fellowship at *The Oregonian* for ten weeks this summer.

The Mass Media Science and Engineering Fellows program is organized by the American Association for the Advancement of Science (AAAS). This competitive program is designed to improve public understanding of science and technology by placing graduate and postgraduate science, mathematics, and engineering students in media outlets nationwide. The fellows work as reporters, researchers, and production assistants alongside media professionals to sharpen their communication skills and increase their understanding of the editorial process by which events and ideas become news.

The program is available to enrolled college or university students (graduate, doctoral, or upper-level undergraduates) in the physical, biological, geological, health, engineering, computer, or social sciences, or mathematics with outstanding written and oral communication skills and a strong interest in learning about the media.

Now in its forty-first year, this fellowship program has placed over 635 science, mathematics, and engineering scholars in media organizations nationwide as they research, write, and report today's headlines.

For more information on the AAAS Mass Media Science and Engineering Fellows Program, visit the website www.aaas.org/mmffellowship.

—AMS Washington Office

AMS Sponsors Exhibit on Capitol Hill

The AMS sponsored an exhibit at the twenty-first annual Coalition for National Science Funding (CNSF) exhibition and reception on Capitol Hill held on April 29, 2015.

Katharine Gurski of Howard University presented work on “Mathematical Algorithms for Space Weather, Tsunamis, and Plasma Physics.” The exhibition was attended by 275 people, including ten members of Congress, to view thirty-five exhibits on research funded by the National Science Foundation.



Professor Katharine Gurski with Dr. France Córdova, director of the National Science Foundation.

The dynamics of space weather are modeled by the magnetohydrodynamics (MHD) equations that capture the interaction between magnetic fields and moving, conducting fluids. The governing equations of MHD consist simply of Newton’s laws of motion and the Maxwell form of the laws of electrodynamics. The goal of Gurski’s research group’s project is to develop numerical algorithms from applied mathematics to develop solvers for robust, highly accurate, adaptive ideal divergence-free MHD on multidimensional meshes, including geodesic meshes. Partitioning algorithms will enable the numerical simulations to achieve high levels of parallelism.

The algorithms are extended to model multidimensional nonconservative hyperbolic systems (for example: shallow water equations including tsunamis, granular flow, and plasma physics flows) using path conservation methods and Riemann solvers. Better numerical algorithms based on mathematical insights will result in better simulation models for more accurate predictions.

Gurski and the other exhibitors were able to present their work, funded by the National Science Foundation, to congressional representatives and explain the critical importance of increased, sustained federal investments in basic scientific research.

The Coalition for National Science Funding (CNSF) is an alliance of more than 140 professional societies, universities, and corporations advocating support for the National Science Foundation. The coalition is chaired by Samuel M. Rankin III, associate executive director of the AMS and the director of its Washington office.

—AMS Washington Office

From the AMS Public Awareness Office

Daniel Gries: Digital Works, a new album on Mathematical Imagery. Gries, a PhD mathematician, teaches mathematics and computer science at the Hampton School in New Haven, Connecticut. The “Jellyfish 2” pictured here “is based on a morphing fractal curve method, but shaped into an abstract jellyfish through the use of parametric curves and other mathematical tricks.” See a selection of

his works at www.ams.org/mathimagery/thumbnails.php?album=43.

Who Wants to Be a Mathematician? A team version of the game was held at the American Regions Mathematics League (ARML) competition at the University of Georgia; a team from Florida won US\$4,000. See highlights, including a video of the winning team, at www.ams.org/programs/students/wwtbam/arml-2015.

Mathematical Moments Podcasts on Science360 Radio. The AMS now has a podcast “show” on the NSF’s Science360 radio site. The first podcasts featured are of Ken Golden (“The Indiana Jones of Math”, University of Utah) talking about the mathematics of sea ice and of Emmanuel Candès (Stanford University) discussing the exciting new field of compressed sensing. See science360.gov/radio/show/2c67a62a-fdae-4899-8bf0-9d719a6fa7c7/ams-mathematical-moments.

AMS Blogs. AMS blogs, written by mathematicians in all stages of their careers—from graduate students to professors—cover mathematics, teaching mathematics, visual mathematics, mentoring, MathSciNet, and other topics of professional interest. Readers can follow any of the AMS blogs via an RSS subscription. See the list of blogs at blogs.ams.org/.

—Annette Emerson and Mike Breen
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Deaths of AMS Members

ROBERT J. BLATTNER, of Malibu, California, died on June 13, 2015. Born on August 6, 1931, he was a member of the Society for 58 years.

FREDERICK W. LEYSIEFFER, of Tallahassee, Florida, died on April 14, 2015. Born on January 30, 1933, he was a member of the Society for 56 years.

LYNN STEEN, of Northfield, Minnesota, died on June 21, 2015. Born on January 1, 1941, he was a member of the Society for 49 years.



“Jellyfish 2,” by Daniel Gries.