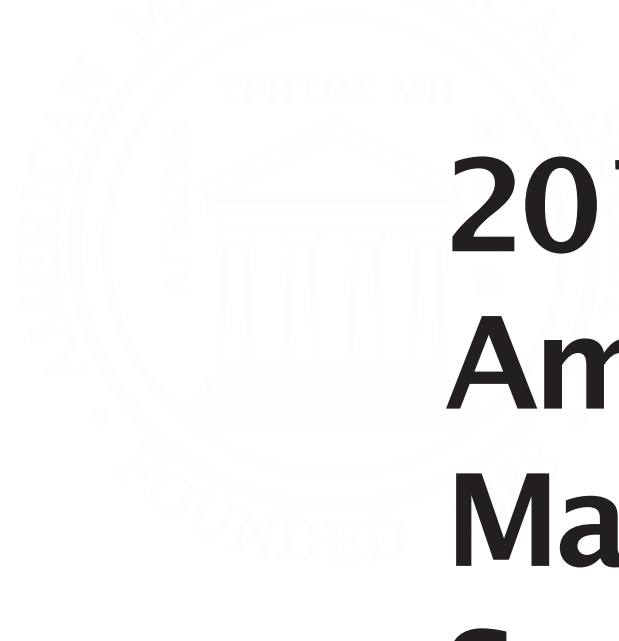


**SPECIAL SECTION**

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# **2015 American Mathematical Society Elections**

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# 2015 AMS Elections

## Special Section

### List of Candidates–2015 Election

**President**

*(one to be elected)*

Mark L. Green

Kenneth A. Ribet

**Vice President**

*(one to be elected)*

Raman Parimala

Catherine A. Roberts

Richard Schoen

**Board of Trustees**

*(one to be elected)*

Sheldon Katz

Bryna Kra

**Member at Large  
of the Council**

*(five to be elected)*

Henry Cohn

Alicia Dickenstein

Erica Flapan

Wilfrid D. Gangbo

Edray Herber Goins

Tasso J. Kaper

Anna Mazzucato

Alan William Reid

Bogdan D. Suceavă

Xiaoming Wang

Yang Wang

**Nominating Committee**

*(three to be elected)*

Andrew J. Bernoff

Carolyn Gordon

Kevin P. Knudson

David R. Morrison

Karen Hunger Parshall

William Yslas Vélez

**Editorial Boards Committee**

*(two to be elected)*

Mladen Bestvina

Jeffrey Brock

Laura DeMarco

Tatiana Toro

**Ballots**

AMS members will receive email with instructions for voting online by August 17, or a paper ballot by September 17. If you do not receive this information by that date, please contact the AMS (preferably before October 1) to request a ballot. Send email to [ballot@ams.org](mailto:ballot@ams.org) or call the AMS at 800-321-4267 (within the U.S. or Canada) or 401-455-4000 (worldwide). The deadline for receipt of ballots is November 6, 2015.

**Write-in Votes**

It is suggested that names for write-in votes be given in exactly the form that the name occurs in the *Combined Membership List* ([www.ams.org/cm1](http://www.ams.org/cm1)). Otherwise the identity of the individual for whom the vote is cast may be in doubt and the vote may not be properly credited.

**Replacement Ballots**

For a paper ballot, the following replacement procedure has been devised: A member who has not received a ballot by September 17, 2015, or who has received a ballot but has accidentally spoiled it, may write to [ballot@ams.org](mailto:ballot@ams.org) or Secretary of the AMS, 201 Charles Street, Providence, RI 02904-2294, USA, asking for a second ballot. The request should include the individual's member code and the address to which the replacement ballot should be sent. Immediately upon receipt of the request in the Providence office, a second ballot, which will be indistinguishable from the original, will be sent by first class or airmail. Although a second ballot will be supplied on request and will be sent

by first class or airmail, the deadline for receipt of ballots cannot be extended to accommodate these special cases.

**Biographies of Candidates**

The next several pages contain biographical information about all candidates. All candidates were given the opportunity to provide a statement of not more than 200 words (400 for presidential candidates) to appear at the end of their biographical information. Photos were supplied by the candidates; if uncredited, the candidate owns the rights to the photo.

**Description of Offices**

The **president** of the Society serves one year as president elect, two years as president, and one year as immediate past president. The president strongly influences, either directly or indirectly, most of the scientific policies of the Society. A direct effect comes through the president's personal interactions with both members of the Society and with outside organizations. In addition, the president sits as member of all five policy committees (Education, Meetings and Conferences, Profession, Publications, and Science Policy), is the chair of the Council's Executive Committee, and serves ex officio as a trustee. Indirect influence occurs as the president appoints chairs and members of almost all committees of the Society, including the policy committees. The president works closely with all officers and administrators of the Society, especially the executive director and the secretary. Finally, the president nominates candidates for the Nominating Committee and the Editorial

Boards Committee. Consequently, the president also has a long-term effect on Society affairs.

The **vice president** and the **members at large of the AMS Council** serve for three years on the Council. That body determines all scientific policy of the Society, creates and oversees numerous committees, appoints the treasurers and members of the Secretariat, makes nominations of candidates for future elections, and determines the chief editors of several key editorial boards. Typically, each of these new members of the Council also will serve on one of the Society's five policy committees. Current members of the Council may be found here: [www.ams.org/council](http://www.ams.org/council).

The **Board of Trustees**, of whom you will be electing one member for a five-year term, has complete fiduciary responsibility for the Society. Among other activities, the trustees determine the annual budget of the Society, prices of journals, salaries of employees, dues (in cooperation with the Council), registration fees for meetings, and investment policy for the Society's reserves. The person you select will serve as chair of the Board of Trustees during the fourth year of the term. Current members of the Board may be found here: [www.ams.org/bt](http://www.ams.org/bt).

The candidates for **president** were suggested to the Council by the Nominating Committee. The candidates for **vice president, members at large, and trustee** were suggested to the Council either by the Nominating Committee or by petition from members. While the Council has the final nominating responsibility, the groundwork is laid by the **Nominating Committee**. The candidates for election to the Nominating Committee were nominated by the current President, Robert L. Bryant. The three elected will serve three-year terms. The main work of the Nominating Committee takes place during the annual meeting of the Society, during which it has four sessions of face-to-face meetings, each lasting about three hours. The Committee then reports its suggestions to the spring Council, which makes the final nominations. Current members of the Nominating Committee may be found here: [www.ams.org/nomcom](http://www.ams.org/nomcom).

The **Editorial Boards Committee** is responsible for the staffing of the editorial boards of the Society. Members are elected for three-year terms from a list of candidates named by the president. The Editorial Boards Committee makes recommendations for almost all editorial boards of the Society. Managing editors of *Journal of the AMS*, *Mathematics of Computation*, *Proceedings of the AMS*, and *Transactions of the AMS*; and Chairs of the *Colloquium*, *Mathematical Surveys and Monographs*, and *Mathematical Reviews* editorial committees are officially appointed by the Council upon recommendation by the Editorial Boards Committee. In virtually all other cases, the editors are appointed by the president, again upon recommendation by the Editorial Boards Committee. Current members of the Editorial Boards Committee may be found here: [www.ams.org/ebc](http://www.ams.org/ebc).

Elections to the **Nominating Committee** and the **Editorial Boards Committee** are conducted by the method of approval voting. In the approval voting method, you can vote for as many or as few of the candidates as you wish.

The candidates with the greatest number of the votes win the election.

### A Note from AMS Secretary Carla D. Savage

The choices you make in these elections directly affect the direction the Society takes. If the past election serves as a reliable measure, about 13 percent of you will vote in the coming election, which is comparable with voter participation in other professional organizations which allow an online voting option. This is not mentioned as encouragement for you to throw the ballot in the trash; instead, the other officers and Council members join me in urging you to take a few minutes to review the election material, fill out your ballot, and submit it. The Society belongs to its members. You can influence the policy and direction it takes by voting.

Also, let me urge you to consider other ways of participating in Society activities. The Nominating Committee, the Editorial Boards Committee, and the Committee on Committees are always interested in learning of members who are willing to serve the Society in various capacities. Names are always welcome, particularly when accompanied by a few words detailing the person's background and interests. Self-nominations are probably the most useful. Recommendations can be transmitted through an online form ([www.ams.org/committee-nominate](http://www.ams.org/committee-nominate)) or sent directly to the secretary ([secretary@ams.org](mailto:secretary@ams.org)) or Office of the Secretary, American Mathematical Society, Department of Computer Science, Box 8206, North Carolina State University, Raleigh, NC 27695-8206 USA.

**PLEASE VOTE.**

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# Nominations for President

## Nomination of Mark Green

*Phillip A. Griffiths and Jill Pipher*

Mark Green is an absolutely superb choice for president of the American Mathematical Society. His scientific contributions to mathematics are at the highest level and he has a remarkable record of service to our community. He has taken on leadership roles in the profession with great success, combining a skill for administration with a true spirit of generosity. His accomplishments in the profession have been recognized by the AMS, as a Fellow, by the IMU, as the Chern Medal Plenary Lecturer in Seoul and an ICM invited speaker in Berlin, by the American Academy of Arts and Sciences, as a Fellow, and through many awards and honors too numerous to list here. Mark's selection as the 2013 AMS Congressional Lecturer demonstrates the confidence of the mathematical community in his ability to speak eloquently on their behalf. Finally, he has shown extraordinary dedication to the mathematics profession through his leadership in establishing and directing the Institute for Pure and Applied Mathematics, through his membership in the AMS Strategic Planning Group and as an AMS Trustee, and over many years as author, editor, educator, organizer, speaker, and reviewer.

It seems natural to begin with an overview of Mark Green's mathematical contributions. Over more than four decades, Mark has done fundamental research in geometry, algebra, and some areas of applications. His work has answered outstanding basic questions, and, especially, has opened up new areas of research by establishing initial results and formulating conjectures that have given rise to entire streams of productive activity. Mark's work is characterized by great originality and an unsurpassed ability to originate and apply techniques from commutative algebra to geometric questions.

To cite some examples, the modern subject of "hyperbolicity" originated with Picard's theorem and now involves the study of holomorphic maps of  $\mathbb{C}^n$  into a quasi-projective algebraic variety  $X$ . Early in his career, Mark solved a problem posed by Chern at the 1970 ICM about holomorphic maps from  $\mathbb{C}^n$  into  $X$  when  $X$  is the complement of hyperplanes in  $\mathbb{P}^n$  and later studied maps from  $\mathbb{C}$  into  $X$  when  $X$  is a

surface of general type. In the latter work, jet differentials were introduced, and in an original and suggestive step, their connection to the surface being of general type was established. This led to a conjecture that is the subject of considerable interest and much current work; among other things it was the topic of a recent Bourbaki seminar. The Green-Griffiths conjecture on holomorphic curves motivated conjectures of Lang on rational points on varieties of general type. Also in his early work, and in a completely different area, Mark formulated and established a Lie algebra theoretic classification of the differential invariants that determine curves in homogeneous spaces. As these examples suggest, Mark's mathematical research is remarkably broad: it covers much of geometry.

Beginning with the early work of Serre, Grothendieck and others, commutative and homological algebra have been absolutely fundamental tools in algebraic geometry. In the 1980s, Mark brought an extremely fruitful, geometrically motivated, perspective to the field. He was able to solve outstanding classical questions, including a question of Riemann on quadrics of rank four through a canonical curve. He went on to establish fundamental new results and formulate new and highly original questions. The Green conjecture on syzygies of a canonical curve is one of the deepest and most tantalizing questions about the geometry of algebraic curves. The commutative/homological techniques that he introduced provided effective methods for addressing geometric questions arising from Hodge theory and paved the way for important ongoing work applying Hodge theory to questions in algebraic geometry. Mark's work with Rob Lazarsfeld on deformation theory of cohomology groups continues to play a role in the classification theory of algebraic varieties.

Mark's research in the last twenty years has focused on a wide range of geometrically motivated questions in Hodge theory. He and his collaborators have results pertaining to algebraic cycles, general Neron models, and Mumford-Tate groups and domains. This work has led to various mathematical generalizations and is currently being applied to questions in physics. The Mumford-Tate groups are the natural symmetry groups in Hodge theory, and the corresponding Mumford-Tate domains are special homogeneous complex manifolds that have a very rich geometry, relating to representation theory in addition to Hodge theory and complex algebraic geometry. Using techniques from Lie theory, Mark and his collaborators completely classified the ways in which a simple algebraic group may be realized as a Mumford-Tate group. All of the results we describe here have opened new areas of currently active research.

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DOI: <http://dx.doi.org/10.1090/noti1268>

We would now like to describe some of Mark's extraordinary service contributions to the profession. Over the years, these contributions range from specific service to AMS and SIAM to scientific and administrative leadership roles: the breadth of his service interests is striking. He has generously given time to support individuals and institutions that serve the mathematical community. His public presentations on policy and educational issues are noted for their focus and clarity.

He just completed a term (2010–2015) as a Trustee of the AMS and serves on its Strategic Planning Committee. Mark's perspective and advice on the profession has been widely sought: he has served as a consultant to many major scientific boards, societies and institutions, including the American Academy of Arts and Sciences Selection Panel, the American Council on Education, the National Research Council Board on Mathematical Sciences and Applications, (chair of) the 2013 NSF-DMS Committee of Visitors, the Simons Foundation, and numerous Canadian and US institute advisory boards.

One of the highlights in this extensive list is Mark's service as Vice-Chair of the National Research Council committee which produced the report, *The Mathematical Sciences in 2025*, known informally as *Math 2025*. Among the many excellent NRC reports in mathematics and other fields, *Math 2025* stands out in terms of its breadth and vision. Through concrete examples and cogent analysis, the mathematical sciences are portrayed in the report as having a role in the mathematical and scientific communities, and indeed in the larger society, that goes far beyond what could have been imagined even a few years ago. *Math 2025* is already receiving major attention from governmental, scientific and educational communities, and one might reasonably expect it to have a significant impact on the future of our field. Its companion volume, *Fueling Innovation and Discovery* has been distributed for uses that range from making the case for funding mathematics research to informing high school teachers about developments in mathematics. Mark's demonstrated leadership in communicating specific mathematical ideas, as well as the scope and impact of mathematics overall, is a tremendous resource for our community.

One milestone in Mark's service to the profession is his leadership at the Institute for Pure and Applied Mathematics (IPAM), an NSF Mathematics institute which he helped to found and served as co-director, and then director, for nearly a decade. Under his leadership, scientifically and administratively, IPAM went from the drawing board to its current unique place among math institutes, blending traditional areas of fundamental research in mathematics with synergistic opportunities for applications and impact in other scientific disciplines. Mark demonstrated a prescient vision for the impact of mathematical partnerships in science and technology, and it is his vision of this partnership to which IPAM owes its initial success.

Very recently, Mark's passion for communication and education has propelled him into a leadership role in finding funding for, and organizing meetings to promote the goals of, the broad initiative *Transforming Post-Secondary Education in Mathematics* or TPSE Math. Sponsored by the Carnegie

Corporation of NY, the Sloan Foundation and four major mathematical societies, TPSE Math had its kickoff meeting in Austin in 2014. Mark and other members of the organizing committee led working groups exploring a variety of urgent issues in the undergraduate mathematics curriculum.

On the personal side, Mark is an engaging and warm colleague and teacher. His leadership style reflects his personality: considerate, informed, thoughtful and persuasive. We believe that the AMS would be well served by the unique blend of experiences, talent and passion that Mark would bring to the Presidency.

## Nomination of Kenneth Ribet

*Benedict Gross and Barry Mazur*

It is an honor to nominate Kenneth Ribet for the Presidency of the AMS. We have both known Ken for over forty years. He has made fundamental contributions to number theory, and has served our profession in a variety of ways.

### Ken's Background

Ken attended Brown as an undergraduate, receiving his AB and AM degrees in 1969. He came to Harvard as a graduate student in 1969—and promptly became an AMS member. His thesis advisor was John Tate. After receiving his PhD in 1973, Ken spent three years teaching at Princeton University and two years doing research in Paris before joining the UC Berkeley mathematics department in 1978. Ken has been a key member of his department since, teaching critical courses and winning several teaching awards. He has served in three different vice chairmanships as supervisor of the graduate program, the undergraduate program and the department's development efforts.

Ken has a deep and varied background in mathematics book and journal publishing. He began serving as journal editor almost thirty years ago and is currently an editor for a handful of number theory and general mathematics journals. After a brief stint as a book series editor for Cambridge University Press, he joined the New York-based Springer editorial board that looks after four book series, including the Graduate Texts in Mathematics series. Ken has served on the scientific advisor board of IPAM and is currently a member of the scientific board of the Simons Institute for the Theory of Computing.

Ken has been honored repeatedly over the course of his career. He won the Fermat Prize in 1989 and received an honorary doctorate from Brown University in 1998. Ken was elected to the American Academy of Arts and Sciences in 1997 and to the National Academy of Sciences in 2000. At the National Academy, he served on the US National Committee

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for Mathematics, which represents the USA to the IMU. He also served three terms on the nominating committee, and chaired the mathematics section of the NAS for three years, beginning in 2009.

Ken is currently a member of the AMS Council. He serves on the Executive Committee of the Council, the Long Range Planning Committee, the Committee on Science Policy, and the committee that coordinates the collected works program. He is a much sought-after speaker, and with his varied professional experience would be an outstanding public face of the AMS.

### Ken’s Mathematics

Ken works in number theory and algebraic geometry. He is best known for his theorem in the 1980s that reduced the proof of Fermat’s Last Theorem to the conjecture that all semi-stable elliptic curves over  $\mathbb{Q}$  are modular (which was proved in the 1990s by Andrew Wiles and Richard Taylor). Ken was awarded the Fermat Prize for this contribution. But Ken’s influence on number theory is more extensive than that single accomplishment: it spans four decades of important discoveries, during which Ken has been the inspiration for several generations of mathematicians. Many of his contributions are key to our understanding of the connections between the theory of modular forms and the  $\ell$ -adic representations of the absolute Galois group of the field of rational numbers. We will briefly highlight three of them here. There are many other areas where Ken’s work has been decisive, such as his construction with Deligne of  $p$ -adic  $L$ -functions for totally real fields [1].

To focus on a classical example in the theory of modular forms, consider the infinite product

$$\Delta(q) = q \prod_{n=1}^{\infty} (1 - q^n)^{24} = \sum_{n=1}^{\infty} \tau(n) q^n.$$

The product  $\Delta(q)$  can be thought of as a power series in the variable  $q$ ; or putting  $q = e^{2\pi iz}$  we may view it as an analytic function of the variable  $z$  in the upper half-plane, where it satisfies the additional symmetry  $\Delta(-1/z) = z^{12} \Delta(z)$ . As a consequence,  $\Delta$  is a cuspidal modular form of level 1 and weight 12.

The Fourier coefficients,  $\tau(n)$  of  $\Delta$  have been studied by generations of mathematicians, starting with Ramanujan. Simple recurrence relations (first described by Mordell) allow one to retrieve the Ramanujan tau-function  $n \mapsto \tau(n)$  from its values  $\tau(p)$  for all prime numbers  $p$ . Serre conjectured, and Deligne proved, that the modular form  $\Delta(q)$  has the following remarkable connection to Galois representations. Let  $G_{\mathbb{Q}} := \text{Gal}(\overline{\mathbb{Q}}/\mathbb{Q})$ , the absolute Galois group of the field of rational numbers and let  $\ell$  be a prime number. Then for every power  $\ell^n$  there is a continuous representation

$$\rho_{\ell^n} : G_{\mathbb{Q}} \rightarrow \text{GL}_2(\mathbb{Z}/\ell^n\mathbb{Z})$$

which is unramified at all primes  $p \neq \ell$ . Moreover, the image of a Frobenius element at  $p$  has trace congruent to the  $p$ th Fourier coefficient  $\tau(p)$  of  $\Delta$  and determinant congruent to  $p^{11}$  modulo  $\ell^n$ . The same result holds not only for  $\Delta$ , but for the Fourier expansions of general Hecke eigenforms. Many of Ken’s earliest articles involve a study of the images of these Galois representations.

### On the Size of the Image of Galois Representations

Swinnerton-Dyer and Serre showed that for  $\ell$  different from 2, 3, 5, 7, 23, and 691, the image of the representation  $\rho_{\ell^n}$  associated with  $\Delta$  is as large as possible. Specifically:

$$\begin{aligned} \text{image}(\rho_{\ell^n}) &= \{g \in \text{GL}_2(\mathbb{Z}/\ell^n\mathbb{Z}) \mid \det(g) \\ &\quad \text{is an eleventh power in } (\mathbb{Z}/\ell^n\mathbb{Z})^* \}. \end{aligned}$$

In one of Ken’s first published papers [2] he established an analogous result for the Galois representations mod  $\ell^n$  (where  $\ell \gg 0$ ) attached to general Hecke eigenforms of level 1. His later work amplifies and generalizes this result in various important directions; for example, [4] establishes the Tate conjecture for Jacobians of modular curves.

### On the Theorem of Herbrand and Ribet

Returning to the cuspidal modular form  $\Delta$ , consider the representation

$$\rho_{\ell} : G_{\mathbb{Q}} \rightarrow \text{GL}_2(\mathbb{Z}/\ell\mathbb{Z})$$

where  $\ell = 691$ , one of the primes for which the image of  $\rho_{\ell}$  is *not* as large as possible; in fact it is contained in a Borel subgroup of  $\text{GL}_2(\mathbb{Z}/\ell\mathbb{Z})$ . This is related to the Ramanujan congruence:

$$\tau(n) \equiv \sum_{d \mid n} d^{11} \pmod{691}$$

for every positive integer  $n$ . In particular,

$$\tau(p) \equiv 1 + p^{11} \pmod{691}$$

for every prime number  $p \neq 691$ . The number field fixed by the kernel of  $\rho_{691}$  is an *everywhere unramified* cyclic extension of degree 691 over the (cyclotomic) number field generated by 691th roots of unity. The existence of this unramified extension is related to the fact that 691 divides the numerator of the 12th Bernoulli number.

What one can take away from this example is that cuspidal modular forms such as  $\Delta$  might be pressed into service to actually *construct* abelian everywhere unramified extensions of cyclotomic fields. That is precisely the approach that Ken took in his article [3], where he established the converse to a famous theorem of Herbrand. Specifically, Ken showed that for  $\ell$  a prime number and  $k$  an integer with  $2 < 2k < \ell - 1$ , if the numerator of the  $2k$ th Bernoulli number is divisible by  $\ell$  there is a cuspidal Hecke eigenform of weight  $2k$  whose associated Galois representation mod  $\ell$  has its image contained in a Borel subgroup, and the number field determined by the representation  $\rho_{\ell}$  is an *everywhere unramified* cyclic extension of degree  $\ell$  over the cyclotomic field generated by  $\ell$ th roots of unity. The extremely original viewpoint that Ken fashioned in his proof of ‘Herbrand-Ribet’, and the result itself, was seminal, and has been extraordinarily important for the later developments in the subject.

### On Fermat’s Last Theorem

The connection between automorphic forms and Galois representations can be run in either direction. An important conjecture of Serre (subsequently proved by Khare and Wintenberger) implies that any (irreducible) Galois representation

$$r : G_{\mathbb{Q}} \rightarrow \text{GL}_2(\mathbb{Z}/\ell\mathbb{Z})$$

that has the property that complex conjugation, viewed as element of  $G_{\mathbb{Q}}$ , is not sent, under the representation  $r$  to  $\pm 1 \in \mathrm{GL}_2(\mathbb{Z}/\ell\mathbb{Z})$ , is associated to a cuspidal modular form modulo  $\ell$ . Ken’s remarkable contribution to Fermat’s Last Theorem hinged on the (then conjectural) modularity theorem. (The modularity theorem is itself implied by Serre’s conjecture.)

Here is a brief hint of how Ken’s extraordinary contribution fits into the proof of Fermat’s Last Theorem. A beautiful idea of Frey was to start with a putative non-trivial solution of Fermat’s equation with exponent  $\ell$  to produce an elliptic curve  $\mathcal{E}$  over  $\mathbb{Q}$  with very unusual properties. Assuming the modularity theorem,  $\mathcal{E}$  would be parametrized by a cuspidal modular form  $\phi$  of weight two with *correspondingly* unusual properties. Ken’s ingenious idea [5] is to make use of those properties to construct a different modular form  $\phi'$ , which is also of weight two and whose Fourier expansion is congruent modulo  $\ell$  to that of  $\phi$ . The modular form  $\phi'$  which Ken constructs has level 2. But there are no cusp forms of weight 2 and level 2, so  $\phi'$  is constrained to be an Eisenstein series and therefore  $\phi$  itself would have a Fourier expansion congruent modulo  $\ell$  to an Eisenstein series. This would violate known results about rational torsion of elliptic curves; specifically about rational torsion in  $\mathcal{E}$ . So: the nontrivial solution of Fermat’s equation cannot exist! Ken’s argument is startling in its originality and makes use, among many other things, of the quaternionic description of the bad fibers of Shimura curves. The general technique Ken used for the construction of such a  $\phi'$ , as described above, might be called “level adjustment,” Ken having initiated the important systematic study of the various possible levels of modular forms that are associated to the same mod  $\ell$  Galois representation.

### Ken as Teacher, Mentor, and Ambassador for Mathematics

Ken’s marvelous talent for—and devotion to—teaching, lecturing, and generally guiding young mathematicians is recognized world-wide. At Berkeley he frequently gives large lecture classes in upper-level subjects, and takes special care to make genuine connections with each of his students. In 2014 there were over two hundred students in his linear algebra class, and he extended email invitations to each of them to join him for breakfasts and lunches at the Berkeley Faculty Club.

Ken won the department’s distinguished teaching award on two occasions: soon after it was introduced in the 1980s and more recently in 2013. He has an impressively long list of students whose PhD’s he supervised<sup>1</sup>. Many of his students have gone on to make notable contributions in teaching and research, both in academia and in industry.

Ken has engaged frequently in outreach in connection with Fermat’s Last Theorem beginning with the Fermatfest in San Francisco in 1993. His AMS Invited Address at the 1994 annual meeting drew an overflow crowd, consisting essentially of all people who had registered for the Joint Math Meetings. Ken gave a public lecture on the history of Fermat’s Last Theorem this fall at Bowdoin College and has

given similar talks in the recent past at Humboldt State University and Southern Oregon University.

### Conclusion

Ken Ribet has made outstanding contributions to research mathematics, and is a marvelous teacher and lecturer. With vision and immense energy he has already given tremendous service to his department, to the National Academy of Sciences, to the American Mathematical Society, and to the mathematical community in general. We feel he will do great things as President of the AMS.

### References

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- [3] ———, A modular construction of unramified  $p$ -extensions of  $\mathbb{Q}(\mu_p)$ , *Inventiones Math.* **34** (1976) 151–162.
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- [5] ———, On modular representations of  $\mathrm{Gal}(\mathbb{Q}/\mathbb{Q})$  arising from modular forms, *Invent. Math.* **100** (1990), no. 2, 431–476.

<sup>1</sup>see [genealogy.math.ndsu.nodak.edu/id.php?id=32910](http://genealogy.math.ndsu.nodak.edu/id.php?id=32910).

# Biographies of Candidates 2015

Biographical information about the candidates has been supplied and verified by the candidates.

Candidates have had the opportunity to make a statement of not more than 200 words (400 words for presidential candidates) on any subject matter without restriction and to list up to five of their research papers.

Candidates have had the opportunity to supply a photograph to accompany their biographical information. Acronyms: AAAS (American Association for the Advancement of Science); AMS (American Mathematical Society); ASA (American Statistical Association); AWM (Association for Women in Mathematics); CBMS (Conference Board of the Mathematical Sciences); IAS (Institute for Advanced Study), ICM (International Congress of Mathematicians); IMA (Institute for Mathematics and Its Applications); IMU (International Mathematical Union); IPAM (Institute for Pure and Applied Mathematics); LMS (London Mathematical Society); MAA (Mathematical Association of America); MSRI (Mathematical Sciences Research Institute); NAS (National Academy of Sciences); NRC (National Research Council); NSF (National Science Foundation); PIMS (Pacific Institute for the Mathematical Sciences); SIAM (Society for Industrial and Applied Mathematics); STEM (Science, Technology, Engineering and Mathematics).

## President

### Mark L. Green



Distinguished Research Professor, Department of Mathematics, University of California, Los Angeles.

**Born:** October 1, 1947, Minneapolis, Minnesota.

**PhD:** Princeton University, 1972.

**AMS Offices:** Trustee, 2010–2015 (Chair, 2013–2014).

**AMS Committees:** Committee on the Profession, 2000–2002, 2011–2012 (Chair, 2001); Committee on Meetings and Confer-

ences, 2010–2011; Committee on Education, 2012–2013; Development Committee, 2012–2015; Committee on Publications, 2013–2014; Strategic Planning Committee, 2013–present; Committee on Science Policy, 2014–2015; Investment Committee, 2014–2015.

**Selected Addresses:** International Congress of Mathematicians, Berlin, 1998; AMS Invited Address, JMM, New Orleans, 2001; Plenary Lecture, Abel Bicentennial, Oslo, Norway, 2002; AMS Congressional Lecture, Washington, D.C., 2013; Chern Medal Plenary Lecture, International Congress of Mathematicians, Seoul, Korea, 2014.

**Additional Information:** Procter Fellowship, 1971–1972; Sloan Memorial Fellowship, 1976–1980; Director, Institute for Pure and Applied Mathematics, 2001–2008; NSERC Major Resources Support Committee, 2006–2009; Canadian Institutes Site Visit Panel, 2007; Banff

International Research Station, Scientific Advisory Board, 2009–2012; Scientific Advisory Board, Centre de Recherches Mathématiques, Montréal, 2009–2013; National Academies study, “The Mathematical Sciences in 2025” (Vice-Chair), 2009–2013; Fellow, American Academy of Arts and Sciences, 2010; US Delegation, General Assembly of the IMU, Bangalore, India, 2010; International Advisory Panel, Canadian Long Range Planning Study for Mathematics, 2011; Fellow, American Association for the Advancement of Science, 2012; Fellow, AMS, 2012; Fellow, Centre de Recherches Mathématiques, Montréal, 2013; NSF-DMS Committee of Visitors (Chair), 2013; Member, AAAS, MAA and SIAM; Board on Mathematical Sciences and Applications, 2013–present; Transforming Post-Secondary Education in Mathematics, 2013–present.

**Selected Publications:** 1. with P. Griffiths, Two applications of algebraic geometry to entire holomorphic mappings, *The Chern Symposium 1979 (Proc. Internat. Sympos., Berkeley, Calif., 1979)*, 41–74, Springer (1980). **MR0609557 (82h:32026)**; 2. Koszul cohomology and the geometry of projective varieties, *J. Differential Geom.*, **19** (1984), no. 1, 125–171. **MR0739785 (85e:14022)**; 3. with R. Lazarsfeld, Higher obstructions to deforming cohomology groups of line bundles, *J. Amer. Math. Soc.*, **4** (1991), no. 1, 87–103. **MR1076513 (92i:32021)**; 4. The Eisenbud–Koh–Stillman conjecture on linear syzygies, *Invent. Math.*, **136** (1999), no. 2, 411–418. **MR1688437 (2000j:13024)**; 5. with P. Griffiths and M. Kerr, *Mumford–Tate Groups and Domains: Their Geometry and Arithmetic*, Ann. of Math. Studies, **183**, Princeton University Press (2012). **MR2918237**.



**Statement by Candidate:** I want to say at the outset how deeply honored I am to be considered for this position, which has been held by so many people I admire. This is an opportunity to serve our community in an important way.

Being a mathematician is a wonderful career. To get to spend time thinking about mathematics, to teach students about its power and beauty—how lucky we are to be able to do this. It falls to those of us who have enjoyed a career in mathematics to make sure that the next generation will continue to have the opportunities we have had.

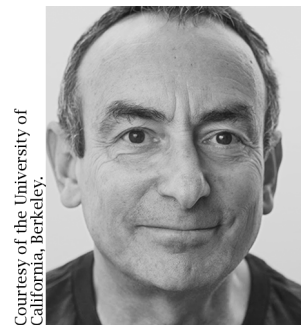
Scientifically, this is a great time to be doing mathematical research. We are making major advances in fundamental theory and finding innovative ways to use existing and newly created mathematics. At the same time, the academic institutions that harbor many of us are under enormous cost pressures, and research labs and industry are not immune to these pressures. The AMS is a major voice supporting mathematicians and mathematical research in times like these.

I have had a chance to become familiar with the issues facing the AMS internally, through my work as an AMS Trustee, which involves rotating through the five major policy committees, and as a member of the AMS Strategic Planning Group. I have had an opportunity to acquire a good perspective on the issues facing the mathematical community through my work as Vice-Chair of the National Academies study, “The Mathematical Sciences in 2025,” as a member of the Board on Mathematical Sciences and Applications, as Chair of the 2013 NSF-DMS Committee of Visitors, as a member of the group “Transforming Post-Secondary Education in Mathematics,” and on the science boards of BIRS, IPAM and the CRM.

My experience as Director of a national mathematics institute (IPAM) during its start-up phase taught me a lot—about budgets, about how to set up new programs, about the importance of listening and building consensus, about the importance of building relationships and constantly reaching out to bring in new constituencies, about why being inclusive matters in a community as multilayered as ours. It also taught me how much I don’t know, and the wisdom of getting diverse perspectives before making a major decision.

If you elect me, I will work as hard as I can to live up to the high standards of those who have served you as President.

### Kenneth A. Ribet



Courtesy of the University of California, Berkeley.

Professor of Mathematics, University of California, Berkeley. **Born:** June 28, 1948, New York, NY.

**PhD:** Harvard University, 1973.

**AMS Offices:** Member at Large of the Council, 2013–2016; Executive Committee, 2014–2018.

**AMS Committees:** Committee on Progress in Mathematics, 1994–1997 (Chair,

1996–1997); Committee to Select the Winner of the Cole Prize, 2007–2008 (Chair); Committee to Select the Winner of the E. H. Moore Research Article Prize, 2009–2015 (Chair, 2012–2013); *Bulletin* Chief Editor Search Committee, 2013–2014; Committee on Science Policy, 2013–2016 (Chair, 2015–2016); Collected Works Editorial Committee, 2013–2017; Committee on Education, 2015–2016; Public Policy Award Selection Committee, 2015–2016; Long Range Planning Committee, 2015–2017.

**Selected Addresses:** International Congress of Mathematicians, “Congruence relations between modular forms,” Warsaw, 1983; AMS-MAA Invited Address, “Update on Fermat’s Last Theorem,” JMM, 1994; AMS Progress in Mathematics Lecture, “Galois representations and modular forms,” Minneapolis, MN, August, 1994; AMS Invited Address, Regional Meeting, “Modular curves and their twisted analogues,” Portland, OR, June, 2002; Special Session on Arithmetic Geometry, “Nonoptimal levels of reducible two-dimensional mod  $l$  representations of the Galois group of  $\mathbf{Q}$ ,” JMM, 2010.

**Additional Information:** Fermat Prize, 1989; Election to American Academy of Arts and Sciences, 1997; PhD honoris causa, Brown University, 1998; Election to National Academy of Sciences, 2000. Editorial Boards: Graduate Texts in Mathematics, Undergraduate Texts in Mathematics, Universitext, Springer Monographs in Mathematics, *Proceedings of the National Academy of Sciences*, *Journal of Number Theory*, *Mathematical Research Letters*, *International Journal of Number Theory*.

**Selected Publications:** 1. A modular construction of unramified  $p$ -extensions of  $\mathbf{Q}(\mu_p)$ , *Invent. Math.*, **34** (1976), no. 3, 151–162. **MR0419403 (54#7424)**; 2. On modular representations of  $\text{Gal}(\bar{\mathbf{Q}}/\mathbf{Q})$  arising from modular forms, *Invent. Math.*, **100** (1990), no. 2, 431–476. **MR1047143 (91g:11066)**; 3. Report on mod  $l$  representations of  $\text{Gal}(\bar{\mathbf{Q}}/\mathbf{Q})$ , *Motives (Seattle, WA, 1991)*, *Proc. Sympos. Pure Math.*, **55**, Part 2, Amer. Math. Soc., Providence, RI (1994), 639–676. **MR1265566 (95d:11056)**; 4. Galois representations and modular forms, *Bull. Amer. Math. Soc. (N. S.)*, **32** (1995), no. 4, 375–402. **MR1322785 (96b:11073)**; 5. with A. Agashe and W. Stein, The modular degree, congruence primes and multiplicity one, *Number Theory, Analysis and Geometry*, Springer, New York (2012), 19–49. **MR2867910**.

**Statement by Candidate:** I have been in love with mathematics all my life. Like so many of our colleagues, I was a math team kid in school and spent countless hours reading all the math books that came my way. Soon after my sixteenth birthday, I attended a summer science program at Brown University and strolled over to the AMS (which was on College Hill in Providence at the time) during my free period in the afternoon. I joined the AMS as a graduate student and have been a member ever since. I have very fond memories of my first AMS Summer Institute (Arcata, 1974) and my first annual meeting, which I attended during my second postdoctoral year.

During my career, I have focused my attention on research, professional service and outreach to the public. (After Andrew Wiles announced a proof of Fermat’s Last Theorem in 1993, I gave public lectures on the Theorem and related questions.) On the Berkeley campus, I directed

my department's undergraduate program, graduate program and development efforts. I recently chaired the Mathematics Section of the National Academy of Sciences. Many of you know me through my membership on the editorial boards of the textbook series Graduate Texts in Mathematics and Undergraduate Texts in Mathematics. I am an editor of a half-dozen journals, including (most recently) the *Notices of the AMS*.

I have served on AMS committees throughout my career. My current close connection with our Society began with my election to the Council in 2012. Soon after, the Council elected me to its Executive Committee. I currently serve on the Long Range Planning Committee, the Committee on Science Policy (as chair) and the Collected Works Committee. I have learned about the challenges facing our Society and have deepened my connection with the fundamental issues concerning the future of our profession.

My nomination for the AMS Presidency was an electrifying moment. The next President will have the privilege of shaping the future of our Society as technology brings rapid change and unprecedented opportunity. The next President will need to demonstrate the crucial importance of long-term fundamental research in a context where funding is tilted toward quick payoffs. I feel well prepared for this office because of a half-century of mathematical research, long service to the mathematical community, an extensive background in mathematical publishing and a continuing commitment to public outreach. It will be an honor for me to serve as your President.

## Vice President

### Raman Parimala



Professor, Emory University, Atlanta, Georgia.

**Born:** Mayuram, Tamilnadu, India.  
**PhD:** University of Bombay, India, 1976.

**AMS Committees:** Member, Human Rights Committee, 2008–2010; Member, Cole Prize Committee, 2012; Member, Satter Prize Committee, 2012, 2014; Member, South-eastern Section Program Committee, 2013, 2014.

**Selected Addresses:** Invited Speaker, International Congress of Mathematicians, Zürich, 1994; Invited Plenary Speaker, International Congress of Mathematicians, Hyderabad, India, 2010; Bernoulli Lecture, EPFL Lausanne, 2012; AWM Noether Lecture, JMM, San Diego, 2013; Coxeter Lectures, Fields Institute, Toronto, 2013.

**Additional Information:** Bhatnagar Prize for Mathematical Sciences, 1987; President, Ramanujan Mathematical Society, 2004–2006; Third World Academy of Sciences Prize in Mathematical Sciences, 2005; Srinivasa Ramanujan Medal of the Indian National Science Academy, 2006; Fellow, AMS, Indian National Science Academy, Indian Academy of Sciences, The National Academy of Sciences, India.

**Selected Publications:** 1. with J.-L. Colliot-Thélène, Real components of algebraic varieties and étale

cohomology, *Invent. Math.*, **101** (1990), no. 1, 81–99. **MR1055712 (91j:14015)**; 2. with E. Bayer-Fluckiger, Galois cohomology of the classical groups over fields of cohomological dimension  $\leq 2$ , *Invent. Math.*, **122** (1995), no. 2, 195–229. **MR1358975 (96i:11042)**; 3. with J.-L. Colliot-Thélène and P. Gille, Arithmetic of linear algebraic groups over 2-dimensional geometric fields, *Duke Math. J.*, **121** (2004), no. 2, 285–341. **MR2034644 (2005f:11063)**; 4. with V. Suresh, The  $u$ -invariant of the function fields of  $p$ -adic curves, *Ann. of Math. (2)*, **172** (2010), no. 2, 1391–1405. **MR2680494 (2011g:11074)**; 5. with V. Suresh, Period-index and  $u$ -invariant questions for function fields over complete discretely valued fields, *Invent. Math.*, **197** (2014), no. 1, 215–235. **MR3219517**.

**Statement by Candidate:** The American Mathematical Society is at the forefront of promoting research and outreach in mathematics, and it is an honor to be nominated to run for Vice-President. I hope my international experience as someone who spent the majority of her career in India and Europe can contribute a valuable perspective and new opportunities for the AMS. I applaud the Society's efforts to ensure the inclusion of women, for example by publishing annual Statistics on Women Mathematicians in the *Notices*. Real progress has been made since these statistics were first published, in that the percentage of women speakers in AMS Special Sessions has increased even though the percentage of PhDs granted to US women has remained flat. The AMS has other laudable efforts in this direction, such as co-sponsoring the Emmy Noether Lectures with the AWM, and I would like to see yet more done. I would be delighted to serve the AMS as Vice President.

### Catherine A. Roberts



Courtesy of College of the Holy Cross.

Professor of Mathematics, College of the Holy Cross.

Editor, *Natural Resource Modeling*.

**Born:** February 5, 1965, Boston, MA.

**PhD:** Northwestern University, 1992.

**AMS Committees:** Committee on Professional Ethics, 2006–2009 (Chair, 2007–2009); Committee on Meetings and Confer-

ences, 2006–2009; Committee on Education, 2010–2013; Advisory Committee on Math Awareness Month: Math and Sustainability, 2012–2013.

**Selected Addresses:** Keynote Presentation, Reflections on Launching a Career, Career Mentoring Workshop for women graduate students in mathematics, Wheaton College, 2009; Colloquium Presentation, A River Runs Through It, Wellesley College, 2010; Keynote Presentation, Incorporating the environment into undergraduate math courses, MAA Northeastern Section Meeting, 2013; Keynote Presentation, Mathematics and Planet Earth, Sonya Kovalevsky Math Day for Girls at Simmons, 2013; Keynote Presentation, Mathematics and Planet Earth, New England Mathematics Association of Two Year Colleges, 2014.

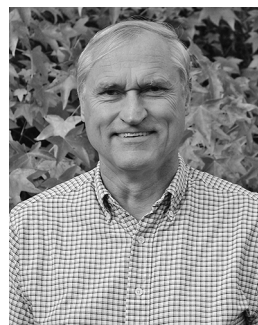
**Additional Information:** *Positions:* University of Rhode Island, 1992–1995; Northern Arizona University, 1995–2001; Leadership Team, Intel Math Program, 2008–present; Department of Mathematics and Computer Science (Chair), College of the Holy Cross, 2009–present. *Boards:* Rocky Mountain Math Consortium, 1998–2001; Association for Women in Mathematics, 2002–2006; Resource Modeling Association, 2002–present; Regional Environmental Council of Central Massachusetts, 2004–2007; SIAM Activity Group on Mathematics of Planet Earth, 2014–present. *Selected Editorships:* Editor-in-Chief, *Natural Resource Modeling*, 2004–present; *UMAP Journal of Undergraduate Mathematics and Its Applications*, 2005–present; *SIAM Review*, 2009–2011; *American Mathematical Monthly*, 2012–present. *AWM:* Workshop Co-organizer, 1997–1999, 2002–2004; Mentor Network, 2001–2008; Judge, Essay Contest, 2002; Fundraising Committee (Chair), 2004–2006; Selection Committee for Executive Director (Chair), 2005; AWM Committee on Committees, 2011–2014. *Other:* SIAM Education Committee, 1993–1995; Math Contest in Modeling, 1994–1995, 1997–1999, 2001; SIAM Morgan Prize, 1997–1999; Intel Math Program Senior Leadership Team, Edits and Advisory Team, Content Instructor, Senior Content Trainer, Evaluator, and Brain Trust, 2008–present; Moody’s Mega Math Challenge, 2011; MAA Committee, Undergraduate Programs in Mathematics, program area study group, Mathematics in Climate and the Environment, 2012–2014. *Co-organizer:* Word Conference on Natural Resource Modeling, 2007, 2016; Special Sessions, Mathematics in Natural Resource Modeling, *JMM*, 2012–2015; Workshop on Management of Natural Resources (Math of Planet Earth), June 2015.

**Selected Publications:** 1. with D. Stallman and J. A. Bieri, Modeling complex human–environment interactions: The Grand Canyon river trip simulator, *J. Ecological Modeling*, **153** (2002), Issue 2, 181–196; 2. Perspectives on Modeling Applications in a Service–Learning Framework, *Mathematics in Service to the Community: Concepts and Models for Service-Learning in the Mathematical Sciences*, edited by C. R. Hadlock, MAA Notes, no. 66, Mathematical Association of America, Washington, D.C. (2005); 3. with W. E. Olmstead, Dimensional influence on blow-up in a superdiffusive medium, *SIAM J. Appl. Math.*, **70** (2010), no. 5, 1678–1690. **MR2587775 (2011e:35162)**; 4. Awareness of ethical pitfalls: A requirement for professional protection, *Notices Amer. Math. Soc.*, **57** (2010), no. 4, 485–489; 5. with C. M. Kirk and W. E. Olmstead, A system of nonlinear Volterra equations with blow-up solutions, *J. Integral Equations Appl.*, **25** (2013), no. 3, 377–393. **MR3161618**.

**Statement by Candidate:** Thank you for this nomination for Vice President. The numerous efforts of our professional society—from conferences and publications, to advocacy, plus more—play a critical role in supporting mathematicians and promoting mathematics. As a beneficiary of many AMS efforts, I would be pleased to have the opportunity to serve the AMS in this new capacity. Although I am an ardent supporter of all AMS undertakings and will contribute wherever I can be most helpful, I am personally quite interested in how the AMS can partner with existing efforts to support K–12 education, as well as

how we can attract and support a wider diversity of graduate students and early-career mathematicians.

### Richard Schoen



Professor of Mathematics, University of California, Irvine and Professor Emeritus, Stanford University.

**Born:** Celina, Ohio, October 23, 1950.

**PhD:** Stanford University, 1977.

**AMS Committees:** Associate Editor, *Journal of the AMS*, 1992–2001; Committee to Select Winner, Bôcher Prize (Chair), 1993–1994; *Bulletin*, Assoc.

Ed./Research Reports, 1995–1999; Progress in Mathematics, 1995–1998; Electronic Research Announcements Editorial Board, 1995–2002; Colloquium Lecture Committee (Chair), 1999–2000; *Journal of the AMS* Editorial Committee, 2001–2003; Committee to Select Winner, Steele Prize, 2008–2011; Committee to Select Winner, E. H. Moore Research Article Prize, 2009–2011; National Awards and Public Representation, 2010–2012.

**Selected Addresses:** Invited Speaker, ICM, 1982; Plenary Speaker, ICM, 1986; Invited AMS address, Melbourne, Australia, 1999; Invited AMS address, Taichung, Taiwan, 2005; Herman Weyl lectures, IAS, 2008; Plenary Speaker, ICM, 2010.

**Additional Information:** Sloan Fellowship, 1979; MacArthur Fellowship, 1983; American Academy of Arts and Sciences, 1988; AMS Bôcher Prize, 1989; National Academy of Sciences, 1991; Fellow, AAAS, 1995; Guggenheim Fellowship, 1996; Stanford Department Chair, 2001–2004; Scientific Advisory Committee, Max Planck Institute for Gravitation, 2004–2010; Scientific Advisory Committee, MSRI, 2007–2012 (Co-Chair, 2009–2012); Clay Senior Scholar, Mittag-Leffler Institute, 2008; Committee to choose MSRI director, 2012 (Chair); Fellow, AMS, 2012; Clay Senior Scholar, PCMI, Park City, 2013; Program Committee, Mathematical Congress of the Americas, 2013.

**Selected Publications:** 1. with S. T. Yau, On the proof of the positive mass conjecture in general relativity, *Comm. Math. Phys.*, **65** (1979), no. 1, 45–76. **MR0526976 (80j:83024)**; 2. with L. Simon, Regularity of stable minimal hypersurfaces, *Comm. Pure Appl. Math.*, **34** (1981), no. 6, 741–797. **MR0634285 (82k:49054)**; 3. Conformal deformation of a Riemannian metric to constant scalar curvature, *J. Differential Geom.*, **20** (1984), no. 2, 479–495. **MR0788292 (86i:58137)**; 4. with J. Corvino, On the asymptotics for the vacuum Einstein constraint equations, *J. Differential Geom.*, **73** (2006), no. 2, 185–217. **MR2225517 (2007e:58044)**; 5. with S. Brendle, Manifolds with  $1/4$ -pinched curvature are space forms, *J. Amer. Math. Soc.*, **22** (2009), no. 1, 287–307. **MR2449060 (2010a:53045)**.

**Statement by Candidate:** It is an honor for me to be nominated to run for Vice President of the AMS. I have been an AMS member since I was a graduate student, and I recognize and fully endorse the important role the AMS plays in the support of mathematical research, education, and the communication of mathematics to the general public. If I am elected I will work to advance the core mission

of the AMS and to make sure that the society is responsive to the evolving needs of the discipline and its members.

## Board of Trustees

### Sheldon Katz



Professor, University of Illinois at Urbana-Champaign.

**Born:** Brooklyn, NY, December 19, 1956.

**PhD:** Princeton University, 1980.

**AMS Offices:** Council, 2005–2008.

**AMS Committees:** Committee on the Profession, 2000–2003; Committee on Education, 2005–2007; Committee on Science Policy, 2007–2008 (Chair, 2008); Nominating Committee, 2008–2011 (Chair, 2009–2010).

**Selected Addresses:** Nine AMS Special Session talks since 1986; Rational curves on Calabi-Yau manifolds, seven lecture mini-course, Bergen, 1993; Invited Address, De Paul AMS Meeting, 1998; Introduction to Enumerative Geometry and its interaction with theoretical physics, fifteen lectures, Park City, 2001; ADE Geometry and Dualities, three lecture mini-course, Lisbon, 2004.

**Additional Information:** Math Department Chair, University of Illinois at Urbana-Champaign, 2006–2011; MSRI Committee on Trustees, 2008–2009; Mathematics Section Committee, American Association for the Advancement of Science, 2012–2016; AMS Fellow, 2013; NSF/DMS Committee of Visitors, 2013.

**Selected Publications:** 1. with D. Morrison, Gorenstein threefold singularities with small resolutions via invariant theory for Weyl groups, *J. Algebraic Geom.*, **1** (1992), no. 3, 449–530. **MR1158626 (93b:14030)**; 2. with C. Vafa, Matter from geometry, *Nuclear Phys. B*, **497** (1997), no. 1–2, 146–154. **MR1467887 (98i:81209)**; 3. with D. Cox, *Mirror Symmetry and Algebraic Geometry*, Mathematical Surveys and Monographs, Amer. Math. Soc., Providence, RI, **68** (1999). **MR1677117 (2000d:14048)**; 4. Genus zero Gopakumar-Vafa invariants of contractible curves, *J. Differential Geom.*, **79** (2008), no. 2, 185–195. **MR2420017 (2009f:14115)**; 5. with J. Choi and A. Klemm, The refined BPS index from stable pair invariants, *Comm. Math. Phys.*, **328** (2014), no. 3, 903–954. **MR3201216**.

**Statement by Candidate:** It is an honor to be nominated for the Board of Trustees, a position of great importance. The Board receives and administers the funds of the AMS, is responsible for its investments and properties, and conducts the business affairs of the Society, thereby ensuring the financial health and stability of the AMS so that the Society can fund the programs that benefit the membership of the AMS and our profession more broadly. While the AMS is currently in excellent financial shape thanks to the efforts of its current and former leadership, financial challenges and uncertainties lie ahead in the relatively near term. The AMS will need to respond decisively and creatively to these challenges so that the Society and

profession can continue to thrive. I have been successful in raising funds for endowed professorships, graduate and undergraduate research, and more, beginning when I was chair of my department during a period of great financial uncertainty. I would welcome the opportunity to build on my experiences in order to raise new revenues for AMS programs so that the Society will not only remain strong but will be able to create new programs strategically.

### Bryna Kra



Sarah Rebecca Roland Professor of Mathematics, Northwestern University.

**Born:** October 6, 1966, Boston, MA.

**PhD:** Stanford University, 1995.

**AMS Offices:** Council, 2008–2014; Executive Committee, 2010–2014.

**AMS Committees:** Selection Committee for Current Events Session, 2006; Committee on Ethics in Hiring, 2008–2009; Committee

on the Profession, 2008–2010; Central Section Program Committee, 2008–2010 (Chair, 2009–2010); Task Force on Prizes, 2009–2011; Committee on Committees, 2009–2011, 2012–2014; Selection Committee for Programs that Make a Difference, 2010–2011; Task Force on Open Access Publishing, 2013–2014; Fellows Selection Committee, 2013–2016; Colloquium Lecture Committee, 2014–2017.

**Selected Addresses:** Invited Sectional Talk, International Congress of Mathematicians, Madrid, Spain, 2006; Invited Address, AMS Fall Sectional Meeting, Cincinnati, OH, 2006; AMS-MAA Invited Address, Joint Meeting of AMS-MAA, New Orleans, LA, 2007; Arnold Ross Lecture of the AMS, Museum of Science and Industry, Chicago, IL, 2013; MoMath Museum of Mathematics, New York, NY, 2014.

**Additional Information:** AMS Centennial Fellowship, 2006; Eisenbud Professor, Mathematical Sciences Research Institute, 2008; Clay Research Scholar, 2009; Levi L. Conant Prize, 2010; Fellow, AMS, 2012.

**Selected Publications:** 1. with B. Host, Nonconventional ergodic averages and nil manifolds, *Ann. of Math.* (2), **161** (2005), 397–488. **MR2150389 (2007b:37004)**; 2. with V. Bergelson and B. Host, Multiple recurrence and nilsequences, *Invent. Math.*, **160** (2005), no. 2, 261–303. **MR2138068 (2007i:37009)**; 3. The Green-Tao theorem on arithmetic progressions in the primes: an ergodic point of view, *Bull. Amer. Math. Soc.*, **43** (2006), no. 1, 3–23. **MR2188173 (2006h:11113)**; 4. with V. Cyr, Nonexpansive  $Z^2$ -subdynamics and Nivat’s conjecture, To appear, *Trans. Amer. Math. Soc.* (2015); 5. with V. Cyr, The automorphism group of a shift of linear growth: beyond transitivity, *Forum Math.*, Sigma, **3** (2015), no. 5, 27 pages.

**Statement by Candidate:** The AMS is the primary US organization supporting research in mathematics, advocating for both mathematicians and mathematics. The challenging funding environment we face today places increasing pressure on individuals, but also on departments and institutions such as the AMS. As a member of the Board of Trustees, my principal responsibility is safeguarding

the long-term financial health of the organization. This requires both innovation and ongoing evaluation of existing AMS programs. To continue playing a major role in the support of mathematics, we need to broaden the constituency of the AMS, increasing membership among under-represented groups, and we need to find creative ways to communicate with the general public, making a compelling case for the support of mathematics. As a mass membership organization, the AMS must serve and advocate for all of its constituencies. As an elite professional organization, it must promote the highest standards and traditions of research mathematics. The Board balances these dual roles, and I look forward to the challenges presented by the shifting landscape.

## Member at Large

### Henry Cohn



Principal Researcher, Microsoft Research New England and Adjunct Professor of Mathematics, MIT.

**Born:** Boston, MA, July 22, 1974.  
**PhD:** Harvard University, 2000.

**AMS Committees:** *Journal of the AMS* Associate Editor, 2012–2016; Selection Committee for ICM 2014 Travel Grants, 2013–2014 (Chair of second round); Fellows Selection Committee, 2015–2018.

**Selected Addresses:** Journées Arithmétiques, 2005; PIMS Distinguished Chair Lectures, University of Calgary, 2006; Erdős Lectures in Discrete Mathematics and Theoretical Computer Science, Hebrew University, 2008; Combinatorics section, International Congress of Mathematicians, 2010; 38th International Symposium on Symbolic and Algebraic Computation, 2013.

**Additional Information:** American Institute of Mathematics Five-Year Fellowship, 2000–2005; Lester R. Ford Award, MAA, 2005. Scientific Advisory Boards: ICERM, 2010–present; IPAM, 2011–2014; MSRI, 2014–present. Editorial Boards: *SIAM Journal on Discrete Mathematics*, 2005–present; Contributions to *Discrete Mathematics*, 2005–present; *Journal de Théorie des Nombres de Bordeaux*, 2011–present; *Journal of the AMS*, 2012–present (Associate Editor); *Forum of Mathematics*, 2012–present. Fellow, AMS, 2015.

**Selected Publications:** 1. with R. Kenyon and J. Propp, A variational principle for domino tilings, *J. Amer. Math. Soc.*, **14** (2001), no. 2, 297–346. **MR1815214 (2002k:82038)**; 2. with N. Elkies, New upper bounds on sphere packings. I, *Ann. of Math. (2)*, **157** (2003), no. 2, 689–714. **MR1973059 (2004b:11096)**; 3. with R. Kleinberg, B. Szegedy, and C. Umans, Group-theoretic algorithms for matrix multiplication, *Proceedings of the 46th Annual Symposium on Foundations of Computer Science* (23–25 October 2005, Pittsburgh, PA), IEEE Computer Society, 379–388; 4. with A. Kumar, Optimality and uniqueness of the Leech lattice among lattices, *Ann. of Math. (2)*, **170** (2009), no. 3, 1003–1050. **MR2600869 (2011c:11106)**; 5. with J. Woo, Three-point bounds for energy minimization, *J. Amer. Math. Soc.*, **25** (2012), no. 4, 929–958. **MR2947943**.

**Statement by Candidate:** Of the many issues facing the mathematical community, here are three I am particularly interested in: 1. How should mathematicians respond to the open access movement, serials crisis, etc.? We have a wonderful opportunity to improve the dissemination of mathematics, but we have to be careful not to disrupt the aspects of our publication system that we value. 2. How can the AMS help create a welcoming and supportive environment for all mathematicians, particularly members of underrepresented groups? Mathematics is by no means the most problematic field in this respect, but we ought to be doing better, both as a matter of justice and for the future health of mathematics. 3. As big data becomes increasingly popular, how can the AMS take advantage of this opportunity to emphasize the central role of mathematics without giving in to hype or endorsing questionable models?

### Alicia Dickenstein



PhD Mathematics, University of Buenos Aires.

**Born:** Argentina, 1955.

**PhD:** University of Buenos Aires, 1982.

**Selected Addresses:** Evans Lecture, MSRI-UC Berkeley, 1998; Plenary Speaker, FoCM (Foundations of Computational Mathematics), Hong Kong, 2008; Plenary Speaker, FPSAC (Formal Power Series and Algebraic Combinatorics), San Francisco, 2010; Invited Speaker, MCA (First Mathematical Congress of the Americas), Guanajuato, Mexico, 2013; Frontier Lecture Series, Texas A & M University, College Station, 2015.

**Additional Information:** Eisenbud Professor, MSRI, Fall 2009; Co-organizer, thematic semester at Institut Mittag-Leffler, Sweden, 2011; Member, Scientific Committee of the Simons Foundation Africa Mathematics Project, 2012; Co-Chair, SIAM Conference, Applied Algebraic Geometry AG13, Fort Collins, 2013; Member, International Advisory Board, ICWM, Korea, 2014; Leader, National Report on Mathematics, National Academies of Sciences and Ministry of Science and Productive Innovation, Argentina, 2014; Senior Simons Research Associate, ICTP, Italy, 2014–2019; Vice President, International Mathematical Union, 2015–2018.

**Selected Publications:** 1. with C. Sessa, Canonical representatives in moderate cohomology, *Invent. Math.*, **80** (1985), no. 3, 417–434. **MR0791667 (87a:32013)**; 2. with E. Cattani and C. D’Andrea, The  $\mathcal{A}$ -hypergeometric system associated with a monomial curve, *Duke Math. J.*, **99** (1999), no. 2, 179–207. **MR1708034 (2001f:33018)**; 3. with E. M. Feichtner and B. Sturmfels, Tropical discriminants, *J. Amer. Math. Soc.*, **20** (2007), no. 4, 1111–1133. **MR2328718 (2008j:14095)**; 4. with L. F. Matusevich and E. Miller, Binomial  $D$ -modules, *Duke Math. J.*, **151** (2010), no. 3, 385–429. **MR2605866 (2011h:14073)**; 5. with S. Müller, E. Feliu, G. Regensburger, C. Conradi, and A. Shiu, Sign conditions for injectivity of generalized polynomial maps with applications to chemical reaction networks and

real algebraic geometry, to appear: *Found. Comput. Math.*, 2015 (dx.doi.org/10.1007/s10208-014-9239-3).

**Statement by Candidate:** Although I live and work in Argentina, I have been a member of the AMS for almost thirty years. During this period I have witnessed the globalization of our profession and have been involved in many synergistic activities at the local, national, and international level. We face many challenges concerning funding, underrepresentation, publications, education and outreach. I am willing to collaborate actively as a Member at Large of the Council of the AMS and hope to be able to contribute a fresh perspective to these issues.

**Erica Flapan**



Courtesy of Cynthia Peters.

Lingurn H. Burkhead Professor of Mathematics, Pomona College.

**Born:** August 14, 1956, Kalamazoo, MI.

**PhD:** University of Wisconsin, Madison, 1983.

**AMS Committees:** Committee on Professional Ethics, 2014-2016; Editorial Committee: Student Mathematical Library, 2014-2018.

**Selected Addresses:** Invited Address, AMS sectional meeting,

Chapel Hill, NC, 2003; MAA Invited Address, Joint Mathematics Meetings, Phoenix, 2004; Invited lecture at the Workshop on Mathematics of Knotting and Linking in Polymer Physics and Molecular Biology, Banff International Research Station, 2007; Organizer and lecturer, AMS Short Course on Applications of Knot Theory, 2008; Distinguished Lecture, Mathematical Association of America, Carriage House, Washington, DC, 2014.

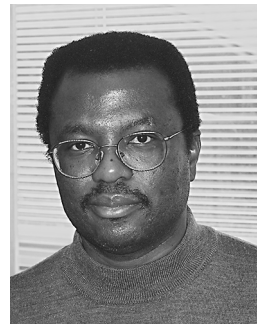
**Additional Information:** *National Honors:* MAA Haimo Award for Distinguished College or University Teaching of Mathematics, 2011; Inaugural Fellow of the AMS, 2012; Polya Lecturer of the MAA, 2015-2017. Participation in Non-AMS Organizations: MAA Spectrum Book Series Editorial Board, 2001-2006; Instructor, Summer Mathematics Program for Women Undergraduates (eleven summers), 2000-2014; Budapest Semesters in Mathematics Council Member, 2012-2015. Pomona College Honors: Irvine Foundation Distinguished Faculty Fellowship for mentoring students of color, 2005; First Year Advisor Award, 2013; Wig Award for Distinguished Teaching, 2014.

**Selected Publications:** 1. *When Topology Meets Chemistry: A Topological Look at Molecular Chirality*, Cambridge University Press and Mathematical Association of America (2000). **MR1781912 (2002e:92029)**; 2. with R. Naimi, J. Pommersheim and H. Tamvakis, Topological symmetry groups of graphs embedded in the 3-sphere, *Comment. Math. Helv.*, **80** (2005), 317-354. **MR2142245 (2006i:57006)**; 3. with D. Buck, Predicting knot or catenane type of site-specific recombination products, *Journal of Molecular Biology*, **374** (2007), 1186-1199; 4. with H. Howards, Every graph has an embedding in  $S^3$  containing no nonhyperbolic knot, *Proc. Amer. Math. Soc.*, **137** (2009), 4275-4285. **MR2538588 (2010f:57006)**; 5. with W. Fletcher and R. Nikkuni, Reduced Wu and generalized Simon invariants for spatial graphs, *Math. Proc.*

*Cambridge Philos. Soc.*, **156** (2014), 521-544. **MR3181638.**

**Statement by Candidate:** It is an honor to have been asked to be a candidate for the position of Member at Large of the AMS Council. I believe that I can bring a unique perspective to the Council as someone who has experience in many different mathematical arenas. As an active researcher who has spent her career at a liberal arts institution, I am interested in promoting excellent research while supporting teaching and mentoring of the next generation of mathematicians. As a topologist who has collaborated with chemists and molecular biologists, I am committed to both pure mathematics and interdisciplinary applications. As someone who has spent eleven summers as an instructor at a successful NSF sponsored program for undergraduate women in mathematics, I have first-hand knowledge of how to mentor and encourage young women to become mathematicians. As someone who has won awards for mentoring and advising first year college students and students from underrepresented groups, I am sensitive to the challenges confronted by a diverse student population. Finally, as someone who is invited to present five or more talks each year at colleges and universities all over the country, I am aware of the large variety of issues facing mathematics departments at different types of institutions. If elected, I would be honored to bring my experiences in all of these areas to the Council.

**Wilfrid D. Gangbo**



Professor of Mathematics, Georgia Institute of Technology.

**Born:** May 11, 1961, Porto-Novo, Benin.

**PhD:** EPFL, Switzerland, 1992.

**AMS Committees:** AMS Committee on Human Rights of Mathematicians, 2009-2012; AMS Book Donations Steering Committee, 2012-2016 (Chair, 2015-2016).

**Selected Addresses:** Plenary Speaker, AMS meeting, New York

University, April 12-13, 2003; Plenary Speaker, SIAM Conference on Analysis of PDEs, Houston, TX, December 6-8, 2004; Distinguished Visitor, PDE Pacific Northwest Seminar, Vancouver, BC, Canada, January 2009; Plenary Speaker, 37th Annual SIAM Southeastern Atlantic Sect. Conf., Knoxville, TN, March 22-24, 2013; Plenary Speaker, 4th Ohio River Analysis Meeting, Lexington, KY, March 8-9, 2014.

**Additional Information:** Member of AMS, 1996-present; Ramanujan Prize Selection Committee, 2008-2012; Members of the SIAG/Activity Group on Analysis of PDEs, 2009-2011; Member, US National Committee on Mathematics, 2011-2016 (the committee works to promote international scientific cooperation, support scientific research and training programs, and disseminate scientific information); Program Director, National Science Foundation, 2012-2013; Fellow of the AMS, Inaugural Class; Eisenbud Chair, MSRI, Berkeley, CA, Fall 2013; ICM selection committee (travel grant), 2013-2014. Editorial boards: Networks and Heterogeneous Media,

January 2008–present; SIMA, 2008–present; ESAIM: COCV, January 2009–present.

**Selected Publications:** 1. with R. McCann, The geometry of optimal transportation, *Acta Math.*, **177** (1996), no. 2, 113–161. **MR1440931 (98e:49102)**; 2. with E. Carlen, Constrained steepest descent in the 2-Wasserstein metric, *Ann. of Math.*, **157** (2003), 807–846. **MR1983782 (2004c:49027)**; 3. with H. K. Kim and T. Pacini, Differential forms on Wasserstein space and infinite-dimensional Hamiltonian systems, *Memoirs of the AMS*, **211** (2011), no. 993 (3 of 5). **MR2808856 (2012g:37129)**; 4. with R. Awi, A polyconvex integrand; Euler-Lagrange equations and uniqueness of equilibrium, *Arch. Ration. Mech. Anal.*, **214** (2014), no. 1, 143–182. **MR3237884**; 5. with A. Tudorascu, Weak KAM on the Wasserstein torus with multidimensional underlying space, *Comm. Pure Applied Math.*, **67** (2014), no. 3, 408–463. **MR3158572**.

**Statement by Candidate:** It is an honor to be nominated for the position of Member at Large of the AMS Council. The AMS provides the best platform for promoting research and education. Awareness of the importance of mathematics is becoming more and more critical, particularly in a time of uncertain funding climates and tight job markets. Our discipline deserves to be better supported at the level of fundamental research, applicable research and education. We should support mathematics departments in their effort to attract the best and brightest students. Formulating the right innovative scientific policies will keep us on the right track to achieve these important goals.

### Edray Herber Goins



Associate Professor of Mathematics, Purdue University.

**Born:** Los Angeles, CA, June 29, 1972.

**PhD:** Stanford University, 1999.

**AMS Committees:** Central Section Program Committee, 2015–2017.

**Selected Addresses:** NAM Claytor-Woodard Lecture, JMM, New Orleans, 2011; Principal Lecturer, Modern Math Workshop Mini-Course, SACNAS National Conference, San Antonio, 2013; Plenary

Speaker, Palmetto Number Theory Series XXII, 2014; AMS-AWM Special Session on Recent Developments in Algebraic Number Theory, JMM, San Antonio, 2015; Marjorie Lee Browne Colloquium, University of Michigan, 2015.

**Additional Information:** Positions: Postdoctoral Fellow, MSRI, 1999, 2000; Institute for Advanced Study, Member of the School of Mathematics, 1999–2000; Visiting Scholar, Harvard University, 2000, 2001, 2007; Postdoctoral Fellow, Max Planck Institut für Mathematik, Bonn, 2001; Irvine Foundation Instructor of Mathematics, California Institute of Technology, 2001–2003; Taussky-Todd Instructor of Mathematics, California Institute of Technology, 2003–2004; Assistant Professor of Mathematics, Purdue University, 2004–2010; Associate Professor, Purdue University, 2010–present; Editor of AMS Blog on “e-Mentoring Network in the Mathematical Sciences,” 2013–present. Boards: PCMI Diversity Sub-Committee, 2010–present; MSRI Human Resources Advisory

Committee (HRAC), 2013–present; President, National Association of Mathematicians (NAM), 2015–present. Editorship: with A. Noël, D. King and G. N’Guérékata, *Council for African American Researchers in the Mathematical Sciences, Vol. V; Contemp. Math.* **467** (2008), 152 pgs. Honors: Black Issues in Higher Education’s Emerging Scholar of the Year, 2004; Membership: SACNAS, life member, 2005–present; AWM; MAA; NAM, life member, 2011–present.

**Selected Publications:** 1. Artin’s conjecture and elliptic curves, *Council for African American Researchers in the Mathematical Sciences, Vol. III* (A. G. Noël, E. Barnes and S. A. F. Stephens, eds.), *Contemp. Math.*, **275**, *Amer. Math. Soc.* (2001), 39–51. **MR1827334 (2002d:11054)**; 2. Icosahedral  $\mathbb{Q}$ -curve extensions, *Math Res. Lett.*, **10** (2003), no. 2–3, 205–217. **MR1981898 (2004c:11080)**; 3. with F. Luca and A. Togbé, On the Diophantine equation  $x^2 + 2^\alpha 5^\beta 13^\gamma = y^n$ , *Algorithmic Number Theory* (A. J. van der Poorten and A. J. Stein, eds.), *Lecture Notes in Comput. Sci.*, 5011, Springer, Berlin (2008), 430–442. **MR2467863 (2010d:11150)**; 4. with K. Mugo, Points on hyperbolas at rational distance, *Int. J. Number Theory*, **8** (2012), no. 4, 911–922. **MR2926551**; 5. with A. Alvarado, Arithmetic progressions on conic sections, *Int. J. Number Theory*, **9** (2013), no. 6, 1379–1393. **MR3103893**.

**Statement by Candidate:** It is an honor to be nominated for the position of Member at Large of the AMS Council. I hope to both learn more about and to assist the efforts of the AMS to address the needs of underrepresented minorities in the mathematical sciences. For more than twenty years, I have been an active participant with the Conference for African-Americans in the Mathematical Sciences (CAARMS) as well as the National Conference for the Society for Advancement of Hispanic/Chicano and Native Americans in Science (SACNAS); for the past several years, I have served on committees to diversify the participants at MSRI as well as Park City Mathematics Institute (PCMI); and for the past several summers I’ve led a successful lecture series through Purdue’s ADVANCE grant to feature women of color in the mathematical sciences. As the newly elected president of NAM, I look forward to joining efforts with the AMS to make mathematics more inclusive for everyone!

### Tasso J. Kaper



Professor of Mathematics and Chair, Department of Mathematics and Statistics, Boston University.

**Born:** Groningen, NL, June 25, 1964.

**PhD:** California Institute of Technology, 1992.

**AMS Committees:** Editorial Committee, Proceedings of Symposia in Applied Mathematics (Chair), 2014–present.

**Selected Addresses:** Invited Address, International Workshop on Model Reduction and Multiscale Phenomena, Zurich, 2003; Invited Address, Japan Society for Mathematics, Sendai, 2005; Invited Address, Joint Partial Differential

Equations and Dynamical Systems Meeting, Barcelona, 2010; Invited Address, International Congress of Industrial and Applied Mathematics, Vancouver, 2011; Invited Address, International Conference on Far-From-Equilibrium Dynamics, Kyoto, 2011.

**Additional Information:** Sloan Research Fellowship, 1995; NSF Career Award in Mathematics, 1996–2000; Associate Editor, *SIAM Journal on Applied Dynamical Systems*, 2000–2005, 2012–present; Editor in Chief, *SIAM Journal on Applied Dynamical Systems*, 2005–2011; Fellow, Society for Industrial and Applied Mathematics, 2009; Fellow, AMS, 2012; Associate Editor, *Nonlinearity*, 2014–present; Member, American Physical Society.

**Selected Publications:** 1. with G. Kovačič, Multi-bump orbits homoclinic to resonance bands, *Trans. Amer. Math. Soc.*, **348** (1996), no. 10, 3835–3887. **MR1329536 (96m:58224)**; 2. with A. Doelman and R. A. Gardner, A stability index analysis of 1-D patterns of the Gray-Scott model, *Mem. Amer. Math. Soc.*, **155** (2002), no. 737. **MR1878337 (2005c:34090)**; 3. with R. E. L. DeVille, A. Harkin, M. Holzer, and K. Josic, Analysis of a renormalization group method and normal form theory for perturbed ordinary differential equations, *Phys. D*, **237** (2008), no. 8, 1029–1052. **MR2450492 (2009g:34098)**; 4. with M. Holzer and A. Doelman, Existence and stability of traveling pulses in a reaction-diffusion-mechanics system, *J. Nonlinear Sci.*, **23** (2013), no. 1, 129–177. **MR3023088**; 5. with A. Zagaris and H. G. Kaper, Geometry of the computational singular perturbation method for model reduction, *Mathematical Modeling of Natural Phenomena*, in press (2015).

**Statement by Candidate:** It is an honor to be asked to stand for election to be a Member at Large of the Council of the AMS. The AMS plays a central role in promoting and supporting mathematical research nationally and internationally. The AMS publishes important journals, books, and reports, and it sponsors a plethora of successful activities and programs, which collectively and individually communicate the excitement, results, and significance of mathematics to our community, to the government, and to the broader public. Some of the perspective that I can bring to the Council is that of a chair of a joint mathematics and statistics department. During the past four years, I have been guided by the principle of simultaneously advancing core mathematics, interdisciplinary mathematics, and statistics. This approach has been most important for further developing the core strength of a mathematics program, as well as for enhancing its larger role in the sciences and engineering.

## Anna Mazzucato



Photo by Chuck Fong.

Professor, Department of Mathematics, Penn State University.

**Born:** Milan, Italy, 1970.

**PhD:** UNC-Chapel Hill, 2000.

**AMS Committees:** AMS-Simons Travel Grant Program, 2011–2013; Committee on Meetings and Conferences, 2012–2014.

**Selected Addresses:** Plenary Address, International Conference on Difference Equations and Applications, Trois Rivières,

Canada, 2011; Michler Lecture, Cornell University, 2012; Speaker, Distinguished Women Scientist Series, University of Minnesota-Twin Cities, 2013; Invited Speaker, Clifford Lectures, Tulane University, 2013; Invited Speaker, Mathematical Hydrodynamics, École Normale, Paris, France, 2014.

**Additional Information:** Morgan Prize Selection Committee, 2009–2012 (Chair, 2011–2012); Ruth I. Michler Memorial Prize (awarded by AWM and Cornell University), 2011; Secretary, SIAG/APDE, 2013–2014; Member, AWM and SIAM.

**Selected Publications:** 1. Besov-Morrey spaces: function space theory and applications to nonlinear PDE, *Trans. Amer. Math. Soc.*, **355** (2003), no. 4, 1297–1364. **MR1946395 (2003j:46053)**; 2. with M. C. Lopes Filho and H. J. Nussenzweig Lopes, Weak solutions, renormalized solutions and entropy defects in 2D turbulence, *Arch. Ration. Mech. Anal.*, **179** (2006), no. 3, 353–387. **MR2208320 (2006k:35234)**; 3. with M. Taylor, Vanishing viscosity plane parallel channel flow and related singular perturbation problems, *Anal. PDE*, **1** (2008), no. 1, 35–93. **MR2431354 (2009j:35255)**; 4. with V. Nistor, Well-posedness and regularity for the elasticity equation with mixed boundary conditions on polyhedral domains and domains with cracks, *Arch. Ration. Mech. Anal.*, **195** (2010), no. 1, 25–73. **MR2564468 (2011e:74015)**; 5. with V. Nistor and Q. Qu, A nonconforming generalized finite element method for transmission problems, *SIAM J. Numer. Anal.*, **51** (2013), no. 1, 555–576. **MR3033023**.

**Statement by Candidate:** I am honored to have been nominated for the AMS Council. I strongly believe that AMS has a leading role in promoting a broad and inclusive view of Mathematics, in publicizing its societal impacts, and in supporting the contribution of Mathematics to education at all levels. If elected, I will work to ensure that the Society realizes these goals.



## Alan William Reid



Pennzoil Company Regents Professor of Mathematics and Chair, Department of Mathematics, The University of Texas at Austin.

**Born:** Aberdeen, UK, 1962.

**PhD:** University of Aberdeen, 1988.

**AMS Committees:** Centennial Fellowship Selection Committee, 2001–2003 (Chair, 2002–2003); Editorial Boards Committee, 2008–2011 (Chair, 2010–2011).

**Selected Addresses:** AMS Invited Address, University of Michigan, 2002; XXth Nevanlinna Colloquium, Lausanne, Switzerland, 2005; Invited address, Georgia Topology Conference, 2009; Rigidity and flexibility in dimensions 2, 3 and 4, CIRM, Luminy, France, 2012; What's Next? The mathematical legacy of Bill Thurston, Cornell University, 2014.

**Additional Information:** Royal Society University Research Fellow, 1992–1996; Sir Edmund Whittaker Prize, Edinburgh Math. Soc., 1993; Alfred P. Sloan Foundation Research Fellow, 1997–2000; Editorial Board, *Geometriae Dedicata*, 2000–present; Member, AIM Scientific Board, 2010–present; European Math. Soc. Distinguished Speaker, The Hyperbolic and Riemannian Geometry of Surfaces and other Manifolds, 2011; Fellow, AMS, 2012.

**Selected Publications:** 1. with D. Cooper and D. D. Long, Essential closed surfaces in bounded 3-manifolds, *J. Amer. Math. Soc.*, **10** (1997), no. 3, 553–563. **MR1431827 (97m:57021)**; 2. with I. Agol and D. D. Long, The Bianchi groups are separable on geometrically finite subgroups, *Ann. of Math.* (2), **153** (2001), no. 3, 599–621. **MR1836283 (2002e:20099)**; 3. with C. Maclachlan, *The Arithmetic of Hyperbolic 3-Manifolds*, Graduate Texts in Math., 219, Springer-Verlag, New York (2003). **MR1937957 (2004i:57021)**; 4. with D. D. Long and A. Lubotzky, Heegaard genus and property  $\tau$  for hyperbolic 3-manifolds, *J. Topol.*, **1** (2008), no. 1, 152–158. **MR2365655 (2008j:57036)**; 5. with G. Masbaum, All finite groups are involved in the mapping class group, *Geom. Topol.*, **16** (2012), no. 3, 1393–1411. **MR2967055**.

**Statement by Candidate:** The landscape of higher education in the US is evolving rapidly: from the use of technology, to pressures on size of graduate programs, as well as the funding models for research (in mathematics and elsewhere) to name a few. On the other hand, mathematics continues to be a central pillar of research in science and technology: Quoting from the NAS report, *The Mathematical Sciences in 2025*: “The mathematical sciences have an exciting opportunity to solidify their role as a linchpin of twenty-first century research and technology while maintaining the strength of the core, which is a vital element of the mathematical sciences ecosystem and essential to its future.” It is vital that the AMS continue to take the lead in promoting and helping to frame the discussion of the role and value of mathematicians and departments (within academia and the broader public arena). As well as continuing its support of cutting edge research, and its efforts to ensure a diverse mathematical community, the

AMS needs to be proactive in providing a voice for the new opportunities in mathematics that will arise for students (both undergraduate and graduate), and professional mathematicians. If elected I will work toward these goals.

## Bogdan D. Suceavă



Professor of Mathematics, California State University, Fullerton.

**Born:** September 27, 1969, Curtea de Argeș, Romania.

**PhD:** Michigan State University, 2002.

**Selected Addresses:** AMS Special Session, JMM, Baltimore, 2003; AMS Special Session, UC Santa Barbara, 2005; Invited Paper Session, MAA MathFest, 2008; Riemannian Geometry and Its Applications,

Bucharest, 2014; AMS Special Session, JMM, San Antonio, 2015.

**Additional Information:** Member, Pen Club West, 2005; Member, ETS Committee for GRE Subject in Mathematics, 2007–2012; Fiction Award, Bucharest Association of Writers, for the novel, *Miruna, a Tale* (available in English from Twisted Spoon Press, 2014), 2007; Book of the Month, Czech translation of the novel, *Coming from an Off-Key Time* (available in English from Northwestern University Press), Prague, Czech Republic, 2011; MAA Dolciani Enrichment Grants, 2012–2014; Outstanding Contributions to Students Success Award, Cal. State Fullerton, 2014; Author of twelve literary volumes, written in Romanian; Founder/coordinator, Fullerton Mathematical Circle, an outreach program of the Department of Mathematics at Cal. State Fullerton (e.g. [www.ocregister.com/articles/math-643435-circle-students.html](http://www.ocregister.com/articles/math-643435-circle-students.html)).

**Selected Publications:** 1. On strongly minimal Kähler surfaces in  $C^3$  and the equality  $\text{scal}(p)=4 \inf \sec(\pi')$ , Results in Mathematics, Springer Online First. DOI: 10.1007/s00025-014-0421-3; 2. with W. G. Boskoff and M. G. Ciucă, Revisiting the foundations of Barbilian's metrization procedure, *Differential Geom. Appl.*, **29** (2011), no. 4, 577–589. **MR2811667 (2012f:53032)**; 3. with B. Chen, Classification theorems for space-like surfaces in 4-dimensional indefinite space forms with index 2, *Taiwanese J. Math.*, **15** (2011), no. 2, 523–541. **MR2810166 (2012d:53171)**; 4. Distances generated by Barbilian's metrization procedure by oscillation of sublogarithmic functions, *Houston J. Math.*, **37** (2011), no. 1, 147–159. **MR2786550 (2012d:51012)**; 5. with C. Conley, R. Etnyre, B. Gardener, and L. Odom, New curvature inequalities for hypersurfaces in the Euclidean ambient space, *Taiwanese J. Math.*, **17** (2013), no. 3, 885–895. **MR3072267**.

**Statement by Candidate:** I joined the AMS as a graduate student in 1996 and over the years developed a profound admiration for the support the Society provides to its members as a conference organizer, publisher, and medium of communication, while also supporting job applicants and employers. I will reinforce AMS objectives that align with my experience in outreach programs (with a particular interest in programs geared towards students

with a strong interest in mathematics, e.g. mathematical circles), as well as in communicating to large audiences about the role of mathematics in society. I believe there are many ways in which the AMS could support young mathematicians, particularly undergraduate and graduate students who already have developed research projects. The role of mathematicians in society depends substantially on the perceptions society has about their work, and the AMS can design useful programs to strategically improve these perceptions. I have extensive experience in encouraging and mentoring undergraduate research, and have worked with students with different cultural heritages. I believe students representing minorities could contribute with their positive energy to the field and the whole mathematical community could benefit from programs designed to support them.

**Xiaoming Wang**



Professor and Chair, Department of Mathematics, Florida State University.

**Born:** Shanghai, China.

**PhD:** Applied Mathematics, Indiana University-Bloomington, 1996.

**Selected Addresses:** MSRI Workshop, Analytical and Stochastic Fluid Dynamics, Berkeley, CA, October 2005; Fourth International Congress of Chinese Mathematicians, Hangzhou, China, December 2007; IMA

Workshop, Transport and mixing in complex and turbulent flows, April 2010; Fourth Workshop, Fluids and PDEs, IMPA, Rio de Janeiro, Brazil, May 2014; IPAM Workshop, Turbulent Transport and Mixing, UCLA, Los Angeles, CA, October 2014.

**Selected Publications:** 1. A remark on the characterization of the gradient of a distribution, *Appl. Anal.*, **51** (1993), no. 1–4, 35–40. **MR1278991 (95k:46064)**; 2. with R. Temam, Boundary layers associated with incompressible Navier-Stokes equations: the noncharacteristic boundary case, *J. Differential Equations*, **179** (2002), no. 2, 647–686. **MR1885683 (2003b:76052)**; 3. with A. J. Majda, *Non-Linear Dynamics and Statistical Theories for Basic Geophysical Flows*, Cambridge University Press, Cambridge (2006). **MR2241372 (2009e:76214)**; 4. Stationary statistical properties of Rayleigh-Bénard convection at large Prandtl number, *Comm. Pure Appl. Math.*, **61** (2008), no. 6, 789–815. **MR2400606 (2010b:76098)**; 5. Approximation of stationary statistical properties of dissipative dynamical systems: time discretization, *Math. Comp.*, **79** (2010), no. 269, 259–280. **MR2552226 (2011a:35431)**.

**Statement by Candidate:** It is an honor to be recommended as a candidate for Member at Large. This is a time full of challenges and opportunities, especially at state-funded universities, such as diminishing resources, increasing accountability requirements, higher pressure for productivity, rapid advancement of technology, and the nourishing of interdisciplinary research, among others. The AMS has a crucial role in promoting mathematics, providing guidance on how to meet the challenges, and

taking advantage of the opportunities during this time. I have dealt with some of these issues in the capacity of a department chair, and I would be more than happy to serve the mathematics community at large if elected.

**Yang Wang**



Courtesy of HKUST.

Chair Professor, Hong Kong University of Science and Technology.

**Born:** April 13, 1963.

**PhD:** Harvard University, 1990.

**Selected Addresses:** Invited Speaker, AMS sectional meeting, Washington D.C., 2012; Plenary Speaker, Liberty Bell Summer Symposium in Real Analysis, Reading, PA, 2012; Plenary Speaker, MBI Workshop,

Mathematical Challenges in Biomolecular/Biomedical Imaging and Visualization, Ohio State University, 2013; Plenary Speaker, CIMPA, Argentina, 2013; Keynote Speaker, 5th International Conference, Computational Harmonic Analysis, Nashville, 2014.

**Additional Information:** Program Director, NSF, 2006–2007; Member, External Review Committee, Ohio State University and University of Delaware, 2013; Elected, Board of Governors, IMA, 2014–2018; A main organizer, AMS Central Sectional Meeting, 2015.

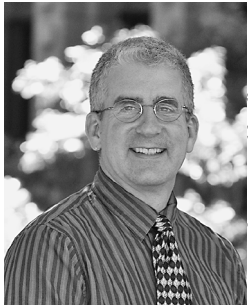
**Selected Publications:** 1. with J. C. Lagarias, Tiling the line with translates of one tile, *Invent. Math.*, **124** (1996), no. 1–3, 341–365. **MR1369421 (96i:05040)**; 2. with J. Lagarias and J. Reeds, Orthonormal bases of exponentials for the  $n$ -cube, *Duke Math. J.*, **103** (2000), no. 1, 25–37. **MR1758237 (2001h:11104)**; 3. Wavelets, tiling, and spectral sets, *Duke Math. J.*, **114** (2002), no. 1, 43–57. **MR1915035 (2003e:42057)**; 4. with D. Feng, On the structures of generating iterated function systems of Cantor sets, *Adv. Math.*, **222** (2009), no. 6, 1964–1981. **MR2562770 (2010k:28018)**; 5. with H. Rao and H. Ruan, Lipschitz equivalence of Cantor sets and algebraic properties of contraction ratios, *Trans. Amer. Math. Soc.*, **364** (2012), no. 3, 1109–1126. **MR2869169**.

**Statement by Candidate:** I have a very strong record of serving the community, and enjoy doing so. I coached the Putnam team at Georgia Tech and worked very closely with a couple of undergraduates to establish the Annual Georgia Tech High School Mathematics Competition, with the goal to attract good students into mathematics. This commitment to serve the community has never left me even when I became the department head at Michigan State University in 2007. During my entire career I had never turned down a request to serve on committees within and without my university, or to give a talk to undergraduates or school kids, or to appear in an outreach and recruitment event. I also know how to get things done, having been a department head for 8 years and a program director at NSF. If elected to the Council I hope to make a bigger impact in serving our community. One area I have a lot of expertise in is international exchange and collaboration, especially between US and Asia. Being currently in Hong Kong and active in both the US and Hong Kong/Greater

China has put me in an ideal situation to promote scholarly exchange and collaborations between the two regions.

## Nominating Committee

### Andrew J. Bernoff



Courtesy of Harvey Mudd College.

Diana & Kenneth Jonsson Professor of Mathematics, Harvey Mudd College.

**Born:** Philadelphia, Pennsylvania, July 5, 1960.

**PhD:** University of Cambridge, 1988.

**Selected Addresses:** Invited Lecturer, Undergraduate Faculty Program Organizer, IAS/Park City Math Institute on *Harmonic Analysis*, 2003; Cross-

Program Invited Speaker, IAS/Park City Math Institute, 2005–2011; Invited Speaker, JMM, AMS-MAA Special Session on Mathematics and Education Reform, 2013; Invited Panelist, JMM, *Out in Mathematics: LGBTQ Mathematicians in the Workplace*, 2015.

**Additional Information:** Marshall Scholar, 1982–1985; National Science Foundation Postdoctoral Fellowship, 1989–1991; NSF Grants, seven awards, 1989–present; President, Southern California Section of SIAM, 2004–2011; Editor, SIAM Review Education Section, 2005–2010; NSF Committee of Visitors, 2007, 2010, 2013; Steering Committee, IAS/Park City Math Institute, 2008–2011; SIAM Outstanding Paper Prize, 2013; SIAM SIGEST Paper Award, 2013; Committee of Academic Sponsors, MSRI, 2013–present; Simons Foundation Collaboration Grant, 2014–2019.

**Selected Publications:** 1. with A. Bertozzi and T. Witelski, Axisymmetric surface diffusion: dynamics and stability of self-similar pinchoff, *J. Statist. Phys.*, **93** (1998), no. 3–4, 725–776. **MR1666581 (99k:80013)**; 2. with P. Sternberg, Onset of superconductivity in decreasing fields for general domains, *J. Math. Phys.*, **39** (1998), no. 3, 1272–1284. **MR1608449 (99a:82099)**; 3. with T. P. Witelski and A. Bertozzi, Blowup and dissipation in a critical-case unstable thin film equation, *European J. Appl. Math.*, **15** (2004), no. 2, 223–256. **MR2069680 (2005e:76011)**; 4. with C. Topaz, M. D’Orsogna and L. Edelstein-Keshet, Locust dynamics: behavioral phase change and swarming, *PLoS Comput. Biol.*, **8** (2012), no. 8, e1002642. **MR2988355**; 5. with C. Topaz, Nonlocal aggregation models: a primer of swarm equilibria, *SIAM Rev.*, **55** (2013), no. 4, 709–747. **MR3124884**.

**Statement by Candidate:** The strength of the AMS lies in its diversity along many dimensions. Our mission is to support excellence in mathematics research, breadth in mathematics education, and to advocate for mathematicians and mathematics education at all levels. That mission is evolving as we embrace new fields, such as data science, that make mathematics and its applications more relevant to industry while still supporting the flourishing growth in more traditional areas of mathematics. The obstacles that mathematics education faces at all levels from diminishing government resources has made addressing issues such as under-representation in STEM fields even more challenging. The role of technology in education brings

both opportunities to reach communities we never have before and a changing paradigm for communication as we go from paper and mail to electronic publishing and social media. The continued vitality of the AMS depends on identifying individuals passionate to address these opportunities and challenges, and, as a member of the nominating committee I would strive to find candidates of all genders, races and orientations, who span and represent the breadth of our community, from pure to applied to industrial and from colleges focused on undergraduate education to research universities pushing the forefront of knowledge.

### Carolyn Gordon



Courtesy of Joseph Mehling/Dartmouth College.

Benjamin Cheney Professor of Mathematics, Dartmouth College.

**Born:** Charleston, WV, December 26, 1950.

**PhD:** Washington University, 1979.

**AMS Offices:** Editorial Boards Committee, 1994–1997; Member at Large of the Council, 2005–2008.

**AMS Committees:** Central Section Programming Committee, 1990–1992; *Notices* Editorial Committee, 1991–1994 (Forum Editor, 1991–1993); National Programming Committee, 1996–1998 (Chair, 1997); Joint AMS-MAA Programming Committee (Chair), 1997; Committee on the Profession, 2004–2008; Moore Prize Selection Committee (Chair), 2006–2010; Committee on Committees, 2007–2009; Simons Travel Grant Selection Committee, 2012–2014; Levi Conant Prize Selection Committee, 2015.

**Selected Addresses:** AMS Invited Hour Address, JMM, San Antonio, TX, 1993; AMS-MAA Invited Hour Address, Mathfest, Providence, RI, 1999; AWM Noether Lecture, JMM, San Francisco, CA, 2010; MAA Invited Hour Address, JMM, Boston, MA, 2012.

**Additional Information:** AMS Centennial Research Fellowship, 1990; Chauvenet Prize, 2001; AWM President, 2003–2005; CBMS Executive Council, 2005–2006; Inaugural Fellow, AMS, 2012; Fellow, AAAS, 2013.

**Selected Publications:** 1. with D. L. Webb and S. Wolpert, One cannot hear the shape of a drum, *Bull. Amer. Math. Soc. (N. S.)*, **27** (1992), no. 1, 134–138. **MR1136137 (92j:58111)**; 2. with E. N. Wilson, Continuous families of isospectral Riemannian metrics which are not locally isometric, *J. Differential Geom.*, **47** (1997), no. 3, 504–529. **MR1617640 (99a:58159)**; 3. Isospectral deformations of metrics on spheres, *Invent. Math.*, **145** (2001), no. 2, 317–331. **MR1872549 (2003d:58052)**; 4. with E. Makover and D. Webb, Transplantation and Jacobians of Sunada isospectral Riemann surfaces, *Adv. Math.*, **197** (2005), no. 1, 86–119. **MR2166178 (2006i:58047)**; 5. with D. Schueth and C. J. Sutton, Spectral isolation of bi-invariant metrics on compact Lie groups, *Ann. Inst. Fourier (Grenoble)*, **60** (2010), no. 5, 1617–1628. **MR2766225 (2012a:58058)**.

**Statement by Candidate:** If elected to the Nominating Committee, I will work to identify a diverse and

representative pool of candidates for AMS offices that can provide strong and visionary leadership both within the profession and in enhancing public exposure to the mathematical sciences.

**Kevin P. Knudson**



Professor of Mathematics, University of Florida.

**Born:** Wausau, Wisconsin, October 7, 1969.

**PhD:** Duke University, 1996.

**Selected Addresses:** Oberwolfach Conference, Computational Algebraic Topology, July 2008; Colloquium, University College, Dublin, May 2009; Colloquium, Louisiana State University, February 2012; Applied and Computational Topology, Universität Bremen, July 2013; AIM Workshop, Generalizations of Persistence, Palo Alto, California, September 2014.

**Additional Information:** NSF Postdoctoral Fellow, 1996–1999; Organizer, IMA Summer School for Graduate Students, Topology and its Applications, Mississippi State University, July 2006; Member, MSRI, Fall 2006; Director, University of Florida Honors Program, July 2009–August 2014. Co-Organizer, AMS Special Sessions: Chicago, 1998; Chapel Hill, NC, 2003.

**Selected Publications:** 1. On the  $K$ -theory of elliptic curves, *J. Reine Angew. Math.*, **507** (1999), 81–91. **MR1670270 (2000b:20056)**; 2. *Homology of Linear Groups*, Progress in Mathematics, 193, Birkhäuser Verlag, Basel (2001). **MR1807154 (2001j:20070)**; 3. with H. King and N. Mramor, Generating discrete Morse functions from point data, *Experiment. Math.*, **14** (2005), no. 4, 435–444. **MR2193806 (2006j:57049)**; 4. A refinement of multi-dimensional persistence, *Homology, Homotopy Appl.*, **10** (2008), no. 1, 259–281. **MR2399474 (2009d:55008)**; 5. *Morse Theory: Smooth and Discrete*, World Scientific, Singapore, 2015 (to appear).

**Statement by Candidate:** I am honored to stand for election to the Nominating Committee. The AMS requires a diverse collection of mathematical scientists to properly perform its missions—support for research, public outreach, and advocacy for the profession. As a member of the Nominating Committee I will work to ensure that the Society’s governing and working groups are populated by a broad array of individuals from all types of institutions, including research universities, liberal arts colleges, industry, and government.

**David R. Morrison**



Courtesy of Spencer Brattvig, UCSB Public Affairs.

Professor of Mathematics and Physics, University of California, Santa Barbara.

**Born:** July 29, 1955, Oakland, California.

**PhD:** Harvard University, 1980.

**AMS Offices:** Council of the AMS, 2002–2005; Executive Committee, Council of the AMS, 2002–2005.

**AMS Committees:** Committee on Publications, 2002–2005; Committee on

Committees, 2005–2006; Leonard Eisenbud Prize Committee, 2006–2008; Joint Data Committee, 2011–2014; Fellows Program Selection Committee, 2013–2015.

**Selected Addresses:** Invited Address, Mathematical Society of Japan, 1985; Invited Address, AMS Meeting, Lexington, Kentucky, 1994; Invited Speaker, ICM, 1994.

**Additional Information:** AMS Centennial Fellow, 1992–1994; Clay Mathematics Institute Senior Scholar, 2005; Guggenheim Fellow, 2005–2006; Fellow, AMS, 2013; Fellow, American Physical Society, 2014.

**Selected Publications:** 1. On  $K3$  surfaces with large Picard number, *Invent. Math.*, **75** (1984), no. 1, 105–121. **MR0728142 (85j:14071)**; 2. Mirror symmetry and rational curves on quintic threefolds: a guide for mathematicians, *J. Amer. Math. Soc.*, **6** (1993), no. 1, 223–247. **MR1179538 (93j:14047)**; 3. with P. S. Aspinwall and B. R. Greene, Calabi-Yau moduli space, mirror manifolds and spacetime topology change in string theory, *Nuclear Phys. B*, **416** (1994), no. 2, 414–480. **MR1274435 (95i:32027)**; 4. with B. R. Greene and A. Strominger, Black hole condensation and the unification of string vacua, *Nuclear Phys. B*, **451** (1995), no. 1–2, 109–120. **MR1352415 (96m:83085)**; 5. with M. R. Plesser, Non-spherical horizons. I, *Adv. Theor. Math. Phys.*, **3** (1999), no. 1, 1–81. **MR1704143 (2000d:83122)**.

**Statement by Candidate:** I remember my own first encounter with the Nominating Committee, when I was approached to run for the Council. This was not something I had ever considered, but after some thought (and some prodding by members of the Committee), I agreed to do it. I have been serving the Society in various capacities ever since. I would be pleased to have the opportunity, as a member of the Nominating Committee, to help identify the next generation of leaders for the Society, seeking candidates who will bring a diverse set of experiences to the task.

**Karen Hunger Parshall**

Professor of History and Mathematics, University of Virginia.

**Born:** Virginia Beach, Virginia, July 7, 1955.

**PhD:** University of Chicago, 1982.

**AMS Offices:** AMS Council, 1998–2001.

**AMS Committees:** AMS/MAA Joint Archives Committee, 1992–2005 (Chair), 2006–2008, 2015–2018; AMS Representative to Section L of

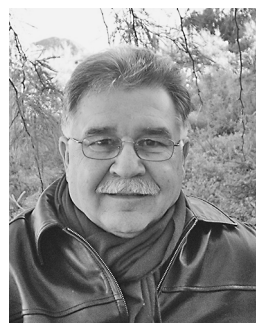
the AAAS, 1995–1998; AMS HMATH Committee (Chair), 1996–2013; Committee on Meetings and Conferences, 1998–2001; Member, Selection Committee for AMS/MAA, hour speaker, JMM, Baltimore, January 1998 and San Antonio, January 1999 (Chair); Member, Selection Committee for the Albert Leon Whiteman Memorial Prize, 2000. **Selected Addresses:** Plenary Lecturer, International Congress of Mathematicians, Zürich, Switzerland, 1994; Plenary Lecturer, Sectional AMS Meetings, Eugene, OR, June 1994 and Miami, FL, April 2006; MAA Plenary Lecturer, Joint Meetings, San Francisco, CA, 1995, Washington, D.C., 2000, and San Diego, CA, 2008; MAA Centennial Speaker, Washington, D.C., 2015.

**Additional Information:** Fellowships: John Simon Guggenheim Fellow, 1996–1997; NSF Visiting Professorship for Women Recipient, 1996–1997. Editorial Responsibilities: Associate Editor, *The Mathematical Intelligencer*, 1989–1992; *Historia Mathematica*, Book Review Editor, 1990–1993, Managing Editor, 1994–1995, Editor, 1996–1999; Member of the Editorial Board, *American Mathematical Monthly*, 1997–2006; *Historia Mathematica*, 2000–present; *Revue d'histoire des mathématiques*, 2001–present. Chair: International Commission for History of Mathematics, 2002–2009. Awards: Inaugural Fellow of the AMS, 2012.

**Selected Publications:** 1. with D. E. Rowe, *The Emergence of the American Mathematical Research Community, 1876–1900: J. J. Sylvester, Felix Klein, and E. H. Moore*, AMS/LMS Series in the History of Mathematics, **8** (1994), paperback edition, 1997. **MR1290994 (95j:01032)**; 2. *James Joseph Sylvester: Life and Work in Letters*, Oxford: Clarendon Press (1998), paperback edition, 2013. **MR1674190 (99k:01072)**; 3. *James Joseph Sylvester: Jewish Mathematician in a Victorian World*, Johns Hopkins University Press, Baltimore (2006). **MR2216541 (2007a:01013)**; 4. *Episodes in the History of Modern Algebra (1800–1950)*, co-edited with J. G. Gray, AMS/LMS Series in the History of Mathematics, **32** (2007). **MR2307989 (2008g:00019)**; 5. with V. J. Katz, *Taming the Unknown: A History of Algebra from Antiquity to the Early Twentieth Century*, Princeton University Press, Princeton (2014). **MR3237138**.

**Statement by Candidate:** From its beginnings, the AMS has sought to promote first-rate research across a broad constituency of mathematical practitioners—in colleges and universities as well as in industry and the government. The Nominating Committee serves the key purposes of identifying capable and committed candidates for leadership roles within the AMS and of seeing to it that the diversity of the mathematical community defined by the

AMS is reflected in the composition of its committees and in the holders of its offices. If elected, I will do my best to assure that the Nominating Committee achieves these goals.

**William Yslas Vélez**

University Distinguished Professor, University of Arizona.

**Born:** January 15, 1947.

**PhD:** University of Arizona, 1975.

**AMS Committees:** Committee on Committees, 1990–1992, 1993–1995; Committee on Meetings and Conferences, 1993–1995; Member, organizing committee for the first Joint Meeting, Sociedad Matemática Mexicana, Mérida, Yucatan, December 1994;

Committee to Select the Winner of the Award for Public Service, 2001–2006; Young Scholars Award Committee, 2013–2016; AMS-ASA-MAA-SIAM Data Committee (Chair), 2014–2016.

**Selected Addresses:** James Leitzel Lecturer, MAA Summer Math Fest, August 2005.

**Additional Information:** President, Society for Advancement of Hispanic/Chicano and Native Americans in Science, 1994–1996; President's Award for Excellence in Science, Mathematics and Engineering Mentoring Program, Washington, D.C., September 1997; Fellow, American Association for the Advancement of Science, January 2009; Fellow, AMS, January 2013; Association for Women in Mathematics, Gweneth Humphreys Award for Mentorship of Undergraduate Women in Mathematics, January 2014.

**Selected Publications:** 1. with E. Jacobson, Fields arithmetically equivalent to a radical extension of the rationals, *J. Number Theory*, **35** (1990), no. 3, 227–246. **MR1062333 (92b:11081)**; 2. with J. Watkins, The research mathematician as storyteller, *Contemporary Issues in Mathematics Education*, Mathematical Sciences Research Institute Publications, **36**, E. A. Gavosto, S. G. Krantz, and W. McCallum, eds., Cambridge University Press (1999), 45–56; 3. The Role of Academic Departments in Diversity Issues, *American Association for the Advancement of Science, Minority Scientist Network* (2004); 4. Increasing the number of mathematics majors, *Focus* (2006); 5. Mathematics Instruction, An Enthusiastic Activity, *On Teaching and Learning Mathematics*, AMS Blogs (2014).

**Statement by Candidate:** I consider myself to be extremely fortunate to have had a career as a mathematician. To have a life surrounded by smart and dedicated people, stimulating ideas, and a safe environment in which to work is indeed a luxury. I have decided to share my good fortunes with others by spending the last years of my academic life recruiting students into the study of mathematics. As the demographics of our country is changing it is even more important for the mathematical establishment to be more inclusive, to educate students to the importance and utility of mathematics. I would be pleased to serve on the Nominating Committee of the AMS and continue my long service for the mathematical organizations of this country.

## Editorial Boards Committee

### Mladen Bestvina



Distinguished Professor of Mathematics, University of Utah.

**Born:** Osijek, Croatia, December 1, 1959.

**PhD:** University of Tennessee, 1984.

**Selected Addresses:** AMS Invited Address, Greensboro, NC, November 1995; ICM Invited Address, Topology Session, 2002; Namboodiri Lectures, University of Chicago, 2009; AMS Invited Address, Cornell, September

2011; Current Events Invited Lecture, JMM, San Diego, 2013.

**Additional Information:** Alfred P. Sloan Fellowship, 1988; Presidential Young Investigator Award, 1988; Croatian Academy of Arts and Sciences, Corresponding Member, 2012; Fellow, AMS, 2013. Selected Editorial Boards: *Transactions and Memoirs*, 2003–2008; *Ann. of Math.* Associate Editor, 2006–2013; *Groups, Geometry and Dynamics*, 2006–present; *Geom. Funct. Anal.*, 2007–present; *Duke Math. J.*, 2015–present.

**Selected Publications:** 1. with M. Handel, Train tracks and automorphisms of free groups, *Ann. of Math. (2)*, **135** (1992), no. 1, 1–51. **MR1147956 (92m:20017)**; 2. with K.-U. Bux and D. Margalit, The dimension of the Torelli group, *J. Amer. Math. Soc.*, **23** (2010), no. 1, 61–105. **MR2552249 (2011b:20109)**; 3. with A. Eskin and K. Wortman, Filling boundaries of coarse manifolds in semisimple and solvable arithmetic groups, *J. Eur. Math. Soc.*, **15** (2013), no. 6, 2165–2195. **MR3120741**; 4. with M. Feighn, Subfactor projections, *J. Topol.*, **7** (2014), no. 3, 771–804. **MR3252963**; 5. with K. Bromberg and K. Fujiwara, Constructing group actions on quasi-trees and applications to mapping class groups, *Publ. IHES* (2014), 1–64.

**Statement by Candidate:** It is a great privilege to be asked to run for the Editorial Boards Committee. The AMS journals play a crucial role in publishing high quality research papers at a reasonable price, which are further electronically accessible and have a flexible copyright policy. If elected, I will work to identify mathematicians with best credentials to serve on editorial boards of the Society's publications.

### Jeffrey Brock



Professor and Chair, Brown University Department of Mathematics.

**Born:** Bronxville, NY, June 14, 1970.

**PhD:** UC Berkeley, 1997.

**Selected Addresses:** AMS-MAA Invited Address, New Orleans, LA, 2007; Evans-Hall Memorial Lecture, Atlanta, GA, 2009; M. E. Hamstrom Lecture, Urbana-Champaign, 2010; Current Events Bulletin, Boston, 2012; Nevanlinna Colloquium, Hel-

sinki, Finland, 2013.

**Additional Information:** Harrington Fellow, 2004; Guggenheim Fellow, 2008.

**Selected Publications:** 1. with K. W. Bromberg, On the density of geometrically finite Kleinian groups, *Acta Math.*, **192** (2004), no. 1, 33–93. **MR2079598 (2005e:57046)**; 2. with J. Souto, Algebraic limits of geometrically finite manifolds are tame, *Geom. Funct. Anal.*, **16** (2006), no. 1, 1–39. **MR2221251 (2008c:57028)**; 3. with H. Masur and Y. Minsky, Asymptotics of Weil-Petersson geodesic. I. Ending laminations, recurrence, and flows, *Geom. Funct. Anal.*, **19** (2010), no. 5, 1229–1257. **MR2585573 (2010k:32020)**; 4. with K. Bromberg, Geometric inflexibility and 3-manifolds that fiber over the circle, *J. Topol.*, **4** (2011), no. 1, 1–38. **MR2783376 (2012g:30099)**; 5. with R. D. Canary and Y. N. Minsky, The classification of Kleinian surface groups, II: The ending lamination conjecture, *Ann. of Math. (2)*, **176** (2012), no. 1, 1–149. **MR2925381**.

**Statement by Candidate:** It is a great honor to have been nominated to serve on the AMS Editorial Boards Committee. The AMS serves as the standard-bearer for quality and accessibility in an increasingly complicated, fraught, and expensive publication marketplace. The commitment of the AMS to principles of openness and the free unencumbered exchange of information plays a vital role in setting the course for mathematical publication moving forward. Quality, high-impact editorship at the AMS is crucial to its continued success. I hope to serve its mission by bringing voices forward that share a commitment to the core values that have made the AMS journals the models of excellence in the community that they are.

### Laura DeMarco



Courtesy of Niki Koumoutsos.

Professor, Northwestern University.

**Born:** November 15, 1974, Japan.

**PhD:** Harvard University, 2002.

**AMS Committees:** Employment Services Advisory Board, 2009–2011; Editorial board, *AMS Electronic Journal of Conformal Geometry and Dynamics*, 2013–present; Central Section Program Committee,

2014–2016 (Chair, 2015–2016); AWM-AMS Noether Lecture Committee, 2014–2017.

**Selected Addresses:** AMS-MAA Invited Address, MathFest, 2011; Colloquium, Harvard University, 2012; AMS Invited Address, JMM, 2013; Plenary Lecture, International Congress of Women Mathematicians, Korea, 2014; Colloquium, Argonne National Laboratory, Physics Division, 2015.

**Additional Information:** NSF Career Award, 2008; Sloan Fellowship, 2008; Fellow, AMS, 2012; Kreeger Wolf Distinguished Visiting Professorship, Northwestern University, 2013–2014; Simons Fellowship, 2015.

**Selected Publications:** 1. The moduli space of quadratic rational maps, *J. Amer. Math. Soc.*, **20** (2007), no. 2, 321–355. **MR2276773 (2008c:14021)**; 2. with C. T. McMullen, Trees and the dynamics of polynomials, *Ann. Sci. Éc. Norm. Supér.*, **41** (2008), no. 3, 337–382. **MR2482442 (2010d:37087)**; 3. with M. Baker, Preperiodic points and unlikely intersections, *Duke Math. J.*, **159** (2011), no. 1,

1–29. **MR2817647 (2012h:37170)**; 4. with K. Pilgrim, Polynomial basins of infinity, *Geom. Funct. Anal.*, **21** (2011), no. 4, 920–950. **MR2827015 (2012m:37081)**; 5. with M. Baker, Special curves and postcritically finite polynomials, *Forum Math. Pi*, **1** (2013), e3, 35 pp. **MR3141413**.

**Statement by Candidate:** The AMS publishes top-quality journals and books, and I will work to maintain the high standards and smooth operation of these publications. It is important that careful thought go into selecting the editorial boards, to find individuals with strong research credentials and an understanding of this competitive and evolving industry.

### Tatiana Toro



Professor of Mathematics, University of Washington.

**Born:** Bogota, Colombia.

**PhD:** Stanford University, 1992.

**AMS Offices:** Member, Council at Large, 1999–2001.

**AMS Committees:** Western Section Program Committee (Chair), February 2001–January 2002; Member, Centennial Fellowship Committee, July 2004–June 2006; Joint Program Committee (Chair), AMS-MAA JMM,

February 2012–January 2013; Member, Program Committee for National Meeting, February 2015–January 2018.

**Selected Addresses:** Invited Address, Central Sectional Meeting, University of Texas, Austin, October 1999; Lars Ahlfors Centennial Celebration, Helsinki, Finland, August 2007; Invited Speaker, Analysis Session, ICM 2010, Hyderabad, India, August 2010; Invited Address, JMM, New Orleans, Louisiana, January 2011; Mini-course, 9th International Conference, *Harmonic Analysis and Partial Differential Equations*, El Escorial, Madrid, Spain, June 2012.

**Additional Information:** Mathematical Sciences Postdoctoral Research Fellowship, National Science Foundation, 1994–1998; Alfred P. Sloan Research Fellowship, 1996–2000; Member, Committee of Visitors for the Division of the Mathematical Sciences at NSF, February 2007; PIMS Scientific Review Panel (Chair), 2009–2013; Member, IPAM Board of Trustees, 2009–present; Simons Foundation Fellowship, 2012–2013; Chair, Organizing Committee of LATMATH 2015, sponsored by IPAM and PIMS, IPAM, UCLA, April 2015; Guggenheim Foundation Fellowship, 2015–2016.

**Selected Publications:** 1. Surfaces with generalized second fundamental form in  $L^2$  are Lipschitz manifolds, *J. Differential Geom.*, **39** (1994), no. 1, 65–101. **MR1258915 (95b:49066)**; 2. with C. E. Kenig, Free boundary regularity for harmonic measures and Poisson kernels, *Ann. of Math. (2)*, **150** (1999), no. 2, 369–454. **MR1726699 (2001d:31004)**; 3. with D. Preiss and X. Tolsa, On the smoothness of Hölder doubling measures, *Calc. Var. Partial Differential Equations*, **35** (2009), no. 3, 339–363. **MR2481829 (2010g:28006)**; 4. with C. Kenig and D. Preiss, Boundary structure and size in terms of interior and exterior harmonic measures in higher dimensions, *J. Amer. Math. Soc.*, **22** (2009), no. 3, 771–796. **MR2505300**

(2010h:28005); 5. with G. David, Regularity of almost minimizers with free boundary, *Calculus of Variations and PDEs* (2014), (DOI) 10.1007/s00526-014-0792-z. **Statement by Candidate:** I am honored to have been nominated to the AMS Editorial Boards Committee. The AMS journals play a crucial role in disseminating the most recent results in a broad spectrum of areas in Mathematics. I have been an editor for Proceedings, Transactions, Memoirs and the University Lecture series. I would like to have the opportunity to contribute to the journals from a different angle.

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## Suggestions

Your suggestions are wanted by:

**The Nominating Committee, for the following contested seats in the 2016 AMS elections:**

vice president, trustee,  
and five members at large of the Council

Deadline for suggestions: November 1, 2016

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**The President, for the following contested seats in the 2015 AMS elections:**

three members of the Nominating Committee  
two members of the Editorial Boards Committee

Deadline for suggestions: January 31, 2016

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**The Editorial Boards Committee, for appointments to various editorial boards of AMS publications**

Deadline for suggestions: Can be submitted any time

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Send your suggestions for any of the above to:

**Carla D. Savage, Secretary**  
American Mathematical Society  
Department of Computer Science  
North Carolina State University  
Raleigh, NC 27695-8206 USA  
email: [ams\\_secretary@ncsu.edu](mailto:ams_secretary@ncsu.edu)



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# 2016 AMS Election

## Nominations by Petition

### Vice President or Member at Large

One position of vice president and member of the Council *ex officio* for a term of three years is to be filled in the election of 2016. The Council intends to nominate at least two candidates, among whom may be candidates nominated by petition as described in the rules and procedures.

Five positions of member at large of the Council for a term of three years are to be filled in the same election. The Council intends to nominate at least ten candidates, among whom may be candidates nominated by petition in the manner described in the rules and procedures.

Petitions are presented to the Council, which, according to Section 2 of Article VII of the bylaws, makes the nominations. The Council of 23 January 1979 stated the intent of the Council of nominating all persons on whose behalf there were valid petitions.

Prior to presentation to the Council, petitions in support of a candidate for the position of vice president or of member at large of the Council must have at least fifty valid signatures and must conform to several rules and procedures, which are described below.

### Editorial Boards Committee

Two places on the Editorial Boards Committee will be filled by election. There will be four continuing members of the Editorial Boards Committee.

The President will name at least four candidates for these two places, among whom may be candidates nominated by petition in the manner described in the rules and procedures.

The candidate's assent and petitions bearing at least 100 valid signatures are required for a name to be placed on the ballot. In addition, several other rules and procedures, described below, should be followed.

### Nominating Committee

Three places on the Nominating Committee will be filled by election. There will be six continuing members of the Nominating Committee.

The President will name at least six candidates for these three places, among whom may be candidates nominated by petition in the manner described in the rules and procedures.

The candidate's assent and petitions bearing at least 100 valid signatures are required for a name to be placed on

the ballot. In addition, several other rules and procedures, described below, should be followed.

### Rules and Procedures

Use separate copies of the form for each candidate for vice president, member at large, member of the Nominating or Editorial Boards Committees.

1. To be considered, petitions must be addressed to Carla D. Savage, Secretary, American Mathematical Society, 201 Charles Street, Providence, RI 02904-2294 USA, and must arrive by 24 February 2016.
2. The name of the candidate must be given as it appears in the *Combined Membership List* ([www.ams.org/cm1](http://www.ams.org/cm1)). If the name does not appear in the list, as in the case of a new member or by error, it must be as it appears in the mailing lists, for example on the mailing label of the *Notices*. If the name does not identify the candidate uniquely, append the member code, which may be obtained from the candidate's mailing label or by the candidate contacting the AMS headquarters in Providence ([amsmem@ams.org](mailto:amsmem@ams.org)).
3. The petition for a single candidate may consist of several sheets each bearing the statement of the petition, including the name of the position, and signatures. The name of the candidate must be exactly the same on all sheets.
4. On the next page is a sample form for petitions. Petitioners may make and use photocopies or reasonable facsimiles.
5. A signature is valid when it is clearly that of the member whose name and address is given in the left-hand column.
6. The signature may be in the style chosen by the signer. However, the printed name and address will be checked against the *Combined Membership List* and the mailing lists. No attempt will be made to match variants of names with the form of name in the *CML*. A name neither in the *CML* nor on the mailing lists is not that of a member. (Example: The name Carla D. Savage is that of a member. The name C. Savage appears not to be.)
7. When a petition meeting these various requirements appears, the secretary will ask the candidate to indicate willingness to be included on the ballot. Petitioners can facilitate the procedure by accompanying the petitions with a signed statement from the candidate giving consent.

# Nomination Petition

## for 2016 Election

The undersigned members of the American Mathematical Society propose the name of

\_\_\_\_\_

as a candidate for the position of (check one):

- Vice President** (term beginning 02/01/2017)
- Member at Large of the Council** (term beginning 02/01/2017)
- Member of the Nominating Committee** (term beginning 01/01/2017)
- Member of the Editorial Boards Committee** (term beginning 02/01/2017)

of the American Mathematical Society.

Return petitions by 24 February 2016 to:  
Secretary, AMS, 201 Charles Street, Providence, RI 02904-2294 USA

Name and address (printed or typed)

	Signature
	Signature
	Signature
	Signature
	Signature
	Signature