

Committee on Steele Prizes

General Description

- Committee is standing
- Number of members is nine
- Term is three years

These prizes were established in 1970 in honor of George David Birkhoff, William Fogg Osgood, and William Caspar Graustein, and are endowed under the terms of a bequest amount to \$145,000 from Leroy P. Steele. From 1970 to 1976 one or more prizes were awarded each year for outstanding published mathematical research; most favorable consideration was given to papers distinguished for their exposition and covering broad areas of mathematics. In 1977 the Council of the AMS modified the terms under which the prizes are awarded. Since then, up to three prizes have been awarded each year as stated in the following section.

ARTICLE FIFTH

All the rest, residue and remainder of my estate, both real and personal, of every nature and description and wherever situated, of which I may die seized or possessed, or to which I may be in any way entitled, or over which I may have any power of appointment, I give, bequeath, devise and appoint to the AMERICAN MATHEMATICAL SOCIETY, a corporation organized under the laws of the District of Columbia, (hereinafter referred to as the Society) or to its successors for the purpose of using the income for establishing and awarding, from time to time, a prize or prizes for outstanding published mathematical research, the prize or prizes to be made in such amounts, at such intervals and for such types of mathematical research as the Council of the Society shall in its sole discretion determine. It is suggested but not required that in awarding the prizes, the Council consider original research in such fields as projective geometry, differential geometry, theory of functions, differential equations, analysis situs (topology), abstract spaces, theory of ensembles, logical foundations of mathematics and theoretical dynamics. It is also suggested but not required that prizes in the appropriate fields be named the BIRKHOFF prizes, in memory of DR. GEORGE D. BIRKHOFF, who contributed so much to the advancement of mathematics. It is also suggested but not required that prizes in appropriate fields be named the OSGOOD prizes, in memory of DR. WILLIAM FOGG OSGOOD, who also did so much for mathematical science. It is also suggested but not required that prizes be awarded for research in any of the several fields of geometry be called the GRAUSTEIN prizes, in memory of DR. WILLIAM CASPER GRAUSTEIN, who specialized in these fields.

Principal Activities

This is a selection committee. It makes recommendations to the Council (actually to the Executive Committee) through the Secretary of candidates to receive prizes at each Annual Meeting of the Society. The will of LeRoy P. Steele calls for “establishing and awarding, from time to time, a prize or prizes for outstanding published mathematical research, the prize or prizes to be made in such amounts, at such intervals and for such types of mathematical research as the Council of the Society shall in its sole discretion determine. It is suggested but not required in such fields as projective geometry, differential geometry, theory of functions,

differential equations, analysis situs (topology), abstract spaces, theory of ensembles, logical foundations of mathematics and theoretical dynamics.” Awards of such prizes were made in the years 1970-1975 but none was made in 1976 or 1977. The Council of April 16, 1976 reconstituted the prizes according to the following plan: (1) For cumulative impact of the total mathematical work of the recipient, high level research over a period of time, particular influence on the development of a field, and influence on mathematics through Ph.D. students; (2) For a book or substantial survey or expository-research paper and (3) For a paper, whether recent or not, which has proved to be of seminal or lasting importance in its field, or a model of important research.

The 13 January 1993 Council accepted the recommendation of an ad hoc Committee on Prizes and formalized the three categories of the prize by naming each of them¹:

1. The Leroy P. Steele Prize for Lifetime Achievement;
2. The Leroy P. Steele Prize for Mathematical Exposition; and
3. The Leroy P. Steele Prize for Seminal Contribution to Research.

With respect to the seminal prize the Committee has established a five year cycle on fields, which now reads as follows:

- 1999 Analysis
- 2000 Algebra
- 2001 Applied Mathematics
- 2002 Geometry-Topology
- 2003 Logic (Alternating with Discrete Mathematics)
- 2004 Analysis
- 2005 Algebra
- 2006 Applied Mathematics
- 2007 Geometry-Topology
- 2008 Discrete Mathematics (Alternating with Logic)

The amount of the prizes is set by the Council. Beginning in 1978 it is \$1,500. There is reluctance to divide or share prizes except in the instance of joint work. Beginning in August 1993 the amount of the prize was set at \$4,000, and in 2002 the amount was raised to \$5,000.

The full bibliographic reference is needed for the prize for a book or a paper. Prizes for general contributions need a “short” citation that will fit on a certificate as well as a longer one for the program and *Notices*.

Other Activities

The Committee should be aware of a second action of the Council of April 1976 that “Steele Prizes [are] established as a supplement to and under the names of the Bocher, Cole, Veblen, Birkhoff, and Weiner Prizes in such amounts as the Council shall recommend from time to time.” This provision does not appear to require the attention of the Committee but does require allocation of funds by the Trustees.

¹These new categories took effect with the August 1993 awards.

Equal Opportunities for Women

The Business Meeting of the January 19, 1972 passed the following resolution:

Resolved that:

1. the American Mathematical Society will work actively for equal opportunities for women in the following areas:
 - a. employment at all levels: this will include the search for a recruitment of qualified women.
 - b. advancement and tenure in academic positions.
 - c. admissions to graduate schools.
 - d. graduate and postdoctoral fellowships and assistantships.
 - e. membership on advisory boards and panels; and
2. the Society will include more women on:
 - a. Society programs and panels, including invited speakers and section chairmen.
 - b. Society committees and governing boards.

The Council of August 29, 1972 instructed the Secretary to call part two of the resolution regularly to the attention of individuals in charge of various parts of Society programs.

The Secretary proposes to do this by distributing this sheet from time to time as follows:

Colloquium Editorial Committee
Committee on Summer Institutes
Committee on Applied Mathematics
Organizing Committees for Institutes, Seminars, and Symposia
Associate Secretaries

He asks in turn that the Associate Secretaries see that their Section Program Committee and the organizers of informal sessions and chairmen of invited twenty minute papers receive copies.

Miscellaneous Information

The business of this committee can be done by mail, electronic mail, or telephone, expenses which may be reimbursed by the Society. An explanation of travel expense reimbursement of volunteers for this committee is attached. This committee has been designated at **LEVEL F**.

A call for nominations should be published in the 2 issues of the *Notices* prior to the committee's deadline. It should look something like this:

**Call for Nominations
for
Steele Prize**

The Selection Committee for the Steele Prize requests nominations for consideration for the 20xx Award. The Steele Prize is awarded every year at the Joint Mathfests in three parts:

2. The Leroy P. Steele Prize for Lifetime Achievement;
3. The Leroy P. Steele Prize for Mathematical Exposition; and
4. The Leroy P. Steele Prize for Seminal Contribution to Research.

Nominations, with supporting information should be sent to (Secretary, mailing address)

The deadline for nominations is _____.

Note to the Chair

Committee chairs should be informed, at the beginning of each fiscal period, the budget of their committees and cautioned to remain within the budget. Such items as travel reimbursement to, accommodations for, and meals for guests of any kind fall within these budgets.

Work done by committees on recurring problems may have value as precedent or work done may have historical interest. Because of this, the Council has requested that a central file system be maintained for the Society by the Secretary. Committees are reminded that a copy of every sheet of paper should be deposited (say once a year) in this central file. Confidential material should be noted, so that it can be handled in a confidential manner.

Authorization

The pertinent parts of the Steele will are attached to the Council minutes of August 26, 1969 and other places, including an attachment to the Council Minutes of January 21, 1976 titled "HALMOS PLAN." The initial terms of the award are spread through many sets of Council minutes and are no longer in force. The current specification is on pp.4-5 of the Council minutes of April 16, 1977.

13 January 1993 Council agenda, item 2.1

Effective in 1997, the prizes are awarded at the Annual Meetings. Therefore, the terms of the committee members was changed from a July-June period to 1 February to 31 January.

Past Committees

<u>Year</u>	<u>Members</u>
1987	Frederick J Almgren, Jr., Luis A Caffarelli, Hermann Flaschka, John P Hempel, William S Massey, Chair, Frank A Raymond, Neil J A Sloane, Louis Solomon, Richard P Stanley, Michael E Taylor
1988	Frederick J Almgren, Jr., Luis A Caffarelli, Charles L Fefferman, John P Hempel, Jun-Ichi Igusa, William S Massey, Chair, Frank A Raymond, Neil J A Sloane, Louis Solomon, Richard P Stanley, Michael E Taylor
1989	Sylvain E Cappell, Alexandre J Chorin, Charles L Fefferman, William J Haboush, Jun-Ichi Igusa, Arthur M Jaffe, George Lusztig, Goro Shimura, Neil J A Sloane, Michael E Taylor
1990	Sylvain E Cappell, Alexandre J Chorin, Charles L Fefferman, William J Haboush, Jun-Ichi Igusa, Arthur M Jaffe, Harry Kesten, Joseph J Kohn, George Lusztig, Mark Mahowald
1991	Sylvain E Cappell, Alexandre J Chorin, William J Haboush, Arthur M Jaffe, Vaughan F R Jones, Harry Kesten, Joseph J Kohn, George Lusztig, Mark Mahowald, Chair, Jane Cronin Scanlon, Jean Taylor
1992	Eugenio Calabi, Sylvain E Cappell, Chair, Vaughan F R Jones, Harry Kesten, Joseph J Kohn, Robert P Langlands, Paul H Rabinowitz, Jane Cronin Scanlon, Jean Taylor
1993	Eugenio Calabi, Chair, Vaughan F R Jones, Robert P Langlands, Barry Mazur, Paul H Rabinowitz, Marina Ratner, Jane Cronin Scanlon, Jean Taylor, William Thurston
1994	Eugenio Calabi, Chair, Ingrid Daubechies, Eugene Dynkin, Robert P Langlands, Barry Mazur, Paul H Rabinowitz, Marina Ratner, Gary M Seitz, William Thurston
1995	Richard A Askey, Ingrid Daubechies, Eugene B Dynkin, H Blaine Lawson, Andrew J Majda, Barry Mazur, Marina Ratner, Gary M Seitz, William Thurston
1996	Richard A Askey, Ingrid Daubechies, Eugene B Dynkin, Ciprian Foias, H Blaine Lawson, Andrew J Majda, Louis Nirenberg, Gary M Seitz, John T Tate
1997	Richard A Askey, Ciprian Foias, Bertram Kostant, H Blaine Lawson, Andrew J Majda, Louis Nirenberg, Marc Rieffel, Jonathan Rosenberg, John T Tate
1998	Richard A Askey, Ciprian Foias, Bertram Kostant, H Blaine Lawson, Andrew J Majda, Louis Nirenberg, Marc Rieffel, Jonathan Rosenberg, John T Tate
1999	Ciprian Foias, Bertram Kostant, Hugh Montgomery, Louis Nirenberg, Marc Rieffel, Jonathan Rosenberg, John T Tate, Francois Treves, SRS Varadhan
2000	Constantine Dafermos, Bertram Kostant, Hugh Montgomery, Marc Rieffel, Jonathan Rosenberg, Barry Simon, Francois Treves, SRS Varadhan, Herbert Wilf
2001	M. Salah Baouendi, Sun-Yung Alice Chang, Michael Crandall, Constantine Dafermos, Daniel Kleitman, Hugh Montgomery, Barry Simon, Francois Treves, SRS Varadhan, Herbert Wilf
2002	M. Salah Baouendi, Andreas R. Blass, Sun-Yung Alice Chang, Michael Crandall, Constantine Dafermos, Daniel Kleitman, Barry Simon, Lou van den Dries, Herbert Wilf
2003	M. Salah Baouendi, Andreas R. Blass, Sun-Yung Alice Chang, Michael Crandall, Craig L. Huneke, Daniel Kleitman, Tsit-Yuen Lam, Robert D. MacPherson
2004	Andreas R. Blass, Daniel S. Freed, John B. Garnett, Victor W. Guillemin, Craig L. Huneke, Tsit-Yuen Lam, Robert D. MacPherson, Linda Preiss Rothschild
2005	Rodrigo Banuelos, Daniel S. Freed, John B. Garnett, Victor W. Guillemin, Craig L. Huneke, Tsit-Yuen Lam, Robert D. MacPherson, Linda Preiss Rothschild, David A. Vogan

- 2006 Rodrigo Banuelos, Daniel S. Freed, John B. Garnett, Victor W. Guillemin, Nicholas M. Katz, Linda Preiss Rothschild, Donald G. Saari, Julius L. Shaneson, David A. Vogan
- 2007 Rodrigo Banuelos, Enrico Bombieri, Russel Caflisch, Lisa Claire Jeffrey, Nicholas M. Katz, Donald G. Saari, Julius L. Shaneson, Richard P. Stanley, David A. Vogan
- 2008 Enrico Bombieri, Russel Caflisch, Lawrence Craig Evans, Lisa Claire Jeffrey, Nicholas M. Katz, Gregory F. Lawler, Richard M. Schoen, Julius L. Shaneson, Richard P. Stanley
- 2009 Enrico Bombieri, Russel Caflisch, Peter S. Constantin, Lisa Claire Jeffrey, Gregory F. Lawler, Richard M. Schoen, Joel A. Smoller, Richard P. Stanley, Terence Chi-Shen Tao

Past Prize Winners

- | | | | |
|------|-----------------------|-------|-----------------------------------|
| 1970 | Solomon Lefschetz | 1986 | Rudolf E. Kalman |
| 1971 | James B. Carrell | 1986 | Saunders Mac Lane |
| 1971 | Jean A. Dieudonne | 1987 | Martin Gardner |
| 1971 | Phillip A. Griffiths | 1987 | Herbert Federer |
| 1972 | Edward B. Curtis | 1987 | Wendell Fleming |
| 1972 | William J. Ellison | 1987 | Samuel Eilenberg |
| 1972 | Lawrence E. Payne | 1988 | Sigurdur Helgason |
| 1975 | Dana S. Scott | 1988 | Gian-Carlo Rota |
| 1975 | Lipman Bers | 1988 | Deane Montgomery |
| 1975 | Martin D. Davis | 1989 | Daniel Gorenstein |
| 1975 | Joseph L. Taylor | 1989 | Alberto P. Calderon |
| 1975 | George W. Mackey | 1989 | Irving Kaplansky |
| 1975 | H. Blaine Lawson | 1990 | Raoul H. Bott |
| 1979 | Salomon Bochner | 1990 | Bertram Kostant |
| 1979 | Hans Lewy | 1990 | Robert D. Richtmyer |
| 1979 | Antoni Zygmund | 1991 | Armand Borel |
| 1979 | Robin Hartshorne | 1991 | Eugenio Calabi |
| 1979 | Joseph J. Kohn | 1991 | Jean-Francois Trèves |
| 1980 | André Weil | 1993* | Jacques Dixmier |
| 1980 | Harold M. Edward | 1993* | James G. Glimm |
| 1980 | Gerhard P. Hochschild | 1993* | Peter D. Lax |
| 1981 | Oscar Zariski | 1993 | Walter Rudin ² |
| 1981 | Eberhard Hopf | 1993 | George Daniel Mostow ³ |
| 1981 | Nelson Dunford | 1993 | Eugene B. Dynkin ⁴ |
| 1981 | Jacob T. Schwartz | 1994 | Ingrid Daubechies ³ |
| 1982 | Lars V. Ahlfors | 1994 | Louis Nirenberg ⁴ |
| 1982 | Tsit-Yuen Lam | 1994 | Louis de Branges ³ |
| 1982 | John W. Milnor | 1995 | Jean-Pierre Serre ² |
| 1982 | Fritz John | 1995 | Edward Nelson ³ |
| 1983 | Paul R. Halmos | 1995 | John T. Tate ⁴ |
| 1983 | Steven C. Kleene | 1996 | William Fulton ² |
| 1983 | Shiing-Shen Chern | 1996 | Bruce Berndt ² |
| 1984 | Lennart Carleson | 1996 | Daniel Stroock ³ |
| 1984 | Elias M. Stein | 1996 | S R S Varadhan ³ |
| 1984 | Joseph L. Doob | 1996 | Goro Shimura ⁴ |
| 1985 | Michael Spivak | 1997 | Anthony Knapp ² |
| 1985 | Robert Steinberg | 1997 | Mikhail Gromov ³ |
| 1985 | Hassler Whitney | 1997 | Ralph S. Phillips ⁴ |
| 1986 | Donald E. Knuth | | |

1998	Nathan Jacobson ⁴	2005	Robert P. Langlands ³
1998	Herbert Wilf ⁵	2005	Branko Grünbaum ²
1998	Doron Zeilberger ³	2005	Israel M. Gelfand ⁴
1998	Joseph Silverman ²	2006	Clifford S. Gardner, John M. Greene, Martin D. Kruskal, and Robert M. Miura ³
1999	Richard V. Kadison ⁴	2006	Lars V. Hörmander ²
1999	Michael G. Crandall ³	2006	Frederick W. Gehring ⁴
1999	John F. Nash ³	2007	Karen Uhlenbeck ³
1999	Serge Lang ²	2007	David Mumford ²
2000	Isadore M. Singer ⁴	2007	Henry P. McKean ⁴
2000	Barry Mazur ³	2008	Endre Szemerédi ³
2000	John H. Conway ²	2008	Neil Trudinger ²
2001	Harry Kesten ⁴	2008	George Lusztig ⁴
2001	Leslie F. Greengard ³	2009	Richard Hamilton ³
2001	Vladimir Rokhlin ³	2009	I.G. MacDonald ²
2001	Richard P. Stanley ²	2009	Luis Caffarelli ⁴
2002	Michael Artin ⁴		
2002	Mark Goresky and Robert MacPherson ³		
2002	Yitzhak Katznelson ²		
2003	Ronald Graham ⁴		
2003	Ronald Jensen ³		
2003	John B. Garnett ²		
2004	Cathleen Morawetz ⁴		
2004	Lawrence C. Evans and Nicolai V. Krylov ³		
2004	John W. Milnor ²		

(*) There was not a Summer Meeting in 1992 so these prizes were awarded in January 1993. Starting in 1997, the prizes were awarded at the January meetings.

² Mathematical Exposition

³ Seminal Contribution to Research

⁴ Lifetime Achievement