
Biographies of Candidates 1998

Biographical information about the candidates has been verified by the candidates, although in a few instances prior travel arrangements of the candidate at the time of assembly of the information made communication difficult or impossible. A candidate had the opportunity to make a statement of not more than 200 words on any subject matter without restriction and to list up to five of her or his research papers.

Abbreviations: American Association for the Advancement of Science (AAAS); American Mathematical Society (AMS); American Statistical Association (ASA); Association for Computing Machinery (ACM); Association for Symbolic Logic (ASL); Association for Women in Mathematics (AWM); Canadian Mathematical Society, Société Mathématique du Canada (CMS); Conference Board of the Mathematical Sciences (CBMS); Institute of Mathematical Statistics (IMS); International Mathematical Union (IMU); London Mathematical Society (LMS); Mathematical Association of America (MAA); National Academy of Sciences (NAS); National Academy of Sciences/National Research Council (NAS/NRC); National Aeronautics and Space Administration (NASA); National Council of Teachers of Mathematics (NCTM); National Science Foundation (NSF); Operations Research Society of America (ORSA); Society for Industrial and Applied Mathematics (SIAM); The Institute of Management Sciences (TIMS).

Each candidate had the opportunity to supply a photograph to accompany her or his biographical information.

A candidate with an asterisk (*) beside her or his name was nominated in response to a petition.

Vice-President

James G. Arthur



University Professor of Mathematics, University of Toronto.
Born: May 18, 1944, Hamilton, Ontario.

Ph.D.: Yale University, 1970.

AMS Offices: Member-at-Large of the Council, 1986–1988.

AMS Committees: Program Committee for National Meetings, 1989–1991; Committee on Committees, 1991–1992.

Selected Addresses: Invited Address, Providence, August 1978; Invited Speaker, International Congress of Mathematicians, Warsaw, 1983; Symposium on the Mathematical Heritage of Hermann Weyl, Durham, 1983; Invited Address, Joint Mathematics Meetings of AMS-CMS-MAA, Vancouver, August 1993 (Jeffery-Williams Lecture); Invited Speaker, International Congress of Mathematicians, Berlin, August 1998.

Additional Information: *Awards and Fellowships:* Alfred P. Sloan Fellowship, 1975–1977; Elected Fellow, Royal Society of Canada, 1980; E.W.R. Steacie Memorial Fellowship, 1982; Syngge Award, Royal Society of Canada, 1987; Elected Fellow, Royal Society of London, 1992; CRM-Fields Institute Prize, 1997; Henry Marshall Tory Medal, Royal Society of Canada, 1997. *Offices:* Executive Committee, International Mathematical Union, 1991–1998; Board of Trustees, Institute for Advanced Study, 1997–2002. *Member:* AMS, CMS.

Selected Publications: 1. *The trace formula in invariant form*, Ann. of Math. **114** (1981), 1-74. MR **84a**:10031; 2. *A Paley-Wiener theorem for real reductive groups*, Acta Math. **150** (1983), 1-89. MR **84k**:22021; 3. with L. Clozel, *Simple algebras, base change, and the advanced theory of the trace formula*, Ann. of Math. Stud., vol. 120, Princeton University Press, Princeton, NJ, 1989. MR **91i**:22024; 4. *The L^2 -Lefschetz numbers of Hecke operators*, Invent. Math. **97** (1989), 257-290. MR **91i**:22024; 5. *A local trace formula*, Inst. Hautes Études Sci. Publ. Math. **73** (1991), 5-96. MR **92f**:22029.

Statement: The mission of the AMS is the advancement of mathematics. First and foremost this means the encouragement and support of research. It also includes the promotion of education at all levels and the effort to explain the importance of mathematics to the general public.

There are many challenges. Research in fundamental areas is as strong as ever, and the applications of mathematics are increasing on an unprecedented scale. Yet mathematics is under serious pressure. We must work to ensure that mathematics receives its share of resources within universities and its share of funding from granting agencies.

We must work to provide employment opportunities for people at the early stages of their careers, to provide for the future vitality of the subject. We must cultivate an environment that will appeal to the most talented students in schools and universities. Finally, we must collectively keep sight of what surely brought us to the subject in the first place—the excitement of doing mathematics and the pleasure of communicating it to others.



James B. Serrin

Regents Professor of Mathematics, University of Minnesota.

Born: November 1, 1926, Chicago, Illinois.

Ph.D: Indiana University, 1951.

AMS Committees: Research Expository Journal Editorial Committee, 1975-1980; Committee on Prizes, 1977 (chair); Progress in Mathematics Committee, 1992-1994 (Chair, 1994).

Selected Addresses: Invited Address, Evanston, November 1964; International Congresses of Mathematicians: Nice, 1970, and Warsaw, 1983; Centenary, Circolo Matematico di Palermo, 1984; Volterra Lectures, University of Rome, 1992; International Workshop in Differential Equations and Applications, Technion, Israel, 1997.

Additional Information: Honors and Awards: Birkhoff Prize in Applied Mathematics, 1973; Member, National Academy of Sciences, 1980-; Fellow, American Association for the Advancement of Science, 1980-; Member, American Academy of Arts and Sciences, 1984-; Foreign member, Finnish Academy of Sciences, 1995; Honorary doctorates: University of Sussex, 1972; Università di Ferrara,

1992; Università di Padova, 1992. **Other Professional Activities:** Head, School of Mathematics, University of Minnesota 1964-1965; President, Society for Natural Philosophy, 1969-1970. **Organizing Committees:** Conference on Partial Differential Equations, Berkeley, 1971; Workshop on Foundations of Thermodynamics, Minneapolis, 1983; Conference on Diffusion Equations and Their Equilibrium States, MSRI, 1986, and University College, Wales, 1987. CBMS Lecturer, 1978; Member, NRC David Committee on Resources for the Mathematical Sciences, 1984; Member, Scientific Advisory Board, MSRI, 1983-1986. **Editorial Boards:** *Archive Rational Mechanics and Analysis*, 1963- (co-editor, 1969-1986); *Journal of Differential Equations*, 1976-; *Communications in Partial Differential Equations*, 1978-1995; *Bulletin of the American Mathematical Society*, 1978-1980; *Rendiconti Circolo Matematico di Palermo*, 1980-; *Atti Seminario Matematico, Università di Modena*, 1985-; *Asymptotic Analysis*, 1988-1998; *Electronic Journal Differential Integral Equations*, 1989-; *Advances in Differential Equations*, 1995-; *Differential Equations Electronic Journal*, 1995-.

Selected Publications: 1. *Mathematical principles of classical fluid mechanics*, Handbuch der Physik **8/1** (1959), 125-263. MR **21** #6836b; 2. *The problem of Dirichlet for quasilinear elliptic differential equations with many independent variables*, Philos. Trans. Royal Soc. London Ser. A **A264** (1969), 413-496. MR **43** #7772; 3. *The swirling vortex: Internal structure of tornados*, Philos. Trans. Royal Soc. London **A271** (1972), 325-360. 4. *Applied mathematics and scientific thought*, Lecture Notes in Math., vol. 1107, Springer, Berlin-New York, 1984, pp. 19-27. MR **86d**:00021; 5. with P. Pucci, *Critical exponents and critical dimensions for the polyharmonic operator*, J. Math. Pure Appl. **69** (1990), 55-83; 6. with H. Levine, *Global nonexistence theorems for quasilinear evolution equations with dissipation*, Arch. Rational Mech. Anal. **137** (1997), 341-361.

Statement: As we approach the end of this century of great mathematical achievements of enduring importance and beauty, we cannot afford to be overcome by the new challenges facing us. Even more, society cannot afford to see mathematics reduced to a point where it can no longer serve the needs of the country. The challenges are well known: finding opportunities where young mathematicians can use their talents to the fullest, improving mathematics learning at *all* levels, making sure that young people can enter mathematics with optimism about their future, and developing public awareness of the vital importance of science and mathematics.

The AMS cannot meet these challenges single-handedly, but it must remain a coherent center to formulate and coordinate sensible policies of action. These can include reaching out to users and potential users, both within and outside the universities, making school positions more accessible and attractive to gifted individuals who are interested in teaching careers, providing increased travel and conference funding to maintain high levels of achievement throughout the country, and creating other academic institutes like the IMA and MSRI.

Mathematics remains the queen of the sciences. We must do all in our power to maintain this enviable position.

Trustee

Hyman Bass

Adrain Professor of Mathematics, Columbia University.

Born: October 5, 1932, Houston, Texas.

Ph.D.: University of Chicago, 1959.

AMS Offices: Member-at-Large of the Council, 1969–1971; Vice-President, 1980–1981; Board of Trustees, 1995–.

AMS Committees: Bulletin (New Series) Editorial Committee, 1982–1986 (associate editor, Research-Expository Articles, 1982–1984, and chair, 1985); Committee on Long-Range Planning, Board of Trustees, 1985–1986; Executive Committee of the Council, 1985–1987; Committee on the Status of the Profession, 1994– (chair); Executive Committee and Board of Trustees, 1995–; Electronic Research Announcements Editorial Board, 1995–; Committee on Science Policy, 1995– (chair, 1996–); Liaison Committee with AAAS, 1996– (chair, 1997–); AMS-MAA Committee on Research in Undergraduate Mathematics, 1997–.

Selected Addresses: International Congresses of Mathematicians: Moscow, 1966, and Vancouver, 1974; MAA Hedrick Lecturer, 1968; Invited Address, Cambridge, October 1969; Colloquium Lectures, Atlanta, January 1978; Invited Address, Pretoria, June 1997; Phi Beta Kappa, National Visiting Scholar.

Additional Information: Van Amringe Book Award, Columbia University, 1969; Frank Nelson Cole Prize in Algebra, 1975. **Member:** AMS; American Academy of Arts and Sciences; National Academy of Sciences; Chair, Mathematical Sciences Education Board, NAS.

Selected Publications: 1. *On the ubiquity of Gorenstein rings*, *Math. Z.* **82** (1963), 8–28. MR **27** #3669; 2. with J. Milnor and J.-P. Serre, *Solution of the congruence subgroup problem for $SL_n(n \geq 3)$ and $Sp_{2n}(n \geq 2)$* , *Inst. Hautes Études Sci. Publ. Math.* **33** (1967), 59–137. MR **39** #5574; 3. *Algebraic K-theory*, W.A. Benjamin, New York, 1968. MR **40**:2736; 4. with E. H. Connell and D. Wright, *The Jacobian conjecture: Reduction of degree and formal expansion of the inverse*, *Bull. Amer. Math. Soc. (N.S.)* **7** (1982), 287–330. MR **83k**:14028; 5. with R. Kulkarni, *Uniform tree lattices*, *J. Amer. Math. Soc.* **3** (1990), 843–902. MR **91k**:20034.

Statement: The core mission of the AMS has always been the promotion and support of research in mathematics. At the same time, the AMS has expanded its roles in response to fundamentally changing conditions: the vast expansion of mathematical knowledge and its uses; the influences of technology on both research and communication; the widening roles of mathematics in contemporary society; the expansion of our professional community and its attendant needs; the need to draw talented youth, especially from underrepresented groups, into our profession; the need for more effective outreach to the wider scientific community and to the public; and the increased responsibility and role of the mathematical community in mathematics education at all levels. These present the Society with a wide array of complex challenges in which it must maintain a balanced set of priorities and reconcile responsibility to the community with managerial prudence. As a trustee I would contribute to the oversight that assures that these conditions are met.

Linda Keen



Professor, Herbert H. Lehman College (CUNY).

Born: August 9, 1940, New York, New York.

Ph.D.: New York University, 1964.

AMS Offices: Member-at-Large of the Council, 1981–1983; Vice-President, 1992–1995.

AMS Committees: *Elected Committees:* Nominating Committee, 1983–1984 (chair, 1984); Editorial Boards Committee, 1989–1992 (chair, 1991). *Appointed AMS Com-*

mittees: Committee on Professional Ethics, 1987–1989 (chair, 1988–1989); Program Committee for National Meetings, 1988; Committee to Select the Winner of the Satter Prize, 1991 (chair); Representative, Joint Policy Board on Mathematics, 1992–1995; Science Policy Committee, 1993–1995; Meetings and Conferences Committee, 1994; Ad Hoc Committee on Governance, 1994; Federal Policy Agenda Statement, 1994–1995. **AMS Editorial Boards:** Undergraduate Mathematics Education (UME) Trends Editorial Committee, 1989–1991; Proceedings Editorial Committee (Coordinating Editor), 1994–; Managing Editor, *Conformal Geometry and Dynamics*: An Electronic Journal of the American Mathematical Society, 1997–.

Selected Addresses: Invited Address, Washington, D.C., January 1975; MAA Invited Hour Address, Boulder, August 1989; Invited Address, Finnish Mathematical Society, January 1991; Emmy Noether Lecturer, January 1993; AIM Conference in Honor of Lars Ahlfors, September 1997; London Mathematical Society-Irish Mathematical Society Invited Hour Address, May 1998.

Additional Information: *Other Editorial Committees:* *Journal of Geometric Analysis* (associate editor), 1991–; *Annales of Finnish Academy of Science*, 1996–. **Other Organizations:** NSF Postdoctoral Fellowship, 1964; Member, IAS, 1964–1965; AWM President, 1985–1986; NYC Mayor's Commission for Science and Technology, 1985–1986; CBMS Executive Committee, 1985–1987; Steering Committee, ICM-86; Acting Associate Provost, Lehman College, 1987; NSF Visiting Professorship for Women, 1989–1990; Edwin S. Webster-Abby Rockefeller Mauze Award, MIT, 1990; MAA Merton Hasse Prize Committee, 1990–1992; U.S. delegate ICM-90, USNCM, 1990–1993; AWM Louise Hay Prize Committee Chair, 1997–1998. **Selected Visiting Professorships:** University of California at Berkeley, 1972; Columbia University, 1980–1981; Boston University, 1987; Princeton University, 1989–1990; MIT, 1991; Institute for Mathematical Sciences, State University of New York at Stony Brook, 1993.

Selected Publications: 1. *Intrinsic moduli on Riemann surfaces*, *Ann. of Math.* **84** (1966), 404–420. MR **34** #2859; 2. with L. Goldberg, *A finiteness theorem for a dynamical class of entire functions*, *J. Ergodic Theory and Dynam. Sys.* **6** (1986), 183–192. MR **88b**:58126; 3. with P. Blanchard and R. Devaney, *The dynamics of complex polynomials and*

automorphisms of the shift, Invent. Math **104** (1991), 545–580. MR **92f**:58150; 4. with C. Series, *Plating coordinates for the Maskit embedding of Teichmüller space for a punctured torus*, Topology **32** (1993), 719–749. MR **95g**:32030; 5. with J. Kotus, *Dynamics of the family $\lambda \tan z$* , Conform. Geom. Dynam. (1997), 28–57 (electronic).

Statement: In recent decades mathematics has burgeoned. New areas have opened and old problems have been solved. Tie-ins to physics, computer science, and economics have been found, enhancing both mathematics and the related fields. During the same period the stature of mathematicians (and scientists) has declined and support for research has decreased. The academic job market, always cyclical, has hit new lows.

To meet the widening needs of the profession, the AMS has traditionally sponsored meetings and published journals and books. These activities have broadened to include public relations and lobbying in Washington on the national front and the establishment of joint programs with other mathematical societies on the global front. The AMS should continue to be responsive to these needs and in particular to the needs of the younger generation: universities need to stop relying on temporary adjunct faculty and to replace retiring faculty; faculty have to learn how to help students find jobs outside of academe; women and members of minority groups need to be recruited and made more welcome. As trustee I will work to make sure these Society activities remain in proper balance.

Member-at-Large of the Council

Jonathan M. Borwein

Shrum Professor of Science, Simon Fraser University.

Born: May 25, 1951, St. Andrews, Scotland.

Ph.D.: Jesus College, Oxford, 1974.

Selected Addresses: Coxeter-James Lecturer, Canadian Mathematical Society, Vancouver, 1987; Harry H. Gehman Lecture, MAA/OMM Meeting, Queens University, Kingston, 1992; MAA-CMS Invited Lecture, Joint AMS/MAA/CMS Summer Meetings, University of British Columbia, 1993; Plenary Lecture, XVIII Symposium on Operations Research, Cologne, 1993; Principal Lecturer, Australian Mathematical Society Meeting, University of Tasmania, 1995.

Additional Information: Awards and Prizes: Ontario Rhodes Scholarship, 1971–1974; Senior Killam Fellow, Dalhousie University, 1987–1988; Atlantic Provinces Council on the Sciences Gold Medal for Outstanding Achievement in Natural or Applied Science, 1988; Chauvenet and Hasse Prizes of the MAA, 1993; Fellow, Royal Society of Canada (Academy of Science), 1994; British Columbia/CUFA Academic of the Year (with P. Borwein), 1996. **Professional Experience:** Member, Board of the Canadian Mathematical Society, 1984–1988; 1995–; Member, Research Committee of the CMS, 1985–1988; Chair, NSERC Mathematics Grant Selection Committee, 1989–1991; Member, Steering Committee, Centre for Mathematical Research, Montreal, 1989–1993; Co-editor, Wiley CMS Series of Advanced Books, 1991–; Member, NSERC Committee on Collaborative Research Initiatives, 1992–1996; Director, Simon Fraser Centre for Experimental and Constructive Mathematics, 1993–; Chair, CMS Electronic Services Committee, 1995–1997;

Member, Advisory Board for the Canada Institute for Scientific and Technical Information, National Research Council of Canada, 1997–; Member, NATO Panel on Collaborative Research Grants, 1997– (chair, 1998); Member, Royal Society of Canada's Public Awareness of Science Committee, 1998–.

Selected Publications: 1. with D. Preiss, *A smooth variational principle with applications to subdifferentiability and to differentiability of convex functions*, Trans. Amer. Math. Soc. **303** (1987), 517–527. MR **88k**:49013; 2. with P. B. Borwein and D. H. Bailey, *Ramanujan, modular equations and pi, or how to compute a billion digits of pi*, Amer. Math. Monthly **96** (1989), 201–219. MR **90d**:11143; 3. with P. B. Borwein, *A cubic counterpart of Jacobi's identity and the AGM*, Trans. Amer. Math. Soc. **323** (1991), 691–701. MR **91e**:33012; 4. with H. H. Bauschke, *On projection algorithms for solving convex feasibility problems*, SIAM Rev. **38** (1996), 367–426. MR **98f**:90045; 5. with D. M. Bradley, *Empirically determined Apéry-like formulae for $\zeta(4n+3)$* , Experiment. Math. **6** (1997), 181–194.

Statement: I am interested equally in the health of our community as a researcher, teacher, and expositor. I believe that my diverse administrative and professional experience would allow me to play a constructive role in the continuing evolution of the AMS. I have held academic positions at Dalhousie, Carnegie Mellon, Waterloo, Simon Fraser, and many visiting positions. I am also a committed advocate of the informed use of technology and of the need for the mathematical community to be vigorously engaged with the outside world while defending its beautiful and timeless core.



Haim Brezis

Professor, Université Paris VI and Institut Universitaire de France; Visiting Distinguished Professor, Rutgers University.

Born: June 1, 1944, Riom-es-Montagnes, France.

Ph.D.: University of Paris, 1971.

Selected Addresses: International Congress of Mathematicians, Vancouver, 1974; AMS Symposium on the Mathematical Heritage of Henri

Poincaré, Bloomington, 1980; Riviere Memorial Lecture, Minneapolis, 1983; Invited AMS Address, Progress in Mathematics, Boulder, 1989; AMS-MAA Invited Address, Baltimore, 1998.

Additional Information: Member, Académie des Sciences: Paris, 1988; Member, Academia Europaea, 1989; Foreign Honorary Member, American Academy of Arts and Sciences, 1994; Doctorate Honoris Causa: Catholic University of Louvain, 1996; Technion, Haifa, 1998. **Visiting Professor:** University of Chicago, 1980; University of Wisconsin, 1981; Princeton University, 1983; MIT, 1985; Courant Institute, NYU, 1987. **Chief Editor:** *Pitman Research Notes*; Birkhauser Series on Nonlinear Differential Equations. **Member:** Scientific Committee of Scuola Normale Superi-

ore, Pisa; Organizing Committee, Colloquium on Partial Differential Equations and Applications, National Academy of Sciences, 1999.

Selected Publications: 1. *Opérateurs maximaux monotones et semi-groupes de contractions dans les espaces de Hilbert*, North-Holland Math. Stud., no. 5, Amsterdam-London; American Elsevier Publishing Co., Inc., New York, 1973. MR 50 #1060; 2. with L. Nirenberg, *Positive solutions of nonlinear elliptic equations involving critical Sobolev exponents*, Comm. Pure Appl. Math. 36 (1983), 437–477. MR 84h:35059; 3. with J.-M. Coron and E. Lieb, *Harmonic maps with defects*, Comm. Math. Phys. 107 (1986), 649–705. MR 88e:58023; 4. with F. Bethuel and F. Hélein, *Ginzburg-Landau vortices*, Progress in Nonlinear Differential Equations and Their Applications, vol. 13, Birkhauser Boston, Inc., Boston, MA, 1994. MR 95c:58044; 5. with L. Nirenberg, *Degree theory and BMO*, Selecta Math. 1 (1995), 197–263. MR 96g:58023; *Degree theory and BMO. II. Compact manifolds with boundaries*, Selecta Math. 2 (1996), 1–60. MR 98a:58024.

Statement: Since the beginning of my mathematical career I have been strongly involved with the American mathematical community through visits to American universities and long-term collaboration with American mathematicians. I have become aware that many of the basic problems facing American mathematicians also occur in other countries: stimulating mathematical talents, finding positions for mathematical activities, and enhancing the public image of mathematics.

In recent years the European community has been primarily active in building efficient European networks. As an example, I am involved in joint programs between France, Italy, Spain, the United Kingdom, the Netherlands, Romania, and Israel. I believe that it is now important to enhance the ties between Europe and the U.S., which has the world's strongest mathematical community. I would be delighted to share my experience and to help to promote cooperation in research and education.

Robert A. Fefferman

Louis Block Professor and Chair, Department of Mathematics, University of Chicago.

Born: July 20, 1951, Washington, D.C.

Ph.D.: Princeton University, 1975.

Selected Addresses: Invited Address, College Park, 1982; Friends of Mathematics Lecture, Kansas State University, 1993; Rubio de Francia Memorial Talks, Madrid, Spain, 1995; Missouri Lecture, 1996; Numerous special sessions at AMS meetings.

Selected Publications: 1. with A. Cordoba, *A geometric proof of the strong maximal theorem*, Ann. of Math. 102 (1975), 95–100. MR 52 #690; 2. with S. Y. Chang, *A continuous version of the duality of H^1 and BMO on the bidisc*, Ann. of Math. 112 (1980), 179–201. MR 82a:32009; 3. *Harmonic analysis on product spaces*, Ann. of Math. 126 (1987), 109–130. MR 90e:42030; 4. with C. Kenig and J. Pipher, *The theory of weights and the Dirichlet problem for elliptic operators*, Ann. of Math. 134 (1991), 65–124. MR 93h:31010; 5. with J. Pipher, *Multiparameter operators and sharp*

weighted inequalities, Amer. J. Math. 119 (1997), 337–369. MR 98b:42027.

Statement: This is a period of constant challenge for our profession. With a smaller number of tenure-track jobs available and a decline in government support of universities and of core mathematics in particular, it is extremely important for the AMS to take a strong stand in favor of support for small-scale basic research in core mathematics. This is where the greatest advances in the field are achieved. At the same time, we should not be hesitant to support new programs which represent valuable applications of mathematics to areas outside the university and to take responsibility for improved mathematics education at all levels. We should be sensitive to and support the missions of different types of universities and the diversity present in the membership of the AMS, which goes outside of the universities. We should continue to search for new ways to encourage underrepresented groups to enter the profession and for mathematicians from such groups to achieve the greatest productivity and recognition.



Robert M. Hardt

William Moody Professor of Mathematics, Rice University.

Born: June 24, 1945, Pittsburgh, Pennsylvania.

Ph.D.: Brown University, 1971.

Selected Addresses: International Congress of Mathematicians, Berkeley, 1986; Invited Address, San Antonio, January 1987; University of Iowa Distinguished Visitor's Lecture Series, December 1993; Lecture series, International

Centre for Theoretical Physics, Trieste, August 1995; Texas A&M Frontier Lecture Series, April 1996.

Additional Information: *Associate Editorships:* *Annales de l'Institut Henri Poincaré*, 1991–1995; *Journal of Geometric Analysis*, 1992– ; *Houston J. of Mathematics*, 1993– .

Organizing Committees: Special Session on Partial Differential Equations, Minneapolis, November 1983; AMS Summer Symposium on Geometric Measure Theory, Arcata, June 1984; IMA Miniconference on Liquid Crystals, Bloomington, March 1987; Oberwolfach Conference on Calculus of Variations, July 1990; Park City Mathematics Institute, July 1992; Undergraduate Conference on the Calculus of Variations, Rice, October 1996; Texas Geometry-Topology Conference, Rice, March 1990, April 1993, and November 1996; ten Ph.D. theses supervised.

Selected Publications: 1. *Slicing and intersection theory for chains associated with real analytic varieties*, Acta Math. 129 (1972), 75–136. MR 47 #4110; 2. with L. Simon, *Boundary regularity and embedded solutions for the oriented Plateau problem*, Ann. of Math. 110 (1979), 439–486. MR 81i:49031; 3. with D. Kinderlehrer and F. H. Lin, *Existence and partial regularity of static liquid crystal configurations*, Comm. Math. Phys. 105 (1986), 547–570. MR 88a:35207; 4. with D. Sullivan, *Variation of the Green's function on Riemann surfaces and Whitney's holomorphic stratification conjecture*,

Inst. Hautes Études Sci. Publ. Math. **68** (1989), 115–138. MR **91d**:32054; 5. with F. H. Lin and C. Y. Wang, *Singularities of p -energy minimizing maps*, Comm. Pure Appl. Math. **50** (1997), 399–447.

Statement: The primary purpose of the AMS is to support and encourage mathematical research and scholarship. It should continue to improve its many well-established structures (publications, meetings, etc.) while considering new ways to enhance communication within the mathematical community and between mathematicians and the public. The appearance and development of exciting, important mathematics, pure and applied, should significantly influence funding agencies, educational institutions, and nonacademic employers of mathematicians. The AMS has a crucial role in effecting this communication.

Gloria C. Hewitt



Professor and Chair, Department of Mathematical Sciences, The University of Montana, Missoula.

Born: October 26, 1935, Sumter, South Carolina.

Ph.D.: University of Washington, 1962.

Selected Addresses: *Invited Addresses/Colloquium Lectures:* Category Theory and Automata, Cleveland, 1981; Generalized Noetherian Rings, Montana, 1989; Polynomial Rings: China, 1990, and Port-

land, 1997.

Additional Information: *MAA:* Distinguished Teaching Award Committee, Pacific Northwest Section, 1991–1993; Subcommittee on Assessment, 1993; Board of Governors, 1995–1998; Minority Graduate Students Survey Consultant, 1996–1997; GRE Committee of Examiners, 1984–1997 (chair, 1984–1986); College Board Advanced Placement Calculus Development Committee, 1987–1991; GRE Technical Advisory Committee; GRE General Test, 1992–1995; Advisory Panel for the NSA Mathematical Sciences Program, 1993–1996; NAM Board of Directors, 1997–.

Selected Publications: 1. *The existence of free unions in classes of abstract algebras*, Proc. Amer. Math. Soc. **14** (1963), 417–422. MR **26** #6098; 2. *Limits in certain classes of abstract algebras*, Pacific J. Math. **22** (1967), 109–115. MR **35** #1529; 3. with F. Hannick, *Characterizations of generalized Noetherian rings*, Acta Math. Hungar. **53** (1989), 61–73. MR **90g**:16039.

Statement: The AMS should continue to increase its efforts on issues relating to diversity, making the profession one which welcomes women and minorities, engaging in activities which inform the mathematical community on ways to accomplish this, and encouraging the community to do so.

Roger Howe

F. P. Rose Professor of Mathematics, Yale University.

Born: May 23, 1945, Chicago, Illinois.

Ph.D.: University of California, Berkeley, 1969.

AMS Committees: Bulletin Editorial Committee (associate editor, Research Announcements), 1985–1986; Bulletin (New Series) Editorial Committee, 1987–1990 (chair, 1989); AMS Area Resource Group for Revision of the NCTM Standards, 1996–.

Selected Addresses: International Congress of Mathematicians, Vancouver, 1970; Summer Institute on Harmonic Analysis on Homogeneous Spaces, Williamstown, August 1972; Hermann Weyl Centennial Symposium, Durham, 1983; Invited Address, Denver, January 1983; Invited Address, AMS Centennial, Providence, August 1988.

Additional Information: Guggenheim Fellow, 1983; Fellow, Japan Society for the Promotion of Science, 1993.

Editorial Boards: *Mitwirkler, Crelle's Journal*, 1985–1997; *Mathematics Research Letters*, 1993–1997; *Transformation Groups*, 1995–; *Advances in Mathematics*, 1995–. Mathematical Sciences Education Board, 1995–; Board of Directors, Connecticut Academy for Education in Mathematics, Science, and Technology, 1995–; Phi Beta Kappa Visiting Scholar, 1996–1997. **Member:** AMS, MAA, NCTM, American Academy of Arts and Sciences, Connecticut Academy of Science and Engineering, National Academy of Sciences.

Selected Publications: 1. with J. W. Helton, *Traces of commutators of integral operators*, Acta Math. **136** (1976), 271–305. MR **55** #1110; 2. *θ -series and invariant theory*, Proc. Sympos. Pure Math., vol. 33, Amer. Math. Soc., Providence, RI, 1979, pp. 275–286. MR **81f**:22034; 3. with C. Moore, *Asymptotic properties of unitary representations*, J. Funct. Anal. **32** (1979), 72–96. MR **80g**:22017; 4. with A. Moy, *Harish-Chandra homomorphisms for p -adic groups*, CBMS Regional Conf. Ser. in Math., vol. 59, Amer. Math. Soc., Providence, RI, 1985. MR **87h**:22023; 5. *Remarks on classical invariant theory*, Trans. Amer. Math. Soc. **313** (1989), 539–570. MR **90h**:22015a.

Statement: The AMS needs to foster new institutional structures that will allow the mathematics research community to contribute effectively and efficiently to ongoing debates on education, research funding, the role of universities, and other issues which will affect mathematical research over the long term.

Anatole Katok

Professor, Department of Mathematics, Pennsylvania State University.

Born: August 9, 1944; Washington, D.C.

Ph.D.: Moscow State University, 1968.

AMS Committees: Committee on Translations, 1988–1992; Presidential Task Force on Membership, 1998–.

Selected Addresses: AMS Invited Address, Birmingham, 1979; Frank J. Hahn Lectures, Yale University, 1980; Rufus Bowen Memorial Lectures, Berkeley, 1982; International Congress of Mathematicians, Warsaw, 1983; Symposium on Mathematics in the Sciences, Leipzig, 1998.

Additional Information: NSF Advisory Committee in Mathematical Sciences, 1983–1986; MSRI: Trustee, 1985–1991, Scientific Advisory Council, 1989–1993; IMA: Board of Governors, 1993–1996; Raymond N. Shibley Professor of Mathematics, 1996–.

Selected Publications: 1. with B. Hasselblatt, *Introduction to the modern theory of smooth dynamical systems*, Cam-

bridge University Press, Cambridge, 1995. MR 96c:58055; 2. with A. M. Stepin, *Approximations in ergodic theory*, Uspehi Mat. Nauk 22, no. 5 (1967), 81–106. MR 36#2776; 3. *Lyapunov exponents, entropy and periodic points of diffeomorphisms*, Inst. Hautes Études Sci. Publ. Math. 51 (1980), 137–173. MR 81i:28022; 4. *Entropy and closed geodesics*, Ergodic Theory Dynamical Systems 2 (1982), 339–366. MR 85b:53047; 5. with R. Spatzier, *Differential rigidity of Anosov actions of higher rank Abelian groups and algebraic lattice actions*, Dynamical Systems and Related Topics (volume dedicated to D. V. Anosov), Proc. Steklov Math. Inst. 216 (1997), 287–314.

Statement: The mathematical community in the United States faces an important double challenge. On one hand, mathematics is not very popular as a career choice for undergraduates, in particular among those with sufficient talent and aptitude. On the other hand, prevailing academic employment patterns make many Ph.D. students who are successful in their research uncertain and pessimistic about their further careers.

I consider developing creative and effective responses to these challenges to be the central task for the profession as a whole and by implication for the AMS, its main professional organization. We should develop and implement effective mechanisms for exposing the most talented undergraduate students to the beauty, excitement, and power of mathematical thinking and for bringing them into close and fruitful contact with various layers of the professional mathematical community, from graduate students up to the most senior researchers. An effective response to the second challenge may include a creative and aggressive promotion of the value and effectiveness of mathematical thinking in a wide variety of contexts both in and outside academia.

Donald G. Saari



Pancoe Professor of Mathematics, Northwestern University.

Born: March 9, 1940, Ironwood, Michigan.

Ph.D.: Purdue University, 1967.

Additional Information: National Committee for Mathematics; Department Chair, Northwestern University, 1981–1984; Consultant, Commission on Celestial Mechanics, International Astronomy Union, 1985–1991; Guggenheim Fellow, 1988; Doctorat Honoris Causa, Purdue University, 1989, Université de Caen, France, 1998; Public Information Advisory Committee, JPBM, 1989–1994; Duncan Black Research Prize, Public Choice Society, 1991; Honorary Professor, Nanjing University, 1995; associate editor for several mathematics, celestial mechanics, and economics journals. **MAA:** Ford Prize, 1985; MAA Notes Board, 1993–; Chauvenet Prize, 1995. **SIAM:** Editor, *SIAM Journal on Mathematical Analysis*, 1981–1986; Organizing Committee,

SIAM National Meeting, 1988; SIAM Committee on Committees, 1995–1997. Chief Editor, *Bulletin of the American Mathematical Society*, 1999–. **Member:** AMS, MAA, SIAM, Division of Dynamical Astronomy (AAS).

Selected Publications: 1. with Z. Xia, *Off to infinity in finite time*, Notices Amer. Math. Soc. 42 (1995), 538–546. MR 95m:70002; 2. with Z. Xia, *Hamiltonian dynamics and celestial mechanics*, Contemp. Math., vol. 198, Amer. Math. Soc., Providence, RI, 1996. MR 97c:70001; 3. *Mathematical complexity of simple economics*, Notices Amer. Math. Soc. 42 (1995), 222–230. MR 95m:90029; 4. *A chaotic exploration of aggregation paradoxes*, SIAM Rev. 37 (1995), 37–52. MR 97a:90008; 5. *Basic geometry of voting*, Springer-Verlag, Berlin, 1995. MR 98d:90040.

Statement: “It was the best of times; it was the worst of times” describes contemporary mathematics. I can’t think of a more exciting, delightful time to be an active mathematician. Just consider the wide variety of major results resolved in the last two decades, the new directions of mathematics, and the increased mathematical sophistication of associated academic areas. But in the midst of this excitement we also face continued employment difficulties, particularly for graduating Ph.D.s: problems in attracting sufficient numbers of bright students (particularly minorities and women) into mathematics, funding difficulties, demands for educational reform, changes in tenure rules, and a continued lack of understanding and appreciation from others about what it is that we do, a problem which can negatively affect the allocation of resources within universities and at the governmental level.

If elected, I will do my best to address the challenging mix of problems while assisting the AMS to continue its excellent performance in disseminating research information through publications, meetings, and electronic media.

Statement: “It was the best of times; it was the worst of times” describes contemporary mathematics. I can’t think of a more exciting, delightful time to be an active mathematician. Just consider the wide variety of major results resolved in the last two decades, the new directions of mathematics, and the increased mathematical sophistication of associated academic areas. But in the midst of this excitement we also face continued employment difficulties, particularly for graduating Ph.D.s: problems in attracting sufficient numbers of bright students (particularly minorities and women) into mathematics, funding difficulties, demands for educational reform, changes in tenure rules, and a continued lack of understanding and appreciation from others about what it is that we do, a problem which can negatively affect the allocation of resources within universities and at the governmental level.

If elected, I will do my best to address the challenging mix of problems while assisting the AMS to continue its excellent performance in disseminating research information through publications, meetings, and electronic media.

Tatiana Toro



Assistant Professor, University of Washington, Seattle.

Born: July 5, 1964, Bogotá, Colombia.

Ph.D.: Stanford University, 1992.

Selected Addresses: Special Session on Singularities of Geometric Partial Differential Equations, Salt Lake City, April 1993; Southeastern Geometry Conference, University of Georgia, Athens, April 1994; Southern California Analysis and Partial Differential

Equations Seminar, University of California, San Diego, April 1995; Midwest Partial Differential Equations Seminar, Northwestern University, Evanston, November 1995; Special Session on Harmonic Maps, University of Southern California, Los Angeles, November 1995; Julia Robinson Celebration of Women in Mathematics, MSRI, Berkeley, July 1996; Co-organizer (with C. Kenig), Special Session on Analysis and Geometry, Detroit, May 1997;

Sixth Annual Southern California Geometric Analysis Seminar, University of California, Irvine, May 1997.

Additional Information: National Science Foundation Mathematical Sciences Postdoctoral Research Fellowship, 1994–1998; Alfred P. Sloan Research Fellowship, 1996.

Selected Publications: 1. *Surfaces with generalized second fundamental form in L^2 are Lipschitz manifolds*, *J. Differential Geom.* **39** (1994), 65–101. MR **95b**:49066; 2. *Geometric conditions and existence of bi-Lipschitz parameterizations*, *Duke Math. J.* **77** (1995), 193–227. MR **96b**:28006; 3. with C. Kenig, *Harmonic measure on locally flat domains*, *Duke Math. J.* **87** (1997), 509–551; 4. *Doubling and flatness: geometry of measures*, *Notices Amer. Math. Soc.* **44** (1997), 1087–1094.

Statement: I would like to mention two topics I believe the AMS should be concerned with in order to preserve and improve the health of our mathematical community. First, we need to improve our public image in order to survive in an atmosphere where quick results are expected and therefore pure research is not recognized as a worthwhile investment. Though interdisciplinary enterprises may often improve our image, they are not an accurate reflection of what a large percentage of us do. A “historical” approach would help convey the fact that abstract mathematical ideas which were developed many years ago are now fundamental to modern technology. This would help justify the benefit of increased investment in fundamental mathematics research.

Second, the widespread short-term employment of young mathematicians is alarming. After a long string of one- and two-year jobs many talented mathematicians have quit academia. This phenomena is also tied to two negative tendencies: on one hand, the pool of applicants to graduate programs in mathematics has shrunk substantially; on the other hand, many departments are being downsized. Not hiring at the tenure-track level, either because of administrative constraints or for other reasons, is creating a large generational gap in many departments. This is clearly a problem that requires attention.

Nolan R. Wallach

Professor, Department of Mathematics, University of California, San Diego.

Born: August 3, 1940, Brooklyn, New York.

Ph.D.: Washington University, St. Louis, Missouri, 1965.

AMS Committees: Editorial Boards Committee, 1991–1993 (chair, 1992); Bulletin Editorial Committee (associate editor, Research-Expository Surveys), 1995–.

Selected Addresses: Invited Address, Washington, D.C., January 1975; International Congress of Mathematicians, 1978; AMS-MAA Joint Lecture, Louisville, January 1990.

Additional Information: Alfred Sloan Fellowship, 1972–1974; National Mathematics Committee, 1985–1992; associate editor, *Annals of Mathematics*, 1997–.

Selected Publications: 1. *Compact homogeneous Riemannian manifolds with strictly positive curvature*, *Ann. of Math.* **96** (1972), 277–295. MR **46** #6243; 2. *Real reductive groups*. I. Academic Press, Inc., Boston, MA, 1988. MR **89i**:22029; and *Real reductive groups*. II., Academic Press, Inc., Boston, MA, 1992. MR **93m**:22018; 3. *Invariant dif-*

ferential operators on a reductive Lie algebra and Weyl group representations, *J. Amer. Math. Soc.* **6** (1993), 779–816. MR **94a**:17014; 4. with R. Goodman, *Representations and invariants of the classical groups*, vol. 68, Cambridge University Press, Cambridge, 1998.

Statement: One of the main forces that propels the information age is mathematics. The abstractions of my youth have become the applied mathematics of my middle age. Examples abound demonstrating the critical role of mathematics to our daily lives. However, we are told that we must change the way mathematics is taught at the graduate level, we must change how mathematical research is funded, we must change the role of the mathematics department in the university. With the highest teaching loads and the lowest salaries, mathematicians are the poor relations among academic scientists. It is my opinion that this unenviable situation for mathematics in such prosperous times is mainly our own fault.

Much of the real mathematics that appears in non-mathematical journals is derived independently of the mathematical literature. The nonmathematician finds it easier to “reinvent the light bulb” than to try to penetrate our literature or to understand our explanations. We must work to bring down the “Tower of Babel” that separates mathematics from other sciences.

The American Mathematical Society must communicate to the scientific community and to the general public about real mathematics, taking pointers from the other sciences as to how to handle the advertising.

Nominating Committee

William Browder

Professor, Princeton University.

Born: January 6, 1934, New York, New York.

Ph.D.: Princeton University, 1958.

AMS Offices: Member-at-Large of the Council, 1967–1969, 1972–1974; Vice-President, 1977–1978; President, 1989–1990; Board of Trustees, 1989–1990.

AMS Committees: Proceedings Editorial Committee (associate editor), 1963–1965; Committee to Select Hour Speakers for Summer and Annual Meetings, 1967–1968; Committee on Summer Institutes, 1973; Executive Committee, 1973, 1977–1978, 1991; Committee on Russian Reprinting Rights, 1974; Organizing Committee, Summer Institute on Algebraic and Geometric Topology, July 1976; Committee on National Awards and Public Representation, 1984–1985, 1988–1991 (chair, 1990); Liaison Committee, 1989–1990 (chair); Agenda and Budget Committee, 1989–1990; Committee on Committees, 1989–1990; Committee on Science Policy, 1989–1991; Committee to Select the Winner of the Award for Public Service, 1992–1995; Colloquium Lectures Committee, 1993–1998 (chair).

Selected Addresses: Half-Hour Address, International Congress of Mathematicians, Moscow, 1966; Summer Research Institute on Algebraic Topology, Madison, July 1970; Hour Address, International Congress of Mathematicians, Nice, 1970; Summer Research Institute on Algebraic and Geometric Topology, Stanford, August 1976; Colloquium Lecturer, St. Louis, January 1977; Symposium on the Math-

emational Heritage of Henri Poincaré, Bloomington, April 1980; Special Session on Topology of Algebraic and Analytic Varieties, College Park, October 1982.

Additional Information: Editor, *Annals of Mathematics*, 1969–1980; Office of Mathematical Sciences, National Research Council, 1979–1983 (chair). **Member:** AMS, American Academy of Arts and Sciences, Finnish Academy of Arts and Sciences, National Academy of Arts and Sciences.

Statement: I would look for candidates who, while having a strong research orientation, have the political skills to contribute to both the smooth running of the organization and to the ongoing efforts to communicate the importance of mathematics to policymakers and to the general public. The building of such a group of people is important to the long-term health of our subject. They should be representative of the diverse interests of the membership, both in mathematical questions and in political and social viewpoints relevant to our community.

Philip Hanlon

Professor of Mathematics, University of Michigan.

Born: April 10, 1955, Gouverneur, New York.

Ph.D.: California Institute of Technology, 1981.

AMS Committees: Mathematical Reviews Editorial Committee, 1992–1995 (chair); Transactions and Memoirs Editorial Committee, 1992–.

Selected Addresses: AMS Invited Address, Atlanta, January 1988; Hour Address, CMS National Meeting, July 1992.

Additional Information: Honors, Awards, and Invited Addresses: Alfred P. Sloan Fellowship, 1986–1988; NSF Presidential Young Investigator Award, 1987–1992; Henry Russel Award, 1990; CMS Plenary Speaker, 1992; John Simon Guggenheim Fellowship, 1993; Michigan Society of Fellows, 1993–1996; LS & A Excellence in Education Award, 1997.

Selected Publications: 1. with R. P. Stanley and J. R. Stembridge, *Some combinatorial aspects of the spectra of normally distributed random matrices*, Contemp. Math., vol. 138, Amer. Math. Soc., Providence, RI, 1992, 151–174. MR 93j:05164; 2. with M. Wachs, *On Lie k -algebras*, Adv. Math. 113 (1995), 206–236. MR 96h:17006; 3. with G. Denham, *On the Smith normal form of the Varchenko bilinear form of a hyperplane arrangement*, Pacific J. Math., Special Issue in Memory of Olga Taussky-Todd (1997), 123–146; 4. with R. P. Stanley, *On the action of a q -deformation of the trivial idempotent on the group algebra of the symmetric group*, Trans. Amer. Math. Soc., to appear; 5. with J. Friedman, *On the Betti numbers of chessboard complexes*, J. Alg. Combin., to appear; 6. with P. Bidigare and D. Rockmore, *A combinatorial description of the spectrum for the Tsetlin library and its generalization to hyperplane arrangements*, Duke Math. J., to appear.

Lisa Claire Jeffrey

Professor, University of Toronto.

Born: January 5, 1965, Fort Collins, Colorado.

Ph.D.: Oxford University, 1991.

Selected Addresses: Geometry Festival, New York, New York, April 1992; Special Session on Geometry, Topology, and Quantum Field Theory, Boston, MA, October 1995; Special Session on Moduli Spaces of Vector Bundles



over Curves with or without Additional Structure, Lawrenceville, NJ, October 1996; Special Session on Lie Groups and Physics, Columbia, MO, November 1996; Invited Address, College Park, MD, April 1997; Organizer, Special Session on Symplectic Geometry, Moduli Spaces and Integrable Systems, College Park, MD, April 1997.

Additional Information: NSF Postdoctoral Fellow, 1993–1996; Member, Institute for Advanced Study, 1991–1992, 1996–1997; Aisenstadt Prize, 1996; Sloan Fellow, 1997–; Member, NSERC Council, Canada, 1997–; Lecturer, Park City Mathematics Institute, July 1997.

Selected Publications: 1. *Chern-Simons-Witten invariants of lens spaces and torus bundles, and the semiclassical approximation*, Comm. Math. Phys. 147 (1992), 563–604. MR 93f:57042; 2. with J. Weitsman, *Half density quantization of the moduli space of flat connections and Witten's semiclassical manifold invariants*, Topology 32 (1993), 509–529. MR 95f:58038; 3. with F. Kirwan, *Localization for non-abelian group actions*, Topology 34 (1995), 291–327; 4. with F. Kirwan, *Intersection pairings in moduli spaces of holomorphic bundles on a Riemann surface*, ERA Amer. Math. Soc. 01 (1995), 57–71; 5. with F. Kirwan, *Localization and the quantization conjecture*, Topology 36 (1997), 647–693.

Statement: The primary goal of the AMS is to foster high-quality research in mathematics. It should also pay attention to the following issues: (1) developing and monitoring employment opportunities for young mathematicians, (2) increasing the representation of underrepresented groups in mathematics, and (3) fostering interaction and dialogue between mathematics and other scientific disciplines.

Douglas Lind



Professor, University of Washington.

Born: August 11, 1946, Arlington, Virginia.

Ph.D.: Stanford University, 1973.

AMS Committees: AMS Centennial Fellowship Committee, 1991–1993; Electronic Research Announcements Editorial Board, 1995–1997; AMS Task Force on Excellence in Mathematical Scholarship, 1995–.

Selected Addresses: Invited Speaker: Conference on Symbolic Dynamics and Its Applications, Yale University, July, 1991; Conference on Algebraic Systems, CIRM, Luminy, June 1993; Warwick Symposium on \mathbf{Z}^d -actions, June 1–30, 1994; Invited Principal Speaker, Conference on Ergodic Theory and Dynamics,

Technical University of Delft, Holland, July 15–30, 1994; Special Session on Symbolic Dynamics, San Diego, 1997.

Additional Information: Vice Chair, Board of Trustees, Mathematical Sciences Research Institute, Berkeley, 1989–1995; Organizing Committee, Program in Symbolic Dynamics, Mathematical Sciences Research Institute, September–December 1992; Professeur Invité, Université Aix-Marseille, June 1993; Department Chair, 1993–1998; Member, Mathematics Education Reform Task Force, 1993–; Co-organizer: Conference on Number Theory and Dynamics, CIRM, Luminy, France, July 4–8, 1995; Co-organizer, Symposium on the Riemann Hypothesis, University of Washington, Seattle, August 12–15, 1997; Member, Advisory Board, American Institute of Mathematics, 1997–.

Selected Publications: 1. with M. Boyle and D. Rudolph, *The automorphism group of a shift of finite type*, Trans. Amer. Math. Soc. **306** (1988), 71–114. MR **89m**:54051; 2. with K. Schmidt and T. Ward, *Mahler measure and entropy for automorphisms of compact groups*, Invent. Math. **101** (1990), 593–629. MR **92j**:22013; 3. with B. Marcus, *An introduction to symbolic dynamics and coding*, Cambridge University Press, Cambridge, 1995. MR **97a**:58050; 4. with M. Boyle, *Expansive subdynamics*, Trans. Amer. Math. Soc. **349** (1997), 55–102. MR **97d**:58115; 5. with K. Schmidt, *Homoclinic points for algebraic Z^d -actions*, J. Amer. Math. Soc., to appear.

Henri Moscovici

Professor of Mathematics, The Ohio State University.

Born: May 5, 1944, Tecuci, Romania.

Ph.D.: University of Bucharest, 1971.

AMS Committees: Central Section Program Committee, 1997–.

Selected Addresses: College de France Lectures, Paris, May–June 1986; International Congress of Mathematicians, Kyoto, 1990; Special Session Commemorating the First Fifty Years of C^* -Algebra Theory, San Antonio, January 1993; The Issai Schur Memorial Lectures, Tel Aviv University, December 1995; Invited Address, Milwaukee, October 1997.

Additional Information: Lady Davis Postdoctoral Fellowship, 1973; G. Tzitzeica Prize of the Academy of Sciences of Romania, 1975; College de France Medal, 1986; Sackler Scholar, Institute of Advanced Studies, Tel Aviv, 1995; Guggenheim Fellow, 1995–1996.

Selected Publications: 1. with A. Connes, *The L^2 -index theorem for homogeneous spaces of Lie groups*, Ann. of Math. **115** (1982), 291–330. MR **84f**:58108; 2. *L^2 -index of elliptic operators on locally symmetric spaces of finite volume*, Operator algebras and K -theory, Contemp. Math., vol. 10, Amer. Math. Soc., Providence, RI, 1982, pp. 129–137. MR **83m**:58072; 3. with A. Connes, *Cyclic cohomology, the Novikov conjecture and hyperbolic groups*, Topology **29** (1990), 345–388. MR **92a**:58137; 4. with R. J. Stanton, *R-torsion and zeta functions for locally symmetric manifolds*, Invent. Math. **105** (1991), 185–216. MR **92i**:58199; 5. with A. Connes, *The local index theorem in noncommutative geometry*, Geom. Funct. Anal. **5** (1995), 174–243. MR **96e**:58149.

Marc A. Rieffel

Professor, University of California, Berkeley.

Born: December 22, 1937, New York, New York.

Ph.D.: Columbia University, 1963.

AMS Offices: Member-at-Large of Council, 1987–1990, 1992–1994; Executive Committee of the Council, 1994–1998.

AMS Committees: Committee on Committees, 1982–1984; Committee on the Proposed Structure of the JPBM, 1987–1988; AMS-MAA-SIAM Joint Committee on Employment Opportunities, 1989–1991; Mathematical Surveys and Monographs Editorial Committee, 1991–1994 (chair, 1992–1994); Committee on Long-Range Planning, 1995–1997 (chair, 1996–1997); Committee on Committees, 1995–; Search Committee for the Secretary, 1997; Member, AMS e-Journal Review Committee, 1997; Committee on Steele Prizes, 1997–.

Selected Addresses: Integrable and Proper Actions of Groups on C^* -Algebras, International Conference on Operator Algebras and Operator Theory, Shanghai, July 1997; Questions on Quantization, Conference on E -Theory, Quantization, and Deformations, Dartmouth College, September 1997; Non-commutative Tori and Deformation Quantization, Institute for Theoretical Physics, University of California, Santa Barbara, March 1998; Non-commutative Tori and String Theory, Great Plains Operator Theory Seminar, Kansas State University, May 1998.

Additional Information: Member: AMS, MAA.

Selected Publications: 1. *Critical points of Yang-Mills for non-commutative two-tori*, J. Differential Geom. **31** (1990), 535–546. MR **91b**:58014; 2. *Deformation quantization for actions of R^d* , Mem. Amer. Math. Soc. **106** (1993). MR **94d**:46072; 3. *K -groups of C^* -algebras deformed by actions of R^d* , J. Funct. Anal. **116** (1993), 199–214. MR **94i**:46088; 4. *Non-compact quantum groups associated with Abelian subgroups*, Comm. Math. Phys. **171** (1995), 181–201. MR **96g**:46066; 5. *On the operator algebra for the space-time uncertainty relations*, Operator Algebras and Quantum Field Theory, International Press, Cambridge, MA, 1997, pp. 374–382.

Statement: The AMS is presently quite healthy. But the AMS faces substantial challenges in the near future, and the AMS must always seek ways to improve its services to its members. The AMS needs as leaders individuals with wisdom and creativity who are willing to devote a substantial amount of their energy to the AMS during their terms of office. (In particular, vice-presidents and members-at-large of the Council must be willing to contribute strong leadership on one of the five AMS policy committees, in addition to their duties on the Council.)

The leadership of the AMS should also be selected to reflect the diversity of the membership of the AMS. If I am elected to the Nominating Committee, I will seek candidates for AMS elective positions according to the above criteria.

Editorial Boards Committee

George E. Andrews

Evan Pugh Professor of Mathematics, The Pennsylvania State University.

Born: December 4, 1938.



Ph.D.: University of Pennsylvania, 1964.

AMS Committees: Library Committee, 1994–1996; History of Mathematics Editorial Committee, 1996–; AMS-MAA Committee on Research in Undergraduate Mathematics Education, 1998–; AMS-MAA-SIAM Morgan Prize Committee for Outstanding Research in Mathematics by an Undergraduate Student, 1998–.

Selected Addresses: Hedrick

Lecturer, MAA, Ann Arbor, 1980; CBMS Regional Conference Principal Lecturer, Arizona State University, 1985; Invited Lectures: American Association for the Advancement of Science, Chicago, 1987, and Baltimore, 1996; J.S. Frame Lecturer, Pi Mu Epsilon, Vancouver, 1993; International Congress of Mathematicians, 1998; Participant in a debate on mathematics instruction, Berlin.

Additional Information: Guggenheim Fellow, 1982–1983; Allegheny Region Distinguished Teaching Award, MAA, 1993; Elected Member, AAAS, 1997; Honorary Degree, University of Parma, 1998.

Selected Publications: 1. *Number theory*, W.B. Saunders Co., Philadelphia, PA, 1971. MR **46** #8943 (Reissued, Dover, 1995); 2. *Euler's "exemplum memorabile inductionis fallacis" and q-trinomial coefficients*, J. Amer. Math. Soc. **3** (1990), 653–669. MR **91b**:05011; 3. *The death of proof? Semi-rigorous mathematics? You've got to be kidding!* Math. Intelligencer **16** (1994), 16–18. MR **95h**:00011; 4. *Plane partitions. V. The TSSCPP conjecture*, J. Combin. Theory Ser. A **66** (1994), 28–39. MR **95g**:05010; 5. *The theory of partitions*, Encyclopedia of Mathematics and Its Applications, vol. 2, Addison-Wesley Publishing Co., Reading, MA, 1976. MR **85f**:11001 (Third edition, Cambridge University Press, 1998).

Statement: Obviously there are countless tactical matters that face the AMS concerning journal publication. Electronic publication and maintaining reasonable prices for paper journals are two large issues. It is my belief that the central issue before the Editorial Boards [Committee] is the maintenance of high editorial standards primarily through the careful selection of editors with high standards. If this fundamental duty is fulfilled responsibly, it should be possible to respond adequately to the tactical problems.

J. William Helton

Professor of Mathematics, University of California, San Diego.

Born: November 21, 1944, Jacksonville, Texas.

Ph.D.: Stanford University, 1968.

AMS Committees: Committee to Select Hour Speakers for Far Western Sectional Meetings, 1982–1983.

Selected Addresses: **Plenary Addresses:** Invited Address, San Antonio, January 1980; European Conference on Circuit Theory and Design, 1981; Principal Lecturer, CBMS Regional Conference, 1985; SIAM Conference, LASSC, 1986; Great Plains Operator Theory Symposium, 1992; Math-



ematical Theory of Networks and Systems: 1979, 1983, 1989, 1993, 1996 (semipenary); a half dozen conference talks given per year.

Additional Information: Guggenheim Fellow, 1985; Outstanding paper, IEEE Control Society, 1986; associate editor of six journals and two book series.

Selected Publications: 1. *Discrete time systems, operator models, and scattering theory*,

J. Funct. Anal. **16** (1974), 15–38. MR **56** #3652; 2. with R. Howe, *Traces of commutators of integral operators*, Acta Math. **135** (1975), 271–305. MR **55** #11106; 3. with J. A. Ball, C. R. Johnson, and J. N. Palmer, *Operator theory, analytic functions, matrices, and electrical engineering*, CBMS Regional Conf. Ser. in Math., no. 68, Amer. Math. Soc., Providence, RI, 1987. MR **89f**:47001; 4. with B. Merino, *Classical control using H^∞ methods*, SIAM, August 1998, approx. 290 pages; 5. with M. Stankus and J. J. Wavrik, *Computer Simplification of Formulas in Linear Systems Theory*, IEEE Trans. Automat. Control **43** (Mar. 1998), number 3, pp. 302–314.

Statement: The committee is charged with appointing editors for AMS journals, and I shall try to find good ones. Strong AMS editors are increasingly important because the nature of scientific journals is changing. As electronic distribution becomes widespread, we must find editors committed to high quality in this new environment. Expensive journals may well start going out of business also, which places more responsibility on the journals of professional societies.

Krystyna M. Kuperberg

Alumni Professor, Auburn University.

Born: July 17, 1944, Tarnów, Poland.

Ph.D.: Rice University, 1974.

AMS Offices: Member-at-Large of the Council, 1996–.

AMS Committees: Electronic Research Announcements Editorial Committee, 1995–; Southeastern Section Program Committee, 1996–1998; Committee on the Profession, 1996–.

Selected Addresses: Mathematical Sciences Research Institute-Evans Lecture, Berkeley, September 1994; AMS Invited Address, Orlando, March 1995; MAA Invited Address, Orlando, January 1996; ICM Invited Speaker, Berlin, Germany, August 1998; Noether Lecture, San Antonio, January 1999.

Additional Information: Auburn University Alumni Professorship, 1994–; Alfred Jurzykowski Foundation Award, 1995; Auburn University Science and Mathematics Research Excellence Award, 1996.

Selected Publications: 1. *A smooth counterexample to the Seifert conjecture*, Ann. of Math. **140** (1994), 723–732. MR **95g**:57040; 2. *Collected works of Witold Hurewicz* (editor), Amer. Math. Soc., Providence, RI, 1995. MR **97m**:01105; 3. with A. Bezdek and W. Kuperberg, *Mutually contiguous translates of a plane disk*, Duke Math. J. **78** (1995), 19–31. MR **96b**:52030; 4. with G. Kuperberg, *Generalized counterexamples to the Seifert conjecture*, Ann. of Math. **144** (1996), 239–268. MR **97k**:57031; 5. *A knotted minimal tree*, Mathematics Archive, e-Print math.MG/9806080 (available at <http://front.math.ucdavis.edu/math.MG/9806080>). **Statement:** Publications of the AMS serve the whole mathematical community; hence the Editorial Boards [Committee] should represent the broadest possible spectrum of mathematical areas. The standards for papers' acceptance should be uniformly high across the fields, based on mathematical merit, and immune to politics. The editors should be accomplished mathematicians, highly regarded and respected by their peers. While being aware of the importance of traditional paper publishing and of the services provided by libraries, they should also have a realistic view on the growing trend to disseminate mathematical literature by electronic means.

Efim Zelmanov



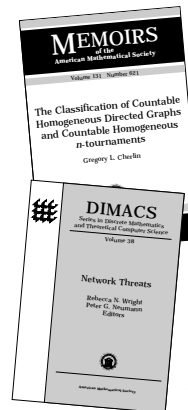
Professor, Yale University.
Born: September 7, 1955, FSU.
Ph.D.: Institute of Mathematics, Novosibirsk, 1981.
AMS Committees: Transactions and Memoirs Editorial Committee, 1994–; Electronic Research Announcements Editorial Committee, 1995–.
Selected Addresses: International Congresses of Mathematicians: Warsaw, 1983; Kyoto, 1990; and Zurich, 1994; Invited Address, Chicago, March 1995.

Additional Information: Fields Medal, International Union of Mathematicians, 1994; Member, American Academy of Arts and Sciences, 1996–.

Selected Publications: 1. with K. McCrimmon, *The structure of strongly prime quadratic Jordan algebras*, Adv. in Math. **69** (1988), 133–222. MR **89k**:17052; 2. *Solution of the restricted Burnside problem for groups of odd exponent*, translation in Math. USSR-Izv. **36** (1991), 41–60. MR **91i**:20037; 3. *Solution of the restricted Burnside problem for 2-groups*, Mat. Sb. (N. S.) **4** (1991), 568–592. MR **93a**:20063; 4. *On periodic compact groups*, Israel J. Math. **77** (1992), 83–95. MR **94j**:20019; 5. *Nil rings and periodic groups*, KMS Lecture Notes in Mathematics, Korean Mathematical Society, Seoul, 1992. MR **94c**:16027.

Statement: I think that the primary mission of the AMS is to encourage mathematical research. The AMS is also well suited to address issues that are important for the whole mathematical community, such as mathematical education, employment, research funding, and public appreciation of mathematics.

New in Discrete Mathematics and Combinatorics



The Classification of Countable Homogeneous Directed Graphs and Countable Homogeneous n -tournaments

Gregory L. Cherlin, Rutgers University, New Brunswick, NJ

In this book, Ramsey theoretic methods introduced by Lachlan are applied to classify the countable homogeneous directed graphs. This is an uncountable collection, and this book presents the first explicit classification result covering an uncountable family. The author's aim is to demonstrate the potential of Lachlan's method for systematic use.

Memoirs of the American Mathematical Society, Volume 131, Number 621; 1998; 161 pages; Softcover; ISBN 0-8218-0836-2; List \$47; Individual member \$28; Order code MEMO/131/621NA

Network Threats

Rebecca N. Wright, AT&T Labs Research, Florham Park, NJ, and Peter G. Neumann, SRI International, Menlo Park, CA, Editors

This volume presents papers from a DIMACS workshop on network threats. The workshop brought together computer scientists (theorists and practitioners) working in this area to discuss topics such as network security, prevention and detection of security attacks, modeling threats, risk management, threats to individual privacy, and methods of security analysis. The book demonstrates the wide and diverse range of topics involved in electronic interactions and transactions—including the less desirable aspects: security breaches.

This text includes implementation and development strategies using real-world applications that are reliable, fault-tolerant, and performance oriented. The book would be suitable for a graduate seminar on computer security.

Features:

- Discussion of Internet, Web and Java security
- Information on new attacks and weaknesses
- Formal and informal analysis methods to identify, quantify, and combat security threats

DIMACS: Series in Discrete Mathematics and Theoretical Computer Science, Volume 38; 1998; 110 pages; Hardcover; ISBN 0-8218-0832-X; List \$29; All AMS members \$23; Order code DIMACS/38NA



All prices subject to change. Charges for delivery are \$3.00 per order. For optional air delivery outside of the continental U. S., please include \$6.50 per item. *Prepayment required.* Order from: **American Mathematical Society**, P. O. Box 5904, Boston, MA 02206-5904, USA. For credit card orders, fax 1-401-455-4046 or call toll free 1-800-321-4AMS (4267) in the U. S. and Canada, 1-401-455-4000 worldwide. Or place your order through the AMS bookstore at www.ams.org/bookstore. Residents of Canada, please include 7% GST.