2006 Cole Prize in Algebra

János Kollár

The 2006 Frank Nelson Cole Prize in Algebra was awarded at the 112th Annual Meeting of the AMS in San Antonio in January 2006.

The Cole Prize in Algebra is awarded every three years for a notable research memoir in algebra that has appeared during the previous five years (until 2000, the prize was usually awarded every five years). The awarding of this prize alternates with the awarding of the Cole Prize in Number Theory, also given every three years. These prizes were established in 1928 to honor Frank Nelson Cole on the occasion of his retirement as secretary of the AMS after twenty-five years of service. He also served as editor-in-chief of the *Bulletin* for twenty-one years. The Cole Prize carries a cash award of US$5,000.

The Cole Prize in Algebra is awarded by the AMS Council acting on the recommendation of a selection committee. For the 2006 prize, the members of the selection committee were: Georgia Benkart (chair), Eric M. Friedlander, and Craig L. Huneke.

Previous recipients of the Cole Prize in Algebra are: L. E. Dickson (1928), A. Adrian Albert (1939), Oscar Zariski (1944), Richard Brauer (1949), Harish-Chandra (1954), Serge Lang (1960), Maxwell A. Rosenlicht (1960), Walter Feit and John G. Thompson (1965), John R. Stallings (1970), Richard G. Swan (1970), Hyman Bass (1975), Daniel G. Quillen (1975), Michael Aschbacher (1980), Melvin Hochster (1980), George Lusztig (1985), Shigefumi Mori (1990), Michel Raynaud and David Harbater (1995), Andrei Suslin (2000), Aise Johan de Jong (2000), and Hiraku Nakajima (2003).

The 2006 Cole Prize in Algebra was awarded to JÁNOS KOLLÁR. The text that follows presents the selection committee's citation, a brief biographical sketch, and the awardee's response upon receiving the prize.

Citation

The 2006 Cole Prize in Algebra is awarded to János Kollár of Princeton University for his outstanding achievements in the theory of rationally connected varieties and for his illuminating work on a conjecture of Nash.

The notion of a rational variety has long played an important role in algebraic geometry. An algebraic variety X is rationally connected if there are enough rational curves to connect points in X. A pioneer of the notion of rationally connected varieties, Kollár extended the theory from the complex numbers to local fields. His papers (*Annals of Math.* **150** (1999), 357–367, and *Michigan Math. J.* **48** (2000), 359–368) and his joint work with Endre Szabó (*Duke Math. J.* **120** (2003), 251–267) are recognized as significant advancements in the theory of rationally connected varieties.

In 1952, after proving that a compact differentiable manifold M is diffeomorphic to the zero set of real polynomials, John Nash conjectured that there exists a smooth real algebraic variety, birational to projective space, whose real points are diffeomorphic to M. Although known to be false in dimension two, evidence suggested a positive solution in higher dimensions until Kollár provided counterexamples by classifying the diffeomorphism types of smooth threefolds birational to projective space whose real points are orientable. This work is explained in a series of remarkable papers, notably his paper in *J. Amer. Math. Soc.* **12** (1999), 33–83.

Biographical Sketch

János Kollár was born in Budapest, Hungary, in 1956. He did his undergraduate studies at Eötvös University in Budapest and his graduate studies at Brandeis University with Teruhisa Matsusaka. After receiving his doctorate in 1984 he was a Junior Fellow at Harvard University (1984–87) and then a faculty member at the University of Utah (1987–99). Since 1999 he has been a professor at Princeton University.

Kollár was elected to the Hungarian Academy of Sciences in 1995 and to the National Academy of

Sciences in 2005. He gave the AMS Colloquium Lectures at the New Orleans Annual Meeting in 2001. Kollár's main research area is the birational geometry of higher dimensional algebraic varieties, and he also likes to explore the various applications of algebraic geometry to algebra, combinatorics, complex analysis, differential geometry, and number theory.

Response

The most basic algebraic variety is affine n-space C^n, and it has been a long-standing problem to understand which varieties behave like C^n. For surfaces the problem was settled by Castelnuovo in the 1890s: these are the surfaces which are birational to C^2. It took nearly a century to understand that the correct higher dimensional concept is not so global. Instead, we should focus on rational curves on varieties. There are plenty of rational curves in C^n: lines, conics, etc. Roughly speaking, a variety is rationally connected if it contains rational curves in similar abundance.

It took some time to establish that rationally connected varieties are indeed the right class, but by now it is firmly settled that, at least in characteristic zero, we have the right definition.

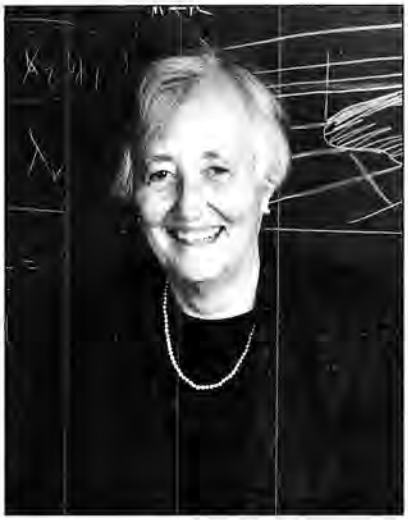
I am very glad that the committee recognized the significance of this field and I feel deeply honored that they chose me to represent a whole area. This was truly a joint effort over the past fifteen years. Much of the foundational work was done with Campana, Miyaoka, and Mori, and the last piece of the basic theory was completed by Graber, Harris, de Jong, and Starr. Arithmetic questions over finite and p-adic fields were explored with Colliot-Thélène, Esnault, Kim, and Szabó, but the theory over global fields consists mostly of questions. Joint work with Bien, Borel, Corti, Schreyer, and Smith touched other aspects of rational connectedness.

The Nash conjecture on the topology of rationally connected varieties over R turned out to be beautiful algebraic geometry in dimension three, and the higher dimensional versions by Eliashberg and Viterbo use techniques from symplectic geometry.

The theory of rationally connected varieties is rapidly growing, with recent major results by Hacon, Hassett, McKernan, Tschinkel, and Zhang. I hope that the recognition by the Cole Prize will spur further activity.

Finally, I would like to thank three mathematicians who had a great influence on my work: my thesis advisor Teruhisa Matsusaka, who taught me to look for the big picture; my collaborator Shigefumi Mori, with whom many of these ideas were developed; and my former colleague Herb Clemens and the University of Utah for providing a wonderful environment to accomplish most of this research.

2006 Birkhoff Prize



Cathleen S. Morawetz

The 2006 George David Birkhoff Prize in Applied Mathematics was awarded at the 112th Annual Meeting of the AMS in San Antonio in January 2006.

The Birkhoff Prize recognizes outstanding contributions to applied mathematics in the highest and broadest sense and is awarded every three years (until 2003, it was awarded usually every five years). Established in 1967, the prize was endowed by the family of George David Birkhoff (1884–1944), who served as AMS president during 1925–1926. The prize is given jointly by the AMS and the Society for Industrial and Applied Mathematics (SIAM). The recipient must be a member of one of these societies and a resident of the United States, Canada, or Mexico. The prize carries a cash award of US$5,000.

The recipient of the Birkhoff Prize is chosen by a joint AMS-SIAM selection committee. For the 2006 prize, the members of the selection committee were: Barbara L. Keyfitz, Charles S. Peskin, and Gunther Uhlmann (chair).

Previous recipients of the Birkhoff Prize are: Jürgen K. Moser (1968), Fritz John (1973), James B. Serrin (1973), Garrett Birkhoff (1978), Mark Kac (1978), Clifford A. Truesdell (1978), Paul R. Garabedian (1983), Elliott H. Lieb (1988), Ivo Babuška (1994), S. R. S. Varadhan (1994), Paul H. Rabinowitz (1998), John N. Mather (2003), and Charles S. Peskin (2003).

The 2006 Birkhoff Prize was awarded to CATHLEEN S. MORAWETZ. The text that follows presents the selection committee's citation, a brief biographical sketch, and the awardee's response upon receiving the prize.

Citation

To Cathleen S. Morawetz for her deep and influential work in partial differential equations, most notably in the study of shock waves, transonic flow, scattering theory, and conformally invariant estimates for the wave equation.

Biographical Sketch

Cathleen Synge Morawetz was born in Toronto, Canada, in 1923, where her father, Irish-born and educated John L. Synge, was a professor of mathematics. The family returned to Ireland from 1925 to 1930. From 1930 to 1945 Morawetz received her education in the public schools of Toronto and later her B.A. at the University of Toronto. She started graduate school at the Massachusetts Institute of Technology, receiving an M.S. in 1946. In October 1945 she married Herbert Morawetz, who became a professor of polymer chemistry at Brooklyn Polytechnic. In 1946 Morawetz began working at New York University with Courant and Friedrichs, editing their book on compressible flow. In 1950 she completed a Ph.D. thesis on imploding shocks. From 1950 to 1951 she worked at MIT with C. C. Lin on fluid dynamic stability. In 1951 she returned to NYU on a part-time basis and worked with Friedrichs and Bers, mainly on the problems of transonic flow and mixed equations. In the late 1950s, at Courant's suggestion, she began working with Harold Grad on the mathematical problems of plasma physics, where she showed how a collisionless shock could exist without invoking turbulence. In 1957 she was appointed to the faculty of the Courant Institute. She continued to work in partial differential equations, mainly on problems of mixed type but also on the wave equation. There she solved problems of decay by new conservation laws and later used the same type of estimates with Ludwig to justify geometrical optics in the lit region of a star shaped object. She continued to concentrate on these topics for the rest of her career. She retired in 1993 and became president of the AMS in 1995 (she had also served as an AMS trustee in the 1980s). Morawetz was awarded the National Medal of Science in 1998.

Response

It is a totally unthought of and a wonderful surprise to receive the Birkhoff Prize. I am very, very grateful to the two societies, AMS and SIAM, for choosing me. There are many, many people whom I would have liked to thank for helping me over the years, but I would not have room for their names on this page. But one person stands out for supporting and encouraging me when I was between the crucial professional ages of twenty-three and thirty-five. I worked part-time on my Ph.D., part-time as a postdoc, and I had four children. That person was Richard Courant, the creator of the Courant Institute at New York University, where I have been a professor ever since.

2006 Conant Prize

Ronald M. Solomon

The 2006 Levi L. Conant Prize was awarded at the 112th Annual Meeting of the AMS in San Antonio in January 2006.

The Conant Prize is awarded annually to recognize an outstanding expository paper published in either the *Notices of the AMS* or the *Bulletin of the AMS* in the preceding five years. Established in 2001, the prize honors the memory of Levi L. Conant (1857–1916), who was a mathematician at Worcester Polytechnic University. The prize carries a cash award of US$1,000.

The Conant Prize is awarded by the AMS Council acting on the recommendation of a selection committee. For the 2006 prize, the members of the selection committee were: Noam D. Elkies, Carl R. Riehm, and M. B. Ruskai (chair).

Previous recipients of the Conant Prize are: Carl Pomerance (2001), Elliott Lieb and Jakob Yngvason (2002), Nicholas Katz and Peter Sarnak (2003), Noam D. Elkies (2004), and Allen Knutson and Terence Tao (2005).

The 2006 Conant Prize was awarded to RONALD M. SOLOMON. The text that follows presents the committee's citation, a brief biographical sketch, and the awardee's response upon receiving the prize.

Citation

The Levi L. Conant Prize in 2006 is awarded to Ronald Solomon for his article "A Brief History of the Classification of the Finite Simple Groups", *Bulletin of the AMS* **38** (2001), no. 3, 315–352.

Solomon gives a remarkable overview of the work on the classification problem, from its inception in an 1893 paper by Otto Hölder to the recent two-volume proof of the final theorem by Michael Ashbacher and Stephen Smith. Solomon's article stresses key developments in a way that makes connections with other aspects of group theory so that the subject becomes more than just taxonomy. Thus, he provides a glimpse into a broad panorama of finite group theory. The article gives an unusual insider's look at the process of mathematical research, with its false starts, insightful conjectures, and dogged determination. One sees different approaches go in and out of fashion and sometimes return with renewed vigor. Finally, he argues convincingly that even if the classification is complete, many avenues remain open for further investigation. The exposition is enhanced by descriptions of the personalities of the many contributors and their interactions.

Solomon has written a valuable survey, accessible to a broad spectrum of mathematicians, that is both engaging and enlightening.

Biographical Sketch

Ron Solomon was turned on to mathematics by his high school geometry teacher, Blossom Backal. He fell in love with group theory as an undergraduate at Queens College and had the great good fortune to study with the masters—Walter Feit, David Goldschmidt, Richard Lyons, and Leonard Scott—while earning a Ph.D. at Yale University in 1971. The National Science Foundation Summer Institute in 1970 was an unforgettable interlude. In the summer of 1972, he heard Danny Gorenstein propose his visionary sixteen-step program for the classification

2006 AMS Sectional Meetings

April 1-2, 2006
Florida International University, Miami, FL

April 8-9, 2006
University of Notre Dame, Notre Dame, IN
(features the Erdős Memorial Lecture by Béla Bollobás)

April 22-23, 2006
University of New Hampshire, Durham, NH

April 29-30, 2006
San Francisco State University, San Francisco, CA
(features the Einstein Public Lecture in Mathematics by Benoît Mandelbrot)

October 7-8, 2006
University of Utah, Salt Lake City, UT

October 21-22, 2006
University of Cincinnati, Cincinnati, OH

October 28-29, 2006
University of Connecticut, Storrs, CT

November 3-4, 2006
University of Arkansas, Fayetteville, AR

For more information, see
`http://www.ams.org/amsmtgs/sectional.html`

of the finite simple groups and spent two years as a Dickson Instructor at the University of Chicago, learning with Jon Alperin and George Glauberman, and climbing one of Danny's steps. In 1974–1975, he made the first of several fruitful pilgrimages to Rutgers University, and then began thirty years (and counting) on the faculty of the Ohio State University. His sons, Ari and Michael, were born in 1980 and 1982, and have filled his life with love, joy, intellectual sparring, and periodic tsurus. In 1982, he began an ongoing collaboration with Gorenstein and Lyons to write a series of monographs presenting a substantial portion of the proof of the classification theorem. Since 2004, he has been blessed with the love of his wife, Rose.

Response

It is a great honor to receive the Levi L. Conant Prize from the Society. I am saddened that neither my mother nor Walter Feit nor Danny Gorenstein are alive to share the joy of this occasion. My mother deserves double credit. I learned my writing skills from her, and my teenage rebellion against her authority drove me into mathematics. Walter and Sidnie Feit have always been most complimentary of my skills at group theory exposition, and of course I learned much at the knee of that master expositor, Danny Gorenstein.

A work of historical narrative can only be as good as its subject, and I had the advantage of a wonderful theme. The saga of the taming of the finite simple groups is a great one, shaped by titans of the imagination from Lagrange, Gauss, and Galois to Thompson, Gorenstein and Aschbacher, with many other illustrious participants. It has been a rare privilege to be a friend and collaborator of the latter-day titans, and to tell a bit of their story. My thanks to you all for reading and enjoying the tale.

2006 Award for Distinguished Public Service

Roger Howe

The 2006 Award for Distinguished Public Service was presented at the 112th Annual Meeting of the AMS in San Antonio in January 2006.

The Award for Distinguished Public Service is presented every two years to a research mathematician who has made a distinguished contribution to the mathematics profession during the preceding five years. The purpose of the award is to encourage and recognize those individuals who contribute their time to public service activities in support of mathematics. The award carries a cash prize of US$4,000.

The Award for Distinguished Public Service is made by the AMS Council, acting on the recommendation of a selection committee. For the 2006 award, the members of the selection committee were: William J. Lewis, Carolyn R. Mahoney, Paul J. Sally Jr., William Y. Vélez (chair), and Margaret H. Wright.

Previous recipients of the award are: Kenneth M. Hoffman (1990), Harvey B. Keynes (1992), I. M. Singer (1993), D. J. Lewis (1995), Kenneth C. Millett (1998), Paul J. Sally Jr. (2000), Margaret H. Wright (2002), and Richard Tapia (2004).

The 2006 Award for Distinguished Public Service was presented to ROGER HOWE. The text that follows presents the selection committee's citation, a brief biographical sketch, and the recipient's response upon receiving the award.

Citation

The 2006 Award for Distinguished Public Service is presented to Professor Roger Howe. Dr. Howe, a member of the National Academy of Sciences, is the William R. Kenan Jr. Professor of Mathematics at Yale University. This award recognizes Dr. Howe for his multifaceted contributions to mathematics and to mathematics education. Not only is Dr. Howe recognized for his mathematical research but he has also taken a leadership role in national initiatives focused on the teaching of mathematics and in the education of teachers. For several years he served as Chair of the American Mathematical Society's Committee on Education, and he was a member of the National Research Council's Mathematical Sciences Education Board. He served as chair of the American Mathematical Society's Consultative Committee involved in a revision of national mathematics standards in 1998. For many years he was on the board of directors of the Connecticut Academy for Education in Mathematics, Science and Technology. Moreover, he has served on several national panels and study committees that have resulted in influential publications, including the National Research Council's Mathematics Learning Study Committee (*Adding It Up*), the RAND Mathematics Study Panel (*Mathematical Proficiency for All Students: Toward a Strategic Research and Development Program in Mathematics Education*), and the Conference Board of the Mathematical Sciences steering committee (*The Mathematical Education of Teachers*). Dr. Howe is currently chair of the Mathematics Standards Study Group, a group of mathematicians who are analyzing the mathematics standards in each state.

Dr. Howe has worked diligently over the years to broaden and professionalize the involvement of a research mathematician in educational reform, to lead us towards the goal where involvement of mathematicians in education is viewed as a well-informed professional activity by mathematicians and educators alike.

Biographical Sketch

Roger Howe earned his Ph.D. in 1969 from the University of California at Berkeley, under the direction of Calvin C. Moore. He spent 1969 to 1974 at SUNY Stony Brook, and has been at Yale since 1974. His research has been mainly in the representation theory of groups and harmonic analysis, and its applications to the theory of automorphic forms, invariant theory, geometry, ergodic theory, partial differential equations, and mathematical physics. He is a member of the National Academy of Sciences, the American Academy of Arts and Sciences, and the Connecticut Academy of Science and Engineering. He has served as the editor of Research Announcements for the *Bulletin of the American Mathematical Society*, and as chair and member of the Committee on Education. He has also served on many non-AMS committees devoted to issues of mathematics education. He currently is visiting Stony Brook University in hopes of initiating a long-term project for improvement of K–12 mathematics teaching and curriculum in the United States.

Response

I thank the Society for this distinction. I am grateful in many ways and for many reasons.

I have been working on issues in mathematics education for ten to fifteen years. As the citation says, I have been on lots of committees! Mathematics education is an area with few proofs and even fewer theorems. Therefore, it is immensely encouraging to have one's efforts applauded in this official and striking way. At the same time, I am mindful that awards like this can never recognize all who may merit them. I know several colleagues whose work in education deserves commendation as much or more than mine, but I have been the lucky one this time.

I have become convinced that it is vital for the health of U.S. mathematics education that in the future more mathematicians contribute their time, knowledge, and insights to improve it. This cannot happen to the extent it needs to unless work on education no longer makes one a candidate for the Public Service Award! It must become a somewhat normal thing to do and consistent with maintaining a research program. My current projects aim at making this possible.

With Alan Tucker, I am working to design a project intended to inspect critical issues and topics in the mathematics curriculum from a high-level mathematical viewpoint. This project would involve mathematicians and mathematics educators working together to improve understanding of how these topics do and should play out in a productive curriculum. The results of this project would be a series of essays distilling our best current knowledge of these topics.

It took me several years of working on mathematics education before I began to feel I had a perspective which to some extent integrated educational and mathematical concerns in a sensible way. If all mathematicians who are to work in education require a comparable initiation period, the barriers to entry into educational work will always remain too high. I have been discussing how to construct a workshop which would enable interested mathematicians to learn, in a few weeks, much of which it took me and others of my generation of mathematicians-in-education years to absorb.

Finally, one of the most important publications in mathematics education in the last ten years was the book *Knowing and Teaching Elementary Mathematics*, by Liping Ma. I wrote a review of this book for the *Notices* in 1999, and I have continued to think about it since. This book presents responses of Chinese teachers of elementary mathematics to several questions about teaching important mathematics topics. I have become convinced that the level of understanding of teaching and curriculum revealed by their answers is something that is very much needed, but very rare, in the United States. I am currently working with the Mathematics for America foundation and Stony Brook University to initiate a project to develop and disseminate this kind of understanding. The thrust of the project would be to produce and work with teams of mathematics specialist teachers who know mathematics very well, and who teach all grades one to six. I feel that there should be many projects of this sort, and each such project would need a dedicated research mathematician at its core.

2005 Morgan Prize

The 2005 AMS-MAA-SIAM Frank and Brennie Morgan Prize for Outstanding Research in Mathematics by an Undergraduate Student was awarded at the Joint Mathematics Meetings in San Antonio in January 2006.

The Morgan Prize is awarded annually for outstanding research in mathematics by an undergraduate student (or students having submitted joint work). Students in Canada, Mexico, or the United States or its possessions are eligible for consideration for the prize. Established in 1995, the prize was endowed by Mrs. Frank Morgan of Allentown, Pennsylvania, and carries the name of her late husband. The prize is given jointly by the AMS, the Mathematical Association of America (MAA), and the Society for Industrial and Applied Mathematics (SIAM) and carries a cash award of US$1,000.

Recipients of the Morgan Prize are chosen by a joint AMS-MAA-SIAM selection committee. For the 2005 prize, the members of the selection committee were: Kelly J. Black, James H. Curry, Herbert A. Medina, Philippe M. Tondeur (chair), Judy L. Walker, and Paul Zorn.

Previous recipients of the Morgan Prize are: Kannan Soundararajan (1995), Manjul Bhargava (1996), Jade Vinson (1997), Daniel Biss (1998), Sean McLaughlin (1999), Jacob Lurie (2000), Ciprian Manolescu (2001), Joshua Greene (2002), Melanie Wood (2003), and Reid Barton (2004).

The 2005 Morgan Prize was awarded to JACOB FOX. The text that follows presents the selection committee's citation, a brief biographical sketch, and the awardee's response upon receiving the prize.

Jacob Fox

Citation

The winner of the 2005 Morgan Prize for Outstanding Research in Mathematics by an Undergraduate is Jacob Fox. Jacob Fox is now in his fourth year of undergraduate studies at MIT [Massachusetts Institute of Technology]. The award is based on a most astounding collection of research papers by any undergraduate mathematician. Jacob Fox's research is in three areas: Ramsey-type problems, rainbow patterns in colorings of the integers or Z/mZ, and other problems in graph theory (namely on discrepancy, clique number, embedding, and diameter). Jacob Fox is an excellent problem solver, passionately interested in these subjects, driven by his love of mathematics, his talents, and his originality. He communicates easily and frequently collaborates with a variety of distinguished researchers. He also frequently publishes alone. Jacob Fox's research exhibits a formidable ability to get to the heart of the issues in the problems at hand, and the ability to develop extremely ingenious and novel techniques. In addition to being able to solve problems posed by others, Fox has also excelled at finding topics all by himself, formulating novel conjectures and approaches to solutions. His accomplishments are shaping his areas of research and are of extraordinary promise for the future.

Biographical Sketch

Jacob Fox (previously Jacob Licht) is a senior majoring in theoretical mathematics at the Massachusetts Institute of Technology. He first studied advanced mathematics as an "epsilon" at the Ross Program at Ohio State University. His love for mathematics was further developed through the Research Science Institute, which laid the foundation for work that earned him his first publication, second place in the Intel Science Talent Search, and fourth place in the Siemens Westinghouse Competition. In college Jacob's interest in combinatorics research was strengthened through undergraduate research supervised by Daniel J. Kleitman, Lucent summer internships at Bell Labs, and, most recently, Joe Gallian's summer Research Experiences for Undergraduates program at the University of Minnesota, Duluth. In a paper in the *Journal of Combinatorial Theory Series A*, Fox and Kleitman proved the first nontrivial case of Richard Rado's 1933 Boundedness Conjecture. Extending earlier work of Erdős, Kakutani, Komjáth, and Rado, Jacob proved an infinite color analogue of Rado's theorem on partition regularity of systems of linear equations. At the Duluth program, he proved a bipartite analogue of Dilworth's theorem on partially ordered sets, which will appear in the journal *Order*. His research interests are in Hungarian-style combinatorics, particularly Ramsey theory, extremal graph theory, combinatorial number theory, and probabilistic methods in combinatorics.

Response

I am honored to be the recipient of this prize. I would like to thank Mrs. Frank Morgan for endowing the prize and the AMS, MAA, and SIAM for sponsoring it. Daniel J. Kleitman and Radoš Radoičić deserve special thanks for the many years they have mentored my research. I would also like to thank Yuliy Baryshnikov, Joe Gallian, Mohammad Mahdian, Janos Pach, Igor Pak, and numerous others for helping my development as a research mathematician. I thank my family for their love and support.

2006 Award for an Exemplary Program or Achievement in a Mathematics Department

The 2006 Award for an Exemplary Program or Achievement in a Mathematics Department was presented at the 112th Annual Meeting of the AMS in San Antonio in January 2006.

This award, established by the AMS Council in 2004, was given for the first time in 2006. The purpose is to recognize a department that has distinguished itself by undertaking an unusual or particularly effective program of value to the mathematics community, internally or in relation to the rest of society. Departments of mathematical sciences in North America that offer at least a bachelor's degree in mathematical sciences are eligible. The award carries a cash prize of US$1,200 and is to be given annually.

The award is presented by the AMS Council acting on the recommendation of a selection committee. For the 2006 award, the members of the selection committee were: Sheldon Axler (chair), Joel V. Brawley, James H. Curry, Karl Knight, and Donal B. O'Shea.

The recipient of the 2006 Award for an Exemplary Program or Achievement in a Mathematics Department is the MATHEMATICS DEPARTMENT AT HARVEY MUDD COLLEGE.

Citation

The first Award for an Exemplary Program or Achievement in a Mathematics Department is presented to Harvey Mudd College in Claremont, California. The Mathematics Department at Harvey Mudd College excels in numerous dimensions. Its exciting programs have led to a doubling of the number of math majors over the last decade. Currently more than one out of every six graduating seniors at Harvey Mudd College majors in mathematics or in new joint majors of mathematics with computer science or mathematical biology. Furthermore, about 60 percent of these math majors continue their education at the graduate level.

The Harvey Mudd College Mathematics Clinic has served as a trailblazer and a model for other programs for more than thirty years. This innovative program connects teams of math majors with real-world problems, giving students a terrific research experience as well as a glimpse at possible future careers. Undergraduate research is a theme throughout the mathematics program at Harvey Mudd College, as exemplified by the over twenty papers published in the last three years by Harvey Mudd College mathematics faculty with student co-authors.

The Harvey Mudd College Mathematics Department promotes the pleasures of mathematics to nonmajors so well that many nonmajors participate in the weekly Putnam Seminar on problem solving, leading to an unusually large number of Harvey Mudd students taking the Putnam Exam each year. The Putnam Seminar's work has produced consistently outstanding performances in the Putnam Exam, with Harvey Mudd ranking in the top ten nationwide in 2001, 2002, and 2003 (and just missing in 2004 with an eleventh-place finish). Amazingly, Harvey Mudd mathematics students have won nineteen NSF [National Science Foundation] fellowships over the last six years.

The Harvey Mudd College Mathematics Department also devotes serious effort toward outreach to low-income and underrepresented minority communities. This work includes programs aimed at stimulating interest in mathematics and science in a local high school in a low-income area. The department also runs a workshop in Jamaica for Jamaican high school mathematics teachers, focusing on creative methods for teaching mathematics.

The mathematics community is fortunate to have Harvey Mudd College present such an outstanding example of an exemplary program in a mathematics department.