MAA Prizes Presented in San Diego

At the Joint Mathematics Meetings in San Diego in January 2008, the Mathematical Association of America (MAA) presented several prizes.

Gung and Hu Award for Distinguished Service

The Yueh-Gin Gung and Dr. Charles Y. Hu Award for Distinguished Service to Mathematics is the most prestigious award made by the MAA. It honors distinguished contributions to mathematics and mathematical education, in one particular aspect or many, and in a short period or over a career.

Lida K. Barrett received the 2008 Gung and Hu Award. The prize citation says: "Lida K. Barrett's solid mathematical background and her ability to get at the heart of problems and to find bold solutions led her into positions in mathematical policy: as a senior administrator at several universities, as president of the Mathematical Association of America, as senior staff associate at the National Science Foundation [NSF], and as professor of mathematics at the U.S. Military Academy at West Point. To this day, she continues to serve on many committees and boards and to contribute to mathematics, to mathematics education, and to increasing the participation of members of underrepresented groups in mathematics." Her concern for education and students likely has its roots in her background: For example, in graduate school at the University of Texas, she and Mary Ellen Rudin were the only female students. Barrett finished her master's degree there in 1949 and her Ph.D. in 1954, at the University of Pennsylvania. Her husband was also a mathematician, and she suffered under the anti-nepotism rules that were common at that time. Her husband's death at an early age left Barrett to raise three children on her own. Despite these hardships, she built an outstanding career as a faculty member and an administrator and had a considerable impact on the U.S. mathematical community.

Lida Barrett wrote the following response, which appeared in the prize booklet: "I am honored to have received this prize. The Mathematical Association of America has been an important part of my life. The many activities offered have contributed significantly to my career: the hour addresses that kept me aware of the vast scope of mathematics, the panel discussions and other presentations on current professional topics, and the opportunities to meet and discuss mathematics and educational activities with my fellow mathematicians. Working on committees and projects within MAA and within the broader mathematical community has enriched my professional life. Friendships with the many fine folks in MAA have provided a special plus. I am especially grateful to Professor Harlan Miller, who pushed me to work on a Ph.D. at Texas, and to my late husband, John Barrett, who, after he completed his degree, insisted I finish mine and kept house for us while I did."

Haimo Awards for Teaching

The Deborah and Franklin Tepper Haimo Awards for Distinguished College or University Teaching were established in 1991. These awards honor college or university teachers who have been widely recognized as extraordinarily successful and whose teaching effectiveness has been shown to have had influence beyond their own institutions.

The 2008 Haimo Awards were presented to Annalisa Crannell, Kenneth I. Gross, and James Morrow.

"Annalisa Crannell is well known for her boundless energy and enthusiasm for all things mathematical," the prize citation states. As a new faculty member at Franklin & Marshall College, she immediately began to incorporate essay-writing into her mathematics classes. Her experience in this

teaching technique led to many invitations to speak on "writing across the curriculum" programs, as well as to the co-authoring of the book *Writing Projects for Mathematics Courses: Crushed Clowns, Cars and Coffee to Go*, published in 2004 by the MAA. Crannell has also actively pursued the connections between mathematics and art, producing a book, together with colleague Marc Frantz, *Viewpoints: Mathematical Perspective and Fractal Geometry in Art*, which will be published by Princeton University Press. The prize citation concludes, "[Crannell] continues to search for innovative ways to excite those around her about mathematics."

"Kenneth I. Gross has had a dramatic impact on mathematics, education, and the lives of his students," the prize citation states. "[His] teaching and mentoring have been inspirational for all levels of students, from high school students to entry-level college students, undergraduate mathematics majors, and graduate students who are now accomplished mathematicians and scientists, elementary and middle school teachers, and adult learners who desire to further their education." In 1993 Gross and a high school teacher co-founded a week-long residential summer enrichment program for talented Vermont high school students, aimed especially at girls and rural Vermonters. Then, in 1999, Gross founded the Vermont Mathematics Initiative (VMI), a statewide master's degree-granting program that trains elementary and middle school teachers to serve as mathematics leaders in their schools and districts. To date, over two hundred teachers from nearly 90 percent of the school districts in Vermont have participated in the program.

James Morrow "has had a fundamental impact at the University of Washington and throughout the Pacific Northwest," the prize citation says. Since 1988 he has directed a Research Experiences for Undergraduates site focusing on questions related to inverse problems in tomography. Eight of its participants have received NSF graduate fellowships, and many have gone on to substantial success in this area and other fields of mathematics. For the past six years he has also been preparing students for the Mathematical Contest in Modeling, in which his students "have an enviable record of success." Since 1994 Morrow has organized a Mathday at the University of Washington, bringing 1,200 high schoolers to the campus to showcase for them the relevance of mathematics to a variety of disciplines. He is also codirector of the Summer Institute for Mathematics at the University of Washington, which brings twenty-four high schoolers from the U.S. and Canada to campus for six weeks in the summer.

Chauvenet Prize

The Chauvenet Prize recognizes a member of the MAA who has written an outstanding expository article. First awarded in 1925, the prize is named for William Chauvenet, who was a professor of mathematics at the United States Naval Academy.

Andrew Granville received the 2008 Chauvenet Prize for his article "It is easy to determine whether a given integer is prime", *Bulletin of the AMS* (N.S.) **42** (2005), 3–38. "This article is fascinating, readable, and understandable, with lots of proofs," the prize citation says. It presents the statement and proof of the surprising 2002 result by Agrawal, an Indian computer scientist, and his two undergraduates, Kayal and Saxena, giving a "polynomial-time deterministic" test for deciding if integers are primes. "The paper is full of significant information, including discussions of Carmichael numbers, random polynomial time algorithms, probabilistic (almost) proofs, and much more," says the citation.

Beckenbach Book Prize

The Beckenbach Book Prize, presented since 1982, is awarded to an author of a distinguished, innovative book published by the MAA.

William Dunham received the 2008 Beckenbach Prize for his book *Euler: The Master of Us All*, MAA, Dolciani Mathematical Expositions, Vol. 22, 1999. Dunham's exposition "is itself innovative and brilliant in its organization and scope, its clarity and verve, and its accessibility and appeal," says the prize citation. After providing a biographical sketch, Dunham devotes one chapter each to important contributions by Euler to eight areas of mathematics. "Dunham is well known for writing mathematical page-turners, and this book is no exception: the seamless presentation of mathematics and its history is so entertaining, accessible, clear, and lively that it is difficult to put the book down until one has read it from cover to cover," the citation says. "Besides his inimitable writing style, the author is to be commended for his inspired yet careful selection and organization of historical and mathematical material and for his presentation of Euler's mathematical work in such a clear and accessible yet faithful manner."

Euler Book Prize

The Euler Book Prize is given to the author(s) of an outstanding book about mathematics. The prize was given for the first time in 2007, to commemorate the 300th anniversary of the birth of Leonhard Euler.

Benjamin H. Yandell was posthumously awarded the Euler Prize for his book *The Honors Class. Hilbert's Problems and Their Solvers*, A K Peters, Natick, MA, 2002. This book provides portraits of the people who solved problems on

David Hilbert's famous list of 23 problems, which he presented in 1900. "Even when discussing well-known mathematicians such as Hilbert, Gödel, and Kolmogorov, Yandell manages to say something fresh and to correct some oft-repeated errors," the citation says. "The book is a monumental labor of love, yet breathtakingly readable and inspiring. It is written at a level that bright mathematics students can understand, but it will also widen the horizons of professional mathematicians, since almost no one is as familiar with as many fields as Hilbert was. The *Honors Class* should be in every mathematician's library."

David P. Robbins Prize

In 2005 the family of David P. Robbins gave the MAA funds sufficient to support a prize honoring the author or authors of a paper reporting on novel research in algebra, combinatorics, or discrete mathematics. The Robbins Prize is awarded every third year.

The 2008 Robbins Prize was awarded to Neil J. A. Sloane of AT&T Shannon Labs for his paper "The on-line encyclopedia of integer sequences", *Notices of the AMS*, **50** (2003), 912–915. "Although not quite a research paper in the usual sense, the paper describes an extraordinary research tool that has had an impact on mathematics far beyond that of almost any paper, especially in the areas that David Robbins cared so much about," the prize citation says. Sloane's Online Encyclopedia of Integer Sequences (OEIS) enables mathematicians to identify sequences from just a few terms, "giving them access to a wealth of information that might immediately point their research in useful directions.... The importance and pervasiveness of this tool is evident from the number and diversity of papers that cite the OEIS." The OEIS database has more than 120,000 entries, an active editorial board with twenty-five members, and a Wikipedia entry.

Certificates of Meritorious Service

Each year the MAA presents Certificates of Meritorious Service for service at the national level or for service to a section of the MAA. Those honored in 2008 are: Illinois Section: Herbert Kasube, Bradley University; Kentucky Section: Donald E. Bennett, Murray State University; Missouri Section: Victor Gummersheimer, Southeast Missouri State University; Northern California, Nebraska, and Hawaii Section: Leonard F. Klosinski, Santa Clara University; Seaway Section: H. Joseph Straight, State University of New York, Fredonia; Wisconsin Section: Andrew Matchett, University of Wisconsin-LaCrosse.

—From MAA announcements