Sato and Tate Receive 2002-2003 Wolf Prize

The 2002–2003 Wolf Prize in Mathematics has been awarded to MIKIO SATO, of the Research Institute for Mathematical Sciences, Kyoto University, Kyoto, Japan; and to JOHN T. TATE, Department of Mathematics, University of Texas, Austin. Sato was honored "for his creation of 'algebraic analysis', including hyperfunction and microfunction theory, holonomic quantum field theory, and a unified theory of soliton equations." Tate was honored "for his creation of fundamental concepts in algebraic number theory." The two share the $100,000 prize.

Mikio Sato

John T. Tate

Mikio Sato

Mikio Sato's vision of "algebraic analysis" and mathematical physics initiated several fundamental branches of mathematics. He created the theory of hyperfunctions and invented microlocal analysis, which allowed for a description of the structure of singularities of (hyper)functions on cotangent bundles. Hyperfunctions, together with integral Fourier operators, have become a major tool in linear partial differential equations. Along with his students, Sato developed holonomic quantum field theory, providing a far-reaching extension of the mathematical formalism underlying the two-dimensional Ising model, and introduced along the way the famous tau functions. Sato provided a unified geometric description of soliton equations in the context of tau functions and infinite-dimensional Grassmann manifolds. This was extended by his followers to other classes of equations, including self-dual Yang-Mills and Einstein equations. Sato has generously shared his ideas with young mathematicians and has created a flourishing school of algebraic analysis in Japan.

Mikio Sato was born in 1928 in Tokyo. He received his B.Sc. (1952) and his Ph.D. (1963) from the University of Tokyo. He was a professor at Osaka University and at the University of Tokyo before moving to the Research Institute for Mathematical Sciences at Kyoto University in 1970. He served as director of that institute from 1987 to 1991. He is now a professor emeritus at Kyoto University. He received the Asahi Prize of Science (1969), the Japan Academy Prize (1976), the Person of Cultural Merits award of the Japanese Education Ministry (1984), the Fujiwara Prize (1987), and the Schock Prize of the Royal Swedish Academy of Sciences (1997). In 1993 he was elected to foreign membership in the U.S. National Academy of Sciences.

John T. Tate

For over a quarter of a century, John Tate's ideas have dominated the development of arithmetic algebraic geometry. Tate has introduced path-breaking techniques and concepts that initiated many theories that are very much alive today. These include Fourier analysis on local fields and adele rings, Galois cohomology, the theory of rigid analytic varieties, and p-divisible groups and p-adic Hodge decompositions, to name but a few. Tate has been an inspiration to all those working in number theory. Numerous notions bear his name: Tate cohomology of a finite group, Tate module of an abelian variety, Tate-Shafarevich group, Lubin-Tate groups, Neron-Tate heights, Tate motives, the Sato-Tate conjecture, Tate twist, Tate elliptic curve, and others. John Tate is a revered name in algebraic number theory.

John Tate was born in 1925 in Minneapolis. He received his A.B. from Harvard College (1946) and his Ph.D. from Princeton University (1950). He was a research assistant and instructor at Princeton (1950–53) and a visiting professor at Columbia University (1953–54) before moving to Harvard University. He was a professor at Harvard until 1990, when he accepted his present position as professor and Sid W. Richardson Chair in Mathematics at the University of Texas at Austin. Tate received the AMS Cole Prize (1956), a Sloan Fellowship (1959–61), and a Guggenheim Fellowship (1965–66). He was elected to the U.S. National Academy of Sciences (1969) and was named a foreign member of the French Academy of Sciences (1992) and an honorary member of the London Mathematical Society (1999).

About the Wolf Prize

The Israel-based Wolf Foundation was established by the late German-born inventor, diplomat, and philanthropist Ricardo Wolf. A resident of Cuba for many years, Wolf became Fidel Castro's ambassador to Israel, where Wolf lived until his death in 1981. The Wolf Prizes have been awarded since 1978 to outstanding scientists and artists "for achievements in the interest of mankind and friendly relations among peoples, irrespective of nationality, race, color, religion, sex, or political view." The prizes of $100,000 are given each year in four out of five scientific fields, in rotation: agriculture, chemistry, mathematics, medicine, and physics. In the arts the prize rotates among architecture, music, painting, and sculpture. The 2002–2003 prizes will be conferred by the president of Israel at a ceremony at the Knesset (the Israeli parliament) in Jerusalem on May 11, 2003.

—Allyn Jackson

2003 JPBM Communications Award

Robert Osserman

The 2003 Communications Award of the Joint Policy Board for Mathematics (JPBM) was presented at the 108th Annual Meeting of the AMS in Baltimore in January 2003.

The JPBM Communications Award is presented annually to reward and encourage journalists and other communicators who, on a sustained basis, bring accurate mathematical information to non-mathematical audiences. The award carries a cash prize of $1,000.

Previous recipients of the JPBM Communications Award are: James Gleick (1988), Hugh Whitemore (1990), Ivars Peterson (1991), Joel Schneider (1993), Martin Gardner (1994), Gina Kolata (1996), Philip J. Davis (1997), Constance Reid (1998), Ian Stewart (1999), John Lynch and Simon Singh (special award, 1999), Sylvia Nasar (2000), Keith J. Devlin (2001), and Claire and Helaman Ferguson (2002).

The 2003 JPBM Communications Award was presented to ROBERT OSSERMAN. 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 2003 JPBM Communications Award is given to Robert Osserman, professor emeritus at Stanford University and Special Projects Director at the Mathematical Sciences Research Institute in Berkeley.

For many years, Bob Osserman has been an erudite spokesman for mathematics, communicating its charm and excitement to thousands of people from all walks of life.

His slim volume *Poetry of the Universe* has been described as "artful and beguiling", introducing readers to the inherent beauty and power of mathematical thinking. It has appeared in more than ten languages. But he has communicated with the public in a more unconventional style as well, through his open conversations and dialogues with playwrights and writers from Tom Stoppard to Steve Martin. These informal and relaxed interviews give mathematical and lay audiences alike an understanding of mathematics through its connections to media and literature. The interviews make mathematics part of our modern culture.

Bob Osserman believes in making mathematics accessible to the general public. He has done more than explain mathematics, however. He has made "mathematics appreciation" more than the title of a course—Bob Osserman has changed people's attitudes towards the subject.

Biographical Sketch

Robert Osserman was born and raised in New York City. He attended the Bronx High School of Science and New York University before being drafted into the army. He received his M.A. and Ph.D. from Harvard, with breaks to study in Zurich and Paris.

His research work has had a geometric slant, starting with geometric function theory and Rie-

mann surfaces, then to differential geometry, the complex variable and PDE approaches to minimal surfaces, isoperimetric inequalities, and a brief foray into ergodic theory. He has had a broad array of coauthors in this work, including former students Blaine Lawson, Robert Gulliver, and David Hoffman, as well as Henry Landau, S.-S. Chern, Halsey Royden, Max Schiffer, Robert Finn, Richard Schoen, Peter Sarnak, and Min Ru.

Osserman taught at Stanford University from 1955 to 1994, with years off as a visitor to Harvard University, a Fulbright Lecturer at Paris, a Guggenheim Fellow at the University of Warwick, the head of the Mathematics Branch of the Office of Naval Research, and a visiting member of the Courant Institute of Mathematical Sciences, New York University. At Stanford he received the Dean's Award for Teaching and the Mellon Professorship for Interdisciplinary Studies. He also received the Lester R. Ford Award from the Mathematical Association of America for excellence in expository writing. Since 1990 he has been associated with the Mathematical Sciences Research Institute (MSRI), first as deputy director and then as special projects director.

Response

My main concerns throughout most of my career were teaching and research, and along with the usual related duties of academic life, these pretty well filled up the available time. However, the urge to expose a broader public to some of the most beautiful and interesting parts of mathematics was clearly always there. Already as a graduate student I succeeded in attracting an audience of some 300 to a talk on Gödel's undecidability theorem by pairing it with a performance by fellow student Tom Lehrer.

Over the years I made occasional forays in a similar direction, talking to high school students, alumni groups, and others. A course on mathematics, science, and technology designed for a nontechnical (and even technophobic) audience led to my writing a book on geometry and cosmology in which I tried to offer something of interest to everyone, from those with no mathematical background all the way to the professional mathematician. One of my main goals was to make the presentation not only accessible but also accurate, since I had found so much misinformation in many "popular" presentations of science and mathematics.

After retiring from teaching in 1994 and trading in my position as deputy director of MSRI for that of special projects director in 1995, I finally had the freedom to think more deeply about how to reach those parts of the general public who would normally stay far away from anything billed as "mathematics".

The time and place could not have been more propitious. Bill Thurston, who was MSRI director at the time, and David Eisenbud, who took over in 1997, were both fully supportive of this goal, as have been the relevant MSRI governing bodies. I owe them all great thanks, as I do the many staff members at MSRI during these years, who brought enormous talent and energy to our public events.

I further owe a debt to the mysterious zeitgeist that just at this time was turning the interest of the general public toward mathematics through a series of books, plays, and movies. They provided the perfect vehicle to attract an audience whose main interest may have been in theater, film, or literature.

Most of all I am grateful to those authors who wrote the books, plays, and screenplays, then agreed to participate in our public events and engage in a broad-ranging dialogue, including the mathematical angles about which they often felt not very sure: Tom Stoppard (*Arcadia*), David Auburn (*Proof*), Michael Frayn (*Copenhagen*), Sylvia Nasar (*A Beautiful Mind*), and Steve Martin (*The Pleasure of My Company*) in particular.

MAA Awards Presented in Baltimore

The Mathematical Association of America (MAA) presented several awards at the Joint Mathematics Meetings in Baltimore in January 2003.

Chauvenet Prize

The Chauvenet Prize, first awarded to Gilbert Bliss in 1925, is presented for an outstanding expository article on a mathematical topic by a member of the MAA. The prize is named in honor of William Chauvenet (1820–70), who was a professor of mathematics at the U.S. Naval Academy.

The 2003 Chauvenet Prize was awarded to THOMAS C. HALES of the University of Pittsburgh for his article "Cannonballs and Honeycombs", *Notices Amer. Math. Soc.* **47** (2000), 440–9.

The prize citation states: "The classical sphere packing conjecture, also known as the Kepler Conjecture, asserts that the natural cannonball arrangement gives the maximum density packing of the Euclidean 3-dimensional space with congruent solid balls. The problem evaded solution for almost 400 years, until Thomas C. Hales, the author of this article, gave a difficult, computer-aided, yet ingenious proof. Another old problem tackled by Hales and described in the article, the Honeycomb Conjecture, is of equally appealing geometric character: Any partition of the plane into regions of equal area has perimeter at least that of the regular hexagonal honeycomb tiling.

"'Cannonballs and Honeycombs' is an extremely worthy recipient of the Chauvenet Prize. It has humor, history, talks about real people, presents significant mathematics, and has handholds throughout the article so you can keep finding good things even if you choose not to follow all the details as you go. The writing is delightful. It connects us to famous scientists of the past and to nature, it talks about the resolution of a centuries-old conjecture, it points out philosophical issues about mathematics and rigor, and it describes intriguing, understandable open questions that have an interesting history, thereby situating us in the flow of history and the challenges of the future."

Haimo Award

The Deborah and Franklin Tepper Haimo Award for Distinguished College or University Teaching of Mathematics, established in 1991, honors college or university teachers who have been widely recognized as extraordinarily successful and whose teaching effectiveness has had influence beyond their own institutions.

The 2003 Haimo Award was presented to JUDITH V. GRABINER of Pitzer College, RANJAN ROY of Beloit College, and PAUL ZEITZ of the University of San Francisco.

Grabiner was honored "[f]or her extraordinary scholarship in the history of mathematics, her remarkable teaching, and her compelling exposition to every audience." The award citation states: "Professor Grabiner enjoys an international reputation as a scholar of the history of mathematics. Her teaching career spans 35 years, with most of that at California State University, Dominguez Hills and (since 1985) Pitzer College. She is universally praised for the depth and range of her knowledge of mathematical history and is famous for giving talks that are knowledgeable, witty, charming, and

beautifully organized and that hold the interest of both the trained mathematician and the 'I hate math' undergraduate. She is a sought-after speaker." She has won three Allendoerfer Awards and two Ford Awards for outstanding writing.

The citation for Roy reads in part: "Professor Roy teaches mathematics as a body of ideas of great depth and beauty, and as a way of thinking which can improve the lives of all who study it. He has read systematically the original works of Newton, Euler, Gauss, Jacobi, and Ramanujan, and uses his deep familiarity with their creative methods to show students that mathematics can be lived. He has an uncanny ability to find ways to connect mathematics to individual students' lives. He teaches, using mathematics as his example, that the key to successful thinking in any discipline is to master a few important ideas deeply and reason from those ideas to solve new problems. 'Ranjan is the kind of teacher who changes your life,' say many students. Professor Roy was Beloit College's Teacher of the Year in 1986 and again in 2000. Professor Roy is also a creative mathematician and a nationally-known expositor of mathematics."

The citation for Zeitz reads in part: "Paul Zeitz's passion for problem solving permeates his teaching. 'Charismatic' is the best descriptor of his teaching style. A teacher at the University of San Francisco since completing his Ph.D. at U.C. Berkeley in 1992, he has been teaching and participating in mathematical contests since he was captain of the Math Team at Stuyvesant High School. In 1974 he took first place in the USAMO (USA Mathematical Olympiad) and was a member of the first U.S. team to compete in the IMO (International Mathematical Olympiad). Although he did not major in mathematics at Harvard, Zeitz taught high school mathematics for six years after graduation. This experience, as well as his talent and enthusiasm for mathematical competitions, led him to be recruited to write problems for the Committee on the American Mathematics Competitions."

Gung and Hu Award

The Yueh-Gin Gung and Dr. Charles Y. Hu Award for Distinguished Service to Mathematics is the most prestigious award made by the MAA. The 2003 award was presented to CLARENCE STEPHENS of the State University of New York, Potsdam.

Stephens, born in 1917, received his Ph.D. from the University of Michigan in 1943, becoming the ninth African American to receive a Ph.D. in mathematics in the U.S. From 1969 until his retirement in 1987, he was chair of the Department of Mathematics at the State University of New York at Potsdam. Stephens is honored "for his role in achieving the 'Potsdam Miracle' in the production of undergraduate mathematics majors at SUNY Potsdam in the 1980's, which led to a model for creating a welcoming atmosphere for undergraduate mathematics majors at many other institutions." He had already received accolades for a long and distinguished career in undergraduate mathematics education by the time he came to SUNY Potsdam in 1969.

The citation states: "Though SUNY Potsdam is a relatively small regional state college with a total enrollment of just over 4,000 students during Stephens' time there, in 1985 the college "graduated" 184 mathematics majors, the third largest number of any institution in the U.S. that year (exceeded only by two University of California campuses). This represented about a quarter of the degrees given by SUNY Potsdam that year, and over 40 percent of the institution's honor students were mathematics majors. The 'Potsdam Miracle' was not in any sense accomplished by lowering standards, but rather by raising the standards for teaching the students and providing a supportive environment for them....For his pioneering accomplishments in undergraduate mathematics education, and the provision of a national model for institutions that wish to replicate the 'Potsdam Miracle', the MAA Gung-Hu Award Committee is pleased to recommend Clarence Stephens for this award."

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 2003 are: KARIN CHESS of Owensboro Community College, Kentucky Section; LESTER H. LANGE of San Jose State University, Northern California Section; LUISE-CHARLOTTE KAPPE of the State University of New York at Binghampton, Seaway Section; LARRY J. MORLEY of Western Illinois University, Illinois Section; ALVIN R. TINSLEY of Central Missouri State University, Missouri Section; and FREDRIC TUFTE of the University of Wisconsin-Platteville, Wisconsin Section.

AWM Awards Presented in Baltimore

The Association for Women in Mathematics (AWM) presented two awards during the Joint Mathematics Meetings in Baltimore in January 2003.

Louise Hay Award

The Louise Hay Award for Contributions to Mathematics Education was established in 1990 to honor the memory of Louise Hay, who was widely recognized for her contributions to mathematical logic and for her devotion to students.

The 2003 Hay Award was presented to KATHERINE PUCKETT LAYTON of Beverly Hills High School "[i]n recognition of her significant contributions to mathematics education, her outstanding achievements as a teacher and scholar, and her role in bridging mathematics education communities."

Layton began her teaching career in 1960 after receiving a bachelor's degree in mathematics from the University of California, Los Angeles (UCLA). She taught mathematics for forty years at Beverly Hills High School. She spent one year studying for an M.Ed. in mathematics at Harvard University and was a visiting lecturer at Clemson University and in the UCLA mathematics department. In 1990 she received the California Presidential Award for Teaching Excellence. After her retirement in 1999 she spent two years in the Graduate School of Education at UCLA, where she was a field supervisor for a teaching intern program for mathematics majors. She has served on the Mathematical Sciences Education Board of the National Research Council, the National Board for Professional Teaching Standards, and the College Entrance Examination Board.

Schafer Prize

The Alice T. Schafer Prize for Excellence in Mathematics by an Undergraduate Woman was established in 1990. The prize is named in honor of Alice T. Schafer, one of the founders of AWM and one of its past presidents.

The 2003 Schafer Prize was awarded to KATE GRUHER of the University of Chicago. Two runners-up were also honored: WEI HO of Harvard University and JOSEPHINE T. YU of the University of California, Davis.

Gruher, a senior at the University of Chicago, excelled in the honors calculus, honors algebra, and honors analysis sequences. During the summer after her sophomore year, she participated in the ergodic theory group of the Research Experiences for Undergraduates program at Williams College. A paper she coauthored on power weak mixing will appear in the *New York Journal of Mathematics*. In the summer of 2002 she participated in the highly exclusive Director's Summer Program at the National Security Agency (NSA). In addition to her classes and research, Kate has graded and run problem sessions for calculus, assisted with new student orientation, and worked as a counselor with the University of Chicago's middle school Young Scholars Program.

Mathematics People

National Academy of Sciences Awards Announced

Two mathematicians have been honored with National Academy of Sciences (NAS) Awards for 2003. DAVID A. FREEDMAN, of the University of California, Berkeley, received the John J. Carty Award for the Advancement of Science, given this year for achievement in statistics. Freedman was selected for "his profound contributions to the theory and practice of statistics, including rigorous foundations for Bayesian influence and trenchant analysis of census adjustment." The award, which carries a cash prize of $25,000, is given annually for distinguished accomplishment in various fields of science. DAVID R. KARGER, of the Massachusetts Institute of Technology, received the NAS Award for Initiatives in Research, given annually in a field supporting information technology; this year the prize was awarded in algorithms and computation. Karger was selected "for the elegant use of randomness to design improved algorithms for classically studied problems such as network flow, graph coloring, finding minimum trees, and finding minimum cuts." The prize carries a cash award of $15,000.

—From an NAS announcement

Chern Receives 2002 Lobachevskii Medal

On December 1, 2002, Kazan State University awarded the Lobachevskii Medal for Distinguished Works in Geometry to SHIING-SHEN CHERN, honorary director of the Nankai Institute of Mathematics, Tianjin, China.

The Lobachevskii Medal, established in 1991 by the government of the Soviet Union, is awarded every five years on December 1, the birthday of N. I. Lobachevskii. The statutes of the Lobachevskii Medal also permit awarding of honorary diplomas from Kazan State University to some of the nominees for the medal.

The first Lobachevskii Medal was awarded in 1992 to Aleksandr P. Norden (1904–1993), Kazan State University, for development of the normalization method (called Norden's method of normalization) in the theory of surfaces in projective spaces, for applications of this method to the theory of non-Euclidean spaces, and for the development and popularization of Lobachevskii's ideas. Three honorary diplomas were also awarded.

In 1997 ten scientists were nominated for the Lobachevskii Medal. On the advice of an international jury, the Council of the Kazan State University awarded two Lobachevskii Medals. The medalists were Mikhael Gromov, Institut des Hautes Études Scientifiques, Paris; and Boris P. Komrakov, International Sophus Lie Center, Minsk. Gromov was honored for a series of papers (1967–1996) in geometry and topology which were devoted to the theory of hyperbolic groups and to the development of the theory of embeddings for various classes of spaces. Komrakov was honored for contributions to the theory of Lie groups and homogeneous spaces presented in the monographs *Structures on Manifolds and Homogeneous Spaces* and *Primitive Actions and the Sophus Lie Problem*. Three nominees received honorary diplomas.

For the competition for the 2002 Lobachevskii Medal, four scientists were nominated. On the advice of an international jury, the Council of Kazan State University awarded the Lobachevskii Medal to Shiing-Shen Chern for his fundamental contributions to differential geometry, integral geometry, web geometry, complex analysis, and characteristic classes. IDZHAD KH. SABITOV, Moscow State University, was awarded an honorary diploma for a series of papers on metric geometry in the large and polyhedra solving.

—Boris Shapukov, Kazan State University

Develin Awarded AIM Five-Year Fellowship

The American Institute of Mathematics (AIM) has awarded its Five-Year Fellowship for 2003 to MIKE DEVELIN, of the University of California, Berkeley. He is currently studying discrete geometry and combinatorics under the supervision of Bernd Sturmfels.

The AIM five-year fellowships are awarded each year to outstanding new Ph.D. students in an area of pure

mathematics. The fellowships cover sixty months of full-time research, as well as funds for travel and equipment. Each fellowship carries a stipend of $4,000 per month, with an additional $4,000 per year allocated for travel and equipment.

—From an AIM announcement

Chudnovsky and Lindenstrauss Awarded CMI Long-Term Prize Fellowships

The Clay Mathematics Institute (CMI) has announced its selection of two long-term prize fellows for 2003. They are MARIA CHUDNOVSKY, of Princeton University, and ELON LINDENSTRAUSS, of Stanford University. Chudnovsky "has made significant contributions to the field of combinatorics and graph theory," including helping to solve the Strong Perfect Graph Conjecture, "one of the best known open problems in combinatorics." She is working on a related problem for her Ph.D. dissertation. Lindenstrauss was chosen "for his novel work in ergodic theory and dynamical systems," most notably "his research on the problem of arithmetic quantum unique ergodicity, which is a problem at the interface between the theory of automorphic forms and mathematical physics."

The prize fellowships are awarded to mathematicians who are thirty years old or younger and who have contributed profound ideas and major achievements to the discipline of mathematics. The long-term prize fellows are employed by CMI for terms ranging from one to five years and are paid a salary to conduct research at institutions of their choice. Additional research funding can be requested.

The Clay Mathematics Institute is a private, nonprofit foundation dedicated to increasing and disseminating mathematical knowledge. It sponsors a series of programs that includes creating new mathematical knowledge, disseminating mathematical insights, inspiring talented students, and recognizing extraordinary mathematical achievement and solutions of specific mathematical problems.

—From a CMI announcement

Klein Awarded Leibniz Prize

RUPERT KLEIN, of the Free University of Berlin and the Potsdam Institute for Climate Impact Research, has been awarded the Gottfried Wilhelm Leibniz Prize for 2003 by the Deutsche Forschungsgemeinschaft (DFG). Klein works in both mathematics and climate research. The DFG prize consists of 1.55 million euros (about US$1.7 million) to support research over a period of five years.

Klein studied theoretical engineering at RWTH Aachen, from which he received a Ph.D. in 1988. He did postdoctoral work at Princeton University and held a University Professorship at Bergische Universität before joining the Free University and the Potsdam Institute. His current research interests are in integrating applied mathematics and computer sciences with climate impact research and in the mathematical modeling of multiscale interactions in natural and social systems. His goal is to further develop both mathematical concepts and concepts relating to the natural and social sciences and thus to solidify interdisciplinary research.

The aim of the Leibniz Prize Program, which was instituted by the DFG in 1985, is to improve the working conditions of outstanding scientists and scholars, to broaden their opportunities for research, to relieve them of administrative burdens, and to allow them to hire especially highly qualified young academics. The prizewinners are permitted the greatest possible freedom in the way they use the prize funds. The DFG is the main scientific research funding agency of the German government.

—From a Potsdam Institute announcement

AWM Essay Contest Winners Announced

The Association for Women in Mathematics (AWM) has announced the winners of its 2002 essay contest, "Biographies of Contemporary Women in Mathematics". The grand prize winner was ALYSSA CHASE, of Townsend Harris High School in Flushing, New York, for her essay "Peggy Tang Strait: A Pioneer in Uncharted Territory". Chase's essay will be published in the AWM newsletter. The first-place winner in the graduate school category was JEFFREY B. FARR, of Clemson University, for an essay on Renu Laskar. ALICIA RICHARDSON, of Morgan State University, won first prize in the college division for an essay on Fern Hunt. The winner in the middle school category was ROSS CATON, of Jack Jouett Middle School, Charlottesville, Virginia, who wrote an essay on Lois Williams. A complete list of the winners, as well as copies of their essays, can be found on the AWM website at `http://www.awm-math.org/biographies/contest/2002.html`.

—From an AWM announcement