Mathematics People

Borodin Receives 2008 CRM-Fields-PIMS Prize

ALLAN BORODIN of the University of Toronto has been awarded the 2008 CRM-Fields-PIMS Prize. The prize, awarded annually by the Centre de Recherches Mathématiques (CRM), the Fields Institute, and the Pacific Institute for the Mathematical Sciences (PIMS), recognizes exceptional contributions by a mathematician working in Canada. The prize carries a cash award of CA$10,000 (approximately US$9,800) and an invitation to give a lecture at each institute.

According to the prize citation, Borodin "is a world leader in the mathematical foundations of computer science. His influence on theoretical computer science has been enormous, and its scope is very broad." He has made fundamental contributions to many areas, including algebraic computations, resource trade-offs, routing in interconnection networks, parallel algorithms, online algorithms, and adversarial queuing theory.

Borodin received his bachelor's degree in mathematics from Rutgers University in 1963, his master's degree in electrical engineering and computer science in 1966 from Stevens Institute of Technology, and his Ph.D. in computer science from Cornell University in 1969. He was a systems programmer at Bell Laboratories from 1963 to 1966 and a research fellow at Cornell from 1966 to 1969. He has been a member of the computer science department at the University of Toronto since 1969 and served as chair of the department from 1980 to 1985. He has edited many journals, including *SIAM Journal of Computing, Algorithmica, Journal of Computer Algebra, Journal of Computational Complexity*, and *Journal of Applicable Algebra in Engineering, Communication, and Computing*. He is a fellow of the Royal Society of Canada.

The CRM and the Fields Institute established the CRM-Fields Prize in 1994 to recognize exceptional research in the mathematical sciences. In 2005, PIMS became an equal partner, and the name was changed to the CRM-Fields-PIMS Prize. Previous recipients of the prize are H.S.M. (Donald) Coxeter, George A. Elliott, James Arthur, Robert V. Moody, Stephen A. Cook, Israel Michael Sigal, William T. Tutte, John B. Friedlander, John McKay, Edwin Perkins, Donald A. Dawson, David Boyd, Nicole Tomczak-Jaegermann, and Joel S. Feldman.

—From a Fields Institute announcement

Devlin Awarded Sagan Prize

KEITH DEVLIN of Stanford University has been awarded the Carl Sagan Prize for Science Popularization. The prize is awarded by the Board of Trustees of Wonderfest to honor researchers in the San Francisco Bay Area who make science accessible. The award carries a cash prize of US$5,000.

Devlin is a senior researcher at and executive director of the Center for the Study of Language and Information (CSLI) at Stanford and a cofounder of the Stanford Media X research network and of the university's H-STAR institute. His current research focuses on applying mathematical logic to studying reasoning, communication, and human behavior. He has been an advisor to the television show *NUMB3RS* and appears on National Public Radio as "the Math Guy". He is a World Economic Forum fellow and a fellow of the American Association for the Advancement of Science.

The Sagan Prize is awarded annually to an individual who has contributed to the public understanding and appreciation of science, who is a legal resident of one of the nine San Francisco Bay Area counties, and who has a history of accomplishment in scientific research, at least half of which was conducted in the Bay Area.

—Elaine Kehoe

Prizes of the Mathematical Society of Japan

The Mathematical Society of Japan (MSJ) awarded a number of prizes in autumn 2007.

TADAHISA FUNAKI of the University of Tokyo was awarded the Autumn Prize for his contributions to stochastic analysis on large-scale interacting systems, in particular on the Ginzburg-Landau $\nabla\phi$ intersurface model and the low-temperature limit of interacting Brownian particles. The Autumn Prize is awarded to an individual who has made outstanding contributions within the preceding five years to mathematics in the highest and broadest sense.

SHIGEYUKI MORITA and KENICHI YOSHIKAWA, both of the University of Tokyo, were awarded the Geometry Prizes. Morita was recognized for his fundamental research work on mapping class groups, in particular his discovery of the Mumford-Morita-Miller characteristic classes, which resolves the structure of the stable cohomology algebra of mapping class groups. Yoshikawa was honored for his research work on the Ray-Singer analytic torsion and its behavior on various moduli spaces, which derives, for instance, a geometric construction of Borcherds modular forms for the moduli space of K3 surfaces.

The Analysis Prizes have been awarded to SHIGEKI AIDA of Osaka University, TOSHIAKI HISHIDA of Niigata University, and TAKESHI HIRAI of Kyoto University in recognition of their outstanding contributions to analysis. Aida was honored for his contributions to stochastic analysis in infinite-dimensional spaces, with special reference to his work on functional inequalities, symmetric diffusion processes, and semiclassical limits. Hishida was recognized for his contributions to the new developments in Fujita-Kato theory for the Navier-Stokes equations and, in particular, for his work on Navier-Stokes flows in aperture domains and around rotating bodies. Hirai was honored for his contributions to the representation theory of infinite symmetric groups, with special reference to his work on irreducible representations of infinite symmetric groups.

—From a Mathematical Society of Japan announcement

Venkatesh Receives Packard Fellowship

AKSHAY VENKATESH, a mathematician at the Courant Institute of Mathematical Sciences of New York University, has received a Fellowship for Science and Engineering from the David and Lucile Packard Foundation for the year 2007. He will conduct research in number theory, in particular developing a suite of techniques to study L-functions from the analytic viewpoint using ideas from various fields of mathematics, including nonabelian harmonic analysis and ergodic theory.

The Packard Fellowships are awarded to researchers in mathematics, natural sciences, computer science, and engineering who are in the first three years of a faculty appointment.

—From a Packard Foundation announcement

Professor of the Year Awards Announced

Two mathematicians have been selected as National Professors of the Year by the Carnegie Foundation for the Advancement of Teaching and the Council for Advancement and Support of Education (CASE), which cosponsor the awards, and another mathematician has received a State Professor of the Year award. The Professor of the Year Awards are intended to reward outstanding professors for their dedication to teaching, their commitment to students, and their innovative instructional methods.

ROSEMARY M. KARR of Collin County Community College was named Outstanding Community Colleges Professor for 2007. She developed Passport Mathematics, a holistic, self-paced program that cuts math anxiety and boosts self-confidence while providing a strong foundation in mathematics. Participants in the program also put their math skills to work in the community by tutoring at-risk young people and by writing about their experiences in journals.

CARLOS G. SPAHT of Louisiana State University, Shreveport, was selected as Outstanding Master's Universities and Colleges Professor for 2007. He created a two-year program that helps to prepare underserved middle and high school students for college programs in math, science, and engineering. He directs a tutoring program for inner-city youths in the Shreveport area and helped develop a financial literacy course for high school teachers and students. He is a past recipient of a Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring.

FRANK JONES of Rice University in Texas was honored as a State Professor of the Year. The State Professors of the Year Award Program selects outstanding educators in all fifty states, the District of Columbia, Guam, Puerto Rico, and the U.S. Virgin Islands. Winners receive personalized award certificates and national and local media recognition.

—From a Carnegie Foundation announcement

Rhodes Scholarships Awarded

Two students in the mathematical sciences are among the thirty-two American men and women chosen as Rhodes Scholars by the Rhodes Scholarship Trust. The Rhodes Scholars were chosen from among 764 applicants who were endorsed by 294 different colleges and universities in a nationwide competition. The names and brief biographies of the mathematics scholars follow.

ADAM M. LEVINE of the Bronx, New York, is a senior at Dartmouth College, where he majors in anthropology, art history, and mathematics and social science. His undergraduate thesis in art history is an examination of canonical images of Christ. He is interested in the application of mathematical network analysis to art, historical, and anthropological studies. He is also a light heavyweight

boxer. He plans to study for a D.Phil. in classics at Oxford.

SHAYAK SARKAR of Edinburg, Texas, received both his bachelor of arts degree in applied mathematics and a master's degree in statistics from Harvard University in 2007. He was elected to Phi Beta Kappa as a junior and won a prize for his thesis on America's homeless children. He is interested in applying his analytical skills in mathematics, statistics, and economics to the problems of poverty, especially affordable housing and education reform. He intends to study for a doctorate in evidence-based social work at Oxford.

Rhodes Scholarships provide two or three years of study at the University of Oxford in England. The value of the Rhodes Scholarship varies depending on the academic field and the degree (bachelor's, master's, doctoral) and Oxford college chosen. The Rhodes Trust pays all college and university fees and provides a stipend to cover students' necessary expenses while they are in residence in Oxford, as well as during vacations, and transportation to and from England. The total value averages approximately US$45,000 per year.

—From a Rhodes Scholarship Trust announcement

Siemens Competition Prizes Announced

Three students in the mathematical sciences have won prizes in the Siemens Competition in Math, Science, and Technology. JACOB STEINHARDT of Vienna, Virginia, received a US$40,000 scholarship for his project, "Cayley Graphs Formed by Conjugate Generating Sets of S_n". Steinhardt is a senior at Thomas Jefferson High School for Science and Technology in Alexandria, Virginia. His mathematics project on algebraic graph theory can potentially help build custom-designed, highly efficient computer networks. He was mentored by John C. Dell, a physics teacher at Jefferson High School. Steinhardt is a member of the Boy Scouts of America, the senior computer team, and the varsity math and physics teams. He was also a winner in the 2007 U.S.A. Mathematics Olympiad. His hobbies include playing bridge, chess, soccer, and piano. He plans to study mathematics and to become a math professor.

AYON SEN of Austin, Texas, received a US$30,000 scholarship for his project, "Dissipation of Geostrophic Oceanic Flows by Quadratic Bottom Boundary Layer Drag". Sen is a senior at Westwood High School in Austin. His project studied the energy of geostrophic motions in the ocean that is dissipated by a variety of mechanisms, one of which is quadratic boundary layer drag at the ocean floor. He was mentored by Brian K. Arbic and Robert B. Scott of the Jackson School of Geosciences of the University of Texas. Sen is a member of Mu Alpha Theta, Junior Statesmen of America, and University Interscholastic League (UIL) Math. He enjoys playing the piano and violin and loves to read modernist/surrealist fiction. He won first place in both the Debose National Piano Competition, Solo Division, in 2006 and the U.S. International Duo Piano Competition in 2007. He speaks Bengali and Spanish fluently. He plans to study mathematics or physics and would like to become a professor of mathematics.

ALEXANDER C. HUANG of Plano, Texas, received a US$10,000 scholarship for his project, "Mathematical Modeling of a Eukaryotic Circadian Clock". Huang is a senior at Plano Senior High School. His biophysics research utilizes circadian-clock rhythms in bread mold to assist in the understanding of various biological cycles of living organisms and could ultimately produce better timing in chemotherapy delivery to the body. He was mentored by Karen Shepherd of Plano Senior High School, Yi Liu of the University of Texas Southwestern Medical Center, and Richard Haberman and Thomas Carr of Southern Methodist University. Huang is a member of the Academic Decathlon A-team and president of the Math Club. This year he was a national finalist in the U.S. National Chemistry Olympiad. He also volunteers at the Plano City Juvenile Court with the lead prosecutor. He is an accomplished musician who plays the violin and viola, and he speaks fluent Mandarin. He plans to study chemical engineering and would like to become a research scientist or a doctor.

—Elaine Kehoe