
Mathematics People

Smith Awarded Adams Prize

IVAN SMITH of the University of Cambridge has been awarded the 2013 Adams Prize. This year's topic was topology.

According to Tim Gowers, chairman of the Adams Prize Adjudicators, Smith "has proved several beautiful and important results in symplectic topology. With Simon Donaldson, he found new proofs of some major results of Taubes that were simpler and that avoided delicate use of machinery from outside symplectic topology. With Paul Seidel, he attacked the problem of understanding the nature of Khovanov cohomology, a mysterious but very useful invariant. They developed a geometric definition that was later shown, by Smith and Abouzaid, to be an alternative definition of Khovanov cohomology. Also with Abouzaid, he showed that the famous homological mirror symmetry conjecture of Kontsevich is true for any product when it is true for the factors: this yielded new examples of manifolds for which the conjecture holds. With Seidel he proved a conjecture of Eliashberg and Gromov, showing that there are well-behaved exotic symplectic structures on Euclidean space. These are just a few of the achievements that caused Smith to stand out from a very strong field."

The Adams Prize is awarded each year jointly by the Faculty of Mathematics at the University of Cambridge and St. John's College to a young researcher or researchers based in the United Kingdom doing first-class international research in the mathematical sciences. The prize is named after the mathematician John Couch Adams and was endowed by members of St. John's College. It carries a cash prize of approximately £14,000 (about US\$21,000), of which one-third is awarded to the prizewinner on announcement of the prize, one-third is provided to the prizewinner's institution (for research expenses of the prizewinner), and one-third is awarded to the

prizewinner on acceptance for publication in an internationally recognized journal of a substantial (normally at least twenty-five printed pages) original survey article of which the prizewinner is an author.

—From a University of Cambridge announcement

Goldblatt Awarded Jones Medal

ROBERT GOLDBLATT of the Victoria University of Wellington has been awarded the 2012 Jones Medal by the Royal Society of New Zealand. According to the prize citation, Goldblatt was honored "for his profound and world-leading research in modal logic and category theory, and his lifetime of dedicated service to mathematics." He "has become one of the world's leading authorities in modal logic. In this system, statements can be much more than simply true or false: they can be, say, necessarily true, possibly true, or eventually true. This flexible logic is at the heart of basic software engineering and the commercial program and chip verification industry. Modal logic is interdisciplinary, overlapping mathematics, philosophy, linguistics, and computer science."

—From a Royal Society of New Zealand announcement

Bondarenko Awarded Popov Prize 2013

ANDRIY BONDARENKO of Kiev University has been awarded the 2013 Vasil A. Popov Prize. According to the prize citation, he was honored "for his outstanding contributions to approximation theory. He along with Radchenko and

Viazovska solved the spherical t -design conjecture by Kovvaar and Meyers concerning optimal approximation of integrals over the sphere by arithmetic means of values of the integrand. This result beautifully illustrates the power of the fixed-point method to approximation problems. Andriy Bondarenko has also advanced powerful new ideas in other areas of approximation theory, in particular, in monotone rational approximation, one of Vasil A. Popov's favorite research areas." The prize consists of a marble pyramid trophy and a cash award of US\$2,000.

—From a University of South Carolina press release

AWM Awards Inaugural Research Prizes

The Association for Women in Mathematics (AWM) has announced the awarding of two new major research prizes. The AWM-Microsoft Research Prize in Algebra and Number Theory has been awarded to SOPHIE MOREL of Princeton University "in recognition of her exceptional research in number theory." The prize recognizes exceptional research in algebra and number theory by a woman early in her career.

The prize citation reads in part: "Morel is a powerful arithmetic algebraic geometer who has made fundamental contributions to the Langlands program. Her research has been called 'spectacularly original, and technically very demanding'. Her research program has been favorably compared to that of several Fields medalists. She accomplished one of the main goals of the Langlands program by calculating the zeta functions of unitary and symplectic Shimura varieties in terms of the L -functions of the appropriate automorphic forms. To achieve this, she introduced an innovative t -structure on derived categories which had been missed by many experts. Her book *On the Cohomology of Certain Noncompact Shimura Varieties*, published in the Annals of Mathematics Studies series, is described as a tour de force.

"Morel found another remarkable application of her results on weighted cohomology. She gave a new geometric interpretation and conceptual proof of Brenti's celebrated but mysterious combinatorial formula for Kazhdan-Lusztig polynomials, which are of central importance in representation theory."

Morel received her Ph.D. from the Université Paris-Sud. She has also held positions at the Institute for Advanced Study, the Clay Mathematics Institute, Harvard University, and the Radcliffe Institute for Advanced Studies.

SVITLANA MAYBORODA of the University of Minnesota has been awarded the 2012 AWM Sadosky Research Prize in Analysis in recognition of her fundamental contributions to harmonic analysis and PDEs. The award, named for Cora Sadosky, a former president of AWM, recognizes exceptional research in analysis by a woman early in her career.

The prize citation reads in part: "Mayboroda's research has centered on boundary value problems for second and higher order elliptic equations in nonsmooth media.

Elliptic equations in nonsmooth media model a variety of physical systems and thus play a central role in science and engineering. Her research addresses fundamental problems aimed at understanding how irregular geometries or internal inhomogeneities of media affect the behavior of the physical system in question. Her talent and imagination, which have been praised by world leaders in the field, is also evident in her recent work with Vladimir Maz'ya on regularity in all dimensions for the polyharmonic Green's function in general domains and of the Wiener test for higher order elliptic equations, which in turn relies on a new notion of capacity in this case. This is the first result of its kind for higher order equations, showing remarkable creativity and deep insight. For higher order elliptic operators the situation on nonsmooth domains is quite different than in the second-order case, and much less is known. Mayboroda's contributions have opened up fundamental new paths in this uncharted territory and she has been a major driving force behind it."

Mayboroda received her Ph.D. from the University of Missouri at Columbia. She has been the recipient of a Sloan Research Fellowship and an NSF CAREER grant, with which she ran a Workshop for Women in Analysis and PDE in 2012 designed to support early-career women in their passage from graduate school to postdoctoral or faculty positions.

—From AWM announcements

Lubetzky and Sly Awarded Rollo Davidson Prize

EYAL LUBETZKY of Microsoft Research and the University of Washington and ALLAN SLY of the University of California Berkeley have been jointly awarded the 2013 Rollo Davidson Prize "for their work on the dynamics of the Ising model, and especially their remarkable proof of the cut-off phenomenon." The Rollo Davidson Trust was founded in 1975 and awards the annual prize to young mathematicians working in the field of probability.

—From a Rollo Davidson Trust announcement

Shoham and Tennenholtz Receive ACM/AAAI Newell Award

YOAV SHOHAM of Stanford University and MOSHE TENNENHOLTZ of Technion-Israel Institute of Technology and Microsoft Research have been named the recipients of the 2012 Allen Newell Award of the Association for Computing Machinery (ACM) and the Association for the Advancement of Artificial Intelligence (AAAI). They were recognized for contributions to multiagent systems spanning computer science, game theory, and economics.

According to the prize citation, “Shoham’s pioneering work provided a methodology for specifying distributed multiagent systems. His research on game theory includes advances in combinatorial auctions, where participants place bids on combinations of discrete items. He also advanced mechanism design, sometimes known as reverse game theory, which sets formal rules that design a game as well as predicting how a game will be played.

“Tennenholtz pioneered several approaches to the design and analysis of interactions between decision-makers in computational settings. He also created RMax, a general efficient algorithm applicable to learning by interacting with an environment. In addition, he introduced the concept of program equilibrium, an ingenious application of computer science to the analysis of Internet economies. He is acknowledged as a central contributor to many of Microsoft’s pricing algorithms for online advertising.”

—From an ACM announcement

Ibragimov Awarded Anassilaos Prize

ZAIR IBRAGIMOV of California State University, Fullerton, has been awarded the 2012 International Anassilaos Prize in Mathematics from the Associazione Culturale Anassilaos. He was honored for his “distinguished contributions to analysis and geometry, including geometric function theory, metric geometry and hyperbolization of metric spaces.” The prize was instituted in honor of the twentieth-century Italian geometer Renato Calapso.

—From a Cal State Fullerton announcement

2013 Clay Research Awards Announced

The Clay Mathematics Institute (CMI) has awarded the 2013 Clay Research Award to RAHUL PANDHARIPANDE of ETH Zurich. He was honored “for his recent outstanding work in enumerative geometry, specifically for his proof in a large class of cases of the MNOP conjecture that he formulated with Maulik, Okounkov, and Nekrasov. The conjecture relates two methods of counting curves in an algebraic variety, one given by Gromov-Witten theory and the other by Donaldson-Thomas invariants. By building in particular on joint work with Thomas on stable pairs, Pandharipande and his student Aaron Pixton proved the conjecture for many (possibly most) Calabi-Yau threefolds.” AARON PIXTON was awarded a 2013 Clay Research Fellowship.

—From a CMI announcement

Dick and Pillichshammer Awarded 2013 Information-Based Complexity Prize

JOSEF DICK of the University of New South Wales and FRIEDRICH PILLICHSHAMMER of Johannes Kepler University have been named recipients of the 2013 Prize for Achievement in Information-Based Complexity (IBC). The prize consists of US\$3,000 and a plaque. This annual prize is given for outstanding contributions to information-based complexity.

—Joseph Traub, Columbia University

Prizes of the Mathematical Society of Japan

The Mathematical Society of Japan (MSJ) has awarded several prizes for 2013.

The Algebra Prize has been awarded to TOMOYUKI ARAKAWA of Kyoto University for work on representation theory of infinite dimensional Lie algebras and W -algebras and to ATSUSHI ICHINO of Kyoto University for work in the theory of automorphic representations and periods. The Algebra Prize is awarded to researchers who have made significant contributions to the development of algebra in a broad sense by obtaining outstanding results.

The Spring Prize was awarded to MASAYUKI ASAOKA of Kyoto University for his outstanding contributions to the study of hyperbolic dynamical systems and related geometry. The Spring Prize is awarded to researchers under the age of forty who have obtained outstanding mathematical results.

The Prize for Science and Technology in Research was awarded to MASAFUMI AKAHIRA of the University of Tsukuba for his outstanding contributions to statistical higher order asymptotic theory. The Prizes in Research recognize researchers for highly original research or developments that contribute to the development of science and technology in Japan.

—From MSJ announcements

USA Math Olympiad

The 2013 USA Mathematical Olympiad (USAMO) was held April 30–May 1, 2013. The students who participated in the Olympiad were selected on the basis of their performances on the American High School and American Invitational Mathematics Examinations. The twelve highest scorers in this year’s USAMO, listed in alphabetical order, were: CALVIN DENG, North Carolina School of Science and Mathematics, Durham; ANDREW HE, Monta Vista High School, Cupertino, California; RAVI JAGADEESAN, Phillips Exeter Academy, Exeter, New Hampshire; PAKAWUT JIRADILOK, Phillips Exeter Academy, Exeter, New Hampshire; KEVIN LI,

West Windsor-Plainsboro High School South, West Windsor, New Jersey; RAY LI, Phillips Exeter Academy, Exeter, New Hampshire; MARK SELLKE, William Henry Harrison High School, Evansville, Indiana; BOBBY SHEN, Dulles High School, Sugar Land, Texas; ZHUOQUN SONG, Phillips Exeter Academy, Exeter, New Hampshire; DAVID STONER, South Aiken High School, Aiken, South Carolina; THOMAS SWAYZE, Canyon Crest Academy, San Diego, California; and VICTOR WANG, Ladue Horton Watkins High School, Ladue, Missouri.

The twelve USAMO winners will attend the Mathematical Olympiad Summer Program (MOSP) at the University of Nebraska, Lincoln. Ten of the twelve will take the team selection test to qualify for the U. S. team. The six students with the highest combined scores from the test and the USAMO will become members of the U. S. team and will compete in the International Mathematical Olympiad (IMO) to be held in Santa Marta, Colombia, July 18–28, 2013.

—From *Mathematical Association of America* announcements

Moody’s Mega Math Challenge

The winners of the 2013 Mega Math Challenge for high school students have been announced. The topic for this year’s competition dealt with recycling. Each group had to quantify the plastic waste filling U.S. landfills, come up with the best recycling methods for U.S. cities to implement based on their demographics, and recommend guidelines for nationwide recycling standards.

A team from Wayzata High School in Plymouth, Minnesota, was awarded the Summa Cum Laude Team Prize of US\$20,000 in scholarship money. The members of the team were JENNY LAI, ABRAM SANDERSON, AMY XIONG, LYNN ZHANG, and ROY ZHAO. Their coach was Thomas Kilkelly.

The Magna Cum Laude Team Prize of US\$15,000 in scholarship money was awarded to a team from North Carolina School of Science and Mathematics, Durham, North Carolina. The team members were JEFFREY AN, DAYTON ELLWANGER, CHRISTIE JIANG, and ANNE KELLEY. They were coached by Daniel Teague.

The Cum Laude Team Prize of US\$10,000 was awarded to a team from North Penn High School, Lansdale, Pennsylvania. The team members were PRIYA KIKANI, SCOTT LANDES, PATRICK NICODEMUS, JULIANNA SUPPLEE, and FRANCIS WALSH. Their coach was Dianne Wakefield.

The Meritorious Team Prize of US\$7,500 was awarded to a team from T. R. Robinson High School, Tampa, Florida. The team members were LAUREN LOPEZ, RAVI PATEL, CHRIS SIPES, DYLAN WANG, and ANNA YANNAKOPOULOS. They were coached by Judi Charley-Sale.

The Exemplary Team Prize of US\$5,000 was awarded to a team from Evanston Township High School, Evanston, Illinois. The team members were MAGGIE DAVIES, CAROLINE DUKE, LAURA GOETZ, KATIE LATIMER, and DINA SINCLAIR. Their coach was Mark Vondracek.

The First Honorable Mention Team Prize of US\$2,500 was awarded to a team from Montgomery Blair High School, Silver Spring, Maryland. The team members were ALEXANDER BOURZUTSCHKY, ALAN DU, TATYANA GUBIN, LISHA RUAN, and AUDREY SHI. They were coached by David Stein.

The Mega Math Challenge invites teams of high school juniors and seniors to solve an open-ended, realistic, challenging modeling problem focused on real-world issues. The top five teams receive awards ranging from US\$5,000 to US\$20,000 in scholarship money. The competition is sponsored by the Moody’s Foundation, a charitable foundation established by Moody’s Corporation, and organized by the Society for Industrial and Applied Mathematics (SIAM).

—From a *Moody’s Foundation/SIAM* announcement

Malloy and Rubillo Receive NCTM Lifetime Achievement Awards

The National Council of Teachers of Mathematics (NCTM) has presented Mathematics Education Trust (MET) Lifetime Achievement Awards for Distinguished Service to Mathematics Education to CAROL E. MALLOY, Wilmington, North Carolina, and JAMES M. RUBILLO, Bucks County Community College, Newtown, Pennsylvania. Malloy has been a voice and a leader in mathematics education. Throughout her career she has worked to address the inequities that African American, Latino, and Native American students face in learning mathematics. She has served on the NCTM Board of Directors, edited NCTM yearbooks, reviewed journal manuscripts, written journal articles, served on committees, given presentations, and been elected president of the Benjamin Banneker Association, an NCTM affiliate. She served on the writing team for the publication *Principles and Standards for School Mathematics*. In 2010 she was awarded the first annual UNC–Chapel Hill School of Education Black Alumni Impact Award. She is currently serving as a lead author for Glencoe/McGraw-Hill K–12 school mathematics programs.

Rubillo has been an inspirational leader, communicator, and advocate for mathematics education for more than forty-five years. He has made numerous contributions to the mathematics education community, with a special emphasis on technology and teaching mathematics at the community college and high school levels. He participated in developing NCTM’s *An Agenda for Action*, released in 1980, the first publication to focus on problem solving as a basic skill, which changed the direction of mathematics education in the United States. His vision for improving instruction extended to the use of technology to reach more educators through such initiatives as Math in the Media and Math Matters. He served as executive director of NCTM from 2001 to 2009. He received an honorary doctor of science degree from West Chester University in 2004, and in 2008 the National Council of Supervisors

of Mathematics presented him with NCSM's Ross Taylor/Glenn Gilbert National Leadership Award.

—From NCTM announcements

National Academy of Sciences Elections

The National Academy of Sciences (NAS) has elected eighty-four new members and twenty-one foreign associates for 2013. Following are the new members whose work involves the mathematical sciences: MANJUL BHARGAVA, Princeton University; S. JAMES GATES JR., University of Maryland, College Park; JURIS HARTMANIS, Cornell University; VICTOR KAC, Massachusetts Institute of Technology; GREGORY F. LAWLER, University of Chicago; JUAN MALDACENA, Institute for Advanced Study; JAMES A. SETHIAN, University of California Berkeley; ÉVA TARDOS, Cornell University; DAVID A. VOGAN JR., Massachusetts Institute of Technology; AVI WIGDERSON, Institute for Advanced Study; and HORNG-TZER YAU, Harvard University. PETER G. HALL, University of Melbourne, Australia, was elected as a foreign associate.

—From an NAS announcement

American Academy of Arts and Sciences Elections

The American Academy of Arts and Sciences (AAAS) has elected 186 new fellows and 12 foreign honorary members for 2013. Following are the new fellows whose work involves the mathematical sciences.

LAWRENCE D. BROWN, University of Pennsylvania, Wharton School; PHILIP J. HANLON, University of Michigan/Dartmouth College; HERVE JACQUET, Columbia University; H. BLAINE LAWSON JR., Stony Brook University, State University of New York; DUONG H. PHONG, Columbia University; SORIN POPA, University of California, Los Angeles; WALTER A. STRAUSS, Brown University; RICHARD A. TAPIA, Rice University; and BIN YU, University of California, Berkeley. Elected as a foreign honorary member was HENRI BERESTYCKI, École des Hautes Études en Sciences Sociales, Paris.

—From an AAAS announcement

AWM Essay Contest Winners Announced

The Association for Women in Mathematics (AWM) has announced the winners of its 2013 essay contest, "Biographies of Contemporary Women in Mathematics".

The grand prize was awarded to REBECCA MYERS, High Tech High International, San Diego, California, for her

essay "Sara Billey: The Most Famous 'Sara in Math'". The essay won first place in the high school category and will be published in the *AWM Newsletter*.

First place in the undergraduate-level category went to JOY OTOBO, Benue State University, Kaduna, Nigeria, for her essay "Destined to Count". First place in the middle school-level category went to EMMANUEL MARTINEZ, Lyford Middle School, Lyford, Texas, for his essay "A Teacher of Miracles".

—From an AWM announcement

Royal Society Elections

The Royal Society of London has elected its new fellows for 2013. The new fellows whose work involves the mathematical sciences are: KEITH BALL, University of Warwick; RAYMOND GOLDSTEIN, University of Cambridge; GARETH ROBERTS, University of Warwick; ALAN TURNBULL, National Physical Laboratory; and JULIA YEOMANS, University of Oxford. Elected as a foreign member was ELLIOTT LIEB, Princeton University.

—From a Royal Society announcement



THE HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY

Department of Mathematics Faculty Position(s)

The Department of Mathematics invites applications for tenure-track faculty position(s) at the rank of Assistant Professor in all areas of mathematics. Other things being equal, preference will be given to areas consistent with the Department's strategic planning.

Applicants should have a PhD degree and strong experience in research and teaching. Applicants with exceptionally strong qualifications and experience in research and teaching may be considered for position(s) above the Assistant Professor rank.

Starting rank and salary will depend on qualifications and experience. Fringe benefits include medical/dental benefits and annual leave. Housing will also be provided where applicable. Initial appointment will be made on a three-year contract, renewable subject to mutual agreement. A gratuity will be payable upon successful completion of the contract.

Applications received on or before 31 December 2013 will be given full consideration for appointment in 2014. Applications received afterwards will be considered subject to the availability of position(s). Applicants should send their curriculum vitae together with at least three research references and one teaching reference to the Human Resources Office, HKUST, Clear Water Bay, Kowloon, Hong Kong. Applicants for position(s) above the Assistant Professor rank should send their curriculum vitae and the names of at least three research referees to the Human Resources Office.

More information about the University is available on the University's homepage at <http://www.ust.hk>.

(Information provided by applicants will be used for recruitment and other employment-related purposes.)