
Mathematics People

2015 ICIAM Prizes Awarded

The International Council for Industrial and Applied Mathematics (ICIAM) has announced the awarding of five major prizes for 2015.

ANNALISA BUFFA, director of the Institute for Applied Mathematics and Information Technologies (Pavia-Genoa-Milan section), has been awarded the Collatz Prize “in recognition of her spectacular use of deep and sophisticated mathematical concepts to obtain outstanding contributions to the development of computer simulations in science and industry.” The prize is awarded to researchers under the age of forty-two for outstanding work in industrial and applied mathematics.

ANDREW J. MAJDA of the Courant Institute of Mathematical Sciences, New York University, has been awarded the Lagrange Prize “in recognition of his ground-breaking, original, fundamental, and pioneering contributions to applied mathematics and, in particular, to wave front propagation and combustion, scattering theory, fluid dynamics and atmosphere climate science”. The prize recognizes researchers who have made exceptional contributions to applied mathematics throughout their careers.

JEAN-MICHEL CORON of Université Pierre et Marie Curie has been awarded the Maxwell Prize “for his fundamental and original contributions to the study of variational methods for partial differential equations and the nonlinear control of nonlinear partial differential equations”. The prize is awarded to a mathematician “who has demonstrated originality in applied mathematics”.

BJÖRN ENGQUIST of the University of Texas at Austin has been named the recipient of the Pioneer Prize “for fundamental contributions in the field of applied mathematics, numerical analysis and scientific computing which have had long-lasting impact in the field as well as successful applications in science, engineering and industry”. The prize is awarded for pioneering work introducing applied mathematical methods and scientific computing techniques to an industrial problem area or a new scientific field of applications.

LI TATSIEN of Fudan University, Shanghai, China, has been awarded the Su Buchin Prize “in recognition of his outstanding contributions to applied mathematics and to the dissemination of mathematical sciences in developing countries”. The prize recognizes outstanding contributions “in the application of mathematics to emerging economies and human development, in particular at the economic and cultural level in developing countries”.

All prizes carry a cash award of US\$5,000 and will be presented at the ICIAM Congress to be held in Beijing, China, August 10-14, 2015.

—From an ICIAM announcement

Yuan Awarded TWAS Prize

YA-XIANG YUAN of the Chinese Academy of Sciences has been awarded the 2014 TWAS Prize in Mathematics of the Academy of Sciences for the Developing World (TWAS). He was recognized for his contribution to numerical methods for nonlinear optimization, particularly to nonlinear conjugate gradient methods, trust region algorithms, quasi-Newton methods, and subspace methods.

Yuan received his PhD from the University of Cambridge in 1986. He has been affiliated with the Chinese Academy of Sciences in various positions since 1988. He has held a number of visiting positions, including at the University of Colorado Boulder and Northwestern University. He was elected a Fellow of the Society for Industrial and Applied Mathematics (SIAM) in 2011 and received the Shiing S. Chern Mathematics Award in 2011. He became a Fellow of the AMS in 2012 and served on the editorial board of *Mathematics of Computation*.

The TWAS Prize carries a cash award of US\$15,000. Yuan will deliver a lecture at the TWAS general meeting in 2015.

—From a TWAS announcement

Tserunyan Awarded Emil Artin Junior Prize

ANUSH TSERUNYAN of the University of Illinois at Urbana-Champaign has been awarded the 2015 Emil Artin Junior Prize in Mathematics for her paper “Finite generators for countable group actions in the Borel and Baire category settings”, *Advances in Mathematics*, **269**, (2015), 585–646. Established in 2001, the Emil Artin Junior Prize in Mathematics carries a cash award of US\$1,000 and is presented usually every year to a student or former student of an Armenian educational institution who is under the age of thirty-five for outstanding contributions to algebra, geometry, topology, and number theory—the fields in which Emil Artin made major contributions. The prize committee consisted of A. Basmajian, Y. Movsisyan, and V. Pambuccian.

—Victor Pambuccian, *New College, Arizona State University*

Poggio Awarded Swartz Prize

TOMASO POGGIO of the Massachusetts Institute of Technology has been named the recipient of the Swartz Prize for Theoretical and Computational Neuroscience of the Society of Neuroscience (SfN). He was honored for his contributions to the development of computational and theoretical models of brain functions, particularly the human visual system and how the brain accomplishes visual recognition. The prize carries a cash award of US\$25,000 and recognizes significant cumulative contributions to theoretical models or computational methods in neuroscience.

—From an NSF announcement

2014 CMS Robinson Awards Announced

The Canadian Mathematical Society (CMS) has awarded the 2014 G. de B. Robinson Award jointly to JONATHAN M. BORWEIN and WADIM ZUDILIN, both of the University of Newcastle, New South Wales; JAMES WAN of Singapore University; and ARMIN STRAUB of the University of Illinois for their paper, “Densities of short uniform random walks” (with an appendix by Don Zagier), *Canadian Journal of Mathematics* **64**, no. 5 (2012), 961–990. JAN NEKOVÁŘ of Université Pierre et Marie Curie was also honored with a Robinson Award for his paper “Level raising and anticyclotomic Selmer groups for Hilbert modular forms of weight two”, *Canadian Journal of Mathematics* **64**, no. 3 (2012), 588–649. The award is given in recognition of outstanding contributions to the *Canadian Journal of Mathematics* or the *Canadian Mathematical Bulletin*.

—From a CMS announcement

Cautis Awarded Aisenstadt Prize

SABIN CAUTIS of the University of British Columbia has been awarded the 2014 André Aisenstadt Prize in Mathematics of the Centre de Recherches Mathématiques (CRM). The prize citation reads in part: “Sabin Cautis works at the crossroads of algebraic geometry, representation theory, and low-dimensional topology. In his earlier work (joint with the 2011 André Aisenstadt Prize recipient, Joel Kamnitzer), he developed a new approach to Khovanov’s knot invariants, which uses algebraic geometry and is inspired by mirror symmetry. Dr. Cautis is a world leader in the area of categorification. His results are expected to have a lasting impact on the field and lead to important developments in low-dimensional topology, the geometric Langlands program, and the mathematical aspects of quantum physics. In particular, his recent work with Anthony Licata on categorification of Heisenberg algebras and vertex operators is a major step in the direction outlined by Igor Frenkel towards categorification of conformal field theory.” Cautis received his PhD from Harvard University in 2006 and has held positions at the University of Southern California, Columbia University, the Mathematical Sciences Research Institute, and Rice University. He was an Alfred P. Sloan Foundation Fellow in 2011–2013. The prize recognizes outstanding research achievement by a young Canadian mathematician.

—From a CRM announcement

Rhodes Scholars Announced

The Rhodes Trust has named its scholars for 2015. Among them are four students whose work involves the mathematical sciences.

NOAM ANGRIST of Brookline, Massachusetts, graduated from the Massachusetts Institute of Technology in 2013 with majors in economics and mathematics. While at MIT, he did economic research for the World Bank, the White House, and on the Affordable Care Act, and also founded an enrichment program combining athletics and academics for low-income youth that achieved considerable success measured by achievement and college matriculation. As a Fulbright Scholar in Botswana, he founded an NGO for HIV education designed to discourage intergenerational sex (“sugar daddy awareness”). Its success led him to raise the money to extend the program to 340 schools, and he now plans to launch it in four other southern African countries. He hopes to continue to apply his economics acumen to assess and develop poverty-alleviation projects that work. He will do the MSc in Evidence-Based Social Intervention and Policy Evaluation at Oxford.

RUTH C. FONG of Somerset, New Jersey, is a senior at Harvard University majoring in computer science. Her senior thesis focuses on how computers can intuitively identify and perceive objects in a way that more closely mimics the human brain. She was chosen to teach three

undergraduate computer science courses and one for graduate students as well. She won a highly competitive scholarship from Apple for women in technology and a Tech in the World Fellowship to work on infectious disease data in Tanzania. Ruth is also extremely active as an advocate for autism-related causes and was a director of Big Sibs program in Boston's Chinatown. She is a member of a dance troupe and enjoys both hip-hop and traditional Chinese dance. She plans to do the MSc in Mathematics and Foundations in Computer Science and the MSc in Computer Science at Oxford.

SAI P. GOURISANKAR of Atlanta, Georgia, is a senior at the University of Texas, where he will graduate in May with a BS in chemical engineering and a BA in liberal arts. He also has a minor in German. He is a Goldwater Scholar and a Churchill Scholar with a 4.0 across multiple disciplines. He has several publications relating to his work in nanotechnology, particularly relating to nanoclusters. He is also president of an organization that fosters discussion between the humanities and the sciences. At Oxford, he plans to do the MSc in mathematical modeling and scientific computing and the MSc in mathematical and theoretical physics.

PETER N. KALUGIN of Albuquerque, New Mexico, is a senior at Johns Hopkins University, from which he will receive a BS in molecular and cellular biology and a BA in mathematics with a minor in physics. A Goldwater Scholar, and elected to Phi Beta Kappa as a junior, he has worked in basic science labs on cell signaling and immunobiology and completed a thesis on brain tumor biology. He has also worked on statistical analysis of medical data sets at the University of New Mexico. Peter plays the alto saxophone, speaks five languages, has taught English to new immigrant students, volunteered at orphanages in Mongolia and Nepal, and founded an organization to connect other university students with local NGOs abroad. He is passionate about pediatric oncology and research in cancer cell growth. He plans to do the MSc by research in oncology at Oxford.

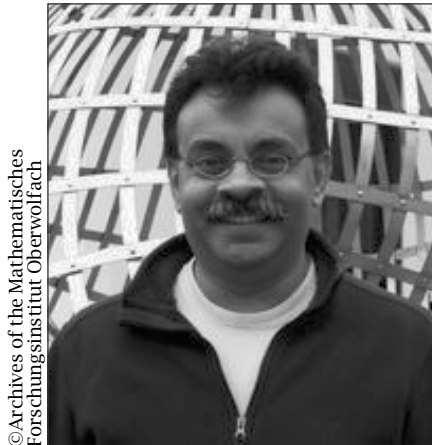
—From a Rhodes Trust announcement

Verma Awarded Bhatnagar Prize

KAUSHAL KUMAR VERMA of the Indian Institute of Technology has been awarded the 2014 Shanti Swarup Bhatnagar Prize for Science and Technology in the mathematical sciences. He works in complex analysis. The prize is awarded by the Council of Scientific Research and Industrial Development to recognize outstanding Indian work in science and technology. Shanti Swarup Bhatnagar was the founding director of the Council. It is the highest award for science in India. The prize carries a cash award of 500,000 rupees (approximately US\$8,100).

—Council of Scientific Research
and Industrial Development, India

2014 Infosys Prize Awarded



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Madu Sudan

MADHU SUDAN of Microsoft Research and the Massachusetts Institute of Technology has been awarded the 2014 Infosys Prize in mathematical sciences by the Infosys Science Foundation. He was recognized “for his seminal contributions to probabilistically checkable proofs and error-correcting codes”.

The prizewinners are selected based on significant progress showcased in their chosen spheres, as well as for the impact their research will have on the specific field.

—From an Infosys Science
Foundation announcement

Van Raamsdonk Awarded CAP/CRM Prize

MARK VAN RAAMSDONK of the University of British Columbia has been awarded the 2014 CAP/CRM Prize in Theoretical and Mathematical Physics by the Canadian Association of Physicists (CAP) and the Centre de Recherches Mathématiques (CRM) “for his highly original, influential contributions to several areas of theoretical physics, including string theory, quantum field theory, and quantum gravity”. The award recognizes research excellence in the fields of theoretical and mathematical physics in Canada.

—From a CAP/CRM announcement

2014 Prix la Recherche

VALERIA BANICA of the University of Evry-Val-d'Essone has been awarded the Prix la Recherche for her work on stable vortices in fluids. The research prizes, given by the French magazine *La Recherche*, honor the best scientific work conducted in France during the preceding year.

—From a La Recherche announcement