

Mathematics People

2011–2012 AMS Centennial Fellowship Awarded

The AMS has awarded its Centennial Fellowship for 2011–2012 to ANDREW S. TOMS of Purdue University. The fellowship carries a stipend of US\$79,000, an expense allowance of US\$7,900, and a complimentary Society membership for one year.

Andrew Toms was born in Montreal in 1975. He received his Ph.D. from the University of Toronto in 2002. After holding faculty positions at the University of New Brunswick and York University, he was appointed associate professor in the Department of Mathematics at Purdue University in 2010. Recently he was the recipient of two Canadian awards: the Canadian Mathematical Society's 2010 G. de B. Robinson Award, given by the Canadian Mathematical Society, and the Israel Halperin Prize for outstanding work in operator algebras or operator theory by members of the Canadian mathematical community.



Andrew S. Toms

Toms's mathematical interests include the classification of C^* -algebras and points of contact between operator algebras, logic, and topology.

—Elaine Kehoe

Aschbacher and Putnam Awarded Rolf Schock Prizes

MICHAEL ASCHBACHER of the California Institute of Technology and HILARY PUTNAM of Harvard University have been awarded Rolf Schock Prizes for 2011.

Aschbacher was awarded the 2011 Rolf Schock Prize in Mathematics “for his fundamental contributions to one of the largest mathematical projects ever, the classification of finite simple groups, notably his contribution to the quasi-thin case.” He has made fundamental contributions to group theory, especially regarding the classification of finite simple groups. He received the AMS Cole Prize in 1980 and was elected a member of the U.S. National Academy of Sciences in 1990.

Putnam was awarded the 2011 Rolf Schock Prize in Logic and Philosophy “for his contribution to the

understanding of semantics for theoretical and ‘natural kind’ terms and of the implications of this semantics for philosophy of language, theory of knowledge, philosophy of science and metaphysics.” Putnam is best known among mathematicians for work that, together with work by Martin Davis, Julia Robinson, and Yuri Matiasевич, provided a solution to Hilbert’s tenth problem.

The Rolf Schock Prizes are awarded every three years in the fields of logic and philosophy, mathematics, the visual arts, and the musical arts. The prize amount is US\$75,000. They are awarded by the Royal Swedish Academy of Sciences, the Royal Swedish Academy of Fine Arts, and the Royal Swedish Academy of Music.

—The Rolf Schock Foundation

Clay Research Awards

The Clay Mathematics Institute has awarded its 2011 Research Awards to YVES BENOIST, CNRS, Université de Paris Sud 11, and JEAN-FRANÇOIS QUINT, CNRS, Université de Paris 13, for their work on stationary measures and orbit closures and to JONATHAN PILA, Mathematical Institute, Oxford University, for his resolution of the André-Oort conjecture in the case of products of modular curves.

According to the citations, Benoist and Quint were honored “for their spectacular work on stationary measures and orbit closures for actions of nonabelian groups on homogeneous spaces. This work is a major breakthrough in homogeneous dynamics and related areas of mathematics. In particular, Benoist and Quint proved the following conjecture of Furstenberg: Let H be a Zariski dense semisimple subgroup of a Lie group which acts by left translations on the quotient of G by a discrete subgroup with finite covolume. Consider a probability measure m on H whose support generates H . Then any m -stationary probability measure for such an action is H -invariant.” Pila was honored “for his resolution of the André-Oort conjecture in the case of products of modular curves. This work gives the first unconditional proof of fundamental cases of these general conjectures beyond the original theorem of André concerning the product of two such curves. The foundational techniques that Pila developed to achieve this breakthrough range from results in real analytic geometry which give sharp upper bounds for the number of rational points of bounded height on certain analytic sets to the use of O -minimal structures in mathematical logic.”

—From a Clay Mathematics Institute announcement

Getz and Goresky Awarded 2011 Balaguer Prize

The Ferran Sunyer i Balaguer Foundation has awarded the Ferran Sunyer i Balaguer Prize for 2011 to JAYCE GETZ, McGill University, Montreal, and MARK GORESKY, School of Mathematics, Institute for Advanced Study, Princeton University, for their joint monograph *Hilbert Modular Forms with Coefficients in Intersection Homology and Quadratic Base Change*. According to the prize citation, the monograph explains “deep phenomena in number theory and algebraic geometry using geometric/topological methods, notably intersection homology. This builds on celebrated work by F. Hirzebruch and D. Zagier. It presents a pleasant equilibrium between the survey/monograph part and the research part: On the one hand it contains interesting results which appear here for the first time, but it also has several chapters which introduce the reader to the different subjects needed to understand the main results.”

The Ferran Sunyer i Balaguer Foundation of the Institut d’Estudis Catalans (IEC) awards this international prize every year to honor the memory of Ferran Sunyer i Balaguer (1912–1967), a self-taught Catalan mathematician who gained international recognition for his research in mathematical analysis despite the serious physical disabilities with which he was born. The prize carries a cash award of 15,000 euros (approximately US\$21,000); the winning monographs are published by Birkhäuser Verlag.

—From a Ferran Sunyer i Balaguer Foundation announcement

Sloan Fellowships Awarded

The Alfred P. Sloan Foundation has announced the names of the recipients of the 2011 Sloan Research Fellowships. Each year the foundation awards fellowships in the fields of mathematics, chemistry, computational and evolutionary molecular biology, computer science, economics, neuroscience, and physics. Grants of US\$50,000 for a two-year period are administered by each fellow’s institution. Once chosen, fellows are free to pursue whatever lines of inquiry that most interest them, and they are permitted to employ fellowship funds in a wide variety of ways to further their research aims.

Following are the names and institutions of the 2011 awardees in mathematics: SILAS D. ALBEN, Georgia Institute of Technology; MARIA CAMERON, University of Maryland, College Park; SABIN CAUTIS, Columbia University; CARINA P. CURTO, University of Nebraska, Lincoln; LAURENT DEMANET, Massachusetts Institute of Technology; VOLKER ELLING, University of Michigan; MIKHAIL ERSHOV, University of Virginia; TOBY S. GEE, Northwestern University; PHILIP T. GRESSMAN, University of Pennsylvania; MATTHEW HEDDEN, Michigan State University; MICHAEL A. HILL, University of Virginia; ROMAN HOLOWINSKY, Ohio State University; AARON D. LAUDA, Columbia University; XIAOQING LI, State University of New York at Buffalo; DRAGOS OPREA, University of California, San Diego;

GRIGORIS PAOURIS, Texas A&M University; PER-OLOF PERS-SON, University of California, Berkeley; JESSICA S. PURCELL, Brigham Young University; ROBERT M. STRAIN, University of Pennsylvania; IGNACIO URIARTE-TUERO, Michigan State University; DAPENG ZHAN, Michigan State University.

—From a Sloan Foundation announcement

Brenner Awarded Kovalevsky Lectureship

SUZANNE BRENNER of Louisiana State University has been chosen as the AWM-SIAM Sonia Kovalevsky Lecturer for 2011 by the Association for Women in Mathematics (AWM). She will deliver the AWM-SIAM Kovalevsky Lecture at the 2011 International Congress on Industrial and Applied Mathematics. Brenner was honored for significant research accomplishments in multigrid methods, domain decomposition methods, and finite element analysis.

—From an AWM announcement

Pelayo Receives Rubio de Francia Prize

ÁLVARO PELAYO of the Institute for Advanced Study and Washington University in St. Louis has been awarded the Rubio de Francia Prize for 2010 by the Royal Spanish Mathematical Society (RSME). The prize was awarded for contributions “at a very high level already at a very early stage of his career.”

The prize honors the memory of J. L. Rubio de Francia (1949–1988), an internationally renowned Spanish analyst. It is awarded annually to a young mathematician from Spain, or residing in Spain, and it is the highest distinction given by the RSME.

The prize jury consisted of M. J. Carro, M. J. Esteban, M. L. Fernández, D. Nualart, J. M. Sanz, T. Tao, and E. Zelmanov.

—From a Royal Spanish Mathematical Society (RSME) announcement

Eisenbrand and Schröder Awarded Humboldt Professorships

FRIEDRICH EISENBRAND of École Polytechnique Fédérale de Lausanne and PETER SCHRÖDER of the California Institute of Technology have been awarded Alexander von Humboldt Professorships for 2011 by the Alexander von Humboldt Foundation.

Eisenbrand was awarded the professorship in mathematics. According to the prize citation, he “is a world leader in the field of algorithmics and discrete mathematics and works at the intersection between pure research and applications.” He does research in integral

optimization that “could be of use to both industry and telecommunications in capacity planning.”

PETER SCHRÖDER was awarded the professorship in computer science. According to the prize citation, he “is regarded as one of the world’s most eminent researchers in the field of computer graphics and the mathematics on which it is based. He thus acts as a bridge between numerical and geometry mathematics and computer science.”

The Alexander von Humboldt Professorship honors researchers from outside of Germany who are internationally recognized leaders in their fields and allows them to spend five years conducting research at German universities. The award is valued at up to five million euros (approximately US\$7,300,000) and is endowed by the Federal Ministry of Education and Research.

—*From a Humboldt Foundation announcement*

Glynn and Asmussen Awarded John von Neumann Theory Prize

The 2010 John von Neumann Theory Prize, the highest prize given in the field of operations research and management science, has been awarded to PETER GLYNN of Stanford University and SØREN ASMUSSEN of Aarhus University “for their outstanding contributions in applied probability and the theory of stochastic simulation.” According to the prize citation, Glynn “has made sustained and important contributions in stochastic simulation theory over the last thirty years.” Asmussen “has made fundamental contributions in many areas of applied probability and stochastic operations research, including queueing systems, large deviations and rare events, heavy-tailed phenomena, insurance-risk models, matrix-analytic algorithms and the theory of stochastic simulation.” The award, which is presented by the Institute for Operations Research and the Management Sciences (INFORMS) carries a cash prize of US\$5,000.

—*From an INFORMS announcement*

Rollo Davidson Prizes Awarded

The Rollo Davidson Trust has awarded the 2011 Rollo Davidson Prize jointly to CHRISTOPHE GARBAN of the École Normale Supérieure de Lyon and GÁBOR PETE of the University of Toronto “for striking and important new results for planar random processes, particularly in establishing a theory of noise sensitivity for critical percolation and the application of this theory to dynamical percolation.”

The Rollo Davidson Trust was founded in 1975 and awards an annual prize to young mathematicians working in the field of probability.

—*From a Rollo Davidson Trust announcement*

Putnam Prizes Awarded

The winners of the seventy-first William Lowell Putnam Mathematical Competition have been announced. The Putnam Competition is administered by the Mathematical Association of America (MAA) and consists of an examination containing mathematical problems that are designed to test both originality and technical competence. Prizes are awarded to both individuals and teams.

The five highest ranking individuals, listed in alphabetical order, were YU DENG, Massachusetts Institute of Technology; BRIAN R. LAWRENCE, California Institute of Technology; SEOK HYEONG LEE, Stanford University; COLIN P. SANDON, Massachusetts Institute of Technology; and ALEX (LIN) ZHAI, Harvard University. Each received a cash award of \$2,500.

Institutions with at least three registered participants obtain a team ranking in the competition based on the rankings of three designated individual participants. The five top-ranked teams (with team members listed in alphabetical order) were: California Institute of Technology (Yakov Berchenko-Kogan, Jason C. Bland, Brian Lawrence); Massachusetts Institute of Technology (Sergei S. Bernstein, Whan Ghang, Jacob N. Steinhardt); Harvard University (Kevin Lee, Arnav Tripathy, Alex (Lin) Zhai); University of California, Berkeley (David D. Gee, Shiyu Li, Evan M. O’Dorney); and University of Waterloo (Steven N. Karp, Boyu Li, Malcolm A. Sharpe).

The first-place team receives an award of US\$25,000, and each member of the team receives US\$1,000. The awards for second place are US\$20,000 and US\$800; for third place, US\$15,000 and US\$600; for fourth place, US\$10,000 and US\$400; and for fifth place, US\$5,000 and US\$200.

The Elizabeth Lowell Putnam Prize, which goes to the outstanding woman in the competition, was awarded to YINGHUI WANG of the Massachusetts Institute of Technology. She received a cash award of US\$1,000.

—*From a Putnam announcement*

Intel Science Talent Search Winners Announced

Two students who work in the mathematical sciences have received scholarship awards in the 2011 Intel Science Talent Search. EVAN O’DORNEY, a seventeen-year-old student from Danville, California, was awarded the top prize of US\$100,000 for his mathematics project “Continued fraction convergents and linear fractional transformations”, in which he compared two ways to estimate the square root of an integer. Evan discovered precisely when the faster way would work. As a by-product of his research, he solved other equations useful for encrypting data. O’Dorney has been a member of the U.S. International Mathematical Olympiad Team and also won the National Spelling Bee in 2007 and the national Who Wants to Be a Mathematician competition in 2010 and 2011.

KEENAN MONKS, a seventeen-year-old student from Hazelton, Pennsylvania, was awarded sixth place and

a prize of US\$25,000 for his project “On supersingular elliptic curves and hypergeometric functions”, detailing his research on a math equation that can help improve Internet security and cryptography.

—*From an Intel Corporation announcement*

NSF Graduate Research Fellowships Announced

The National Science Foundation (NSF) has awarded a number of Graduate Research Fellowships for fiscal year 2011. Further awards may be announced later in the year. This program supports students pursuing doctoral study in all areas of science and engineering and provides a stipend of US\$30,000 per year for a maximum of three years of full-time graduate study. Following are the names of the awardees in the mathematical sciences selected so far in 2011, followed by their undergraduate institutions (in parentheses) and the institutions at which they plan to pursue graduate work.

HANNAH ALPERT (University of Chicago), Massachusetts Institute of Technology; THERESA ANDERSON (Brown University), Brown University; DAVID APPELHANS (University of Colorado at Boulder), University of Colorado at Boulder; DENA M. ASTA (Carnegie-Mellon University), Carnegie-Mellon University; KERSTIN BAER (Bryn Mawr College), Columbia University; YAKOV I. BERCHENKO-KOGAN (California Institute of Technology), Massachusetts Institute of Technology; EMILY R. BERGER (Massachusetts Institute of Technology), Massachusetts Institute of Technology; SARAH B. BRODSKY (University of California Berkeley), University of California Berkeley; CHARLES D. BRUMMITT (University of California Davis), University of California Davis; YANIEL CABRERA (Texas A&M University), Texas A&M University; CAREY CAGINALP (University of Pittsburgh), Princeton University; NATASHA A. CAYCO GAJIC (University of Washington), University of Washington; OTIS A. CHODOSH (Cambridge University), Stanford University; ZACHARY CLAWSON (North Carolina State University), Cornell University; DANIEL COLLINS (Princeton University), Princeton University; KATHLEEN CURTIUS (University of Washington), University of Washington; ANIL DAMLE (University of Colorado at Boulder), Yale University; JAMES M. DAVIS (Cornell University), Cornell University; MICHELLE DELCOURT (Georgia Institute of Technology), Rutgers University; SARAH A. FLETCHER (Georgia Institute of Technology), Georgia Tech Research Corporation, Georgia Institute of Technology; LEILANI GILPIN (University of California, San Diego), California Institute of Technology; KARSTEN GIMRE (University of Oregon, Eugene), Stanford University; SHERRY GONG (Harvard University), Princeton University; ALAN GUO (Duke University), Massachusetts Institute of Technology; MELISSA A. GYMREK (Massachusetts Institute of Technology), Harvard University; DANIEL M. HARRIS, (Massachusetts Institute of Technology), Massachusetts Institute of Technology; VIVIAN O. HEALEY (Brown University), Brown University; STEVEN M. HEILMAN (New York University), New York University; AUKOSH S. JAGANNATH

(New York University), New York University; CARLEE JOE-WONG (Princeton University), Stanford University; WILLIAM A. JOHNSON (University of Washington), Massachusetts Institute of Technology; TIA LEE LERUD (University of Washington), Colorado State University; KATHLEEN LI (Rice University), University of California Berkeley; KATHERINE MCLAUGHLIN (University of California Berkeley), University of California Berkeley; EKATERINA MERKURJEV (University of California Los Angeles), University of California Los Angeles; ARIANA S. MINOT (Duke University), University of California Berkeley; ALEXANDER C. MOLL (Columbia University), Massachusetts Institute of Technology; DAVID W. MONTAGUE (University of Michigan Ann Arbor), Princeton University; CRIS NEGRON (University of Washington), University of Washington; KIVA L. OKEN (Carleton College), North Carolina State University; VIVEK PAL (Florida State University), University of Michigan Ann Arbor; AARON PALMER (University of California Santa Cruz), University of California Berkeley; JOHN V. PARDON (Princeton University), University of California Berkeley; HELEN F. PARKS (University of California San Diego), University of California San Diego; ARTHUR J. PARZYGNAT (City University of New York Graduate School, University Center), City University of New York Graduate School, University Center; OLIVER PECHENIK (University of Illinois), University of Illinois at Urbana-Champaign; ALEXANDER PERRY (Columbia University), Massachusetts Institute of Technology; SCOTT POWERS (University of North Carolina at Chapel Hill), Harvard University; BENJAMIN D. PRESKILL (University of California Berkeley), University of California Berkeley; CLAUDIA C. RAITHEL (University of Michigan), New York University; REBECCA I. REBHURN-GLANZ (Bryn Mawr College), University of Michigan Ann Arbor; RICHARD Z. ROBINSON (University of Washington), University of Washington; REBECCA S. ROTHWELL (University of North Carolina at Chapel Hill), University of North Carolina at Chapel Hill; ARMAN SABBAGHI (Harvard University), Harvard University; GEOFFREY SCHIEBINGER (Stanford University), Stanford University; KIMBERLY M. SHORT (University of Arizona), University of California Los Angeles; ROBERT A. SILVERSMITH (Williams College), University of California Berkeley; SEAN K. SIMMONS (University of Texas at Austin), University of Michigan Ann Arbor; PETER SMILLIE (Stanford University), Princeton University; JOEL B. SPECTER (Wesleyan University), Columbia University; MELANIE I. STAM (Georgia Institute of Technology), State University of New York at Stony Brook; YI AN SUN (University of Maryland College Park), Massachusetts Institute of Technology; ANDREI TARFULEA (University of Chicago), New York University; AMELIA N. TEBBE (University of Illinois at Urbana-Champaign), University of Illinois at Urbana-Champaign; SAMANTHA M. TRACHT (University of Tennessee Knoxville), University of Tennessee Knoxville; ARNAV TRIPATHY (Harvard College), Princeton University; BENA M. TSHISHIKU (University of Chicago), University of Chicago; DMITRY VAINTROB (Harvard University), Massachusetts Institute of Technology; MARTIN R. VALDEZ-VIVAS (Stanford University), Stanford University; ROBERT A. VAN GORDER (University of Central Florida), Cornell University; MICHAEL VISCARDI (Harvard

University) Massachusetts Institute of Technology; ALEXANDRIA V. VOLKENING (University of Maryland Baltimore County), Johns Hopkins University; JONATHAN P. WANG (Harvard University), Massachusetts Institute of Technology; DANIEL K. WELLS (Northwestern University), Northwestern University; KATELYN R. WHITE (University of California Santa Cruz), University of California Santa Cruz; JOHN D. WILTSHIRE-GORDON (University of Chicago), University of Michigan Ann Arbor; SARAH WOLFF (Dartmouth College), Dartmouth College; CYNTHIA I. WOOD (Rice University), Rice University; VICTORIA Y. H. WOOD (University of California Berkeley), University of California Berkeley; JOSEPH WOODWORTH (University of Maryland), University of California Los Angeles.

—From an NSF announcement

Jungic Awarded 2011 PIMS Education Prize

VESELIN JUNGIC of Simon Fraser University has been awarded the 2011 PIMS Education Prize of the Pacific Institute for the Mathematical Sciences. The prize recognizes individuals who have played a major role in encouraging activities that have enhanced public awareness and appreciation of mathematics, as well as those who foster communication among various groups concerned with mathematical education at all levels.

Jungic has been involved in an enrichment program for high school students and the codevelopment of a distance-education version of introductory calculus in which lectures are available as video streams. He has been a leader in Simon Fraser University's Aboriginal university preparation programs and in creating mentorship programs for Aboriginal students at the Vancouver Friendship Center and at the Native Education College. He produced and coauthored an animated film in both English and Blackfoot as part of an initiative to develop curricular materials in an Aboriginal context.

—From a PIMS announcement

Guggenheim Fellowships Awarded

The John Simon Guggenheim Memorial Foundation has announced the names of 180 artists, scholars, and scientists from the United States, Canada, and the United Kingdom who were selected as Guggenheim Fellows for 2011. Guggenheim Fellows are appointed on the basis of distinguished achievement in the past and exceptional promise for future accomplishment. The mathematicians selected to receive the 2011 fellowships are BJORN POONEN, Massachusetts Institute of Technology, mathematics; DIMITRIS N. POLITIS, University of California San Diego, statistics; VIJAY VAZIRANI, Georgia Institute of Technology, computer science; and VAHID TAROKH, Harvard University, applied mathematics.

—From a Guggenheim Foundation news release

SIAM Fellows Elected

The Society for Industrial and Applied Mathematics (SIAM) has elected its new fellows for 2011. Their names and institutions follow.

MARK J. ABLowitz, University of Colorado Boulder; KENDALL E. ATKINSON, University of Iowa; CLAUDE W. BARDOS, Institut de Mathématiques de Jussieu; JOHN T. BETTS, Boeing; CHARLES R. DOERING, University of Michigan; JIM DOUGLAS JR., University of Chicago/Purdue University; ALAN S. EDELMAN, Massachusetts Institute of Technology; CHARBEL FARHAT, Stanford University; JEAN-PIERRE FOUQUE, University of California Santa Barbara; ALAN M. FRIEZE, Carnegie Mellon University; KENNETH M. GOLDEN, University of Utah; THOMAS A. GRANDINE, Boeing; WILLIAM D. GROPP, University of Illinois Urbana-Champaign; PHILIP HOLMES, Princeton University; ILSE C. F. IPSE, North Carolina State University; CHRISTOPHER K. R. T. JONES, University of North Carolina Chapel Hill; DAVID E. KEYES, Columbia University/King Abdullah University of Science and Technology; SUZANNE M. LENHART, University of Tennessee Knoxville; JOHN G. LEWIS, Cray Incorporated; ZHI-QUAN (TOM) LUO, University of Minnesota; OLVI L. MANGASARIAN, University of California San Diego/University of Wisconsin Madison; BERNARD J. MATKOWSKY, Northwestern University; JAMES MCKENNA, Bell Laboratories; VOLKER L. MEHRMANN, Technische Universität Berlin; BORIS MORDUKHOVICH, Wayne State University; K. W. (BILL) MORTON, University of Oxford Computing Laboratory; RICARDO H. NOCHETTO, University of Maryland College Park; BERESFORD N. PARLETT, University of California Berkeley; AHMED H. SAMEH, Purdue University; ROBERT D. SKEEL, Purdue University; CRAIG A. TRACY, University of California Davis; STEPHEN J. WRIGHT, University of Wisconsin Madison; JINCHAO XU, Pennsylvania State University; YA-XIANG YU, Chinese Academy of Sciences.

—From a SIAM announcement

Lalonde Appointed CRM Director

FRANÇOIS LALONDE of the University of Montreal has been appointed director of the Centre de Recherches Mathématiques (CRM) beginning June 1, 2011. Lalonde previously served as director from 2004 to 2008. He holds a Canada Research Chair in Differential Geometry and Topology and is a Fellow of the Royal Society of Canada and of the Fields Institute. His research focuses on fundamental problems in symplectic topology, including the classification of symplectic spaces and their mathematical structures, the study of their transformations and behavior under deformation, and their connections to the quantum domain.

—From a CRM announcement