Mathematics People

2009–2010 AMS Centennial Fellowship Awarded

The AMS has awarded its Centennial Fellowship for 2009–10 to ANTONIO MONTALBÁN of the University of Chicago. The fellowship carries a stipend of US$75,000, an expense allowance of US$7,500, and a complimentary Society membership for one year.

Antonio Montalbán

Antonio Montalbán got his bachelor's degree at the Universidad de la República, which is in Uruguay, where he grew up. He then got his Ph.D. in 2005 from Cornell University under the supervision of Richard A. Shore. Montalbán was a Dickson Instructor at the University of Chicago for a year and also did a one-year postdoc at the University of Victoria Wellington. Since 2007 he has been an assistant professor at the University of Chicago.

Montalbán's research field is logic, more specifically computability theory. In general, he is interested in measuring the complexity of proofs and constructions from classical mathematics. He plans to use his fellowship to visit Berkeley, among other places, and to work on finding the proof-theoretic strength of Laver's theorem and other theorems that seem to require proofs of particularly high complexity.

Please note: Information about the competition for the 2010–11 AMS Centennial Fellowships will be published in the "Mathematics Opportunities" section of an upcoming issue of the *Notices*.

—Allyn Jackson

Sloan Fellowships Awarded

The Alfred P. Sloan Foundation has announced the names of the recipients of the 2009 Sloan Research Fellowships. Each year the foundation awards 118 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 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 2009 awardees in mathematics: GERARD AWANOU, Northern Illinois University; FRANCESCO CALEGARI, Northwestern University; IZZET COSKUN, University of Illinois; CIPRIAN DEMETER, University of Indiana; JULIEN DUBÉDAT, Columbia University; JUSTIN A. HOLMER, Brown University; CHIU-YEN KAO, Ohio State University; THOMAS LAM, Harvard University; ROBERT LIPSHITZ, Columbia University; DAN MARGALIT, Tufts University; ALINA MARIAN, University of Illinois, Chicago; YOICHIRO MORI, University of Minnesota; JESSE PETERSON, Vanderbilt University; JIAN SONG, Rutgers University; LUIS E. SILVESTRE, University of Chicago; JULIANNA TYMOCZKO, University of Iowa; LAUREN K. WILLIAMS, Harvard University; and WOTAO YIN, Rice University.

—From a Sloan Foundation announcement

NSF Graduate Fellowships Announced

The National Science Foundation (NSF) has awarded a number of Graduate Research Fellowships for fiscal year 2009. 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 2009, followed by their undergraduate institutions (in parentheses) and the institutions at which they plan to pursue graduate work.

BORIS ALEXEEV (Massachusetts Institute of Technology), Princeton University; CARLOS EDUARDO ARRECHE

(Princeton University), University of Chicago; JOSHUA D. BATSON (Yale University), Massachusetts Institute of Technology; DORIS DOBI (Massachusetts Institute of Technology), University of California, Berkeley; ARTHUR J. FRIEND (Georgia Institute of Technology), Massachusetts Institute of Technology; MAXWELL J. GRAZIER G'SELL (California Institute of Technology), Stanford University; RUSSELL E. HOWES (Brigham Young University), University of California, Los Angeles; TYLER L. KELLY (University of Georgia), Columbia University; SARAH KHASAWINAH (Bryn Mawr College), Oxford University; SAM J. LEWALLEN (Harvard University), Princeton University; SAMUEL LICHTENSTEIN (Harvard University), Princeton University; AARON MAZEL-GEE (Brown University), Harvard University; GREGORY T. MINTON (Harvey Mudd College), Massachusetts Institute of Technology; ANDREW N. NILES (University of Rochester), University of California, Berkeley; NATHAN K. PFLUEGER (Stanford University), Massachusetts Institute of Technology; ANATOLY PREYGEL (Harvard University), Massachusetts Institute of Technology; STEVEN V. SAM (University of California, Berkeley), Massachusetts Institute of Technology; HAKAN ALI-JOHN SEYALIOGLU (College of William and Mary), University of California, Los Angeles; SHRENIK N. SHAH (Harvard University), Princeton University; Samuel S. Watson (University of Mississippi), Stanford University; JAMES E. WEIGANDT (Purdue University), Purdue University; and ERIC R. WOFSEY (Washington University), Harvard University.

—From an NSF announcement

Li Receives ONR Young Investigator Award

The Office of Naval Research (ONR) has announced fifteen aspiring researchers as award recipients of the U.S. Navy's 2009 Young Investigator Program (YIP). Award recipients were selected from 193 proposals submitted for the highly competitive program. Winners will receive a three-year research grant up to US$510K.

The 2009 YIP winning recipients include PING LI of the Department of Statistical Science, Cornell University, whose project title is "Processing Massive Data; Fundamental Techniques and Applications".

YIP has been in place at ONR since 1985 and seeks to identify and support academic scientists and engineers who have received a doctorate or equivalent degree within the past five years and who show exceptional promise for doing cutting-edge research. YIP's objectives are to attract outstanding faculty members of institutions of higher education to the Department of the Navy's research program, support their research, and encourage their teaching and research careers.

—From an ONR News Release

2009 Clay Research Awards

The 2009 Clay Research Awards were presented at the Clay Research Conference, held May 4–5, 2009, at Harvard University.

The awards were presented "to JEAN-LOUP WALDSPURGER for his work in p-adic harmonic analysis, particularly his contributions to the transfer conjecture and the fundamental lemma. This work, combined with that of others, makes it possible to finally resolve important, long-standing parts of the Langlands program"; and "to IAN AGOL and to DANNY CALEGARI and DAVID GABAI for their solutions of the Marden Tameness Conjecture, and, by implication through the work of Thurston and Canary, of the Ahlfors Measure Conjecture."

The Langlands program is a collection of conjectures and theorems that unify the theory of automorphic forms, relating it intimately to the main stream of number theory, with close relations to harmonic analysis on algebraic groups as well as arithmetic algebraic geometry. Since its origins in the winter of 1966–67, when it was laid out in a letter from Langlands to André Weil, it has served as the basis of much deep work, including applications to many famous problems in number theory, e.g., Artin's conjectures on L-functions, Fermat's Last Theorem, and the behavior of Hasse-Weil zeta functions.

The tameness conjecture asserts that a hyperbolic 3-manifold with finitely-generated fundamental group is homeomorphic to the interior of a compact 3-manifold (possibly with boundary). The Ahlfors conjecture asserts that the limit set of a finitely generated Kleinian group (i.e., the minimal invariant set on the Riemann sphere, which is the boundary at infinity of hyperbolic 3-space) has either full or zero measure, and in the former case the action of the group on it is ergodic.

Recipients of the Clay Research Award are named as Clay Research Scholars, and receive flexible research support for a period of one year. They also receive the bronze sculpture *Figureight Knot Complement VII/CMI* by Helaman Ferguson.

Previous recipients of the award are Clifford Taubes and Claire Voisin (2008), Alex Eskin, Christopher Hacon, James McKernan, Michael Harris, and Richard Taylor (2007), Manjul Bhargava and Nils Dencker (2005), Ben Green and Gérard Laumon and Bao-Châu Ngô (2004), Richard Hamilton and Terence Tao (2003), Oded Schramm and Manindra Agrawal (2002), Edward Witten (2001), Alain Connes and Laurent Lafforgue (2000), and Andrew Wiles (1999). Please see `http://www.claymath.org` for more information.

—Clay Mathematics Institute Announcement

Browning Awarded 2009 Balaguer Prize

The Ferran Sunyer i Balaguer Foundation has awarded the Ferran Sunyer i Balaguer Prize for 2009 to TIM BROWNING

of Bristol University, United Kingdom, for his monograph *Quantitative Arithmetic of Projective Varieties.* According to the prize citation, the monograph deals with "computing asymptotic estimates for the number of rational points in algebraic varieties defined over Q that have infinitely many rational points. This is done using methods coming from analytic number theory (like the Hardy-Littlewood circle method) and some techniques coming from arithmetic algebraic geometry (the universal torsor, for instance)." The monograph features "a detailed discussion of the conjectures in the subject, like Manin conjectures and the dimension growth conjecture."

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 (approximately US$19,800); the winning monographs are published by Birkhäuser Verlag.

—From a Ferran Sunyer i Balaguer Foundation announcement

Kelly Awarded John von Neumann Theory Prize

The 2008 John von Neumann Theory Prize, the highest prize given in the field of operations research and management science, has been awarded to FRANK P. KELLY of the University of Cambridge "for his profound contributions to the mathematical theory of stochastic networks, and for applications of these theories to the understanding, performance evaluation, and design of telecommunications networks." The award, which is presented by the Institute for Operations Research and the Management Sciences (INFORMS), carries a cash award of US$5,000.

—From an INFORMS announcement

CMS Prizes Awarded

The Canadian Mathematical Society (CMS) has announced the awarding of several major prizes.

LIA BRONSARD of McMaster University has been awarded the 2010 Krieger-Nelson Prize, which recognizes outstanding research by a woman mathematician. Bronsard specializes in the study of singular limits of solutions of partial differential equations. According to the prize citation, "her research brings rigorous methods of analysis to bear on problems arising in the physical sciences, and in particular those involving singular geometrical structures such as vortices, phase transition layers, and grain boundaries."

MIKHAIL LYUBICH of Stony Brook University and the University of Toronto has been named recipient of the 2010 Jeffery-Williams Prize, which recognizes mathematicians who have made outstanding contributions to mathematical research. According to the prize citation, "Lyubich is a leader in the field of dynamical systems. He is one of the founders of modern real and complex one-dimensional dynamics, having in many ways shaped the development of the field."

PATRICK BROSNAN of the University of British Columbia has been honored with the 2009 Coxeter-James Prize, which recognizes young mathematicians who have made outstanding contributions to mathematical research. The prize citation calls Brosnan "a young mathematician of unusual breadth, depth and scope; his work has had significant impact in several areas of mathematics, including motives, algebraic cycles, Hodge theory, algebraic groups, algebraic combinatorics, analytic number theory, and mathematical physics."

—From a CMS announcement

Miermont Awarded Rollo Davidson Prize

GREGORY MIERMONT of Ecole Normale Supérieure, Paris, has been awarded the 2009 Rollo Davidson Prize for his "original contributions to the understanding of random trees and large random planar maps."

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

—University of Cambridge announcement

Prizes of the CRM

The Centre de Recherches Mathématiques (CRM) in Montreal has awarded several prizes for 2009.

The 2009 André-Aisenstadt Mathematics Prize has been awarded to VALENTIN BLOMER of the University of Toronto. The prize, consisting of C$3,000 (approximately US$2,500) and a medal, recognizes achievements in research by young Canadian mathematicians. According to the prize citation, Blomer solved "a deep and difficult problem of Paul Erdős" that "revolved around getting precise estimates for the number of integers up to a given point represented by a given binary quadratic form, where that point is small enough that the coefficients of the form will have significant impact on the shape of the solution." His recent work has focused on the subconvexity problem for automorphic L-functions.

The CRM and the Statistical Society of Canada (SSC) have awarded the 2009 CRM-SSC Prize in Statistics to HUGH CHIPMAN of Acadia University. According to the prize citation, "his contributions to computational data analysis and especially to nonparametric Bayesian modeling have had an important impact in statistics and bioinformatics. He has made outstanding contributions to the application of Bayesian statistical inference for data analysis. His work on Bayesian variable selection in experimental design, on a Bayesian paradigm for nonparametric

wavelet regression, and on a Bayesian approach to CART (Classification and Regression Tree) modeling is seminal. His papers are widely cited and have a profound impact on the development of computer-intensive nonparametric data analysis." The prize, which includes a cash award of C$3,000 (approximately US$2,500), is given to a Canadian citizen or a permanent resident of Canada whose research was carried out primarily in Canada.

The CRM and the Canadian Association of Physicists (CAP) have awarded the 2009 CAP-CRM Prize in Theoretical and Mathematical Physics to HONG GUO of McGill University "for his pioneering work on the ab initio theory of transport in nanoscale systems, including the theory of circuits in which current flows through molecules." The annual prize is given jointly in recognition of exceptional achievements in theoretical and mathematical physics. It carries a cash award of C$2,000 (approximately US$1,600).

—From a CRM announcement

Scott and Shafarevich Awarded Gold Medals of the Sobolev Institute

DANA SCOTT of Carnegie Mellon University and IGOR SHAFAREVICH have been awarded the 2009 Gold Medals for Great Contributions in Mathematics by the Sobolev Institute of Mathematics in Novosibirsk. The Gold Medal was established in 2007 to mark the fiftieth anniversary of the Institute. Previous recipients of the medal have been V. G. Vizing, Yu. I. Zhuravlev, V. L. Makarov, G. I. Marchuk, and L. V. Ovsyannikov (2007), and I. M. Gel'fand and S. M. Nikolskii (2008).

—From a Sobolev Institute announcement

Humboldt Foundation Awards Given

The Alexander von Humboldt Foundation has given several awards for 2008 and 2009 to researchers in the mathematical sciences.

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$6,500,000) and is endowed by the Federal Ministry of Education and Research. MARC LEVINE of Northeastern University has been selected to receive this award in 2009. He works in the field of algebraic geometry and has made "outstanding, innovative contributions to his subject, not least his recent theory of algebraic cobordism."

The Humboldt Research Award for Senior U.S. Scientists includes a monetary grant and support for research at a German university. PREDRAG CVITANOVIĆ of the Georgia Institute of Technology has received a Research Award for 2009 for his body of work in chaos and turbulence theory. His research interests include nonlinear dynamics, chaos, quantum chaos, quantum field theory, statistical mechanics, and group theory. MARK STRIKMAN of Pennsylvania State University has received a 2009 Humboldt Research Award "for his academic achievements and his successful collaborations with German scientists during his previous visits to Germany." He has created mathematical models of novel collisions involving large transfers of energy and momentum. TOSHIYUKI KOBAYASHI of the University of Tokyo received a 2008 Humboldt Research Award "for his pioneering contributions to geometric analysis, in particular to the theory of lattices for homogeneous spaces and representation theory."

—Elaine Kehoe

Fulbright Awards Announced

The J. William Fulbright Foundation and the United States Department of State, Bureau of Educational and Cultural Affairs, have announced the names of the recipients of the Fulbright Foreign Scholarships for 2008–09. The U.S. scholars in the mathematical sciences who have been awarded Fulbright scholarships to lecture or conduct research, together with their home institutions and the countries in which they plan to use the awards, are as follows.

AKRAM ALDROUBI (Vanderbilt University), Argentina; RICHARD M. ARON (Kent State University), Ireland; JOHN J. BORKOWSKI JR. (Montana State University, Bozeman), Thailand; JUSTIN J. CORVINO (Lafayette College), Sweden; EDWARD T. DOBSON (Mississippi State University), Slovenia; SONIA M. GARCIA (United States Naval Academy), Ireland; JIE SHEN (Purdue University), Canada; and JOSEPH S. VERDUCCI (Ohio State University, Columbus), Ireland.

—From a Fulbright Awards 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 2009. Guggenheim Fellows are appointed on the basis of distinguished achievement in the past and exceptional promise for future accomplishment.

The names of the awardees whose work involves the mathematical sciences, together with their affiliations and areas of research interest, are: SALLY BLOWER, University of California, Los Angeles: mathematical modeling of infectious diseases; JIANQING FAN, Princeton University: feature selection and statistical learning in ultrahigh-dimensional space; A. S. FOKAS, University of Cambridge: boundary value problems, integrability, and medical imaging; WILHELM SCHLAG, University of Chicago: blowup and longtime

existence for nonlinear hyperbolic equations; and SHOU-WU ZHANG, Columbia University: topics in arithmetical algebraic geometry.

—From a Guggenheim Foundation news release

Putnam Prizes Awarded

The winners of the sixty-ninth 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: BRIAN R. LAWRENCE, California Institute of Technology; SEOK HYEONG LEE, Stanford University; ARNAV TRIPATHY, Harvard University; BOHUA ZHAN, Massachusetts Institute of Technology; and YUFEI ZHAO, Massachusetts Institute of Technology. Each received a cash award of US$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: Harvard University (Zachary Abel, Iurie Boreico, Arnav Tripathy); Princeton University (Peter Z. Diao, John V. Pardon, Adrian I. Zahariuc); Massachusetts Institute of Technology (Qingchun Ren, Xuancheng Shao, Yufei Zhao); Stanford University (Young Hun Jung, Nathan K. Pflueger, Jeffrey Wang); and the California Institute of Technology (Jason C. Bland, Zarathustra E. Brady, Brian Lawrence).

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 is awarded periodically to a woman whose participation in the Putnam Competition is deemed particularly meritorious. This prize was awarded to VIKTORIYA KRAKOVNA, University of Toronto. The prize carries a cash award of US$1,000.

—From a Putnam announcement

Intel Science Talent Search Winners Announced

A young mathematician has received the top scholarship award in the 2009 Intel Science Talent Search. ERIC LARSON, a seventeen-year-old student from Eugene, Oregon, received a US$100,000 scholarship from the Intel Foundation for his research project classifying mathematical objects called fusion categories. Larson's work describes these in certain dimensions for the first time.

Two other students with mathematics projects received awards in the competition. NOAH ARBESFELD, a seventeen-year-old student from Lexington, Massachusetts, was awarded sixth place and a US$25,000 scholarship for his work seeking to understand a fundamental structure underlying all of algebra, with potential impact for string theory. NILESH TRIPURANENI, an eighteen-year-old student from Fresno, California, received the ninth-place award of a US$20,000 scholarship for formulating a set of hydrodynamic equations that may provide a potential method of better understanding the first movements of the universe and that could aid in the development of a quantum theory of gravity.

—From an Intel Corporation announcement