

# Mathematics People

## 2008–2009 AMS Centennial Fellowship Awarded

The AMS has awarded a Centennial Fellowship for 2008–2009 to CHRISTOPHER HOFFMAN of the University of Washington. The fellowship carries a stipend of US\$70,000, an expense allowance of US\$7,000, and a complimentary Society membership for one year.

Christopher Hoffman has done work in ergodic theory, probability theory, and combinatorics. Currently his work focuses on probabilistic models from statistical physics.

He received a bachelor's degree from the University of Wisconsin, Madison, in 1992 and a Ph.D. from Stanford



**Christopher Hoffman**

University in 1996 under the supervision of Don Ornstein. After postdoctoral positions at the Hebrew University of Jerusalem and the University Maryland, in 1999 Hoffman joined the faculty at the University of Washington, where he is currently an associate professor.

He plans to use the fellowship to continue his work on stochastic growth processes by attending the program on discrete probability at the Institut Mittag-

Leffler as well as the program on probabilistic methods in mathematical physics at the Centre de Recherches Mathématiques in Montreal.

**Please note:** Information about the competition for the 2009–2010 AMS Centennial Fellowships will be published in the “Mathematics Opportunities” section of an upcoming issue of the *Notices*.

—Allyn Jackson

## Ferran Sunyer i Balaguer Prize Awarded

The Ferran Sunyer i Balaguer Foundation has awarded the Ferran Sunyer i Balaguer Prize for 2008 to LUIS BARREIRA of the Instituto Superior Técnico, Lisbon, Portugal, for

the monograph *Dimension and Recurrence in Hyperbolic Dynamics*. According to the prize citation, the monograph “provides a broad unified introduction to the study of dimension and recurrence in hyperbolic dynamics, focusing on the rich interplay of four main areas of research: hyperbolic dynamics, dimension theory, multifractal analysis, and quantitative recurrence. It also provides detailed discussion of the foundations, main results, and main techniques in the field.”

The Ferran Sunyer i Balaguer Foundation (<http://ffsb.iec.cat/EN/>) of the Institut d'Estudis Catalans 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 €12,000 (approximately US\$19,000); the winning monographs are published by Birkhäuser-Verlag.

—From a Ferran Sunyer i Balaguer Foundation announcement

## Forni Awarded First Brin Prize in Dynamical Systems

The Brin Prize, endowed by Michael Brin of the University of Maryland, is a new international prize to be given biennially for outstanding work in the theory of dynamical systems and related areas. The prize will be given for specific mathematical achievements that appear as a single publication or a series of publications in refereed journals, proceedings, or monographs. The goal of the prize is to recognize mathematicians who have made a substantial impact on the field at an early stage of their careers. Normally the recipients should be no more than twelve years from receipt of their doctoral degrees. The prize includes a cash award of US\$15,000.

The first Brin Prize has been awarded to GIOVANNI FORNI of the University of Maryland, College Park, for two articles in *Annals of Mathematics*: “Solutions of the cohomological equation for area-preserving flows on compact surfaces of higher genus”, (2), **146** (1997), no. 2, 295–344; and “Deviation of ergodic averages for

area-preserving flows on surfaces of higher genus", (2), 155 (2002), no. 1, 1-103.

Forni received his Ph.D. from Princeton University in 1993 with a thesis on the dynamics of twist maps of the annulus, written under the supervision of J. N. Mather. He has held positions at the University of Bologna (1993-1996), Princeton University (1996-2001), Northwestern University (2001-2005), and the University of Toronto (2005-2007). He spent the years 1994-1996 at the Newton Institute in Cambridge, England, on a Newton Fellowship from the European Union. He was an Alfred P. Sloan Research Fellow from 2000 to 2002. His current research is focused on the dynamics of rational polygonal billiards and of nilflows on higher-step nilmanifolds.

The prize was awarded at the spring 2008 Maryland meeting of the semiannual Workshop in Dynamical Systems and Related Topics, which honored Michael Brin's sixtieth birthday. The members of the inaugural prize committee were Jean Bourgain, Institute for Advanced Study, Princeton; Anatole Katok (chair), Pennsylvania State University; John N. Mather, Princeton University; Yakov Pesin, Pennsylvania State University; Marina Ratner, University of California, Berkeley; Marcelo Viana, Instituto de Matemática Pura e Aplicada, Brazil; and Benjamin Weiss, Hebrew University of Jerusalem.

—Anatole Katok, Pennsylvania State University

## Porter Receives Sigma Xi Young Investigator Award

MASON PORTER of the University of Oxford is the recipient of the Sigma Xi Young Investigator Award, which recognizes excellence in research. He received his Ph.D. from Cornell University in 2002 and has held positions at Georgia Institute of Technology, the Mathematical Sciences Research Institute in Berkeley, and California Institute of Technology. His research interests include nonlinear science and complex systems, including classical and quantum chaos, billiard systems, nonlinear waves, Bose-Einstein condensation, granular media, nonlinear optics, and social networks.

The award includes a certificate of recognition and a US\$5,000 honorarium. Sigma Xi was founded in 1886 to honor excellence in scientific investigation and to encourage a sense of companionship and cooperation among researchers in all fields of science and engineering.

—From a Sigma Xi announcement

## Veinott Awarded John von Neumann Theory Prize

The 2007 John von Neumann Theory Prize, the highest prize given in the field of operations research and management science, has been awarded to ARTHUR F. VEINOTT JR. of Stanford University "for his profound contributions to

three major areas of operations research and management science: inventory theory, dynamic programming, and lattice programming". 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

## Venkatesh Awarded Salem Prize

AKSHAY VENKATESH of the Courant Institute of Mathematical Sciences, New York University, has been awarded the Salem Prize for 2007. He was selected "for his contributions to the analytic theory of automorphic forms and its applications to classical and modern problems in number theory, in particular his introduction of novel methods that combine analytic- and ergodic-theoretic techniques to resolve long-standing problems".

The Salem Prize is awarded every year to a young mathematician judged to have done outstanding work in the field of interest of Raphael Salem, primarily the theory of Fourier series.

—From a New York University announcement

## Rollo Davidson Prize Awarded

BRIAN RIDER of the University of Colorado, Boulder, and BÁLINT VIRÁG of the University of Toronto have been named winners of the Rollo Davidson Prize for 2008. Rider was honored for his work in random matrix theory and applied probability. Virág was selected for his work in random walks and random matrix theory.

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

## Kilpatrick and Sfarf Receive ICM Medals

The Felix Klein and Hans Freudenthal Medals were created by the International Commission on Mathematical Instruction (ICMI) to recognize outstanding achievement in mathematics education research. The Felix Klein Medal, named for the first president of ICMI (1908-1920), honors lifetime achievement. The Hans Freudenthal Medal, named for the eighth president of ICMI (1967-1970), recognizes a major cumulative program of research.

The Felix Klein Medal for 2007 has been awarded to JEREMY KILPATRICK of the University of Georgia in recognition of "his extraordinary ability to reflect on, critically analyze, and unify essential aspects" of the field of mathematics education and his understanding of "the need

for reconciliation and balance among the points of view taken, the approaches undertaken, and the methodologies adopted for research.” He has worked in Brazil, Colombia, El Salvador, Italy, New Zealand, Singapore, South Africa, Spain, Sweden, and Thailand, demonstrating his “cosmopolitan perspective” on mathematics education. His work includes numerous publications on problem solving, on the history of research in mathematics education, on teachers’ proficiency, on curriculum change and its history, and on assessment.

The Hans Freudenthal Medal for 2007 has been awarded to ANNA SFARD of the University of Haifa, Israel, and the University of London in recognition of her “highly significant and scientifically deep accomplishments within a consistent, long-term research program focused on objectification and discourse in mathematics education”. She has published numerous papers and book chapters within a broad range of topics. According to the prize citation, her work is “always very thorough, original and intellectually sharp. She often uncovers the tacit if not hidden assumptions behind notions, approaches, and conventional wisdom” and generates “new fundamental and striking insights into complex issues.”

Full citations of the work of these medalists can be found on the ICMI website, <http://www.mathunion.org/ICMI/>. Presentation of the 2007 medals and invited addresses of the recipients will take place at ICME-11 in Monterrey, Mexico, in July 2008; the 2005 medals will also be presented at that time.

Previous recipients of the ICMI medals are: Guy Brousseau (2003 Felix Klein Medal), Celia Hoyles (2003 Hans Freudenthal Medal), Ubiratan D’Ambrosio (2005 Klein Medal), and Paul Cobb (2005 Freudenthal Medal).

—From an ICMI announcement

## CMS Prizes Awarded

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

Yael Karshon of the University of Toronto has been awarded the 2009 Krieger-Nelson Prize, which recognizes outstanding research by a woman mathematician. Her work involves symmetries of symplectic manifolds, formalized as Hamiltonian group actions. According to the prize citation, she “has obtained deep results on the classification of such structures. One of her significant contributions is the idea of ‘abstract moment maps’, which are maps between (not necessarily symplectic) manifolds with group actions, and which generalize moment maps on symplectic manifolds.” Recently she has worked in symplectic topology, involving symplectic capacities and symplectomorphism groups.

Stephen Kudla of the University of Toronto has been selected to receive the 2009 Jeffery-Williams Prize, which recognizes mathematicians who have made outstanding contributions to mathematical research. According to the prize citation, “he has initiated a revolutionary program which reveals surprising, deep connections between two

ostensibly disparate areas of mathematics: the theory of automorphic forms and the theory of algebraic cycles on Shimura varieties. The impressive body of established results and far-reaching conjectures that has emerged from Kudla’s work has come to be referred to as the ‘Kudla Program,’” and it has been featured in research seminars around the world.

Ravi Vakil of Stanford University has been awarded the 2008 Coxeter-James Prize, which recognizes young mathematicians who have made outstanding contributions to mathematical research. According to the prize citation, “Vakil has become one of the world’s leading algebraic geometers. He has made fundamental and lasting contributions in intersection theory, Schubert calculus, and in the study of the singularities of moduli spaces.”

—From a CMS announcement

## Milne Receives Euler Medal

Stephen Milne of Ohio State University has been chosen to receive the 2007 Euler Medal, awarded annually by the Institute of Combinatorics and Its Applications (ICA). The medal is given to mathematicians who have made distinguished lifetime contributions to combinatorial research and who are still active in research. According to the prize citation, Milne was selected in recognition of “his deep and extensive generalizations of the classical works of Jacobi, Ramanujan, and Euler”. His work extends each of Jacobi’s classical sums of squares formulas to a nontrivial infinite family of formulas. He “obtains his results via a variety of methods and observations from the theory of elliptic functions, continued fractions, Lie algebras, Schur functions, multiple basic hypergeometric series related to the classical groups, and clever combinatorial reasoning.”

—From an ICA announcement

## Reid and Zelen Awarded Parzen Prizes

Nancy Reid of the University of Toronto and Marvin Zelen of Harvard University have been awarded the 2008 Emanuel and Carol Parzen Prize for Statistical Innovation. Reid was honored “for leadership in statistical science, for outstanding research in theoretical statistics and highly accurate inference from the likelihood function, and for influential contributions to statistical methods in biology, environmental science, high energy physics, and complex social surveys”. Zelen was honored “for international leadership in statistical science and medical research, for mentoring biostatisticians and physicians, for advocating statistical research stimulated by problems from other disciplines, and for his inspiring leadership of Harvard Biostatistics, Dana Farber Cancer Institute, and Frontier Research Foundation”.

The Parzen Prize is awarded in even-numbered years by the Department of Statistics at Texas A&M University

to North American statisticians who have made outstanding and influential contributions to the development of applicable and innovative statistical methods.

—*Department of Statistics, Texas A&M University*

## Binder and Gallavotti Awarded Boltzmann Medal

KURT BINDER of the University of Mainz and GIOVANNI GALLAVOTTI of the University of Rome have been awarded the Boltzmann Medal for 2007. The medal is awarded by the International Union of Pure and Applied Physics (IUPAP) Commission on Statistical Physics to honor outstanding achievements in statistical physics.

Binder was honored for his work on the statistical mechanics of magnetic systems, alloys, glasses, and polymers, and Gallavotti was honored for his contributions to equilibrium and nonequilibrium statistical physics, including the development of a constructive renormalization group for phase transitions, dynamical systems, and quantum liquids.

—*Elaine Kehoe*

## Hughes Awarded Timoshenko Medal

THOMAS J. R. HUGHES of the University of Texas, Austin, has been awarded the Timoshenko Medal of the American Society of Mechanical Engineers for his work in computational methods in solid, structural, and fluid mechanics. His recent work includes the determination of hydrodynamic noise sources in turbulent flows, stabilized and multiscale methods in large eddy simulation, and the development of cardiovascular surgical procedures based on simulations of patient-specific models.

The Timoshenko Medal is awarded in recognition of distinguished contributions to the field of applied mechanics and honors Stephen P. Timoshenko, a world-renowned authority in the field.

—*Elaine Kehoe*

## Guggenheim Fellowships Awarded

The John Simon Guggenheim Memorial Foundation has announced the names of 190 artists, scholars, and scientists from the United States and Canada who were selected as Guggenheim Fellows for 2008. 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 as follows: DOUGLAS N. ARNOLD, University of Minnesota, Twin Cities: finite element exterior calculus; OVIDIU COSTIN, Ohio State University: study of singular differential systems using generalized summability techniques; CHANDRASHEKHAR B. KHARE, University of California, Los Angeles: motives, Galois representations, and automorphic forms; PAOLO MANCOSU, University of California, Berkeley: the interplay between philosophy of mathematics and mathematical logic; PETER OZSVÁTH, Columbia University: Heegaard diagrams and holomorphic disks; and MARC A. SUCHARD, University of California, Los Angeles: towards solutions to the fundamental problems in statistical phylogenetics.

—*From a Guggenheim Foundation news release*

## Sloan Fellowships Awarded

The Alfred P. Sloan Foundation has announced the names of the recipients of the 2008 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\$45,000 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.

The names and institutions of the 2008 awardees in mathematics are as follows: DMYTRO ARINKIN, University of North Carolina, Chapel Hill; WOLFGANG BANGERTH, Texas A&M University; VALENTIN BLOMER, University of Toronto; PAOLO CASCINI, University of California, Santa Barbara; TIMOTHY P. CHARTIER, Davidson College; KEVIN J. COSTELLO, Northwestern University; LAURA DEMARCO, University of Illinois, Chicago; KIRSTEN EISENTRAGER, Pennsylvania State University; NOUREDDINE EL KAROUI, University of California, Berkeley; INWON C. KIM, University of California, Los Angeles; MARCUS A. KHURI, Stony Brook University; JOACHIM KRIEGER, University of Pennsylvania; JEAN-FRANCOIS LAFONT, Ohio State University; FENGYAN LI, Rensselaer Polytechnic Institute; MAURO MAGGIONI, Duke University; LAURA F. MATUSEVICH, Texas A&M University; TOUFIC MUBADDA SUIDAN, University of Arizona; NATASA PAVLOVIC, University of Texas, Austin; BEN WEINKOVE, Harvard University; and ANDREJ ZLATOS, University of Chicago.

—*From a Sloan Foundation announcement*

## 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 2007–2008. 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.

GREGORY R. CONNER (Brigham Young University), Slovenia; MICHAEL T. LACEY (Georgia Institute of Technology), Argentina; REGINA Y. LIU (Rutgers University), Spain; MICHAEL R. PENKAVA (University of Wisconsin, Eau Claire), Hungary; and PHILIP E. PROTTER (Cornell University), France.

—From a Fulbright Awards announcement

## NSF Graduate Fellowships Announced

The National Science Foundation (NSF) has awarded its Graduate Research Fellowships for fiscal year 2008. 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. The names of the awardees in the mathematical sciences for 2008, followed by their undergraduate institutions (in parentheses) and the institutions at which they plan to pursue graduate work, are as follows.

JUNE ANDREWS (University of California, Berkeley), Cornell University; MICHAEL J. BARANY (Cornell University), Princeton University; ADAM L. BOOCHER (University of Notre Dame), University of California, Berkeley; NAOMI BROWNSTEIN (University of Central Florida), Duke University; REX T. CHEUNG (Brown University), Massachusetts Institute of Technology; DUSTIN T. CLAUSEN (Harvard University), Columbia University; KELLY B. FUNK (University of Louisville), Cornell University; ILYA GRIGORIEV (University of Chicago), Princeton University; IAN R. HAKEN (University of California, Berkeley), University of California, Berkeley; JOSEPH HIRSH (Queens College, City University of New York), University of California, Berkeley; KENJI Y. KOZAI (Harvey Mudd College), University of California, Berkeley; AARON D. KLEINMAN (Princeton University), University of California, Berkeley; ANAND P. KULKARNI (University of California, Berkeley), University of California, Berkeley; BRANDON W. LEVIN (Duke University), Harvard University; ALISON B. MILLER (Harvard University), Princeton University; ANAND U. OZA (Princeton University), Cambridge University; AARON SILBERSTEIN (Princeton University), Harvard University; PABLO R. SOLIS (Massachusetts Institute of Technology), University of California, Berkeley; CLAIRE M. TOMESCH (Carnegie Mellon University), University of Chicago; KEVIN H. WILSON (University of Michigan, Ann Arbor), Harvard University; JESSE WOLFSON (Yale University), University of California, Berkeley; ELENA YUDOVINA (Harvard University), Massachusetts Institute of Technology; INNA I. ZAKHAREVICH (Harvard University), Massachusetts Institute of Technology.

—From an NSF announcement

## Putnam Prizes Awarded

The winners of the sixty-eighth William Lowell Putnam Mathematical Competition have been announced. The Putnam Competition is administered by the Mathematical Association of America 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 six highest ranking individuals, listed in alphabetical order, were: JASON C. BLAND, California Institute of Technology; BRIAN R. LAWRENCE, California Institute of Technology; AARON C. PIXTON, Princeton University; QINGCHUN REN, Massachusetts Institute of Technology; XUANCHENG SHAO, Massachusetts Institute of Technology; and ARNAV TRIPATHY, Harvard University. 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, Tiankai Liu, Alison B. Miller); Princeton University (Andrei Negut, Aaron C. Pixton, Andrei B. Ungureanu); Massachusetts Institute of Technology (Hansheng Diao, Eric C. Price, Yufei Zhao); Stanford University (Serin Hong, Nathan K. Pflueger, Kiat Chuan Tan); and Duke University (Tiras Khandhawit, Peng Shi, Lingren Zhang). 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 ALISON B. MILLER of Harvard University for the third year in a row. The prize carries a cash award of US\$1,000.

—From a Putnam announcement

## Intel Science Talent Search Winners Announced

Two high school students working in mathematics have been awarded Intel Science Talent Search Scholarships for 2008. KATHERINE BANKS, a seventeen-year-old student at Stuyvesant High School, Brooklyn, New York, was awarded fourth place and a US\$25,000 scholarship for her project, a geometric analysis of the number of lattice points inside polygons with nine sides. PHILIP MOCZ, an eighteen-year-old student at Mililani High School, Mililani, Hawaii, received the eighth place award and a US\$20,000 scholarship for designing and using a statistical algorithm to discover hidden patterns of nearby stars.

—From an Intel Corporation announcement