
Mathematics People

AMS Centennial Fellowships Awarded

The AMS has awarded five Centennial Fellowships for 1997–1998. The recipients are OVIDIU COSTIN, University of Chicago; FRED DIAMOND, Massachusetts Institute of Technology; GANG LIU, Massachusetts Institute of Technology; ZHONGWEI SHEN, University of Kentucky; and STEPHANIE FRANK SINGER of Haverford College.

Ovidiu Costin

Ovidiu Costin received his Ph.D. from Rutgers University in 1995 under the direction of Martin D. Kruskal. Since then he has been an L.E. Dickson Instructor at the University of Chicago.



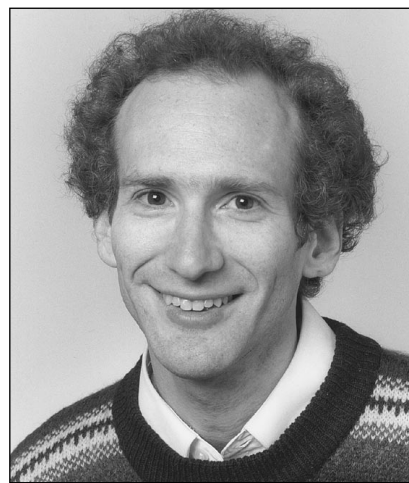
His recent research centers on rigorous exponential asymptotics. He showed that formal exponential series solutions (transseries) of generic differential systems are summable with respect to an extension of Borel summation and are in one-to-one iso-

morphic correspondence with actual solutions. He applied the technique he developed to exponential asymptotic representations of functions, nonlinear Stokes phenomena, and hyperasymptotics. His plans include extending this analysis to difference equations and PDEs and carrying out applications to analytic classification of differential systems.

Other research focuses on asymptotic properties of difference equations, integrability, connection problems, and statistical mechanics. He will use his Centennial Fellowship to visit the Mathematical Sciences Research Institute in Berkeley, the Courant Institute at New York University, and Rutgers University.

Fred Diamond

Fred Diamond received his Ph.D. from Princeton University in 1988 under the supervision of Andrew Wiles. He has



held positions at Ohio State University, Boston University, Columbia University, and Cambridge University and has visited the Institute for Advanced Study. Currently a lecturer at MIT, Diamond will become an associate professor at Rutgers University in the fall of 1997. He plans to use the Centennial Fellowship to visit MIT in 1998.

Diamond's area of research is number theory, with an emphasis on modular forms and Galois representations. Recently he improved the methods of R. Taylor and Wiles and strengthened Wiles's results on the modularity of elliptic curves. Diamond's current collaboration with B. Conrad and Taylor provides more progress in this direction.

Gang Liu

Gang Liu received his Ph.D. in 1995 from the State University of New York at Stony Brook under the direction of Dusa

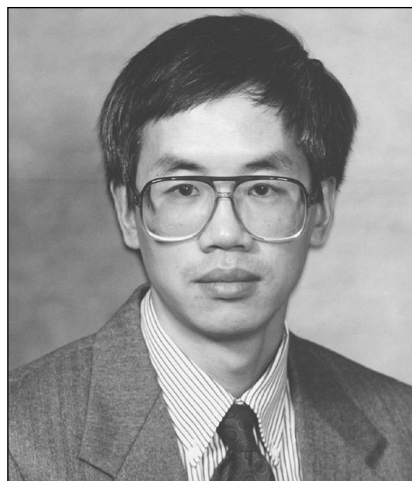


McDuff. Since then he has been a C. L. E. Moore Instructor at MIT. His research has been in symplectic topology and mathematical physics, including quantum cohomology, Floer homology, and the existence of closed characteristics on a hypersurface of contact type. His work with Gang Tian generalized Floer homology

from the semipositive case to all closed symplectic manifolds, thereby solving the Arnold conjecture completely. He plans to use his Centennial Fellowship to visit MIT and Harvard University.

Zhongwei Shen

Zhongwei Shen received his Ph.D. from the University of Chicago in 1989 under the direction of Carlos Kenig. After



two years as an instructor at Princeton University he went to Purdue University as an assistant professor. In 1995 he moved to the University of Kentucky, where he is currently an assistant professor.

Shen's research has been in partial differential equations and harmonic analysis, including boundary value problems in non-

smooth domains, unique continuation problems for subelliptic operators, and Schrödinger operators. Recently he has focused on the spectral theory of Schrödinger operators with magnetic fields. He will use his Centennial Fellowship to visit the Mathematical Sciences Research Institute in Berkeley.

Stephanie Frank Singer

Stephanie Frank Singer earned a Ph.D. in mathematics from the Courant Institute at New York University in 1991. Since then she has been an assistant professor at Haverford College. She has spent one semester visiting Columbia University and one year in Cambridge, Massachusetts, visiting both MIT and the Bunting Institute of Radcliffe College. In addition to her research program she is concerned with mathematics education reform and improving the scien-



tific literacy of the general public.

Singer has done research in integrable systems and symplectic geometry. She has analyzed the geometry of various analogs and generalizations of the Toda lattice and is currently studying Hamiltonian actions on symplectic orbifolds. She has also studied linguistic issues in mathematics education. She will

use her Centennial Fellowship at the University of Pennsylvania, studying the applications of integrable systems and algebraic geometry to particle physics.

Please note: Information about the competition for the 1998-1999 AMS Centennial Fellowships will be published in the "Mathematics Opportunities" section of an upcoming issue of the *Notices*.

—Allyn Jackson

National Academy of Sciences Elections

The National Academy of Sciences has announced the election of 60 new members and 15 foreign associates. Among those elected were a number who work in the mathematical sciences. Their names and affiliations are: MICHAEL AIZENMAN, Princeton University; CHARLES H. BENNETT, IBM T. J. Watson Research Center; JEFF CHEEGER, New York University; JOEL E. COHEN, Rockefeller University; CARL DEBOOR, University of Wisconsin, Madison; WILLIAM FULTON, University of Chicago; ERIC S. LANDER, Whitehead Institute and Massachusetts Institute of Technology; and EDWARD NELSON, Princeton University. Elected as foreign associates were GRIGORY I. BARENBLATT, University of California, Berkeley, and ALAIN CONNES, Collège de France.

National Academy of Engineering Elections

The National Academy of Engineering has announced the election of 85 new members and 8 foreign associates. Among those elected were ROBERT E. BIXBY of Rice University and CPLEX Optimization, Inc.; CLEVE B. MOLER, chairman and chief scientist of MathWorks, Inc.; and MARGARET H. WRIGHT, member of the technical staff at Bell Laboratories, Lucent Technologies.

— from *Chronicle of Higher Education*

Ferran Sunyer i Balaguer Prize Awarded

The Institut d'Estudis Catalans has awarded the fifth Ferran Sunyer i Balaguer Prize to A. BÖTTCHER and Y. I. KARLOVICH for their monograph entitled *Carleson curves, Muckenhoupt weights, and Toeplitz operators*. The book is a self-contained introduction to the spectral theory of Toeplitz operators with piecewise continuous symbols and of singular integral operators with piecewise continuous coefficients on Carleson curves with Muckenhoupt weights.

The prize consists of 1,800,000 pesetas (approximately \$12,400). According to the terms of the prize, the monograph will be published in the Birkhäuser series Progress in Mathematics. The Ferran Sunyer i Balaguer Prize is awarded each year to a mathematical monograph of an expository nature presenting the latest developments in an active area of mathematics research in which the author(s) has (have) made important contributions.

Note: For information on how to submit manuscripts for consideration for the prize, see the "Mathematics Opportunities" section in this issue of the *Notices*.

— from Institut d'Estudis Catalans announcement

Rollo Davidson Prizes Awarded

The Trustees of the Rollo Davidson Trust have awarded Rollo Davidson Prizes for 1997 to JAMES R. NORRIS of the University of Cambridge for his work on stochastic analysis on the borderline of differential geometry and to MARTIN G. SCHWEIZER of the Technical University of Berlin for his work on hedging in incomplete financial markets.

— Rollo Davidson Trust Announcement

Guggenheim Fellowships Announced

The John Simon Guggenheim Foundation has announced the selection of 164 artists, scholars, and scientists to receive Guggenheim Fellowships. The awards are made on the basis of unusually distinguished achievement in the past and exceptional promise for future accomplishment.

The mathematicians receiving Guggenheim Fellowships, together with their affiliations and areas of research, are listed below.

LUCIANO BOI, University of Quebec at Montreal: mathematical developments in the geometrization of theoretical physics; IVAN V. CHEREDNIK, University of North Carolina at Chapel Hill: studies in representation theory and its applications; ALAN FRIEZE, Carnegie Mellon University: algorithms and probability; IAIN M. JOHNSTONE, Stanford

University: sparsity in nonparametric function estimation; SERGIU KLAINERMAN, Princeton University: nonlinear wave equations; THOMAS M. LIGGETT, University of California, Los Angeles: stochastic models of interacting systems; KARI VILONEN, Brandeis University: geometric methods in representation theory and automorphic forms; and LAI-SANG YOUNG, University of California, Los Angeles: the mathematical theory of dynamical systems.

— from Guggenheim Foundation News Release

Sloan Fellows Announced

The Alfred P. Sloan Foundation has announced the names of 100 outstanding young scientists and economists who have been selected to receive Sloan Research Fellowships. Grants of \$35,000 for a two-year period are administered by each fellow's institution. Once chosen, the 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 research aims.

More than 400 nominations for the 1997 awards were reviewed by a committee of distinguished scientists. The mathematicians on the committee were Spencer J. Bloch, University of Chicago; David McLaughlin, New York University; and Karen Uhlenbeck, University of Texas at Austin.

The Sloan Fellows in mathematics are: MICHAEL P. BRENNER, Massachusetts Institute of Technology; DMITRI BURAGO, Pennsylvania State University; DAVID C. DOBSON, Texas A&M University; ALEX ESKIN, University of Chicago; GYORGY HALLER, Brown University; GREG HJORTH, University of California, Los Angeles; LISA CLAIRE JEFFREY, McGill University; BORIS KHESIN, University of Toronto; KATE OKIKOLU, University of California, San Diego; PAUL A. MILEWSKI, University of Wisconsin; DAVID J. MURAKI, New York University; RICARDO PEREZ-MARCO, University of California, Los Angeles; ZHENBO QIN, Oklahoma State University; ALAN W. REID, University of Texas at Austin; KAREN E. SMITH, University of Michigan; ESTEBAN G. TABAK, New York University; A. SHADI TAHVILDAR-ZADEH, Princeton University; VLADIMIR VOEVODSKY, Northwestern University; JAMES ZHANG, University of Washington; and SHOU-WU ZHANG, Columbia University.

— from Sloan Foundation news release

Putnam Competition Winners Announced

In March the winners of the William Lowell Putnam Competition were announced. For the first time in the 57-year history of the competition, a woman has placed among the top scorers. Administered by the Mathematical Association of America, the competition consists of an examination containing challenging mathematics problems designed to test originality as well as technical competence. A total of

2,407 students from 408 colleges and universities in Canada and the U.S. participated in the competition.

The six highest ranking individuals, each receiving a \$1,000 prize, are: JEREMY L. BEM, Cornell University; IOANA DUMITRIU, New York University; ROBERT D. KLEINBERG, Cornell University; DRAGOS N. OPREA, Harvard University; DANIEL K. SCHEPLER, Washington University, St. Louis; and STEPHEN S. WANG, Harvard University.

As the only woman to ever have placed among the highest-scoring individuals, Ioana Dumitriu garnered a large amount of media attention, including stories in the *New York Times* and on National Public Radio. She also received the Elizabeth Lowell Putnam Prize of \$500, which is given each year to the highest-scoring woman in the Putnam Competition. A native of Romania, Dumitriu was awarded last year's Alice Schafer Prize from the Association for Women in Mathematics.

Institutions with at least three registered participants obtain a team ranking in the Putnam Competition, based on the ranking of three designated individual participants. There were teams from 294 institutions. The five teams taking top honors are listed below, in order of their ranking (the names of team members are in alphabetical order). Duke University: Andrew O. Dittmer, Robert R. Schneck, Noam M. Shazeer; Princeton University: Michael J. Goldberg, Craig R. Helfgott, Jacob A. Rasmussen; Harvard University: Chung-chieh Shan, Stephen S. Wang, Hong Zhou; Washington University, St. Louis: Mathew B. Crawford, Daniel K. Schepler, Jade P. Vinson; California Institute of Technology: Christopher C. Chang, Hui Jin, Hanhui Yuan.

The first place team receives an award of \$7,500, and each member of the team receives \$500. The awards for second place are \$5,000 and \$400, for third place \$3,000 and \$300, for fourth place \$2,000 and \$200, and for fifth place \$1,000 and \$100.

— Allyn Jackson

Mathematics Winners in Westinghouse Competition

Students with mathematics projects placed among the top ten winners of the Westinghouse Science Talent Search. The competition is the nation's oldest and most respected high school science scholarship competition. Many Westinghouse winners have gone on to receive Nobel Prizes. Fields Medalists Paul J. Cohen and David B. Mumford were Westinghouse awardees.

Placing third in the competition and receiving a \$20,000 scholarship is Nicholas Karl Eriksson, eighteen years old, who attends Sentinel High School in Missoula, Montana. His project was a mathematics paper that used algebra and number theory to investigate partition functions, which are functions that count the number of ways a whole number can be written as a sum of whole numbers. He hopes to study mathematics at the Massachusetts Institute of Technology.

Placing fourth in the competition and receiving a \$15,000 scholarship is Davesh Maulik, seventeen years old, who attends Roslyn High School in Roslyn, New York. Maulik's project consisted of a paper entitled "Polynomial Automorphisms of Splitting Fields". He received the Karl Menger Award, sponsored by the AMS, at the International Science and Engineering Fair for each of the last three years. He plans to study mathematics at Harvard University.

— from Science Service news release

Deaths

GENNADIY N. BAGAEV, of Moscow State Technical University, Moscow, Russia, died on March 4, 1997. Born April 3, 1937, he was a member of the Society for 4 years.

MARY K. BENNETT, of the University of Massachusetts, died March 15, 1997. Born January 30, 1940, she was a member of the Society for 32 years.

CHARLES R. DEETER, of Texas Christian University, died on October 26, 1996. Born December 30, 1930, he was a member of the Society for 39 years.

DAVID J. DICKINSON, professor emeritus of the University of Massachusetts, died on January 20, 1997. Born September 16, 1920, he was a member of the Society for 51 years.

J. SUTHERLAND FRAME, professor emeritus of Michigan State University, died on February 27, 1997. Born December 24, 1907, he was a member of the Society for 64 years.

WOLFGANG H. FUCHS, professor emeritus of Cornell University, died on February 23, 1997. Born May 19, 1915, he was a member of the Society for 49 years.

ULRICH HORNUNG, of the University of Fed. Armed Forces, Neubiberg, Germany, died on December 4, 1996. Born November 21, 1941, he was a member of the Society for 12 years.

DONALD M. HYERS, professor emeritus of the University of Southern California, died on April 13, 1997. Born in 1913, he was a member of the Society for 60 years.

GREGORY KARPILOVSKY, of California State University at Chico, died on April 4, 1997. Born December 5, 1940, he was a member of the Society for 20 years.

WILLIAM KARUSH, professor emeritus of California State University at Northridge, died on February 22, 1997. Born March 1, 1917, he was a member of the Society for 57 years.

JOHN R. KINNEY, professor emeritus of Michigan State University, died on January 25, 1997. Born June 2, 1917, he was a member of the Society for 53 years.

RUILIN LONG, of the Institute of Mathematics, Academia Sinica, People's Republic of China, died on August 13, 1996. Born December 15, 1939, he was a member of the Society for 2 years.

A. N. MELIKHOV, head of Taganrog Radio Engineering, Taganrog, Russia, died on October 1996. Born April 2, 1939, he was a member of the Society for 19 years.

Mathematics People

HARRIET F. MONTAGUE, professor emeritus of SUNY at Buffalo, died on March 19, 1997. Born June 9, 1905, she was a member of the Society for 67 years.

DEWAYNE S. NYMANN, of Chattanooga, Tennessee, died on March 1, 1997. Born June 27, 1935, he was a member of the Society for 38 years.

ROGER N. PEDERSON, of Carnegie Mellon University, died on December 11, 1996. Born December 28, 1930, he was a member of the Society for 42 years.

LAWRENCE GORDON ROBERTS, of the University of British Columbia, Vancouver, died on September 28, 1996. Born September 28, 1942, he was a member of the Society for 20 years.

WILLIAM H. SIMONS, professor emeritus of Oregon State University, died on September 6, 1996. Born December 2, 1914, he was a longtime member of the Society.

ARNOLD VOBACH, of the University of Houston, died on March 12, 1997. Born November 20, 1932, he was a member of the Society for 33 years.

CLAUDIO WITHALM, of the Institute of Mathematics of Graz University, Graz, Austria, died on December 2, 1996. Born November 16, 1943, he was a member of the Society for 8 years.