Mathematics People

Pardalos Receives 2013 Carathéodory Prize

Panos Pardalos of the University of Florida has been awarded the Constantin Carathéodory Prize of the International Society of Global Optimization in recognition of his lifetime contributions to global optimization. These include work in such varied areas as complexity analysis, phase transition problems, and optimality conditions for nonconvex optimization; nonconvex network optimization problems; global optimization algorithms for quadratic optimization and general linear complementarity problems; continuous approaches for discrete optimization (including nonlinear assignment problems and maximum clique); multi-objective optimization; applications of global optimization in diverse areas such as neuroscience, energy systems, and finance; and data mining and optimization for the analysis of very large and massive datasets.

The Carathéodory Prize is awarded biannually to an individual (or a group) for fundamental contributions to theory, algorithms, and applications of global optimization. The prize is awarded for outstanding work that reflects contributions that have stood the test of time. The criteria include scientific excellence, innovation, significance, depth, and impact. The prize carries a cash award of US$2,000 and a certificate.

—From an International Society of Global Optimization announcement

Chatterjee Awarded Loève Prize

Sourav Chatterjee of Stanford University has been awarded the 2013 Line and Michel Loève International Prize in Probability for work of "extraordinary breadth". According to the prize citation, he has "brought new ideas to bear upon classical topics—an extension of Lindeberg's proof of the central limit theorem to an invariance principle for arbitrary smooth functions of weakly dependent random variables, a simpler proof of the famous KMT theorem on strong approximation of a random walk by Brownian motion, and a new version of Stein's method, reducing a large class of normal approximation problems to variance bounding exercises. On another side he has taken up Talagrand's Challenge to Mathematicians (to give rigorous analysis of spin glass models from statistical physics) by providing analyses of random overlap structures and showing that the Sherrington-Kirkpatrick model is chaotic under small perturbations of the couplings at any temperature in the absence of an external field. Other topics to which he has made substantial contributions include large deviations for random graphs and random matrices, first-passage percolation, and probabilistic methods for discrete nonlinear Schrödinger equations."

The prize commemorates Michel Loève, professor at the University of California Berkeley from 1948 until his untimely death in 1979. The prize was established by his widow, Line, shortly before her death in 1992. Awarded every two years, it is intended to recognize outstanding contributions by researchers in probability who are under forty-five years old. It carries a cash award of US$30,000.

—From a University of California Berkeley announcement

Hauenstein Receives DARPA Young Faculty Award

Jonathan Hauenstein of North Carolina State University has been awarded a 2013 DARPA Young Faculty Award by the Defense Advanced Research Projects Agency (DARPA) for his work on numerical algebraic geometric methods for data analysis. He was awarded a grant of US$492,613 for the years 2013–2015. He received his Ph.D. in mathematics in 2009 from the University of Notre Dame. He has also held postdoctoral fellowships at the Fields Institute (2009) and at the Institut Mittag-Leffler (2011). He is currently assistant professor at North Carolina State.

The DARPA Young Faculty Award (YFA) program provides funding, mentoring, and industry and Department of Defense (DoD) contacts to young scientists within five years of appointment to a tenure-track position and helps them to develop their research ideas in the context of DoD needs. The long-term goal of the YFA program is to develop the next generation of academic scientists, engineers, and mathematicians in key disciplines who will focus a significant portion of their careers on DoD and national security issues. At the end of two years,

up to four YFA recipients will be selected to continue as DARPA Director's Fellows, receiving up to US$500,000 in additional funding over one year to further advance their research toward achieving breakthrough DoD capabilities.

—From a DARPA announcement

Pe Pereira Awarded Rubio de Francia Prize

MARIA PE PEREIRA of the Institut de Mathématiques de Jussieu has been awarded the 2013 Rubio de Francia Prize of the Royal Spanish Mathematical Society (RSME) for her work on the Nash problem for surfaces, which started in her Ph.D. dissertation. Subsequently, Pe Pereira and Fernandez de Bobadilla solved the problem in an article "The Nash problem for surfaces", published in *Annals of Mathematics* in 2012.

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 carries a monetary award of 3,000 euros (approximately US$4,000).

The prize jury consisted of Noga Alon, Jesús Bastero Eleizalde (chair), Pablo Mira, Gilles Pisier, Marta Sanz-Solé, Agata Smoktunowicz, and Cédric Villani. Recent prize recipients, in chronological order, include A. Enciso, C. Beltran, Á. Pelayo, and F. Gancedo.

—From a Royal Spanish Mathematical Society announcement

Prizes of the Canadian Mathematical Society

JOHN GRANT MCLOUGHLIN of the University of New Brunswick has been named the recipient of the 2013 Adrien Pouliot Award of the Canadian Mathematical Society (CMS) in recognition of his outstanding contributions to mathematics education in Canada. He was honored for his teaching and mentorship, both across Canada and overseas, particularly in Bhutan and in Trinidad and Tobago. He has been active as a guest teacher in elementary schools, in recreational mathematical exhibits in public settings, in organizing a public library lecture series, and in such local events as math camps and efforts to improve the numeracy skills of nursing students.

The Adrien Pouliot Award was inaugurated in 1995 to recognize individuals who have made significant and sustained contributions to mathematics education in Canada. The award is named for Adrien Pouliot, the second CMS president, who taught mathematics at Université Laval for fifty years and was instrumental in developing Laval's engineering and science faculty.

MARC RYSER of McGill University has been awarded the 2013 Doctoral Prize for his work in mathematical modeling in bone biology and nonlinear SPDEs. His thesis examines bone remodeling and the stochastic Allen-Cahn equation and related models. His work on bone remodeling, part of his thesis, was published in the *SIAM Journal of Applied Mathematics*.

The CMS Doctoral Prize is awarded annually to recognize a Canadian doctoral student who has demonstrated exceptional performance in the area of mathematical research.

—From CMS announcements

Holmström Awarded 2013 CME/MSRI Prize

BENGT HOLMSTRÖM of the Massachusetts Institute of Technology has been awarded the 2013 CME Group-MSRI Prize in Innovative Quantitative Applications by the CME Group and the Mathematical Sciences Research Institute (MSRI) for his work in the fields of contracting and incentives. He has made major contributions to the theory of moral hazard and mechanism design, the theory of the firm, corporate governance, and most recently the demand and supply of liquidity and its relationship to financial crises.

The annual prize is awarded to an individual or a group to recognize originality and innovation in the use of mathematical, statistical, or computational methods for the study of the behavior of markets and, more broadly, of economics. The award carries a cash prize of US$25,000.

—From a CME-MSRI announcement

NDSEG Fellowships Awarded

Sixteen young mathematicians have been awarded National Defense Science and Engineering Graduate (NDSEG) Fellowships by the Department of Defense (DoD) for 2013. The fellowships are sponsored by the United States Army, Navy, and Air Force. As a means of increasing the number of U.S. citizens trained in disciplines of military importance in science and engineering, DoD awards fellowships to individuals who have demonstrated ability and special aptitude for advanced training in science and engineering.

The following are the names of the fellows in mathematics, their institutions, and the offices that awarded the fellowships: NOAH ARBESFELD, Columbia University, Air Force Office of Scientific Research (AFOSR); ANDREW BINDER, University of Minnesota-Twin Cities, AFOSR; ADAM BLONIARZ, University of California Berkeley, AFOSR; MARTIN COPENHAVOR, Massachusetts Institute of Technology, Office of Naval Research (ONR); KAVEH DANESH, Harvard University, Army Research Office (ARO); SAMUEL ELDER, Massachusetts Institute of Technology, ONR; ZHOU FAN, Stanford University, ARO; WILLIAM FRANKS, Rutgers University, ONR; EWAIN GWYNNE, Massachusetts Institute of Technology, ARO; DAVID A. HYDE, Stanford University, AFOSR; STEVEN KIM, Brown University, ONR; ERIC LARSON, Massachusetts Institute of Technology, ONR; SARAH

Mousley, University of Illinois at Urbana-Champaign, ONR; Samuel Pimentel, University of Pennsylvania, ARO; Gil Tabak, Stanford University, AFOSR; Jonathan Wang, University of Chicago, ONR.

—From an NDSEG announcement

B. H. Neumann Awards Given

The Australian Mathematics Trust has awarded several B. H. Neumann Awards for service to the mathematics profession. The honorees are Jan Cavanagh, Mike Clapper, Karen Diehl, Jim Green, Jillian Neale, Jacqui Ramagge, Gregory Taylor, and Anthony Telford. The awards honor Bernhard H. Neumann, who supported mathematics and mathematics teaching at all levels in Australia.

—From an Australian Mathematics Trust announcement

2013 Davidson Fellows

Three high school students who did mathematics projects were among the twenty students named 2013 Davidson Fellows. Hannah Larson of Eugene, Oregon, received the top-level US$50,000 scholarship for her project "Classification of Some Fusion Categories of Rank 4". Receiving US$10,000 scholarships were Joshua Brakensiek of Phoenix, Arizona, for "Bounds on the Size of Sound Monotone Switching Networks Accepting Permutation Sets of Directed Trees" and William Kuszmaul of Lexington, Massachusetts, for "Equivalence Classes of Permutations Created under Pattern-Replacement Relations". The Davidson Fellows Scholarship awards scholarships worth US$50,000, US$25,000, and US$10,000 to extraordinary young people age eighteen and under who have completed a significant piece of work. The Davidson Fellows is a program of the Davidson Institute for Talent Development.

—From a Davidson Fellows announcement

Royal Society of Canada Elections

The Royal Society of Canada (RSC) has elected eighty-four new fellows in 2013. Prakash Panangaden of McGill University, whose research career has spanned computer science, mathematics and physics, was elected a new fellow. He has worked on programming languages, probabilistic systems, quantum computation and relativity, and is particularly known for deep connections between domain theory and continuous state Markov processes.

—From a Royal Society of Canada announcement

Solution to Lie Algebra Sudoku puzzle
(from page 1470)

G_2	E_7	E_8	C_n	F_4	D_n	B_n	E_6	A_n
B_n	E_6	F_4	E_8	A_n	E_7	G_2	C_n	D_n
A_n	D_n	C_n	G_2	B_n	E_6	E_8	F_4	E_7
D_n	F_4	G_2	A_n	C_n	E_8	E_6	E_7	B_n
E_8	C_n	E_7	E_6	D_n	B_n	A_n	G_2	F_4
E_6	B_n	A_n	F_4	E_7	G_2	C_n	D_n	E_8
C_n	E_8	D_n	E_7	E_6	A_n	F_4	B_n	G_2
F_4	G_2	B_n	D_n	E_8	C_n	E_7	A_n	E_6
E_7	A_n	E_6	B_n	G_2	F_4	D_n	E_8	C_n