

# Mathematics People

## Goldreich Awarded Knuth Prize



**Oded Goldreich**

ODED GOLDRICH of the Weizmann Institute of Science has been awarded the 2017 Donald E. Knuth Prize for “fundamental and lasting contributions to theoretical computer science in many areas, including cryptography, randomness, probabilistically checkable proofs, inapproximability, property testing, as well as complexity theory in general.” According to the prize citation, Goldreich has “advanced these

fields through many survey articles and several first-class textbooks. He has contributed eminent results, new basic definitions and pointed to new directions of research. Goldreich has been one of the driving forces for the theoretical computer science community for three decades.” Goldreich received his PhD at the Technion—Israel Institute of Technology in 1983. He has been professionally affiliated with the Massachusetts Institute of Technology (1983–1986) and the Technion (1983–1994) and joined the faculty of the Weizmann Institute in 1994. He is interested in politics, sociology, philosophy, and psychology and has written essays concerning issues related to the politics of academia.

The Knuth Prize for outstanding contributions to the foundations of computer science is awarded every 1.5 years by the Association for Computing Machinery Special Interest Group on Algorithms and Computation Theory (ACM-SIGACT) and the Institute of Electrical and Electronics Engineers Technical Committee on the Mathematical Foundations of Computing. The prize includes a cash award of US\$5,000.

—From an ACM/IEEE announcement

## Grima Awarded 2017 COSCE Prize



**Clara Grima**

CLARA GRIMA, associate professor of applied mathematics at the University of Seville, has been awarded the 2017 Prize for the Communication of Science by the Confederation of Scientific Societies of Spain (COSCE) with the collaboration of the Ramón Areces Foundation. Grima has authored prize-winning mathematics blogs and has approximately 23,000 followers on Twitter. She participated in the television program *Orbit*

*Laika*, has given popular lectures for all ages, and has participated in plays. Grima tells the *Notices*: “Although mathematics has been a passion since I learned to add, I never worried about how to teach or popularize it until my children were six and eight years old. Their curiosity and, above all, their skepticism and critical spirit inspired me to present mathematics as stories and adventures for children. ‘Children’ includes all curious, restless, and hungry-to-learn persons, regardless of age. The main theorem I want to prove is: ‘Everybody likes math, but some do not know it yet.’ When I was young I wanted to be like Madonna, on stage in front of a crowd, or a writer. Now, thanks to math, those dreams have come true.”

—From a University of Seville announcement

## US Team Wins First Place at European Girls' Mathematical Olympiad



US EGMO team members (l-r) Qi Qi, Angela Deng, Wanlin Li, and Siye Zhu.

The team from the United States took first place at the European Girls' Mathematical Olympiad (EGMO) held April 6–12, 2017, in Zurich, Switzerland. The team from Ukraine finished second, and the team from the Russian Federation took third place. The 2017 EGMO US team members were ANGELA DENG, SIYE ZHU, QI QI, and WANLIN LI. Sherry Gong served as team leader and Jenny Iglesias as deputy leader. Each member of the team was awarded a gold medal for individual performance. Qi received a perfect score.

Students from forty-three countries participated in the competition for female high school students. Sixteen students were awarded gold medals, twenty-seven received silver, and forty-three bronze medals. The US team is organized by the Mathematical Association of America as part of the MAA American Mathematics Competition.

—From an MAA announcement

## 2017 SIAM Prizes

The Society for Industrial and Applied Mathematics (SIAM) has awarded several prizes for 2017.

The John von Neumann Lectureship was awarded to BERNARD J. MATKOWSKY of Northwestern University. The lectureship is awarded for outstanding and distinguished contributions to the field of applied mathematical sciences and for the effective communication of these ideas to the community.

The Prize for Distinguished Service to the Profession was awarded to YA-XIANG YUAN of the Chinese Academy of Sciences. The prize is awarded to an applied mathematician who has made distinguished contributions to the furtherance of applied mathematics on the national level.

The Ralph E. Kleinman Prize was awarded to EMMANUEL CANDÈS of Stanford University. The prize is awarded for

outstanding research or other contributions that bridge the gap between mathematics and applications.

The George Pólya Prize for Mathematical Exposition was awarded to NICHOLAS TREFETHEN of the University of Oxford. The prize is awarded every two years to an outstanding expositor of the mathematical sciences.

The W. T. and Idalia Reid Prize in Mathematics was awarded to JEAN-MICHEL CORON of University Pierre et Marie Curie. The prize is given for research in or other contributions to the broadly defined areas of differential equations and control theory.

The James H. Wilkinson Prize in Numerical Analysis and Scientific Computing was awarded to LEK-HENG LIM of the University of Chicago. The prize is awarded for research in or other contributions to numerical analysis and scientific computing during the six years preceding the award.

The I. E. Block Community Lectureship was awarded to EMILY SHUCKBURGH of the British Antarctic Survey. The lecture is intended to encourage public appreciation of the excitement and vitality of science.

The AMS-MAA-SIAM Gerald and Judith Porter Public Lectureship was awarded to INGRID DAUBECHIES of Duke University; her lecture is titled “Mathematics for Art Investigation.” This lecture on a mathematical topic accessible to the broader community is given each year at the Joint Mathematics Meetings.

The SIAM-ACM Prize in Computational Science and Engineering was awarded to THOMAS J. R. HUGHES. The prize is given in recognition of outstanding contributions to the development and use of mathematical and computational tools and methods for the solution of science and engineering problems.

The Award in the Mathematical Contest in Modeling went to Nanjing University of Posts and Telecommunications, People's Republic of China, and North Carolina State University. It is awarded to two of the teams judged “outstanding” in the Mathematical Contest in Modeling (MCM).

The Outstanding Paper Prizes are given for outstanding papers published in SIAM journals. The 2017 prizes were awarded to the following authors:

- JARED L. AURENTZ, THOMAS MACH, RAF VANDEBRIL, and DAVID S. WATKINS for their paper “Fast and backward stable computation of roots of polynomials,” *SIAM Journal on Matrix Analysis and Applications* **36** (2015).
- NIV BUCHBINDER, MORAN FELDMAN, JOSEPH (SEFFI) NAOR, and ROY SCHWARTZ for their paper “A tight linear time (1/2)-approximation for unconstrained submodular maximization,” *SIAM Journal on Computing* **44** (2015).
- THEODORE VO, RICHARD BERTRAM, and MARTIN WECHSELBERGER for their paper “Multiple geometric viewpoints of mixed mode dynamics associated with pseudo-plateau bursting,” *SIAM Journal on Applied Dynamical Systems* **12** (2013).

The SIAM Student Paper Prizes are given to the most outstanding papers submitted to the SIAM student paper competition. The 2017 prizes were awarded to the following authors:

- ZACHARY J. GRANT, University of Massachusetts Dartmouth, “Explicit strong stability preserving multistage two-derivative time-stepping schemes.”
- BAMDAD HOSSEINI, Simon Fraser University, “Well-posed Bayesian inverse problems: Priors with exponential tails.”
- SHUYANG LING, University of California Davis, “Self-calibration and biconvex compressive sensing.”

—From SIAM announcements

## Prizes of the London Mathematical Society

The London Mathematical Society (LMS) has awarded a number of prizes for 2017.

The Pólya Prize was awarded to ALEX WILKIE of the University of Oxford for his profound contributions to model theory and to its connections with real analytic geometry.

A Senior Whitehead Prize was awarded to PETER CAMERON of the University of St. Andrews for his exceptional research contributions across combinatorics and group theory. His fertile imagination and encouragement of others have sparked activity in many fields.

A Naylor Prize and Lectureship was awarded to JOHN R. KING of the University of Nottingham for his profound contributions to the theory of nonlinear PDEs and applied mathematical modelling.

A Senior Anne Bennett Prize was awarded to ALISON ETHERIDGE of the University of Oxford in recognition of her outstanding research on measure-valued stochastic processes and applications to population biology and for her impressive leadership and service to the profession.

The Berwick Prize was awarded to KEVIN COSTELLO of the Perimeter Institute, Canada, for his paper “The partition function of a topological field theory,” published in the *Journal of Topology* in 2009, which characterizes the function as the unique solution of a master equation in a Fock space.

Whitehead Prizes were awarded to the following individuals:

JULIA GOG of the University of Cambridge for her wide-ranging contributions to the mathematical understanding of disease dynamics, particularly influenza, based on both mathematical mastery and profound biological insight, gained from her long-standing collaborations with immunologists and epidemiologists.

ANDRÁS MÁTHÉ of the University of Warwick for his original insights into deep problems from geometric measure theory, combinatorics, and real analysis.

ASHLEY MONTANARO of the University of Bristol for his outstanding and strikingly diverse contributions across the field of quantum computation and quantum information theory.

OSCAR RANDAL-WILLIAMS of the University of Cambridge for his contributions to algebraic topology and in particular the study of moduli spaces of manifolds.

JACK THORNE of the University of Cambridge for his contributions to number theory and in particular to the Langlands program.

MICHAEL WEMYSS of the University of Glasgow for the profound applications of algebraic and homological techniques to algebraic geometry.

—From an LMS announcement

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Photo of Clara Grima courtesy of the Grima family.

Photo of US EGMO team courtesy of MAA American Mathematics Competitions.

## Twenty Years Ago in the Notices

October 1997:

Ennio De Giorgi (1928–1996)  
by Jacques-Louis Lions and Francois Murat  
[www.ams.org/notices/199709/murat.pdf](http://www.ams.org/notices/199709/murat.pdf)

This obituary memorializes Ennio De Giorgi, an exceptional mathematician and human being. Also appearing in the same issue is an interview with Ennio De Giorgi ([www.ams.org/notices/199709/emmer.pdf](http://www.ams.org/notices/199709/emmer.pdf)), by Michele Emmer. The obituary includes discussions of his contributions to minimal surfaces and geometric measure theory, partial differential equations, and logic. The wide-ranging interview reflects a life devoted to the quest for knowledge, as De Giorgi muses on the nature of mathematics and the sciences and on creativity and the imagination. *Uno Spirito Puro*, a biography of De Giorgi written by Andrea Perlangeli, was reviewed by Enrico Bombieri in the June/July 2016 *Notices* ([www.ams.org/journals/notices/201606/rnoti-p640.pdf](http://www.ams.org/journals/notices/201606/rnoti-p640.pdf)).