Mathematics People

Xu Awarded ICTP-IMU Ramanujan Prize

Chenyang Xu

Chenyang Xu of the Beijing International Center of Mathematical Research has been awarded the 2016 Ramanujan Prize of the Abdus Salam International Center for Theoretical Physics (ICTP), the International Mathematical Union, and the Department of Science and Technology of the Government of India. Xu was honored for his outstanding works in algebraic geometry, notably in the area of birational geometry, including works on both log canonical pairs and on Q-Fano varieties, and on the topology of singularities and their dual complexes.

The prize citation reads, in part: "Building his work in part on applications and ramifications of methods from the minimal model program, Xu has now demonstrated expertise over an impressively wide range of techniques in algebraic geometry and beyond to tackle a broad spectrum of geometric problems from birational geometry in characteristic 0 and characteristic p, topology of algebraic varieties, arithmetic geometry and Kähler geometry, and he has contributed to the strengthening of the subject of algebraic geometry in China."

Xu received his PhD from Princeton University in 2008 under the direction of János Kollár. He has been a Clay Liftoff Fellow (2008), a member of the Institute for Advanced Study (2008), and a Viterbi Endowed Postdoctoral Scholar at MSRI (2009). He held positions at the Massachusetts Institute of Technology and the University of Utah before moving to the Beijing International Center.

Xu tells the AMS, "I grew up in Sichuan Province, which is located in inland China. I started to consider having my career as a mathematician when I was a college student. That time I was thinking of doing a subject which there were not that many Chinese mathematicians working on, so I naturally chose algebraic geometry. About four years ago, I moved back to China after spending eight years in the US. I'm very glad to see the community of Chinese algebraic geometers has grown quickly in the recent years."

The Ramanujan Prize is awarded annually to a young researcher from a developing country. The prize carries a cash award of US$15,000, and the recipient is invited to deliver a lecture at ICTP.

—Elaine Kehoe

Juschenko Receives 2016 Duszenko Award

Kate Juschenko

Kate Juschenko of Northwestern University has been named the recipient of the second annual Kamil Duszenko Award. According to the prize citation, she "has been distinguished for her work exploring geometric, analytic, and probabilistic aspects of group theory, in particular for providing, with N. Monod, the first examples of finitely generated amenable simple groups." Juschenko was born in Kiev, Ukraine, and she received her PhD from Texas A&M University in 2011 under the direction of Gilles Pisier. She was a postdoctoral fellow at EPFL, Lausanne, and assistant professor at Vanderbilt University before joining the faculty at Northwestern.

The Duszenko Award is given by the Wrocław Mathematicians Foundation (WMF) for outstanding work or research that has significantly contributed to the deepening of knowledge and further progress in the field of mathematics. It was founded in honor of Kamil Duszenko, a young mathematician who died of acute lymphoblastic leukemia at the age of twenty-eight. It will be given at least every two years in the fields of mathematics and hematology.

—From a WMF announcement

Jeffrey Awarded Noether Lectureship

Lisa Jeffrey

Lisa Jeffrey of the University of Toronto has been awarded the 2017 Noether Lectureship by the Association for Women in Mathematics and the AMS. She was honored "for her contributions and leadership in symplectic and algebraic geometry, focused on connections with theoretical physics."

According to the prize citation, "Jeffrey is best known for her joint work with Frances Kirwan on localization and moduli spaces. They determined the structure of the cohomology ring of the moduli space of representations of the fundamental group of a surface. This was an application of their earlier work, developed to study the cohomology rings of symplectic quotients. More recently, Jeffrey's work has focused on the based loop group in K-theory. In joint work with Harada, Holm, and Mare, she showed the connectedness of the level sets of the moment map on the based loop group."

Jeffrey received her DPhil in mathematics from Trinity College, University of Cambridge, in 1992 under the direction of M. F. Atiyah. She held assistant professorships at Princeton University and McGill University before joining the faculty at Toronto. She has been the recipient of the Krieger–Nelson Prize (2000) and the Coxeter–James Lectureship (2001), both from the Canadian Mathematical Society. She was elected a Fellow of the AMS in 2010. Jeffrey will deliver the Noether Lecture at the 2017 Joint Mathematics Meetings in Atlanta, Georgia.

—From an AWM announcement

2016 CAV Award Announced

The 2016 CAV (Computer-Aided Verification) Award was given to:

- Josh Berdine, Facebook
- Cristiano Calcagno, Facebook
- Dino Distefano, Facebook and Queen Mary University of London
- Samin Ishtiaq, Microsoft Research Cambridge
- Peter O'Hearn, Facebook and University College London
- John Reynolds, Carnegie Mellon
- Hongseok Yang, University of Oxford

"for the development of Separation Logic and for demonstrating its applicability in the automated verification of programs that mutate data structures."

Separation Logic was developed in the early 2000s by O'Hearn, Reynolds, Ishtiaq, and Yang, building on earlier work by Burstall in the early 1970s and by O'Hearn and Pym in the late 1990s on Bunched Logic. Afterwards Berdine, Calcagno, Distefano, O'Hearn, and Yang developed tools such as Space Invader and Smallfoot to exploit Separation Logic for automated program verification in industrial-size case studies.

Many researchers are now working on both fundamental and practical issues related to Separation Logic and its use in efficient verification tools. Examples include the SLAyer tool for device drivers developed at Microsoft and the Infer tool for the verification of mobile applications developed at Facebook.

—From a CAV announcement

Seiberg Awarded 2016 Dirac Medal

Nathan Seiberg of the Institute for Advanced Study has been awarded a 2016 Dirac Medal by the International Centre for Theoretical Physics (ICTP). According to the prize citation, he "has made major contributions to supersymmetric field theories elucidating the power of holomorphy to establish the non-renormalisation theorems, deciphering the different phases of N=1 supersymmetric theories and uncovering a strong-weak coupling duality known as Seiberg duality. He (in collaboration with Edward Witten) also made major contributions towards a full non-perturbative understanding of N=2 theories that has led to many further developments in theoretical physics and mathematics." Also honored for their joint work were Mikhail Shifman and Arkady Vainshtein, both of the University of Minnesota. The medals are awarded to scientists who have made significant contributions to theoretical physics and carry a cash award of US$5,000.

—From an ICTP announcement

Donaldson Awarded Doctor Honoris Causa by Universidad Complutense de Madrid

Sir Simon K. Donaldson

Sir Simon K. Donaldson, professor in pure mathematics at Imperial College London, will be awarded the honorary degree Doctor Honoris Causa by Universidad Complutense de Madrid on January 20, 2017. Donaldson is a Fellow of the Royal Society, a permanent member of the Simons Center for Geometry and Physics at Stony Brook University, a foreign member of the US National Academy of Sciences, and a Fellow of the American Mathematical Society. The ceremony and a preceding colloquium are open to the general public.

—Vicente Munoz
Universidad Complutense de Madrid

Jonathan Borwein, 1951–2016

©2010 the Australian Academy of Science.

Jonathan Borwein

Jonathan Borwein of the University of Newcastle, Australia, passed away on August 2, 2016. Borwein was renowned for his vast and far-ranging work in pure mathematics, applied mathematics, optimization theory, computer science, mathematical finance, and, of course, experimental mathematics, in which he has been arguably the world's premier authority. The Google Citation Tracker finds over 22,048 citations.

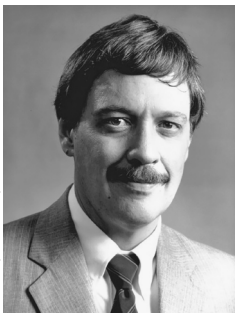
Jon tried at every turn to do research that is accessible and take it to a broad audience. He was famous for his popular work in the computation and analysis of pi. He wrote numerous articles for the Math Drudge blog, the *Conversation*, and the *Huffington Post*. He was a past president of the Canadian Mathematical Society.

Jon was a mentor par excellence, having guided thirty graduate students and forty-two postdoctoral scholars. Working with Jon was not easy—he was a demanding colleague (as the present author will attest)—but for those willing to apply themselves, the rewards have been great.

—David H. Bailey

Editor's Note: Two of Borwein's books are featured in this issue's BookShelf; see p. 1184.

Joseph L. Taylor, 1941–2016



Courtesy University of Utah.

Joseph L. Taylor

Joseph L. Taylor was a mathematician and professor at the University of Utah, who was awarded the 1975 Leroy P. Steele Prize for Seminal Contribution to Research for his paper "Measure Algebras." At Utah he served as department chair, dean, and Vice President for Academic Affairs.

Hugo Rossi, a colleague of Taylor's, said, "Joe's fearless insights, exceptional clarity of thought, and tirelessness while on the hunt, led him to tackle some of the most significant problems of his era, and if not resolve them, to bring new ideas and tools to the task."

Among his colleagues, friends, and family, Taylor was renowned for his sharp sense of humor and love of the outdoors. An avid hunter, hiker, and camper, he explored much of Utah's wilderness. He also trained bird dogs, including one national field champion.

—Based on the obituary in the Salt Lake Tribune, *July 31, 2016*