

Mathematics People

Tikhomirov Awarded CMS Doctoral Prize



Konstantin Tikhomirov

KONSTANTIN TIKHOMIROV of Princeton University has been awarded the 2017 Doctoral Prize of the Canadian Mathematical Society (CMS) for his “outstanding contributions to several open problems in probability theory, convex geometry, functional analysis, and random matrix theory.” According to the prize citation, in his doctoral studies, Tikhomirov investigated “a series of open problems in diverse areas of mathematics. He has written at least

ten papers related to asymptotic geometric analysis, random matrices, probability theory, and convex geometry. In particular, he worked on the problem of estimating the distance between an n -dimensional polytope with a fixed number of vertices and the Euclidian ball. In this case he solved the exact dependence between the dimension and the number of vertices.

“Tikhomirov also considered problems like understanding better the limit of the smallest singular value of some families of random matrices, as well as when the convex hull of a random walk includes the origin. The impact of his work will have many ramifications for its innovation and its ability to be applied in other situations.”

Tikhomirov received his PhD from the University of Alberta in 2016. The Doctoral Prize is awarded annually to a doctoral student from a Canadian university who has demonstrated exceptional performance in mathematical research.

—From a CMS announcement

Prizes of the Mathematical Society of Japan

The Mathematical Society of Japan (MSJ) has awarded its Prizes for Excellent Applied Mathematicians for 2017. TOMOYA MEMMOCHI of the University of Tokyo was honored for the study of L^∞ -error estimates for the finite element approximation of parabolic problems on domains with

smooth boundaries. AKITO SUZUKI of Shinshu University was recognized for a spectral and scattering theoretic proof of the weak limit theorem for quantum walks. SHUYA CHIBA of Kumamoto University was honored for his work on 2-factors containing perfect matchings in bipartite graphs and directed 2-factors in digraphs. JUNYA NISHIGUCHI of Kyoto University was recognized for his work entitled “How Should We Understand the Time-Delay Structure in Dynamics?” YUTO MIYATAKE of Nagoya University received the prize for his work on finite difference schemes preserving multiple invariants for evolutionary partial differential equations.

—From an MSJ announcement

2017 Davidson Fellows Chosen



Arjun Ramani



Felix Wang

Two high school students whose projects involved the mathematical sciences have been named 2017 Davidson Fellows. ARJUN RAMANI, eighteen, of West Lafayette, Indiana, was awarded a US\$25,000 scholarship for his project “Fast Sampling of Stochastic Kronecker Graphs.” Ramani also won third place in this year’s Regeneron Science talent search. He tells the *Notices*: “I recently created a rap song on GarageBand that I have posted online on Soundcloud. I have played competitive tennis since the age of nine. I became interested in statistics because of my love of NBA basketball at a young age.”

FELIX WANG, eighteen, of Newton, Massachusetts, was awarded a US\$25,000 scholarship for his project “Functional Equations in Complex Analysis and Number Theory.”

The Davidson Fellows program, a project of the Davidson Institute for Talent Development, awards scholarships to students eighteen years of age or younger who have created signifi-

cant projects that have the potential to benefit society in the fields of science, technology, mathematics, literature, music, and philosophy.

—From a Davidson Fellows announcement

NDSEG Fellowships Awarded

Twenty-one young scholars whose work involves the mathematical sciences have been awarded National Defense Science and Engineering Graduate (NDSEG) Fellowships by the Department of Defense (DoD) for 2017. The fellowships are sponsored by the United States Army, Navy, and Air Force. As a means of increasing the number of US 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.

Following are the names of the fellows, their research fields, their institutions, and the offices that awarded the fellowships:

- DALLAS ALBRITTON, mathematics, University of Minnesota-Twin Cities, Army Research Office (ARO)
- BRANDON BOHRER, computer and computational sciences, Carnegie Mellon University, Air Force Research Laboratory (AFRL)
- STEVEN BRILL, computer and computational sciences, Stanford University, AFRL
- VICTORIA CHAYES, mathematics, Rutgers University, AFRL
- CALEB CHUCK, computer and computational sciences, University of Texas at Austin, Office of Naval Research (ONR)
- TANNER FIEZ, computer and computational sciences, University of Washington, ARO
- YAKIR FORMAN, mathematics, Yale University, AFRL
- JESSE FREEMAN, mathematics, Massachusetts Institute of Technology, ONR
- PRANAV GOKHALE, computer and computational sciences, University of Chicago, AFRL
- BENJAMIN GUNBY, mathematics, Harvard University, ARO
- TIAN SHE HE, mathematics, University of North Carolina at Chapel Hill, ONR
- SIDDHARTHA JAYANTI, computer and computational sciences, Massachusetts Institute of Technology, ARO
- SAMUEL MCLAREN, mathematics, University of Arizona, AFRL
- MATTHEW MCMILLAN, mathematics, University of California Los Angeles, ARO
- DAVID MILDEBRATH, computer and computational sciences, Rice University, ARO
- BRANDON SHAPIRO, mathematics, Cornell University, AFRL
- MACKENZIE SIMPER, mathematics, Stanford University, ONR
- SAMUEL STEWART, mathematics, University of Minnesota-Twin Cities, AFRL

- WILLIAM THOMASON, computer and computational sciences, Cornell University, ONR
- BRIAN THOMPSON, computer and computational sciences, ARO
- MARVIN ZHANG, computer and computational sciences, University of California Berkeley, ARO

—From a DoD announcement

CME Group-MSRI Prize Awarded

ROBERT B. WILSON of the Stanford University Graduate School of Business has been awarded the CME Group-MSRI Prize in Innovative Quantitative Applications. His research and teaching focus on market design, pricing, negotiation, and related topics concerning industrial organization and information economics. He is an expert on game theory and its applications.

—From a CME-MSRI announcement

Malliaris and Shelah Awarded Hausdorff Medal

MARYANTHE MALLIARIS of the University of Chicago and SAHARON SHELAH of the Hebrew University of Jerusalem and Rutgers University have been awarded the third Hausdorff Medal for their joint paper “Cofinality Spectrum Theorems in Model Theory, Set Theory, and General Topology,” published in the *Journal of the American Mathematical Society* 29 (2016). The Hausdorff Medal is awarded every two years by the European Set Theory Society (ESTS) for the most influential work in set theory published in the preceding five years.

—From an ESTS announcement

Royal Society of Canada Fellows

The Royal Society of Canada (RSC) has elected two mathematical scientists to its 2017 class of new fellows in mathematical sciences. They are YOSHUA BENGIO of the University of Montreal and ROBERT JERRARD of the University of Toronto.

—From an RSC announcement

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Photos of Arjun Ramani and Felix Wang courtesy of Davidson Institute for Talent Development.