# Mathematics People

## Nguyen Awarded 2018–2019 Centennial Fellowship

**Toan T. Nguyen**

The AMS has awarded its Centennial Fellowship for 2018–2019 to Toan T. Nguyen of Pennsylvania State University. Nguyen's research interests are analysis of partial differential equations, fluid dynamics, kinetic theory of gases, nonlinear waves, boundary layers, and weak turbulence. He will use the Fellowship for full support for the academic year 2018–2019.

Nguyen received his PhD in mathematics from Indiana University in 2009 under the direction of Kevin Zumbrun. He was a research postdoctoral fellow at the Université Pierre et Marie Curie Paris VI from 2009 to 2010 and Prager Assistant Professor at Brown University from 2010 to 2012 before joining the Penn State faculty in 2013.

Nguyen provided the following information to the *Notices*: "I grew up as a coffee farmer in a small village back in Vietnam, but it was quite natural for me to study mathematics. Indeed, mathematics is my given name at birth (Toán in Vietnamese). My parents believed math and science are the future. In fact, I also have a physics sister (Lý) and a chemistry brother (Hoá). While most of the kids in my village ended up dropping out of school due to poverty at the time, we all went on to Vietnam National University in Saigon for an undergraduate degree. I then got a well-paid and trending job at a technology company, which I actually quit after a few months, when they ordered me to stop bringing math books to work.

"I went back to the university to work as a teaching assistant, and met D. Le (UTSA), who gave me a paper to read. After I extended the work in his paper, he asked me to come to America and work with him. Two years later, I went to Indiana University for my PhD.… I ended up graduating in my third year in the program, with several postdoctoral offers from Chicago, Michigan, Brown, and the like.

"My recent work with E. Grenier (ENS Lyon) proves that, for a certain class of initial data, the classical boundary layer theory proposed by L. Prandtl in 1904 is false in describing the behavior of fluids at a very high Reynolds number near a boundary. We are currently writing a book on the subject. I also disseminate new research on my blog: 'Snapshots in Mathematics!' I believe that persistence is the key to success."

The Centennial Fellowship carries a stipend of US$93,000, a travel expense allowance of US$9,300, and a complimentary Society membership for one year. The award was made at the recommendation of the Centennial Fellows Selection Committee. The primary selection criterion is the excellence of the candidate's research.

**Please note:** Information about the competition for the 2019–2020 AMS Centennial Fellowships will be published in the "Mathematics Opportunities" section of an upcoming issue of the *Notices*.

*—Elaine Kehoe*

## Beck Awarded Birman Fellowship

**Margaret Beck**

Margaret Beck of Boston University has been awarded the AMS Joan and Joseph Birman Fellowship for Women Scholars for the academic year 2018–2019 in recognition of her "exceptional research on stability problems in partial differential equations (PDEs) and spatially extended dynamical systems." Her primary research interest is determining the nonlinear stability and large-time behavior of solutions to dissipative partial differential equations, such as reaction-diffusion equations and viscous conservation laws. This includes studying nonlinear waves such as traveling waves and spatially and/or temporally periodic patterns. She typically views these PDEs as infinite-dimensional dynamical systems and analyzes them using a variety of mathematical techniques, for example, invariant manifolds, similarity variables, geometric singular perturbation theory, exponential dichotomies, and pointwise estimates. She will use the Fellowship for a full-year sabbatical and to partially fund travel to Sydney, Australia, where she will visit the University of Sydney during 2019.

Beck received her PhD from Boston University in 2006 under the direction of Tasso J. Kaper and C. Eugene Wayne. She has held postdoctoral positions at the Mathematical Sciences Research Institute, the University of Surrey, and Brown University. She became assistant professor at Boston University in 2009 and was a lecturer at Heriot-Watt University in Edinburgh, Scotland, from 2011 to 2013. Since 2015 she has been associate professor at Boston University. She held an NSF Mathematical Sciences Postdoctoral Research Fellowship from 2006 to 2009 and was selected a Sloan Research Fellow for 2012 to 2014.

The fellowship seeks to give exceptionally talented women extra research support during their mid-career years. The fellowship was established in 2017 with a generous gift from Joan and Joseph Birman. The primary selection criterion for the Birman Fellowship is the excellence of the candidate's research. The award carries a stipend of US$50,000. Joan Birman explains her decision to establish the prize with AMS as follows: "I feel that my choice to give money to the AMS rather than to some other worthy organization was the right decision. When I proposed the Satter Prize, Bill Browder (then AMS president) and others asked me thoughtful questions that led to small but important changes in its structure. The proposal for the Fellowship was similar in that excellent questions were asked by people I respect and it was shaped with the help of thoughtful colleagues. I know many good organizations, but no other where I could feel the same trust that my money will be used well for its intended purpose of helping more women mathematicians to develop their creative voices."

*—Elaine Kehoe*

# 2018 AWM Awards

The Association for Women in Mathematics (AWM) presented several awards at the Joint Mathematics Meetings in San Diego, California, in January 2018.

**Lillian Pierce**

Lillian Pierce of Duke University was awarded the 2018 AWM Sadosky Research Prize "in recognition of her outstanding contributions to harmonic analysis and analytic number theory." According to the prize citation, "Pierce is one of the most talented, original and visionary analysts of her generation. Her research spans and connects a broad spectrum of problems ranging from character sums in number theory to singular integral operators in Euclidean spaces. She has made far-reaching contributions to the study of discrete analogs of harmonic-analytic integral operators, taking inspiration in classical Fourier analysis, but drawing also on methods from analytic number theory such as the circle method and diophantine approximation." She received her PhD from Princeton University in 2009 and has been the recipient of a Marie Curie Fellowship, an NSF Mathematical Sciences Postdoctoral Research Fellowship, and an NSF CAREER award. She has also been awarded an Alfred P. Sloan Foundation Fellowship for 2018.

**Kristin L. Umland**

Kristin L. Umland of Illustrative Mathematics (IM) has been chosen to receive the 2018 Louise Hay Award for Contributions to Mathematics Education. The prize citation reads in part: "Umland's work has exemplified a passion for engaging learners in worthwhile mathematics while seeking to enhance and support their instruction. She has revamped mathematics courses for non-mathematics majors and for prospective teachers, led collaborative professional development projects for K-12 teachers in New Mexico, and investigated the impact of Math Teachers' Circles. Recently Umland has been instrumental in the development of Illustrative Mathematics, a heavily used, online mathematics resource that advances improvement in mathematics education through a rich, coherent collection of over 1,200 vetted instructional tasks, as well as assessment items, lesson plans, and professional development modules." Umland received her PhD from the University of Illinois at Chicago under the direction of Stephen D. Smith. She served on the faculty of the University of New Mexico until 2016, when she became vice president of IM Product Development. She received the AMS Award for Impact on the Teaching and Learning of Mathematics in 2017.

**Erica Flapan**

Erica Flapan of Pomona College is the recipient of the 2018 M. Gweneth Humphreys Award for Mentorship of Undergraduate Women in Mathematics. According to the prize citation, "Flapan's dedication to her students is exceptional, and she has received awards for teaching and advising at her home institution as well as at the national level. She has also devoted many of her summers to teaching in mathematics programs and institutes, most often at the Summer Math Program for Women at Carleton College. She has served as a mentor to more than sixty female undergraduates, many of whom have gone on to receive their doctorates and have careers in mathematics." She received her PhD from the University of Wisconsin—Madison in 1983. She was awarded the Deborah and Franklin Tepper Haimo Award of the MAA in 2011, and she is a Fellow of the AMS. Her areas of research interest are low-dimensional topology and knot theory. Flapan will become editor in chief of the *Notices of the AMS* in January 2019.

Melanie Matchett Wood of the University of Wisconsin—Madison has been awarded the 2018 AWM-Microsoft Research Prize in Algebra and Number Theory "in recognition of her exceptional research achievements in number theory and algebraic geometry." According to the prize


Melanie Matchett Wood

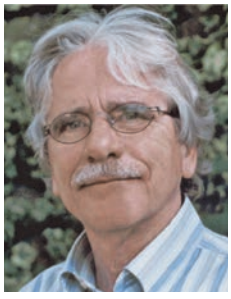
citation, "Wood has made deep and influential contributions to number theory and algebraic geometry. She excels at drawing connections between different areas of mathematics. Her work is a truly remarkable synthesis of number theory, algebraic geometry, topology, and probability." Wood received her PhD from Princeton University in 2009 under the direction of Manjul Bhargava and has held appointments at the American Institute of Mathematics, Stanford University, and the Mathematical Sciences Research Institute. She won the AMS Morgan Prize in 2004 and an NSF CAREER Award in 2017. She is a Fellow of the AMS.

*—From AWM announcements*

## 2018 MAA Awards

The Mathematical Association of America (MAA) awarded several prizes at the Joint Mathematics Meetings in San Diego, California, in January 2018.


Roland van der Veen


Jan van de Craats

Roland van der Veen of Leiden University and Jan van de Craats of the University of Amsterdam have been awarded the 2018 Beckenbach Book Prize for their book *The Riemann Hypothesis: A Million Dollar Problem* (MAA Press, 2015). According to the prize citation, the authors "take us on a remarkably compact and efficient journey from primes and their distribution to the Riemann hypothesis. Along the way we are introduced to infinite series, infinite products and complex variables and functions." Van de Craats received his PhD from Leiden University and is now professor emeritus at the University of Amsterdam. For many years he was trainer and leader of the Dutch International Mathematical Olympiad team and is "much appreciated for his skills in explaining mathematics to a general public." Van der Veen received his PhD from the University of Amsterdam in 2010. His research focuses on the interplay of low-dimensional topology, representation theory, and mathematical physics. He enjoys exploring new ways of popularizing mathematics. He also enjoys ballroom dancing; in fact, van der Veen gave a dance presentation during his PhD defense.

Daniel J. Velleman of Amherst College and the University of Vermont has been awarded the Chauvenet Prize for his article "The Fundamental Theorem of Algebra: A Visual Approach," *The Mathematical Intelligencer* **37** (2015), no. 4, in which he applies "a colorful method for visualizing a complicated assertion: that every nonconstant polynomial with complex coefficients has at least one root in the complex numbers." Velleman received his PhD from the University of Wisconsin—Madison in 1980. He is the author of *How to Prove It, Which Way Did the Bicycle Go?* (with Joe Konhauser and Stan Wagon), *Philosophies of Mathematics* (with Alexander George), and *Calculus: A Rigorous First Course*. He was the editor of the *American Mathematical Monthly* from 2007 through 2011 and is currently associate editor of the *Notices*. In his spare time, he enjoys singing and playing volleyball.


Daniel J. Velleman


Matt Parker

Matt Parker has been awarded the Euler Book Prize for *Things to Make and Do in the Fourth Dimension* (Farrar, Straus and Giroux, 2014). The prize citation reads in part: "Parker's book takes readers on a fascinating mathematical journey that includes puzzles, paradoxes, and even 4D space monsters. … Although the unifying theme in the book is geometry, it also incorporates ideas from a variety of other fields, including number theory, graph theory, and knot theory. … With the use of witty humor and quirky hand-drawn illustrations, Parker achieves the astounding goal of bringing everyday relevance to high-level mathematical concepts in a fun and interactive way. Most importantly, the book presents the beauty and fun of mathematics in a way that attracts even the most math phobic of readers." Parker is a stand-up comedian and mathematics communicator who appears regularly on TV and online; his YouTube videos have been viewed over fifty million times. Originally trained as a high school teacher, he now visits schools around the world to talk to students about mathematics as part of the Think Maths organization he founded. Parker is also a recipient of the 2018 Joint Policy Board for Mathematics Communications Award.


David Bressoud

David Bressoud of Macalester College is the recipient of the 2018 Gung and Hu Award for Distinguished Service to Mathematics "for his prolific service to many professional mathematical societies, including the Mathematical Association of America, for his influential leadership in exploring the role of calculus in our schools and our nation, and for a laudable career that has been rich in mathematical research, mathematics education, and mathematical exposition." He is currently the director

NEWS


Gary Gordon


Hortensia Soto


Ronald Taylor, Jr.

of the Conference Board of Mathematical Sciences. He received his PhD from Temple University in 1977 under Emil Grosswald.

The Deborah and Franklin Tepper Haimo Awards for Distinguished College or University Teaching of Mathematics were awarded to the following: GARY GORDON of Lafayette College; HORTENSIA SOTO of the University of Northern Colorado; and RONALD TAYLOR, JR. of Berry College. Gordon was recognized "for his record of exemplary mathematics teaching," including leading the Lafayette REU program and as an advocate of educational equity and inclusion. He received his PhD from the University of North Carolina in 1983. He is the faculty mentor for Lafayette's baseball team and teaches a first-year seminar on baseball.

Soto was recognized as an "innovative and caring teacher and an inspiring mentor." She was born in a sod home built by her dad in Belen del Refujio, Jalisco, Mexico. They migrated to western Nebraska, where she was raised on a farm and learned the meaning of work. She spent her summers working in the fields and thus loved when August rolled around because it meant it was time to go back to school. She enjoys practicing yoga, meditating, cooking for others, hiking in Colorado where she lives, and walking her dog Coco Butter, but her "most favorite thing" is spending time with her son, Miguel, who is a sophomore in college. Soto received her PhD from the University of Northern Colorado.

Taylor "brings a unique blend of student-centered learning, creativity, and tireless dedication that both inspires and enables" his students to pursue mathematics. He has had a nationwide effect on the teaching of mathematics through his work supporting Inquiry Based Learning instruction. He has taught at a summer camp for middle school girls and a summer math course to minority students. He also holds summer workshops for in-service teachers. He received his PhD from Bowling Green State University. He taught martial arts at Berry College and has had roles with Berry's athletic department and the local minor league baseball team, "where he has been lucky enough to be paid to sit and watch sports."

*—From MAA announcements*

# Ball Awarded Faisal Prize


Sir John M. Ball

SIR JOHN M. BALL of the University of Oxford has been awarded the 2018 King Faisal Prize for Science for his "fundamental and groundbreaking contributions to nonlinear partial differential equations, the calculus of variations, and dynamical systems." His recent work on the Landau–de Gennes theory "has greatly stimulated the worldwide study of the mathematics of liquid crystals." Ball received his DPhil in mechanical engineering from the University of Sussex. He is Sedleian Professor of Natural Philosophy at Oxford, director of its Centre for Nonlinear Partial Differential Equations, and Fellow of Queen's College. Ball received the Theodore von Kármán Prize in 1999 with Stuart S. Antman and the Sylvester Medal in 2009. He was elected an inaugural Fellow of the AMS and a Fellow of the Royal Society of Edinburgh. He has served as president of the London Mathematical Society (1996–1998) and the International Mathematical Union (2003–2006).

*—From a King Faisal Foundation announcement*

# Harutyunyan Awarded Emil Artin Junior Prize


Davit Harutyunyan

DAVIT HARUTYUNYAN of the University of California Santa Barbara has been awarded the 2018 Emil Artin Junior Prize in Mathematics. Harutyunyan was chosen for his paper "Gaussian Curvature as an Identifier of Shell Rigidity," *Archive for Rational Mechanics and Analysis* **226** (2017).

Established in 2001, the Emil Artin Junior Prize in Mathematics carries a cash award of US$1,000 and is presented usually every year to a student or former student of an Armenian educational institution under the age of thirty-five for outstanding contributions to algebra, geometry, topology, and number theory—the fields in which Emil Artin made major contributions. The prize committee consisted of A. Basmajian, Y. Movsisyan, and V. Pambuccian.

*—Victor Pambuccian*
*New College, Arizona State University*

# 2018 Sloan Fellows Announced

The Alfred P. Sloan Foundation has announced the names of the recipients of the 2018 Sloan Research Fellowships. Each year the foundation awards fellowships in the fields of mathematics, chemistry, computational and evolutionary molecular biology, computer science, economics, neuroscience, physics, and ocean sciences. Grants of US$60,000 for a two-year period are administered by each Fellow's institution. Once chosen, 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 their research aims.

Following are the names and institutions of the 2018 awardees in the mathematical sciences.

- Jennifer Balakrishnan, Boston University
- Afonso S. Bandeira, New York University
- Tamara Broderick, Massachusetts Institute of Technology
- Joan Bruna Estrach, New York University
- Yaiza Canzani, University of North Carolina, Chapel Hill
- Melody Chan, Brown University
- Tristan Collins, Harvard University
- Marcelo Disconzi, Vanderbilt University
- Robert Haslhofer, University of Toronto, Scarborough
- Miranda Holmes-Cerfon, New York University
- Tye Lidman, North Carolina State University
- Joe Neeman, University of Texas, Austin
- Andrei Neguț, Massachusetts Institute of Technology
- Lillian Pierce, Duke University
- Arul Shankar, University of Toronto
- Stefan Steinerberger, Yale University
- Giulio Tiozzo, University of Toronto
- Thomas Walpuski, Michigan State University
- Lutz Warnke, Georgia Institute of Technology
- Yihong Wu, Yale University

*—From a Sloan Foundation announcement*

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