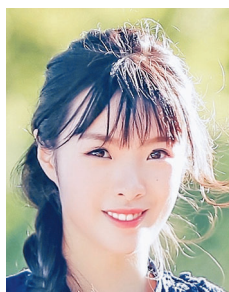


Mathematics People

2022 AWM Awards

The Association for Women in Mathematics (AWM) has announced several awards for 2022.



(Carina) Letong Hong

(Carina) Letong Hong of the Massachusetts Institute of Technology has been awarded the 2022 Alice T. Schafer Prize for excellence in mathematics by an undergraduate woman. According to the prize citation, Hong “has an impressive track record of completed research in many areas, including stack-sorting algorithms, pattern avoidance in inversion sequences, the Monstrous Moonshine Conjecture, L -functions of modular

elliptic curves and $K3$ surfaces, and Markov chains on edge colorings of bipartite graphs.” She has participated in Research Experiences for Undergraduates (REUs) at the University of Minnesota–Duluth and the University of Virginia and conducted research at MIT and the Budapest Semesters in Mathematics. She is president of MIT’s Undergraduate Mathematics Association and the Advocacy Outreach Chair of the First Generation and Low Income Students Coalition and the recipient of the Emerging Leader Award and Community Building Award. Hong tells the *Notices*: “I grew up in Guangzhou (Canton) China, and my hometown is Chaoshan (Teoswa). That broad region is where the Kung Fu tea and the lion dance originate from. I like running, swimming, and both Chinese and contemporary dance.” **Faye Jackson** of the University of Michigan was named runner-up; she has conducted research on Zeckendorf decompositions, discrete Erdos distance problems, random matrix theory, and more sums than differences sets. Honorable mentions for the prize were awarded to **Alexandra Hoey** of the Massachusetts Institute of Technology, **Simran Khunger** of Carnegie Mellon University, and **Lily (Qiao) Li** of the University of California, Berkeley.

The AWM Dissertation Prizes for 2022 were awarded to **Jinyoung Park** of Stanford University, **Rita Teixeira da Costa** of Princeton University and Trinity College, Cambridge, and **Heather Denise Wilber** of the University of Texas at Austin. Park’s dissertation, written at Rutgers University under the supervision of Jeff Kahn, “settles major



Jinyoung Park



Rita Teixeira da Costa



Heather Denise Wilber



Ellen Kirkman

conjectures and runs the gamut from isoperimetric inequalities to random discrete structures.” It comprises five papers published in various mathematical journals. Teixeira da Costa received her PhD from the University of Cambridge under the supervision of Mihalis Dafermos. Her dissertation, “Frequency space analysis in general relativity,” focused on differential equations arising in general relativity and “represents important rigorous mathematical progress on the celebrated black hole stability problem, a central question in the subject, at the intersection of mathematics, theoretical physics, and astronomy.” Wilber received her PhD from Cornell University under the direction of Alex Townsend. Her dissertation, “Computing numerically with rational functions,” presented new numerical methods using rational functions for solving Sylvester and Lyapunov matrix equations whose right-hand sides have decaying singular values. She has a long-standing interest in the links between ecology, place, and knowledge and is involved with a network of collectives working together on carbon sequestration, reforestation methods, and other ecologically grounded efforts to develop more sustainable and humane ways of living. She has two children and enjoys cycling, hiking, and poetry.

The 2022 AWM Service Awards were presented to **Ellen Kirkman** of Wake Forest University and to the **Notable Women in Math Playing Cards Project Management Committee (EvenQuads PMC)**. Kirkman was honored for her service from 2012 to 2020 as AWM Treasurer and

Chair of the Financial Oversight and Investment Committee, for her service on the Membership Portfolio Committee, and for her role as an organizer and research leader in the WINART (Women in Noncommutative Algebra and Representation Theory) Research Network. She has also been a member of the Sylvia Bozeman and Rhonda Hughes EDGE Foundation Board of Directors and the AMS–ASA–MAA–IMS–SIAM Data Committee (2000–2007 and 2009–present) and is coauthor of the CBMS 2010 and the CBMS 2015 surveys, *Statistical Abstract of Undergraduate Programs in the Mathematical Sciences in the United States*. The EvenQuads PMC was recognized for its role in promoting women’s accomplishments in mathematics for the purpose of inspiring and encouraging future generations of mathematicians. The card decks combine “multifaceted text about women who have contributed to mathematics in many different ways with beautiful graphic design that evokes multiple professional mathematics organizations.” The Project Management Committee consisted of **sarah-marie belcastro (Chair), Sherli Koshy-Chenthittayil, Linda McGuire, Monica Morales Hernandez, Denise A. Rangel Tracy, and Oscar Vega.**

—From AWM announcements

2021 Gerald Sacks Prize Awarded



Marcos Mazari-Armida

Marcos Mazari-Armida of Carnegie Mellon University has been awarded the 2021 Gerald Sacks Prize of the Association for Symbolic Logic (ASL) for outstanding doctoral dissertation in mathematical logic. Mazari-Armida received his PhD in 2021 from Carnegie Mellon University under the supervision of Rami Grossberg. His thesis, “Remarks on classification theory for abstract elementary classes with applications to abelian group theory and ring theory,” “provides strong evidence that abstract elementary classes can impact traditional mathematics in interesting ways. Armida shows various natural classes of abelian groups to be AEC and proves a family of theorems characterizing well-known classes of rings (e.g. left Noetherian, left perfect) in terms of the superstability of an associated AEC of modules. This leads to the solution below \aleph_0 of a 1970 question of Fuchs asking in which cardinals there is a universal abelian p -group for purity. His versatility is indicated by important work on neo-stability and categoricity in the context of AEC.” Mazari-Armida is currently Burnett Meyer Postdoctoral Fellow in the

Department of Mathematics at the University of Colorado, Boulder. He enjoys spending time with his wife and daughter and playing board games with friends.

—From an ASL announcement

Kimura Receives IEEE Award

Hidenori Kimura of the University of Tokyo has been chosen as the recipient of the IEEE Control Systems Award of the Institute of Electrical and Electronics Engineers (IEEE) “for contributions to synthesis theory of control systems and its applications to manufacturing devices and systems.” He received his PhD in 1970 from the University of Tokyo and held positions at Osaka University from 1970 through 1995. He has been visiting fellow at Warwick University and the Imperial College of Science and Technology (1974–1975), guest professor at the Technical University of Delft (1994), and Springer Professor at the University of California, Berkeley (1994). He is a Fellow of the IEEE. His research interests are in multivariable control theory and its applications, robust control, and signal processing.

—From an IEEE announcement

NSF CAREER Awards Announced

The National Science Foundation (NSF) has named a number of recipients of its Faculty Early Career Development (CAREER) Awards in fiscal years 2021 and 2022. The awards support early-career faculty members who have the potential to serve as academic role models in research and education and to lead advances in the mission of their departments or organizations. Following are the names, institutions, and proposal titles of the awardees selected by the NSF Division of Mathematical Sciences (DMS). The list may be updated as additional grants are made.

- **Patricia Alonso Ruiz**, Texas A&M University: Heat semigroups and Strichartz estimates on fractals
- **David Antieau**, Northwestern University: Higher Brauer groups and topological Azumaya algebras
- **Benjamin Bakker**, University of Illinois at Chicago: Hodge theory and moduli
- **Sayan Banerjee**, University of North Carolina at Chapel Hill: Network centrality and its applications in detection, dynamics, and load balancing
- **Christine Breiner**, Brown University: Existence and regularity of solutions to variational problems in geometric analysis
- **Eric Chi**, Rice University: Stable and scalable estimation of the intrinsic geometry of multiway data

- **Emily Clader**, San Francisco State University: Combinatorial intersection theory on moduli spaces of curves
- **Laura Escobar Vega**, Washington University: Combinatorial algebraic geometry: Flag varieties, toric geometry, and applications
- **Asaf Ferber**, University of California, Irvine: Problems in extremal and probabilistic combinatorics
- **Florian Frick**, Carnegie Mellon University: Geometric and topological combinatorics
- **Nestor Guillen**, Texas State University, San Marcos: Integrodifferential and transport problems in partial differential equations
- **Qiyang Han**, Rutgers University: New paradigms of estimation and inference in constrained non-parametric models
- **Boris Hanin**, Princeton University: Random neural nets and random matrix products
- **Jingwei Hu**, University of Washington: Predictive simulations of complex kinetic systems
- **Eric Laber**, Duke University: Big computation and the management of emerging infectious diseases
- **Huan Lei**, Michigan State University: Machine-learning construction of energy-stable non-Newtonian fluid hydrodynamics with molecular fidelity
- **Antonio Linero**, University of Texas at Austin: Foundations for Bayesian nonparametric causal inference
- **Guido Montufar Cuartas**, University of California, Los Angeles: Neural networks in the practical regime
- **Joanna Nelson**, Rice University: Floer theories and Reeb dynamics of contact manifolds
- **Sean O'Rourke**, University of Colorado at Boulder: Beyond independence: Random matrices and applications
- **Yumeng Ou**, University of Pennsylvania: The geometry of fractals meets Fourier analysis
- **Stefan Patrikis**, Ohio State University: Galois representations: Deformation theory and motivic origins
- **Ludovic Tangpi**, Princeton University: A new form of propagation of chaos and its applications to large population games and risk management
- **Ian Tobasco**, University of Illinois at Chicago: Variational analysis of elastic patterns and mechanical metamaterials
- **Rodrigo Trevino**, University of Maryland, College Park: Renormalization and higher rank parabolic actions
- **Chunmei Wang**, University of Florida: Primal-dual weak Galerkin finite element methods

- **Miaoyan Wang**, University of Wisconsin, Madison: High-dimensional tensor learning: The good, the bad, and the pragmatic
- **Anru Zhang**, Duke University: Inference for high-dimensional structures via subspace learning: Statistics, computation, and beyond
- **Ting Zhang**, University of Georgia Research Foundation: Statistical inference of tail dependent time series

—NSF announcement

Credits

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