U.S. National Committee for Mathematics (USNC/Math)

Committee

Bryna R. Kra

Chair

Bryna Kra is the Sarah Rebecca Roland Professor of Mathematics at Northwestern University. She was elected as an inaugural fellow of the American Mathematical Society (AMS) in 2012, as a fellow of the American Academy of Arts and Sciences in 2016, as a member of National Academy of Sciences in 2019, and as a corresponding member of Chilean Academy of Sciences in 2022. Her awards include the Levi L. Conant Prize in 2010, a Simons Fellowship in 2016 and again in 2021, and she founded the Graduate Research Opportunities for Women program, which was awarded the Programs that Make a Different Award from the AMS. Kra has held positions at the Hebrew University of Jerusalem in Israel, the Institute des Hautes Etudes Scientifiques in France, at the University of Michigan, the Ohio State University, and Pennsylvania State University, before joining the faculty at Northwestern University in 2004. She currently serves as President of the American Mathematical Society.

Kra’s work lies at the intersection of dynamics, combinatorics, and number theory. Her work in ergodic theory on multiple ergodic averages settled a long-standing open problem and uncovered the role of certain structured algebraic objects, the nilsystems, in convergence questions, recurrence problems, and number theoretic results. Her recent work has uncovered new infinite configurations in large sets of integers and she continues to study algebraic and geometric properties of dynamical systems.

Russel E. Caflisch

Vice Chair

Russel Caflisch is currently director of the Courant Institute of Mathematical Sciences at New York University and was director of the Institute for Pure and Applied Mathematics (IPAM) at UCLA 2008-2017. He held faculty positions at Stanford University, NYU and UCLA, before returning to NYU in 2017.

He is an applied mathematician whose research is on analysis and numerical methods for physical sciences. He is known for analysis of the fluid dynamic limit in kinetic theory and of vortex sheets in incompressible flow, for mathematical modeling of epitaxial growth, and for development of Monte Carlo methods for kinetic theory and finance.

He was a recipient of a Hertz Graduate Fellowship and a Sloan Research Fellowship, and he is a fellow of the Society for Industrial and Applied Mathematics, the American Mathematical Society, and the American Academy of Arts and Sciences. He is a member of the National Academy of Sciences, and serves on the Board on Mathematical Sciences and Analytics

Caflisch graduated from Michigan State University with a BS in mathematics in 1975, and received his PhD in mathematics in 1978 at the Courant Institute, NYU.

Michael J. Hopkins

Member

Michael J. Hopkins is the George Putnam Professor of Pure and Applied Mathematics and Chair of the Department of Mathematics at Harvard University. He previously held faculty positions at Princeton University, the University of Chicago, and MIT, where he was a professor from 1990 to 2005 before joining Harvard.

Working in algebraic topology, Hopkins has made significant contributions to homotopy theory, geometry, and the interplay between homotopy theory and arithmetic geometry, algebraic geometry, and condensed matter physics.

His honors include the Oswald Veblen Prize in Geometry (2001, 2022), the National Academy of Sciences Award in Mathematics (now the Mirzakhani prize) (2012), and the Frederic Esser Nemmers Prize in Mathematics (2014). He is a member of the National Academy of Sciences, the American Academy of Arts and Sciences, and a Foreign Member of the Royal Danish Academy of Sciences and Letters. He has given invited talks at the International Congress of Mathematicians, including a plenary lecture in 2002.Hopkins earned his B.A. in mathematics from Northwestern University (1979) and completed his Ph.D. at Northwestern (1984) and a D.Phil. at the University of Oxford (1984).

Kristin Lauter

Member

Dr. Kristin Lauter is the Director of North American Labs for Meta AI Research (FAIR) and an Affiliate Professor at the University of Washington in the Department of Mathematics. She was the President of the Association for Women in Mathematics from 2015-2017.

Her mathematical research focuses on the interface between machine learning and cryptography, with a focus on cloud security and health and genomic privacy. She is particularly known for her work on Private AI, homomorphic encryption, elliptic curve cryptography, post-quantum cryptography.

Dr. Lauter was a researcher at Microsoft Research in Redmond, Washington, from 1999–2021 and Partner Research Manager of the Cryptography and Privacy Group from 2008–2021; her group developed Microsoft SEAL, an open-source library for homomorphic encryption.

Lauter is an elected fellow of the American Mathematical Society (AMS), the Association for Women in Mathematics (AWM), the Society of Industrial and Applied Mathematics (SIAM) and the American Association for the Advancement of Science (AAAS), and an elected Honorary Member of the Royal Spanish Mathematical Society (RSME). In 2022, she was awarded the SIAM Block Lecture Prize. She was the Polya Lecturer for the Mathematical Association of America from 2018-2020, and was selected to deliver the 2025 AMS Erdos Lecture for Students.

Lauter received her B.A., M.S., and Ph.D. degrees in Mathematics from the University of Chicago, in 1990, 1991, and 1996. She was a Hildebrandt Research Assistant Professor of Mathematics at the University of Michigan (1996-1999). She has published more than 100 papers and holds more than 50 patents.

Sven Leyffer

Member

Sven Leyffer is a Senior Computational Mathematician and Distinguished Fellow at Argonne National Laboratory, and he serves as Deputy Director of the Mathematics and Computer Science Division. He is an applied mathematician whose main research area is nonlinear optimization. He has worked on a range of applications including power-grid modeling, and the modeling and solution of complex inverse problems arising at Argonne’s Advanced Photon Source. He is interested in extending nonlinear optimization techniques to emerging areas such as topological design optimization, digital twins, and the optimal, design of experiments. Sven Leyffer served as President of the Society for Industrial and Applied Mathematics (SIAM) in 2023-2024, and as Secretary of the International Council for Industrial and Applied Mathematics (ICIAM). He is a SIAM Fellow, and a recipient of the SIAM Lagrange Prize in Optimization, and the INFORMS Optimization Society’s Farcas Prize. He is a former Editor-in-Chief of Mathematical Programming B and Mathematical Methods of Operations Research. Sven Leyffer received his undergraduate degree from the University of Hamburg (Germany) and his Ph.D. from the University of Dundee (Scotland, UK).

William A. Massey

Member

William A. Massey is a member of the Operations Research and Financial Engineering faculty at Princeton University. Previously he spent several years on the research staff of Bell Laboratories, Lucent Technologies. He has extensive expertise in statistical models for telecommunications queueing systems and stochastic networks. He is a graduate of Princeton with an A.B. degree in mathematics (Magna Cum Laude) and holds the Ph.D. in mathematics from Stanford University. He has an impressive publications record in the development of performance modelling of telecommunication systems, queueing systems analysis, and applied probability. Dr. Massey has received awards from the Bell Laboratories and the National Association of Mathematicians, is a member of Phi Beta Kappa, and holds lifetime memberships in the National Association of Mathematicians and Sigma Xi.

Tomasz S. Mrowka

Member

Professor of Mathematics
Massachusetts Institute of Technology

Jill C. Pipher

Member

Jill Pipher is Elisha Benjamin Andrews Professor of Mathematics at Brown, and co-chair of BMSA at the NASEM where she served as Vice President for Research from 2017-2024. She was the founding director of the Institute for Computational and Experimental Research in Mathematics (ICERM), a National Science Foundation mathematics institute, from 2010 to 2016. Served as president of the Association for Women in Mathematics (2011 – 2013), and as president of American Mathematical Society (2019-2021). She was a co-founder of NTRU Cryptosystems, Inc., and jointly holds four patents related to the NTRU encryption and digital signature algorithms. Professional honors include: NSF postdoctoral fellowship; NSF Presidential Young Investigator Award; Alfred P. Sloan Foundation fellowship, invited speaker at the International Congress of Mathematicians, fellow of the American Mathematical Society (2012), National Women’s History Month 2013 honoree. member of American Academy of Arts and Sciences (2014), fellow of the Society for Industrial and Applied Mathematics (2019), fellow of the National Academy of Inventors (2021), and fellow of the American Association for the Advancement of Science (2022). Pipher received her Ph.D. in 1985 in Mathematics (UCLA); her research areas are harmonic analysis, PDE, and public key cryptography.

Tian Zheng

Member

Tian Zheng is currently Professor and Department Chair of Statistics at Columbia University. In her research, she develops novel statistical methods for exploring and understanding patterns in complex data from different application domains such as biology, psychology, climate modeling, etc. Professor Zheng's research has been recognized by the 2008 Outstanding Statistical Application Award from the American Statistical Association (ASA), the Mitchell Prize from ISBA, and a Google research award. She became a Fellow of the American Statistical Association in 2014, a Fellow of the Institute of Mathematical Statistics (IMS) in 2022, and a Fellow of American Association for the Advancement of Science (AAAS) in 2024. From 2017-2020, she was associate director for education at Columbia Data Science Institute. She received her PhD in Statistics from Columbia University in 2002.

Robert L. Bryant

Ex Officio Member

Robert Bryant is the Phillip Griffiths Professor of Mathematics at Duke University (and currently the chair of the Duke Mathematics Department), where he joined the faculty in 1987. He was formerly on the faculty at Rice University (1979–86) and has also served on the faculty at UC Berkeley (2007–13) while he was the Director of the Mathematical Sciences Research Institute there. He served as President of the American Mathematical Society 2013–15. He is known for his research in differential geometry and the geometric theory of partial differential equations, particularly the development of the theory of Riemannian manifolds with special holonomy, results in Finsler geometry, the theory of exterior differential systems. He was a Sloan Fellow, a member of the first class (1984) of NSF Presidential Young Investigators. He is a member of the American Academy of Arts and Sciences and a member of the National Academy of Sciences (Section 11, Mathematics). He received his BS in Mathematics at North Carolina State University in Raleigh in 1974, his PhD in Mathematics at the University of North Carolina at Chapel Hill in 1979, and was an NSF Postdoctoral Fellow at the Institute for Advanced Study under the mentorship of John Milnor.

Ourania Kosti

Staff Officer