Dr. Yun Kang is a Professor of Mathematics in the *College of Integrative Sciences and Arts* at Arizona State University (ASU), where she also serves as Core Faculty in the *Simon A. Levin Mathematical, Computational & Modeling Sciences Center* and an Affiliated Faculty in the *School of Mathematical and Statistical Sciences*. She currently serves as President of the *Faculty Women's Association* at ASU, advancing equity, leadership, and representation across the university community.

Dr. Kang earned her Ph.D. in Mathematics from ASU in 2008, following an M.S. in Mathematics (Random Graphs) from the University of Arizona (2004) and a B.S. in *Financial and Computational Mathematics* from Shanghai Jiaotong University, China (2002). Her research spans complex adaptive systems (CAS) and mathematical modeling, with strong contributions to the theory of difference equations and nonlinear dynamical systems. Dr. Kang has made pioneering advances in difference equation dynamics, particularly in understanding population persistence, stability, and bifurcation structures in biological systems subject to Allee effects. Her work integrates difference equations, differential equations, delay differential equations, stochastic processes, and spatial models to study population and ecological dynamics, epidemiological processes, and evolutionary mechanisms. In addition to her theoretical contributions, Dr. Kang leads interdisciplinary modeling efforts that bridge mathematics with biology, ecology, and the social sciences. Her recent work explores human-automation trust dynamics, AI-driven modeling in ecological systems, and pollinator health and colony dynamics — using mathematics to tackle global challenges in sustainability and bio-complexity.

She has authored over 138 peer-reviewed publications in premier journals such as *SIAM Journal on Applied Mathematics*, *Journal of Theoretical Biology*, *Journal of Mathematical Biology, Mathematical Biosciences, Journal of Difference Equations and Applications*, and *Ecological Modelling*. Her modeling frameworks have been applied to social insect colonies, disease dynamics, ecosystem resilience, and trust-based human-machine systems, exemplifying her versatility in both fundamental and applied mathematical research. Her recent work on pollinators was highlighted in the prestigious *Nature* Career section in June 2023, emphasizing the value of cross-cultural collaborations in scientific advancement. Her research has been funded by major national and international agencies, including the National Science Foundation (NSF), NASA, USDA-NIFA, DARPA, and the James S. McDonnell Foundation, supporting projects on multiscale modeling, AI-driven cancer risk

assessment, and complex adaptive systems. An active mentor and advocate for women in STEM, Dr. Kang has guided numerous graduate, undergraduate, and postdoctoral researchers, many of whom have received fellowships and national recognition. Her honors include ASU's nomination for the 2023 Blavatnik Award in Applied Mathematics, ASU Leadership Academy fellowship, and multiple excellence-in-review awards for her scholarly service.

Dr. Kang has held numerous leadership roles in the mathematical sciences. She previously served as *AMS Representative to the Joint Committee on Women in the Mathematical Sciences* (2020–2023) and as a board director (2019-2021) and the treasury (2019-2023) for the *International Society of Difference Equations*, where she helped shape global research exchange in difference equation theory and its biological applications. Dr. Kang continues to advance the frontier of difference equation dynamics, complex systems modeling, and mathematical biology, shaping both theory and interdisciplinary practice in applied mathematics worldwide.