

Assessment of NASA Aeronautics University Leadership Initiative

Committee

Peter Shannon

Chair

PETER SHANNON is a managing director at Radius Capital. He is an investor focused on advanced aerial mobility and its application toward positive impact for transportation across the economy. Shannon is active in the aviation community around regulatory and technology issues critical to enabling high-scale adoption of aerial mobility systems. He co-authored a national strategy for Advanced Aerial Mobility as a member of the Committee on Urban Air Mobility Research and Technology through the Aeronautics and Space Engineering Board of the National Academies of Science, Engineering, and Medicine. He is also a member of the National Academies' NASA Aeronautics Research and Technology Roundtable. Earlier, he was at Firelake Capital and Atlas Venture, investing in transportation and sustainability technologies. He has an M.B.A. from the University of Chicago's Booth School of Business. He has previously served on an Academies committee.

Dianne Chong

Member

DIANNE CHONG (NAE) was the vice president in the Boeing Research and Technology organization in the Boeing Engineering, Operations & Technology organization. In this position, she led special projects that impacted processes and program integration for the Boeing Enterprise. Prior to this, Chong was the vice president of materials, manufacturing, structures and support in the Boeing Engineering, Operations & Technology organization. In that role, she led the organization responsible for development and support of manufacturing processes and program integration for the Boeing Enterprise. Dr. Chong was elected to the National Academy of Engineering and the Washington State Academy of Science in 2017. She currently serves on the National Academies' Gordon Prize committee, the steering committee for EngineerGirl, and the Defense Materials, Manufacturing, and Infrastructure Committee. Chong is also President-elect of ABET. She also serves on the board for the Washington State Academy of Science. Chong is a member of TMS, AIAA, ASM International, SME, SWE, Beta Gamma Sigma, and Tau Beta Pi. She has served on the board of trustees, is a fellow of ASM International, and in 2007-08, was elected as the first female president of ASM International. She has led the ASM Women in Materials Engineering Committee and serves on the ASM Action in Education Team. Chong is currently serving as vice president of the SME, sits on the Board of Directors, and is a fellow of SME. She has been recognized for managerial achievements and as a diversity change agent. Chong was also received an award for alumna achievement from the University of Illinois in 2019. Chong has also supported National efforts by supporting teams for the National Academies studies on reproducibility and replicability and materials and manufacturing workshops. Chong received her bachelor's degrees in biology and psychology from the University of Illinois. She also earned master's degrees in physiology and metallurgical engineering. In 1986, Chong received her doctorate in metallurgical engineering from the University of Illinois. She also completed an executive master of manufacturing management at Washington University.

Lenore L. Dai

Member

LENORE L. DAI is a professor and the director of the School for Engineering of Matter, Transport and Energy at Arizona State University (ASU). She oversees degree and research programs in aerospace engineering, chemical engineering, materials science and engineering, mechanical engineering, and the professional science master's program in solar energy engineering and commercialization. At ASU she served as the program chair of chemical engineering. She worked for PPG Industries, Inc. prior to joining the Department of Chemical Engineering at Texas Tech University. Dai is a recipient of the Fulton Exemplar Faculty Award, ASU Parents Association Special Recognition Award, AIChE-ASU Professor of the Year Award, Top Five Percent Faculty at the Ira A. Fulton School of Engineering Award, National Science Foundation CAREER Award, Whitacre Engineering Research Award, Lockheed Martin Engineering Teaching Award, Texas Tech Alumni Association New Faculty Award, AIChE Professor of the Year Award, 3M Nontenured Faculty Award, University of Illinois Young Alumnus Award, and Racheff Award. She has also been recognized as an Elite Expert (EliteXpert™) and an ASU Advanced Leadership Initiative Fellow. Dai received her Ph.D. in materials science and engineering from the University of Illinois. She has not previously served on an Academies' committee.

Lisa M. Frehill

Member

LISA M. FREHILL is a senior analyst with Energetics Technology Center. She is also the senior statistician at the Institute of Museum and Library Services (IMLS). Frehill has worked in academic, non-profit, and government organizations. In addition to teaching research methods, statistics, and program evaluation at New Mexico State University, she has more than two decades experience deploying qualitative and quantitative research on the connections between education and labor market outcomes. Her work on science and engineering human resources, especially in the areas of diversity, inclusion, and policy issues, has been supported by grants from the National Science Foundation, Department of Energy, and the Alfred P. Sloan Foundation. She has her Ph.D. in sociology with a minor in systems and industrial engineering from the University of Arizona. She has not previously served on an Academies' committee.

Daniel E. Hastings

Member

DANIEL E. HASTINGS (NAE) is professor of aeronautics at the Massachusetts Institute of Technology in the Department of Aeronautics and Astronautics. He is also the director of the Singapore-MIT Alliance for Research and Technology (SMART). Hastings was an associate professor and later full professor for the Department of Aeronautics and Astronautics at MIT. He was also the associate department head of research. He took a short sabbatical to be the Chief Scientist of the U.S. Air Force. Hastings was asked to direct the Technology and Policy Program (TPP) at MIT as well as associate director and co-director of the Engineering Systems Division, and later became its director. Hastings became the dean for undergraduate education and then the CEO and director of the Singapore-MIT Alliance for Research and Technology. Hastings earned his B.A. at Oxford University in the U.K. and his S.M. and Ph.D. at the Massachusetts Institute of Technology. He has previously served on numerous Academies committees.

Rodward L. Hewlin, Jr.

Member

RODWARD L. HEWLIN, JR. is assistant professor of mechanical engineering technology at the University of North Carolina, Charlotte where he teaches engineering technology and construction management. His research areas include animal flight morphology; biological flows; computational fluid dynamics; electromagnetics and medical drug delivery; and heat and mass transport, among others. He has a Ph.D. in mechanical engineering from North Carolina Agricultural and Technical State University. He has not previously served on an Academies committee.

Michael J. Hirschberg

Member

MICHAEL J. HIRSCHBERG is executive director of the Vertical Flight Society (previously known as the American Helicopter Society, Inc.) after 20 years in the aerospace industry, primarily in vertical flight. He is responsible for the execution of the strategic direction set by the society's board of directors. He represents the vertical flight technical community and advocates for the advancement of vertical flight research and technology to the executive and legislative branches of the government. Hirschberg is the publisher of society publications, including Vertiflite, the Journal of the AHS, and the Annual Forum Proceedings. Hirschberg was previously a principal aerospace engineer with CENTRA Technology, Inc., providing technical and program management support for over 10 years to the Defense Advanced Research Projects Agency (DARPA) and Office of Naval Research (ONR) on advanced aircraft and rotorcraft concepts. Prior to this, Hirschberg worked in the Joint Strike Fighter (JSF) Program Office, supporting the development of the X-32 and X-35 vertical flight propulsion systems. He served as the managing editor of Vertiflite magazine, and as a contributing author since 1997. Hirschberg is an internationally-known lecturer, frequently presenting on vertical flight at short courses, meetings, conferences; and universities; and is the author/co-author of more than 100 publications on helicopter, V/STOL and advanced aircraft developments, including three books. He is an Associate Fellow of the American Institute of Aeronautics and Astronautics (AIAA) and a fellow of the Royal Aeronautical Society (RAeS). Hirschberg holds a B.S. in aerospace engineering from the University of Virginia and a M.E. mechanical engineering from Catholic University of America and an M.B.A. from the Virginia Polytechnic Institute & State University. He has previously served on an Academies' committee.

Yuanwei Jin

Member

YUANWEI JIN is currently chair and professor of electrical engineering with the engineering and aviation sciences department at University of Maryland Eastern Shore (UMES), which is a historically black institution (HBI). As department chair, he oversaw a steady increase of enrollment and graduation of students in the engineering and aviation science programs in his department, thus turning his department into a catalyst for upward social mobility by graduating students from low-income and often under-prepared backgrounds to become competitive STEM professionals such as engineers, professional pilots, airport managers, etc. As a professor, Jin is passionate about undergraduate student research and innovation. He holds five U.S. patents and has authored more than ninety peer reviewed technical papers published with his students and collaborators. Prior to joining UMES, he was a research scientist with the electrical and computer engineering department at Carnegie Mellon University. He is a senior member of the IEEE. He was a recipient of the 2010 Air Force Summer Faculty Fellowship Award. He received a STEM-Innovator Award and the Special Recognition Award for educational leadership at the Black Engineers Years Award (BEYA)-STEM Conference in 2019 and 2016, respectively. He holds a Ph.D. in electrical and computer engineering from the University of California at Davis. He has not previously served on an Academies' committee.

Mary A. Leung

Member

MARY ANN LEUNG is the founder and president of Sustainable Horizons Institute, a 501(c)(3) nonprofit organization dedicated to cultivating a diverse STEM workforce prepared to be leaders and add new dimensions to innovation. She heads up a variety of programs aimed at diversifying the Department of Energy National Laboratory workforce as well as catalyzing change in the broader professional community to normalize inclusion. In addition to programmatic work, the organization provides recommendations on workforce development and diversity and inclusion. This work includes the evaluation of national laboratory workforce data for a variety of STEM disciplines, workforce development practices including internships, fellowships, leadership development initiatives, and comparisons with national data on workforce availability. Leung led the highly competitive Department of Energy Computational Science Graduate Fellowship (DOE CSGF) program. During her tenure in this role, the program achieved an unprecedented level of recruitment, fellow, and alumni engagement, through a strategic, multifaceted integration of online, regional, professional society, and annual conference activities. As a result of her efforts, in five years DOE CSGF doubled the number and overall quality of applicants, including doubling and in some cases quadrupling the number of underrepresented minority applications. A computational chemist by training, Leung is an experienced author and researcher. Her research interests include the development of scalable, parallel, scientific codes for the investigation of quantum mechanical phenomena as well as science, technology, engineering, and math education; workforce development; and diversity and inclusion. She graduated with honors from Mills College, earning a B.A. in chemistry with a math minor. Leung holds Ph.D. and an M.S. in computational physical chemistry from the University of Washington. She has not previously served on an Academies' committee.

Sean P. Nolan

Member

SEAN P. R. NOLAN is an engineer within the Compressor Systems Aero Group at Pratt and Whitney PW). During his 10 years at PW he has been involved in product design, testing, and field support on multiple programs. He has also been involved with compressor rig testing done in collaboration with NASA Glenn. Nolan has a Ph.D. in aeronautics and astronautics. He has not previously served on an Academies' committee.

Gbadebo M. Owolabi

Member

GBADEBO MOSES OWOLABI is a professor of mechanical engineering at Howard University and the director of graduate studies for the Department of Mechanical Engineering. Prior to joining Howard University, he was a visiting research scholar at Georgia Institute of Technology sponsored by the Government of Canada through the Natural Science and Engineering Research Council of Canada Fellowship. His recent research focuses on developing novel simulation-based strategies for predicting the formation and growth of small cracks in advanced materials and structures for numerous applications in large-scale industries including aerospace, ship/marine structures, pressure vessels, and other applications where fatigue is a critical issue in reliability analysis. In the last seven years, Owolabi has received research grant awards from the Department of Defense, the Air Force Office of Scientific Research, the Army Research Office, National Science Foundation, and the Department of Energy to support his research activities in the area of fatigue and fracture mechanics at various scales, high strain rate testing and material characterization, structural integrity and health monitoring, and additive manufacturing. Owolabi is a fellow of the American Society of Mechanical Engineers (ASME). He obtained his B.S. (First Class Honors) from the Obafemi Awolowo University, Nigeria for mechanical engineering and his Ph.D. from the University of Manitoba, Canada. He has not previously served on an Academies' committee.

Dwayne A. Day

Staff Officer