Teng Wu, Ph.D., M.ASCE, Professor and Director of Graduate Studies, Department of Civil, Structural and Environmental Engineering, University at Buffalo

Short Bio: Teng Wu is Professor and Director of Graduate Studies in the Department of Civil, Structural and Environmental Engineering at University at Buffalo (UB). Wu has made significant contributions to the development of analytical and computational methods focusing on nonlinear and transient bluff-body aerodynamics, performance-based wind design, and community resilience to hurricane (wind, rain and surge hazards). His contributions have been recognized through the 2013 American Society of Civil Engineers (ASCE) O.H. Ammann Research Fellowship, 2014 American Association for Wind Engineering (AAWE) Best Paper Award, 2016 ASCE Alfred Noble Prize, 2017 International Association for Wind Engineering (IAWE) Giovanni Solari Award, 2017 AAWE Robert Scanlan Award, 2018 International Association for Bridge and Structural Engineering (IABSE) Prize, 2023 IABSE Outstanding Paper Award, and 2024 IABSE Outstanding Paper Award.

Wu currently serves as the Editor-in-Chief of Advances in Wind Engineering, Associate Editor of ASCE Journal of Bridge Engineering, ASCE Journal of Structural Engineering, ASCE OPEN: Multidisciplinary Journal of Civil Engineering, IABSE Structural Engineering International, Frontiers in Built Environment, and Intelligent Transportation Infrastructure. He is an Executive Board Member of IAWE, Member of AAWE Board of Directors, Member of IABSE-USA Board of Directors, Member of TRB (Transportation Research Board) Committee on Rail Safety and Research Working Group of Committee on Extreme Weather and Climate Change Adaptation, Board Member of International Joint Research Laboratory in Wind Engineering, and Member of Academic Committee for International Joint Research Laboratory of Rail Transportation Safety. Wu serves on a number of ASCE committees including ASCE/IRD (Infrastructure Resilience Division) Executive Committee, ASCE/EMI (Engineering Mechanics Institute) Fluid Dynamics Committee (Chair), Machine Learning in Mechanics Committee, Objective Resilience Committee, Dynamics Committee, Probabilistic Methods Committee, Structural Health Monitoring & Control Committee and Computational Mechanics Committee, ASCE/SEI (Structural Engineering Institute) 7 Main Committee and Wind Load Subcommittee, Cable-Supported Bridges Committee (Chair), Structural Wind Engineering Committee, Performance Based Design Committee, Multihazard Mitigation Committee and Task Group on Reliability-Based Structural System Performance Indicators, ASCE/CC (Changing Climate) Technical Committee on Future Weather and Climate Extremes (Chair), and ASCE/T&DI (Transportation & Development Institute) AI in Transportation Committee (Co-Chair of Research Subcommittee). He also serves on ACI (American Concrete Institute) Committee 375-Performance-Based Design of Concrete Buildings for Wind Loads (Secretary) and ACI Subcommittee 318W-Wind Provisions (Structural Concrete Building Code).

Wu's current research interests include wind engineering, hurricane engineering, structural engineering, bridge engineering, nonlinear/transient aerodynamics, performance-based wind design, community resilience, climate change, computational fluid dynamics, reduced-order modeling and knowledge-enhanced machine learning. Since joining UB, Wu's research has been supported by US federal and state agencies (e.g., NSF, DOT, DOE and NIST) and industry. Wu has authored 6 book/book chapters and over 110 articles published in highly respected journals of structural/wind engineering, and has presented more than 120 conference papers.

Past Involvement: I attended my first EMI conference in 2012 when I was a graduate student at the University of Notre Dame. Since then, I have regarded the EMI community as my academic home. The Institute provides a valuable platform for researchers and practitioners in broad domain of engineering mechanics to communicate ideas and facilitate collaborations. Over the past 14 years, my students and I have made 31 presentations at EMI conferences and published 12 papers in the ASCE/EMI *Journal of Engineering Mechanics*. Among these publications, the paper titled *'Revisiting Convolution Scheme in Bridge Aerodynamics: Comparison of Step and Impulse Response Functions'* received ASCE Alfred Noble Prize "i*n recognition of the mathematical elegance and its critical contribution to the issue of the aerodynamics of bridges*". I have been serving on several ASCE/EMI committees, including Fluid Dynamics Committee (Chair), Machine Learning in Mechanics Committee, Objective Resilience Committee, Dynamics Committee, Probabilistic Methods Committee, Structural Health Monitoring & Control Committee and Computational Mechanics Committee. As a regular organizer/attendee of various EMI activities, I frequently co-organize Mini-Symposia, chair/review Student Paper Competitions, deliver EMI-based Webinars, and attend EMI Committee Meetings. For example, last year I attended ASCE's Virtual Roundtable on the Need for Smart City Standards as the EMI representative. Last month, I made a presentation titled "*AI-Empowered Performance-Based Wind Engineering*" as part of the EMI Dynamics Committee Joint Webinar Series.

My Vision: I would like to contribute more to the EMI community and so I am very excited and honored to be considered for a position on the EMI Board of Governors. If elected, I will work closely with other members of the Board toward the EMI goals: to be the premier organization representing engineering mechanics by effectively serving the needs of the worldwide engineering community and promoting both research and application of scientific and mathematical principles to address a broad spectrum of existing and emerging engineering and societal problems. Engineering mechanics and materials underpin the built environment. Analysis codes used for the design of mission-critical infrastructure are built on the principles of solid and fluid mechanics. My vision for EMI is to elevate the role of engineering mechanics, and its design-related products, in building of more resilient communities: Increasing Impacts Through Connecting and Collaboration (I2C2). Aside from growing EMI and its role within ASCE, and better connecting EMI to fellow institutes, including SEI, there are three aspects of I2C2 I am keen to implement. First, I would like to implement strategies to enhance communication between EMI and young researchers and practitioners. In addition to ASCE Student Chapters, we should establish EMI Graduate Student Chapters (similar to SEI). It is important to involve students in mechanics early in their careers. Second, I would like to increase the visibility of our committee activities and their impact on professional practice. There is still room within EMI to add professional and technical committees to support meaningful initiatives (e.g., research projects, outreach/education efforts, and community service). For example, connections with organizations overseas would be greatly enhanced by a Global Activities Committee. Third, I would work to reinforce EMI relationships with industry and federal government agencies. Engineering Mechanics is a fundamental discipline with far-reaching societal benefits. Closer connections and collaborations with consultants and practitioners will help EMI enhance its impacts on our society by facilitating seamless integration of all the aspects in engineering mechanics and their applications in the real world.