

TENG WU

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Teng Wu received his Ph.D. degree from University of Notre Dame in 2013. He is currently an Associate Professor in the Department of Civil, Structural and Environmental Engineering at the University at Buffalo (UB). Wu has made significant contributions to development of analytical and computational methods focusing on nonlinear and transient structural 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) Junior Award, 2017 AAWE Robert Scanlan Award, and 2018 International Association for Bridge and Structural Engineering (IABSE) Prize.

Wu currently serves as the 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-Wind Engineering and Science, and Intelligent Transportation Infrastructure. He is an Executive Board Member of IAWE, Member of AAWE Board of Directors, Member of Super-Long-Span Bridge Aerodynamics Working Group and Effects of Climate Change on Infrastructures Working Group of IABSE, 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, Member of Academic Committee for International Joint Research Laboratory of Rail Transportation Safety, and Member of US Resiliency Council-Wind Technical Advisory Committee. Wu serves on a number of ASCE committees including ASCE 7 Main Committee and Wind Load Subcommittee, Technical Council on Future Weather and Climate Extremes (Chair), ASCE AI in Transportation Committee (Co-Chair of Research Subcommittee), ASCE/EMI Fluid Dynamics Committee (Vice Chair), Dynamics Committee, Probabilistic Methods Committee, Machine Learning in Mechanics Committee, Objective Resilience Committee and Structural Health Monitoring and Control Committee, and ASCE/SEI Cable-Supported Bridges Committee (Chair), Structural Wind Engineering Committee, Performance-Based Design for Structures Committee, Advances in Simulation Committee, Multihazard Mitigation Committee and Task Group on Reliability-Based Structural System Performance Indicators. 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). Since joining UB, Wu has obtained support for his research from federal and state agencies in the United States and through industrial and international collaborations. Wu has authored more than 90 articles published in highly respected journals of structural/wind engineering, and presented over 100 conference papers.

Education Background

University of Notre Dame	Civil Engineering	Ph.D. (Advisor: Ahsan Kareem)	08/2011-12/2013
University of Notre Dame	Civil Engineering	M.S. (Advisor: Ahsan Kareem)	08/2008-04/2012
Tongji University	Bridge Engineering	M.S. (Advisor: Yaojun Ge)	09/2007-09/2010
Tongji University	Civil Engineering	B.E. (Advisor: Yaojun Ge)	09/2003-06/2007
Fudan University	Financial Engineering	Minor	09/2004-09/2006

Appointments

Associate Professor, Department of Civil, Structural and Environmental Engineering (CSEE), University at Buffalo	08/2019-Present
Assistant Professor, CSEE, University at Buffalo	08/2014-08/2019
Research Assistant Professor, Department of Civil & Environmental Engineering & Earth Sciences (CEEES), University of Notre Dame	01/2014-08/2014
Research Assistant, CEEES, University of Notre Dame	05/2010-12/2013
Teaching Assistant, CEEES, University of Notre Dame	08/2008-05/2010

Research Interests

Wind Engineering; Structural Engineering; Bridge Engineering; Performance-Based Wind Design; Nonlinear and Transient Aerodynamics; Hurricane Hazard Modeling; Community Resilience; Machine Learning; Reduced-Order Modeling; Computational Fluid Dynamics; Climate Change.

Selected Honors & Awards

IABSE Prize, IABSE (International Association for Bridge and Structural Engineering) “In recognition of his significant contribution in strengthening the role of structural engineers in complex international and multidisciplinary projects and his involvement in many innovative structural design achievements in the field of architecture and building structures”	2018
Junior Award, IAWE (International Association for Wind Engineering) “In recognition of many contributions to development of analytical methods focusing on nonlinear and unsteady features of structural aerodynamics”	2017
Robert Scanlan Award, AAWE (American Association for Wind Engineering) “In recognition of the contributions to wind engineering for best doctoral thesis related to theoretical advances in the mechanics of wind-structure interaction titled ‘Nonlinear Bluff-Body Aerodynamics’”	2017
Alfred Noble Prize, ASCE/ASME/IEEE (American Society of Civil Engineers/American Society of Mechanical Engineers/Institute of Electrical and Electronics Engineers) “In recognition of the mathematical elegance and its critical contribution to the issue of the aerodynamics of bridges for the paper titled ‘Revisiting Convolution Scheme in Bridge Aerodynamics: Comparison of Step and Impulse Response Functions’ published in the ASCE Journal of Engineering Mechanics”	2016
ASCE ExCEED Fellow, ASCE	2015
Best Paper Award, AAWE “In recognition of the contributions to wind engineering for the paper titled ‘Bridge Aerodynamics and Aeroelasticity: A Comparison of Modeling Schemes’ published in the Journal of Fluids and Structures”	2014
O.H. Ammann Research Fellowship Award, ASCE	2013
First-Class Dissertation of Tongji University	2007
First-Class Graduate in Shanghai Area	2007
Mao Yi-sheng Engineering Education Medal for Students, Education Fund Committee of Science and Technology in China	2006
First Place in the 3rd Structural Design Contest in East China	2005

Journal Papers Published

(Underline: graduate student advised; *Italics*: visiting students and scholars & postdoctoral fellows; *: corresponding author)

Affiliated with University at Buffalo:

- J1. Li, T. and **Wu, T.***, 2023. Modeling Nonlinear Flutter Behavior of Long-Span Bridges using Knowledge-Enhanced Long Short-Term Memory Network. *Computer-Aided Civil and Infrastructure Engineering*. In Press.
- J2. Li, L.*, Huang, X., Chen, S., **Wu, T.**, Mei, L., Long, W. and Xiao, Y., 2023. Study on Strategies for Reducing Training Samples for Accurate Estimation of Wind-Induced Structural Response of LSTM Networks. *Journal of Wind Engineering and Industrial Aerodynamics*. In Press.
- J3. Lu, M., Li, S., **Wu, T.***, 2023. Fast Prediction of Solitary Wave Forces on Box-Girder Bridges Using Artificial Neural Networks. *Water*. In Press.
- J4. **Wu, T.**, He, J. and Li, S.*, 2023. Active Flutter Control of Long-Span Bridges via Deep Reinforcement Learning: A Proof of Concept. *Wind and Structures*. In Press.
- J5. Li, S. and **Wu, T.***, 2023. A Risk-Informed Decision-Support Framework for Optimal Operation of Hurricane-Impacted Transportation Networks. *ASCE Natural Hazards Review*. 24(3), 04023018.
- J6. Yu, X. and **Wu, T.***, 2023. Simulation of Unsteady Flow around Bluff Bodies using Knowledge-Enhanced Convolutional Neural Network. *Journal of Wind Engineering and Industrial Aerodynamics*. 236, 105405.
- J7. An, X., Li, S. and **Wu, T.***, 2023. Modeling Nonlinear Aeroelastic Forces for Bridge Decks with Various Leading Edges Using LSTM Networks. *Applied Sciences*, 13(10), 6005.
- J8. Zhang, L., Kong, H., Zhang, N., **Wu, T.**, Yang, Q. and Chen, B.*, 2023. An Effective Two-Stage Optimization Method on Aerodynamic Measures to Mitigate Wind Loads Considering Uncertainties in Wind Direction and Velocity. *Engineering Structures*, 275, 115196.

- J9. Mi, L., Han, Y., Shen, L., Cai, C. and **Wu, T.***, 2022. Multi-Scale Numerical Assessments of Urban Wind Resource Using Coupled WRF-BEP and RANS Simulation: A Case Study. *Atmosphere*, 13(11), 1753.
- J10. Zhang, M.*, **Wu, T.** and Øiseth, O., 2022. Vortex-Induced Vibration Control of a Flexible Circular Cylinder Using a Nonlinear Energy Sink. *Journal of Wind Engineering and Industrial Aerodynamics*, 229, 105163.
- J11. Li, S. and **Wu, T.***, 2022. Deep Reinforcement Learning-Based Decision Support System for Transportation Infrastructure Management under Hurricane Events. *Structural Safety*, 99, 102254.
- J12. Feng, Y. Hao, J.*, Han, W., Su, Q. and **Wu, T.**, 2022 An Optimized Numerical Tornado Simulator and Its Application to Transient Wind-Induced Response of a Long-Span Bridge. *Journal of Wind Engineering and Industrial Aerodynamics*, 227, 105072.
- J13. Orcesi, A.*, O'Connor, A., Bastidas-Arteaga, E., Stewart, M.G., Imam, B., Ryan, P.C., Kreislova, K., Schoefs, F., Markogiannaki, O., **Wu, T.**, Li, Y., Salman, A.M., Hawchar, L., 2021. Investigating the Effects of Climate Change on Material Properties and Structural Performance. *IABSE Structural Engineering International*, 32(4), 577-588.
- J14. Orcesi, A.*, O'Connor, A., Diamantidis, D., **Wu, T.**, Akiyama, M., Alhamid, A.K., Sykora, M., Schmidt, F., Pregnolato, M., Li, Y., Salarieh, B., Salman, A.M., Bastidas-Arteaga, E., Markogiannaki, O. and Schoefs, F., 2022. Investigating the Effects of Climate Change on Structural Actions. *IABSE Structural Engineering International*, 32(4), 563-576.
- J15. Diana, G., Stoyanoff, S., Aas-Jakobsen, K., Allsop, A., Andersen, M., Argentini, T.*, Montoya, M., Hernández, S., Jurado, J., Katsuchi, H., Kavrakov, I., Kim, H., Larose, G., Larsen, A., Morgenthal, G., Øiseth, O., Rocchi, D., Svendsen, M. and **Wu, T.**, 2022. IABSE Task Group 3.1 Benchmark Results. Numerical Full Bridge Stability and Buffeting Simulations. *IABSE Structural Engineering International*, 32(3), 1-12.
- J16. Snaiki, R. and **Wu, T.***, 2022. Knowledge-Enhanced Deep Learning for Simulation of Extratropical Cyclone Wind Risk. *Atmosphere*, 13(5), 757.
- J17. Zhang, M., Øiseth, O., Petersen, Ø. and **Wu, T.***, 2022. Experimental Investigation on Flow-Induced Vibrations of a Circular Cylinder with Radial and Longitudinal Fins. *Journal of Wind Engineering and Industrial Aerodynamics*, 223, 104948.
- J18. **Wu, T.*** and Snaiki, R., 2022. Applications of Machine Learning to Wind Engineering. *Frontiers in Built Environment-Wind Engineering and Science*, 8, 811460. (**Invited Paper**)
- J19. Huang, G.*, Xia, L., Liu, M., **Wu, T.**, Wang, D. and Zheng, H., 2022. Tail-Weighted Wind Speed Distribution by Mixture Model with Constrained Maximum Likelihood. *International Journal of Structural Stability and Dynamics*, 22(3&4), 2240016.
- J20. Wang, H. and **Wu, T.***, 2022. Statistical Investigation of Wind Duration using a Refined Hurricane Track Model. *Journal of Wind Engineering and Industrial Aerodynamics*, 221, 104908.
- J21. Liu, M., Li, S.*, **Wu, T.**, Li, Y., Meng, H. and Chen, Z., 2021. Eddy-Current Tuned Mass Dampers for Mitigation of Wind-induced Response of the Noor III Solar Tower: Design, Installation and Validation. *ASCE Journal of Structural Engineering*, 147(12), 05021009.
- J22. Li, S., Snaiki, R. and **Wu, T.***, 2021. Active Simulation of Transient Wind Field in a Multiple-Fan Wind Tunnel via Deep Reinforcement Learning. *ASCE Journal of Engineering Mechanics*, 147(9), 04021056.
- J23. He, X., Kang, X., Yan, L.*, Flay, R., Ren, P. and **Wu, T.**, 2021. Numerical Investigation of Flow Structures and Aerodynamic Interference around Stationary Parallel Box Girders. *Journal of Wind Engineering and Industrial Aerodynamics*, 215, 104610.
- J24. Wang, H. and **Wu, T.***, 2021. A Hilbert-Wavelet-based Nonstationarity Index for Multi-Level Quantification of Extreme Winds. *Journal of Wind Engineering and Industrial Aerodynamics*, 215, 104682.

- J25. Li, S., Snaiki, R. and **Wu, T.***, 2021. A Knowledge-Enhanced Deep Reinforcement Learning-Based Shape Optimizer for Aerodynamic Mitigation of Wind-Sensitive Structures. *Computer-Aided Civil and Infrastructure Engineering*, 36, 733-746.
- J26. Wang, H. and **Wu, T.***, 2021. Fast Hilbert-Wavelet-based Simulation of Nonstationary Wind Field using Non-Iterative Simultaneous Matrix Diagonalization. *ASCE Journal of Engineering Mechanics*, 147(3), 04020153.
- J27. Snaiki, R. and **Wu, T.***, 2020. Hurricane Hazard Assessment along the U.S. Northeastern Coast: Surface Wind and Rain Fields under Changing Climate. *Frontiers in Built Environment-Wind Engineering and Science*, 6, 573054.
- J28. Kijewski-Correa, T.*, Taflanidis, A., Vardeman II C., Sweet, J., Zhang, J., Snaiki, R., **Wu, T.**, Silver, Z. and Kennedy, A., 2020. Geospatial Environments for Hurricane Risk Assessment: Applications to Situational Awareness and Resilience Planning in New Jersey. *Frontiers in Built Environment-Wind Engineering and Science*, 6, 549106.
- J29. Hao, J. and **Wu, T.***, 2020. Numerical Analysis of Long-span Bridge Response to Tornado Events. *Wind and Structures*, 31(5), 459-472.
- J30. Snaiki, R. and **Wu, T.***, 2020. Revisiting Hurricane Track Model for Wind Risk Assessment. *Structural Safety*, 87, 102003.
- J31. Wang, H. and **Wu, T.***, 2020. Knowledge-enhanced Deep Learning for Wind-induced Nonlinear Structural Dynamic Analysis. *ASCE Journal of Structural Engineering*, 146(11), 04020235. (**Editor's Choice**)
- J32. Zhang, M., Xu, F.*, **Wu, T.** and Zhang, Z., 2020. Post-flutter Analysis of Bridge Decks using Aerodynamic Describing Functions. *ASCE Journal of Bridge Engineering*, 25(8), 04020046.
- J33. Snaiki, R., **Wu, T.***, Whittaker, A. and Atkinson, J., 2020. Hurricane Wind and Storm Surge Effects on Coastal Bridges under a Changing Climate. *Transportation Research Record*, 2674(6), 23–32.
- J34. Wang, H. and **Wu, T.***, 2020. Time-Varying Multiscale Spatial Correlation: Its Simulation and Application to Wind Loading of Structures. *ASCE Journal of Structural Engineering*, 146(7), 04020138.
- J35. Snaiki, R. and **Wu, T.***, 2020. An Analytical Model for Rapid Estimation of Hurricane Supergradient Winds. *Journal of Wind Engineering and Industrial Aerodynamics*, 201, 104175.
- J36. Yan, L., Ren, L. He, X.*, Lu, S., Guo, H., and **Wu, T.**, 2020. Strong Wind Characteristics and Buffeting Response of a Cable-Stayed Bridge under Construction. *Sensors*, 20(4), 1228.
- J37. Li, T., **Wu, T.*** and Liu, Z., 2020. Nonlinear Unsteady Bridge Aerodynamics: Reduced-Order Modeling Based on Deep LSTM Networks. *Journal of Wind Engineering and Industrial Aerodynamics*, 198, 104116.
- J38. Huang, D., **Wu, T.*** and He, S., 2020. Experimental Investigation of Vortex-induced Aeroelastic Effects on A Square Cylinder. *Wind and Structures*, 30(1), 37-54.
- J39. Zhao, L., Xie, X., **Wu, T.***, Li, S., Li, Z., Ge, Y. and Kareem, A., 2020. Revisiting Aerodynamic Admittance Functions of Bridge Decks. *Journal of Zhejiang University-SCIENCE A*, 21(7), 535-552.
- J40. Diana, G., Stoyanoff, S., Aas-Jakobsen, K., Allsop, A., Andersen, M., Argentini, T.*, Montoya, M., Hernández, S., Jurado, J., Katsuchi, H., Kavrakov, I., Kim, H., Larose, G., Larsen, A., Morgenthal, G., Øiseth, O., Omarini, S., Rocchi, D., Svendsen, M. and **Wu, T.**, 2020. IABSE Task Group 3.1 Benchmark Results. Part 2: Numerical Analysis of a Three-Degree-of-Freedom Bridge Deck Section Based on Experimental Aerodynamics. *IABSE Structural Engineering International*, 30(3), 411-420.
- J41. Diana, G., Stoyanoff, S., Aas-Jakobsen, K., Allsop, A., Andersen, M., Argentini, T.*, Montoya, M., Hernández, S., Jurado, J., Katsuchi, H., Kavrakov, I., Kim, H., Larose, G., Larsen, A., Morgenthal, G., Øiseth, O., Omarini, S., Rocchi, D., Svendsen, M. and **Wu, T.**, 2020. IABSE Task Group 3.1 Benchmark Results. Part 1: Numerical Analysis of a Two-Degree-of-Freedom Bridge Deck Section Based on Analytical Aerodynamics. *IABSE Structural Engineering International*, 30(3), 401-410.

- J42. Li, L., Zhou, Y., Wang, H., Zhou, H., He, X. and **Wu, T.***, 2019. An Analytical Framework for the Investigation of Tropical Cyclone Wind Characteristics over Different Measurement Conditions. *Applied Sciences*, 9(24), 5385.
- J43. Zhang, M., **Wu, T.*** and Xu, F., 2019. Vortex-Induced Vibration of Bridge Decks: Describing Function-based Model. *Journal of Wind Engineering and Industrial Aerodynamics*, 195, 104016.
- J44. He, X., Shi, K. and **Wu, T.***, 2019. An Efficient Analysis Framework for High-Speed Train-Bridge Coupled Vibration under Nonstationary Winds. *Structure and Infrastructure Engineering*, 19704800.
- J45. Li, S.*, Deng, Y., Lei, X., **Wu, T.**, and Chen, Z., 2019. Wake Induced Vibration of the Hanger of a Suspension Bridge: Field Measurements and Theoretical Modeling. *Structural Engineering and Mechanics*, 72(2), 169-180.
- J46. Snaiki, R. and **Wu, T.***, 2019. Knowledge-Enhanced Deep Learning for Simulation of Tropical Cyclone Boundary-Layer Winds. *Journal of Wind Engineering and Industrial Aerodynamics*, 194, 103983.
- J47. Snaiki, R. and **Wu, T.***, 2019. Modeling Rain-Induced Effects on Boundary-Layer Wind Field of Tropical Cyclones. *Journal of Wind Engineering and Industrial Aerodynamics*, 194, 103986.
- J48. **Wu, T.*** and Song, W., 2019. Real-Time Aerodynamics Hybrid Simulation: Wind-Induced Effects on a Reduced-Scale Building Equipped with Full-Scale Dampers. *Journal of Wind Engineering and Industrial Aerodynamics*, 190, 1-9.
- J49. **Wu, T.***, Li, S. and Sivaselvan, M., 2019. Real-Time Aerodynamics Hybrid Simulation: A Novel Wind-Tunnel Model for Flexible Bridges, *ASCE Journal of Engineering Mechanics*, 145(9), 04019061. (**Editor's Choice**)
- J50. **Wu, T.***, 2019. Changing Bridge Aerodynamics under Nonstationary Winds. *IABSE Structural Engineering International*, 29(1), 74-83.
- J51. Li, S.*, Xiao, C., **Wu, T.** and Chen, Z., 2019. Aerodynamic Interference between the Cables of the Suspension Bridge Hanger. *Advances in Structural Engineering*, 22(7), 1657-1671.
- J52. Zheng, C., Liu, Z., **Wu, T.***, Wang, H., Wu, Y., Shi, X., 2019. Experimental Investigation of Vortex-Induced Vibration of a Thousand-Meter-Scale Megatall Building. *Journal of Fluids and Structures*, 85, 94-109.
- J53. He, X., Zhou, L., Chen, Z., Jing, H.*, Zou, Y. and **Wu, T.**, 2019. Effect of Wind Barriers on the Flow Field and Aerodynamic Forces of a Train-Bridge System. *Proceedings of the Institution of Mechanical Engineers, Part F: Journal of Rail and Rapid Transit*, 233(3), 283-297.
- J54. Snaiki, R. and **Wu, T.***, 2018. A Semi-Empirical Model for Mean Wind Velocity Profile of Landfalling Hurricane Boundary Layers. *Journal of Wind Engineering and Industrial Aerodynamics*, 180, 249-261.
- J55. Hao, J. and **Wu, T.***, 2018. Downburst-Induced Transient Response of a Long-Span Bridge: A CFD-CSD-based Hybrid Approach. *Journal of Wind Engineering and Industrial Aerodynamics*, 179, 273-286.
- J56. Wang, H. and **Wu, T.***, 2018. Hilbert-Wavelet-Based Nonstationary Wind Field Simulation: A Multi-Scale Spatial Correlated Scheme. *ASCE Journal of Engineering Mechanics*, 144(8), 04018063.
- J57. Snaiki, R. and **Wu, T.***, 2018. An Analytical Framework for Rapid Estimate of Rain Rate during Tropical Cyclones. *Journal of Wind Engineering and Industrial Aerodynamics*, 174, 50-60.
- J58. Li, L., **Wu, T.**, He, X.*, Hao, J., Wang, H., Xu, H., 2018. Reliability Evaluation of Vortex-Induced Vibration for a Long-Span Arch Bridge. *ASCE Journal of Bridge Engineering*, 23(5), 05018002.
- J59. Song, J.*, Lee, D., Erikson, J., Hao, J., **Wu, T.** and Kim, B., 2018. Embossed Structural Skin for Tall Buildings. *International Journal of High-Rise Buildings*, 7(1), 17-32.
- J60. Wang, H.*, Xu, Z., **Wu, T.**, Mao, J., 2018. Evolutionary Power Spectral Density of Recorded Typhoon at Sutong Bridge Using Harmonic Wavelet. *Journal of Wind Engineering and Industrial Aerodynamics*, 177, 197-212.
- J61. Snaiki, R. and **Wu, T.***, 2017. A Linear Height-Resolving Wind Field Model for Tropical Cyclone Boundary Layer. *Journal of Wind Engineering and Industrial Aerodynamics*, 171, 248-260.

- J62. Snaiki, R. and **Wu, T.***, 2017. Modeling Tropical Cyclone Boundary Layer: Height-Resolving Pressure and Wind Fields. *Journal of Wind Engineering and Industrial Aerodynamics*, 170, 18-27.
- J63. Hao, J. and **Wu, T.***, 2017. Non-synoptic Wind-Induced Transient Effects on Linear Bridge Aerodynamics. *ASCE Journal of Engineering Mechanics*, 143(9), 04017092.
- J64. He, X., Shi, K. and **Wu, T.***, 2017. An Integrated Structural Health Monitoring System for the Xijiang High-Speed Railway Arch Bridge. *Smart Structure and System*, 21(5), 611-621.
- J65. Tao, T., Wang, H.* and **Wu, T.**, 2017. Parametric Study on Buffeting Performance of a Long-span Triple-tower Suspension Bridge. *Structure and Infrastructure Engineering*, 1-19.
- J66. He, X., Gai, Y. and **Wu, T.***, 2017. Simulation of Train-Bridge Interaction under Wind Loads: A Rigid-Flexible Coupling Approach. *International Journal of Rail Transportation*, 5(4), 1-20.
- J67. Xu, Z., Wang, H.*, **Wu, T.**, Tao, T. and Mao, J., 2017. Wind Characteristics at Sutong Bridge Site using 8-Year Field Measurement Data. *Wind and Structures*, 25(2), 195-214.
- J68. He, X.*, **Wu, T.**, Zou, Y., Chen, Y., Guo, H. and Yu, Z., 2017. Recent Development of High-speed Railway Bridges in China. *Structure and Infrastructure Engineering*, 13(12), 1584-1595.
- J69. Chen, L.*, Li, S., Wang, Y., Zhao, Y., Zhang, M, Li, X., **Wu, T.** and Jiang, L., 2017. Experimental Study on the Seismic Behaviour of Mortise-Tenon Joints of the Ancient Timbers. *IABSE Structural Engineering International*, 27(4), 512-519.
- J70. Tao, T., Wang, H.* and **Wu, T.**, 2016. Comparative Study of the Wind Characteristics of a Strong Wind Event Based on Stationary and Nonstationary Models. *ASCE Journal of Structural Engineering*, 143(5), 04016230.
- J71. Li, S.*, **Wu, T.**, Li, S. and Gu, M., 2016. Numerical Study on the Mitigation of Rain-wind Induced Vibrations of Stay Cables with Dampers. *Wind and Structures*, 23(6), 615-639.
- J72. Li, S.*, **Wu, T.**, Huang, T. and Chen, Z., 2016. Aerodynamic Stability of Iced Stay Cables on Cable-Stay Bridge. *Wind and Structures*, 23(3), 253-273.
- J73. He, X., Shi, K., **Wu, T.***, Zou, Y., Wang, H. and Qin, H., 2016. Aerodynamic Performance of a Novel Wind Barrier for Train-Bridge System. *Wind and Structures*, 23(3), 171-189.
- J74. Wang, H.*, Tao, T., **Wu, T.**, 2016. Wind Power Spectra for Coastal Area of East Jiangsu Province Based on SHMS. *Wind and Structures*, 22(2), 235-252.
- J75. Wang, H.*, Tao, T., **Wu, T.**, Mao, J. and Li, A., 2016. Joint Distribution of Wind Speed and Direction in the Context of Field Measurement. *Wind and Structures*, 20(5), 701-718.
- J76. Chen, B.*, **Wu, T.**, Yang, Y., Yang, Q., Li, Q. and Kareem, A., 2016. Wind Effects on A Cable-Suspended Roof: Full-Scale Measurements and Wind Tunnel Based Predictions. *Journal of Wind Engineering and Industrial Aerodynamics*, 155, 159-173.
- J77. Yin, C., **Wu, T.*** and Kareem, A., 2016. Synthetic Turbulence: A Wavelet-Based Simulation. *Probabilistic Engineering Mechanics*, 45, 177-187.
- J78. Wang, H., **Wu, T.***, Tao, T., Li, A. and Kareem, A., 2016. Measurements and Analysis of Non-Stationary Wind Characteristics at Sutong Bridge in Typhoon Damrey. *Journal of Wind Engineering and Industrial Aerodynamics*, 151, 100-106.
- J79. Haan, F.L., **Wu, T.*** and Kareem, A., 2016. Correlation Structures of Pressure Fields and Integrated Forces on An Oscillating Prism in Turbulent Flows. *ASCE Journal of Engineering Mechanics*, 142(5), 04016017.
- J80. Xu, F.*, **Wu, T.**, Ying, X. and Kareem, A., 2015. Higher-Order Self-Excited Drag Forces on Bridge Decks. *ASCE Journal of Engineering Mechanics*, 142(3), 06015007.
- J81. **Wu, T.*** and Kareem, A., 2015. A Low-Dimensional Model for Nonlinear Bluff-Body Aerodynamics: A Peeling-An-Onion Analogy. *Journal of Wind Engineering and Industrial Aerodynamics*, 146, 128-138.
- J82. **Wu, T.*** and Kareem, A., 2015. A Nonlinear Analysis Framework for Bluff-Body Aerodynamics: A Volterra Representation of the Solution of Navier-Stokes Equations. *Journal of Fluids and Structures*, 54, 479-502.

- J83. Kareem, A. and **Wu, T.***, 2015. Changing Dynamic of Bridge Aerodynamics. *Proceedings of the Institution of Civil Engineers, Structures and Buildings*, 168(2), 94-106.
- J84. Yang, Y., **Wu, T.***, Ge, Y. and Kareem, A., 2014. Aerodynamic Stabilization Mechanism of a Twin Box Girder with Various Slot Widths. *ASCE Journal of Bridge Engineering*, 20(3), 04014067. **(Research Highlights)**

Affiliated with University of Notre Dame:

- J85. Carassale, L., **Wu, T.*** and Kareem, A., 2014. Nonlinear Aerodynamic and Aeroelastic Analysis of Bridges: Frequency Domain Approach. *ASCE Journal of Engineering Mechanics*, 140(8), 04014051.
- J86. **Wu, T.*** and Kareem, A., 2014. Revisiting Convolution Scheme in Bridge Aerodynamics: Comparison of Step and Impulse Response Functions. *ASCE Journal of Engineering Mechanics*, 140(5), 04014008. **(Alfred Noble Prize)**
- J87. **Wu, T.*** and Kareem, A., 2014. Simulation of Nonlinear Bridge Aerodynamics: A Sparse Third-Order Volterra Model. *Journal of Sound and Vibration*, 333(1), 178-188.
- J88. **Wu, T.*** and Kareem, A., 2013. Bridge Aerodynamics and Aeroelasticity: A Comparison of Modeling Schemes. *Journal of Fluids and Structures*, 43, 347-370. **(Best Paper Award)**
- J89. **Wu, T.***, Kareem, A. and Ge, Y., 2013. Linear and Nonlinear Aeroelastic Analysis Frameworks for Cable-Supported Bridges. *Nonlinear Dynamics*, 74(3), 487-516.
- J90. **Wu, T.*** and Kareem, A., 2013. A Nonlinear Convolution Scheme to Simulate Bridge Aerodynamics. *Computers & Structures*, 128, 259-271.
- J91. **Wu, T.***, Kareem, A. and Li, S., 2013. On the Excitation Mechanisms of Rain-Wind Induced Vibration of Cables: Unsteady and Hysteretic Nonlinear Features. *Journal of Wind Engineering and Industrial Aerodynamics*, 122, 83-95.
- J92. Kareem, A. and **Wu, T.***, 2013. Wind-Induced Effects on Bluff Bodies in Turbulent Flows: Nonstationary, Non-Gaussian and Nonlinear Features. *Journal of Wind Engineering and Industrial Aerodynamics*, 122, 21-37.
- J93. **Wu, T.*** and Kareem, A., 2013. Vortex-Induced Vibration of Bridge Decks: Volterra Series-Based Model. *ASCE Journal of Engineering Mechanics*, 139(12), 1831-1843.
- J94. **Wu, T.*** and Kareem, A., 2013. Aerodynamics and Aeroelasticity of Cable-Supported Bridges: Identification of Nonlinear Features. *ASCE Journal of Engineering Mechanics*, 139(12), 1886-1893.
- J95. Li, S.*, Chen, Z., **Wu, T.** and Kareem, A., 2013. Rain-Wind-Induced In-Plane and Out-of-Plane Vibrations of Stay Cables. *ASCE Journal of Engineering Mechanics*, 139(12), 1688-1698.
- J96. **Wu, T.*** and Kareem, A., 2012. An Overview of Vortex-Induced Vibration (VIV) of Bridge Decks. *Frontiers of Structural and Civil Engineering*, 6(4), 335-347.
- J97. **Wu, T.*** and Kareem, A., 2011. Modeling Hysteretic Nonlinear Behavior of Bridge Aerodynamics via Cellular Automata Nested Neural Network. *Journal of Wind Engineering and Industrial Aerodynamics*, 99(4), 378-388.
- J98. **Wu, T.***, Ge, Y. and Xiong, J., 2008. Live Load and Its Response of Highway Bridges Based on International and Domestic Design Codes. *Structural Engineers*, 24(5), 130-136.
- J99. **Wu, T.***, Ge, Y., Xiong, J. and Ye, X., 2007. Development and Comparison of Vehicular Live Loads on Highway Bridge in China. *Shanghai Highways*, 1, 37-41.

Journal Papers under Review

- J100. Giovannetone, J., Vahedifard, F., Macey, G., Barbato, M., Capehart, W., Ganguly, A., Hall, M., Helgeson, J., Li, S., **Wu, T.**, Yan, G. and AghaKouchak, A., 2023. Equitable Infrastructure: Achieving Restorative Justice through Resilient Interdependent Systems in the United States. *Science*.
- J101. Li, S. and **Wu, T.**, 2023. Optimizing Post-Hurricane Recovery of Interdependent Infrastructure Systems via Knowledge-Enhanced Deep Reinforcement Learning. *Transportation Research Record*.

- J102. Yang, Q., Da, L., Liu, M., Zhao, L., Chen, B. and **Wu, T.**, 2022. Estimation of Extreme Winds Based on Upcrossing Rate of Mean Wind Speeds with Weibull Distribution. *Journal of Wind Engineering and Industrial Aerodynamics*.
- J103. **Hao, J., Wu, T.**, Zhao, G., Li, J. and Li, Z., 2022. An Efficient 3D CFD-CSD Method for Numerical Flutter Analysis of Full-Scale Long-Span Bridges. *Advances in Structural Engineering*.
- J104. Si, J., Zhang, J., Wang, X., Lim, S. and **Wu, T.**, 2022. Hybrid Deep Learning Model of Physics-Informed and Residual Networks for Flows of Plunging Jet Scour. *Water Resources Research*.

Books/Book Chapters

- B1. Wang, H. and **Wu, T.**, 2022. Knowledge-enhanced Deep Learning for Efficient Response Estimation of Nonlinear Structures. In: Naser, M.Z. (ed.), *Leveraging Artificial Intelligence in Engineering, Management, and Safety of Infrastructure*, CRC Press, London, United Kingdom.
- B2. Chowdhury, J. and **Wu, T.**, 2020. Aerodynamic Loading Due to Non-Synoptic Wind Systems. In: Hangan, H. and Kareem, A. (eds.), *The Oxford Handbook of Non-Synoptic Wind Storms*. Oxford University Press, Oxford, United Kingdom.
- B3. Nikellis, A., Sett, K., **Wu, T.** and Whittaker, A.S., 2019. Multi-Hazard Financial Risk Assessment of a Bridge-Roadway-Levee System. In: Khaled M. Mahmoud (ed.), *Risk-Based Bridge Engineering*. CRC Press, London, United Kingdom.
- B4. Kareem, A. and **Wu, T.**, 2016. Bluff Body Aerodynamics and Aeroelasticity: Nonstationary, Non-Gaussian and Nonlinear Features. In: Braza, M., Bottaro, A. and Thompson, M. (eds.), *Advances in Fluid-Structure Interaction*. Springer International Publishing, Switzerland.
- B5. **Wu, T.** and Kareem, A., 2014. *Nonlinear Bluff-Body Aerodynamics: Analysis, Modeling and Applications*. LAP LAMBERT Academic Publishing, Saarbrücken, Germany.

Technical Reports

- T1. Li, S., **Wu, T.** and Sett, K., 2022. *Real-Time Decision Support System for Transportation Infrastructure Management under a Hurricane Event*. Technical Report submitted to Center for Advanced Infrastructure and Transportation, Rutgers University, Piscataway, NJ, USA.
- T2. Kazemian, A., Angelopoulos, K., Sett, K., **Wu, T.** and Bruneau, M., 2021. *Development of Vulnerability Assessment for Line Components and Line Exposures to Extreme Events*. Final Report submitted to CEATI International Inc., Montreal, Quebec, Canada.
- T3. Li, S., **Wu, T.** and Sett, K., 2020. *Real-Time Prediction of Storm Surge and Wave Loading on Coastal Bridges*. Technical Report submitted to Center for Advanced Infrastructure and Transportation, Rutgers University, Piscataway, NJ, USA.
- T4. Nikellis, A., Sett, K. and **Wu, T.**, 2019. *Performance-Based Engineering of Transportation Infrastructure Considering Multiple Hazards*. Technical Report submitted to Center for Advanced Infrastructure and Transportation, Rutgers University, Piscataway, NJ, USA.
- T5. Deshpande, A. and **Wu, T.**, 2019. *Performance of NRG Concrete Masonry Units subjected to Tornado Winds and Missiles*. Technical Report submitted to NRG Insulated Block, Derby, NY, USA.

Other Publications

- O1. **Wu, T.**, 2023. Classification, Generation and Synthesis of Thunderstorm Outflows. In: Maria Pia Repetto and Massimiliano Burlando (eds.), *Thunderstorm Outflows and Their Impact on Structures*. Genova University Press, Genoa, Italy.
- O2. **Wu, T.**, 2022. AI Tools to Facilitate Performance-Based Wind Engineering. *Newsletter of American Association for Wind Engineering*. July, 2022.
- O3. Rabinovici, S., **Wu, T.** and Chatten, M., Disaster-Resilient Construction: Rating Systems Drive Systemic Change. *Structure Magazine*. July, 2022.
- O4. **Wu, T.**, 2016. Bluff Body Aerodynamics: From Linear to Nonlinear. *MOJ Civil Engineering*, 1(2), 29–30. (**Editorial**)

- O5. **Wu, T.**, 2015. Nonlinear Bluff-Body Aerodynamics. *IABSE Structural Engineering International*, 25(2), 230. (**PhD Abstracts**)
- O6. **Wu, T.** and Kareem, A., A Nonlinear Analysis Framework for Bluff-Body Aerodynamics: From Navier-Stokes Equations to Volterra Systems. *Newsletter of American Association for Wind Engineering*. November, 2013.

Conference Papers/Presentations

- C1. Diana, G., Stoyanoff, S., Aas-Jakobsen, K., Allsop, A., Andersen, M., Argentini, T.*, Montoya, M., Hernández, S., Jurado, J., Katsuchi, H., Kavrakov, I., Kim, H., Larose, G., Larsen, A., Morgenthal, G., Øiseth, O., Rocchi, D., Svendsen, M. and **Wu, T.**, New Challenges in the IABSE TG3.1 Benchmark on Super Long Span Bridge Aerodynamics, *In: Proceedings of IABSE Symposium and Spring Meetings in İstanbul 2023 (ISTBR2023)*, April, 2023, Istanbul, Turkey. (Abstract)
- C2. Guo, Y., **Wu, T.**, Elsworth, J., Fatehi, P. and Dana, S., Enhancing Hardening and Resilience of Solar Trackers under Strong Winds. *In: Proceedings of 2023 Photovoltaic Reliability Workshop (PVRW)*, February, 2023, Lakewood, Colorado, USA. (Poster Presentation)
- C3. **Wu, T.**, Real-Time Aerodynamics Hybrid Simulation for Assessment of Bridge Post-Flutter Performance: Challenges and Prospects. *In: Proceedings of New Trends in RTHS Workshop*, February, 2023, Miami, USA. (**Invited Keynote Lecture**)
- C4. Li, S. and **Wu, T.**, Optimizing Post-Hurricane Recovery of Interdependent Infrastructure Systems via Knowledge-Enhanced Deep Reinforcement Learning. *In: Proceedings of 2023 TRB Annual Meeting*, January, 2023, Washington, D.C., USA. (Poster Presentation)
- C5. Giovannettone, J., Ganguly, A., Yan, G., Vahedifard, F., AghaKouchak, A., Barbato, M., Capehart, W., Helgeson, J., **Wu, T.**, Li, S., Hall, M., Embedding Resilience in the Design and Operations of Lifeline Infrastructure Networks to Cascading Sector Failures and Extreme Events under a Changing Climate, *In: Proceedings of AGU Fall Meeting*, December 2022, Chicago, USA. (Abstract)
- C6. Snaiki, R. and **Wu, T.**, Reduced-Order Modeling with Efficient Data Assimilation: A Real-Time Prediction Framework for Wind-Turbine Wakes. *In: Proceedings of 13th International Conference on Structural Safety & Reliability (ICOSSAR 2021-2022)*, September, 2022, Shanghai, China.
- C7. **Wu, T.** and Li, S., Hurricane-Resilient City: Markov Decision Process-Based Problem Formulation and Machine Learning-Based Solution. *In: Proceedings of Engineering Mechanics Institute Conference 2022 (EMI 2022)*, June, 2022, Baltimore, MD, USA. (Abstract)
- C8. Deng, B. and **Wu, T.**, A Comparative Study on Life-Cycle Cost of a Tall Concrete Core-Wall Building Using Prescriptive and Performance-Based Wind Designs. *In: Proceedings of Engineering Mechanics Institute Conference 2022 (EMI 2022)*, June, 2022, Baltimore, MD, USA. (Abstract)
- C9. Zhang, M., **Wu, T.** and Øiseth, O., Using a nonlinear energy sink to mitigate vortex-induced vibration of a flexible circular cylinder. *In: Proceedings of 8th European-African Conference on Wind Engineering (8EACWE)*, September 2022, Bucharest, Romania.
- C10. Li, S. and **Wu, T.**, Optimizing Post-Hurricane Recovery of Interdependent Infrastructure Systems Via Deep Reinforcement Learning. *In: Proceedings of 14th Americas Conference on Wind Engineering (14ACWE)*, May, 2022, Lubbock, TX, USA.
- C11. Li, S. and **Wu, T.**, Knowledge-Enhanced Machine Learning In Wind Engineering: Taxonomy, Framework and Prospect. *In: Proceedings of 14th Americas Conference on Wind Engineering (14ACWE)*, May, 2022, Lubbock, TX, USA.
- C12. Li, S. and **Wu, T.**, Machine Learning-Based Framework For Hurricane-Resilient Cities. *In: Proceedings of 14th Americas Conference on Wind Engineering (14ACWE)*, May, 2022, Lubbock, TX, USA.
- C13. **Wu, T.**, Classification, Generation and Synthesis of Thunderstorm Outflows. *In: Workshop on New Frontiers in the Research on Thunderstorm Outflows and Their Impact on Structures*. October 2021, Online. (Extended Abstract)

- C14. Snaiki, R. and **Wu, T.**, Hurricane Risk Assessment of Offshore Wind Turbines under Changing Climate. *In: Proceedings of IABSE Congress Ghent 2021*, September 2021, Online.
- C15. Orcesi, A., O'Connor, A., Diamantidis, D., Bastidas-Arteaga, E., Sýkora, M., **Wu, T.**, Markogiannaki, O., Imam, B., Schmidt, F., Li, Y., Pregnolato, M., Kreislova, K., Schoefs, F., Stewart, M., Salman, A., Ballester, J. and Ryan, P., Investigating the effects of climate change on structural resistance and actions. *In: Proceedings of IABSE Congress Ghent 2021*, September 2021, Online.
- C16. Diana, G., Stoyanoff, S., Allsop, A., Amerio, L., Argentini, T., Cid Montoya, M., de Ville de Goyet, V., Stirk Andersen, M., **Wu, T.**, Hernandez, S., Jurado, J., Kavrakov, I., Larose, G., Larsen, A., Morgenthal, G., Omarini, S., Rocchi, D. and Svendsen, M., Super-long span bridge aerodynamics benchmark: additional results for TG3.1 Step 1.2. *In: Proceedings of IABSE Congress Ghent 2021*, September 2021, Online.
- C17. Zou, S., He, X. and **Wu, T.**, Numerical Study of Wind Loads on a High-Speed Train in the Center of Tornado. *In: Proceedings of ICRT 2021 (Second International Conference on Rail Transportation)*, July 2021, Chengdu, China.
- C18. **Wu, T.**, AI-Empowered Wind Engineering. *In: National Academy of Engineering/Engineering Academy of Japan: 2021 Japan-America Frontiers of Engineering Symposium*, June, 2021, Online. (Poster presentation)
- C19. Wang, H. and **Wu, T.**, Deep Learning-Enhanced Wind Load Identification with Multi-Camera Videos. *In: Proceedings of 10th International Conference on Structural Health Monitoring of Intelligent Infrastructure*, June 2021, Online.
- C20. Wang, H. and **Wu, T.**, Probabilistic Wind Hazard Analysis for Performance-Based Wind Design of Buildings: Hazard Curve, Wind Demand and Loading Protocol. *In: Proceedings of 6th American Association for Wind Engineering Workshop*, May 2021, Online.
- C21. Wang, H. and **Wu, T.**, Statistical Investigation of Wind Duration Using A Refined Hurricane Track Model. *In: Proceedings of 6th American Association for Wind Engineering Workshop*, May 2021, Online.
- C22. Li, S. and **Wu, T.**, Deep Reinforcement Learning-based Decision Support System for Transportation Infrastructure Management under Hurricane Events. *In: Proceedings of 6th American Association for Wind Engineering Workshop*, May 2021, Online.
- C23. Wang, H. and **Wu, T.**, Camera Array-Based Structural Response Identification with Knowledge-Enhanced Deep Learning. *In: Proceedings of Engineering Mechanics Institute Conference and Probabilistic Mechanics & Reliability Conference 2021 (EMI 2021/PMC 2021)*, May 2021, Online.
- C24. Wang, H. and **Wu, T.**, Statistics-based Investigation on Hurricane Wind Duration. *In: Proceedings of Engineering Mechanics Institute Conference and Probabilistic Mechanics & Reliability Conference 2021 (EMI 2021/PMC 2021)*, May 2021, Online.
- C25. **Wu, T.**, A Cyber-Physical System for Fluid-Structure Interaction: Wind Engineering Applications. *In: 1st IABSE (International Association for Bridge and Structural Engineering) Online Conference*, September, 2020, Online. (**Invited Speaker**)
- C26. Li, S., Snaiki, R. and **Wu, T.**, Active Simulation of Transient Wind Fields in a Multiple-Fan Wind Tunnel via Deep Reinforcement Learning. *In: Proceedings of Engineering Mechanics Institute Conference 2020 (EMI 2020)*, June, 2020, Online. (**Student Paper Competition Winner**)
- C27. Snaiki, R. and **Wu, T.**, Knowledge-enhanced Deep Learning for Simulation of Tropical Cyclone Boundary Layer Winds. *In: Proceedings of 15th International Conference on Wind Engineering (ICWE15)*, September 2019, Beijing, China.
- C28. Snaiki, R. and **Wu, T.**, Knowledge-enhanced Deep Learning for Simulation of Tropical Cyclone Boundary Layer Winds. *In: Proceedings of 15th International Conference on Wind Engineering (ICWE15)*, September 2019, Beijing, China.

- C29. Snaiki, R. and **Wu, T.**, Knowledge-enhanced Deep Learning for Simulation of Extratropical Cyclone Wind Risk. *In: Proceedings of 15th International Conference on Wind Engineering (ICWE15)*, September 2019, Beijing, China.
- C30. Snaiki, R. and **Wu, T.**, A Simplified Dynamic System for Estimating Hurricane Supergradient Winds. *In: Proceedings of 15th International Conference on Wind Engineering (ICWE15)*, September 2019, Beijing, China.
- C31. Hao, J. and **Wu, T.**, Numerical Flutter Analysis of Full-Scale Long-Span Bridges: A 2D CFD-3D CSD FSI Approach. *In: Proceedings of 15th International Conference on Wind Engineering (ICWE15)*, September 2019, Beijing, China.
- C32. Hao, J. and **Wu, T.**, Numerical Investigation of Nonlinear Flutter Behaviors of Full-Scale Long-Span Bridges. *In: Proceedings of 15th International Conference on Wind Engineering (ICWE15)*, September 2019, Beijing, China.
- C33. Li, S. and **Wu, T.**, Dynamic Response of a Spar-Type Floating Wind Turbine under a Hurricane Event using a Modified Hybrid Model. *In: Proceedings of 15th International Conference on Wind Engineering (ICWE15)*, September 2019, Beijing, China.
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- C35. Nikellis, A., Sett, K. and **Wu, T.**, Multi-Hazard Risk Assessment of a Bridge-Roadway-Levee System considering Downtime Losses. *In: Proceedings of 10th New York City Bridge Conference*, August, 2019, New York, USA.
- C36. He, X., Zou, S. and **Wu, T.**, Crosswind Effects on a Train-Bridge System: Wind Tunnel Tests with a Moving Vehicle. *In: Proceedings of Bridge Engineering Institute Conference*, July, 2019, Honolulu, Hawaii, USA.
- C37. Kijewski-Correa, T.L., Taflanidis, A.A., Vardeman II, C., Kennedy, A.B. and **Wu, T.**, Collaborative Geospatial Environments for Rapid Risk Assessment in Support of Situational Awareness and Resiliency Planning. *In: Proceedings of 2nd International Conference on Natural Hazards & Infrastructure*, June, 2019, Chania, Greece.
- C38. Hao, J. and **Wu, T.**, Numerical Investigation of the Non-Synoptic Wind-Induced Effects on Full-Scale Long-Span Bridges. *In: Proceedings of Engineering Mechanics Institute Conference 2019 (EMI 2019)*, June, 2019, Pasadena, CA, USA. (Poster presentation)
- C39. Wang, H. and **Wu, T.**, A Vector-Valued Wind Intensity Measure for the Performance-Based Design of Tall Buildings. *In: Proceedings of Engineering Mechanics Institute Conference 2019 (EMI 2019)*, June, 2019, Pasadena, CA, USA. (Poster presentation)
- C40. Wang, H. and **Wu, T.**, Accelerating Simulation of Wind Field with Time-Varying Correlation Based on Two-Dimensional Singular Value Decomposition. *In: Proceedings of Engineering Mechanics Institute Conference 2019 (EMI 2019)*, June, 2019, Pasadena, CA, USA.
- C41. Li, S. and **Wu, T.**, A Physically-Statistically-Based Hybrid Simulation Scheme of Coupled Nonstationary Wind and Wave Fields in Hurricanes for Offshore Floating Structures. *In: Proceedings of Engineering Mechanics Institute Conference 2019 (EMI 2019)*, June, 2019, Pasadena, CA, USA. (Poster presentation)
- C42. Li, S. and **Wu, T.**, A Modified Hybrid Model for Dynamic Response of a Spar-Type Floating Wind Turbine Under a Hurricane Event. *In: Proceedings of Engineering Mechanics Institute Conference 2019 (EMI 2019)*, June, 2019, Pasadena, CA, USA. (Abstract)
- C43. Li, T. and **Wu, T.**, 3D Post-Flutter Analysis of a Long-Span Bridge Using Deep LSTM Networks. *In: Proceedings of Engineering Mechanics Institute Conference 2019 (EMI 2019)*, June, 2019, Pasadena, CA, USA. (Abstract)
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- C45. Snaiki, R. and **Wu, T.**, Risk Assessment of Tropical Cyclones under Changing Climate: Wind and Rain Hazards. *In: Proceedings of Engineering Mechanics Institute Conference 2019 (EMI 2019)*, June, 2019, Pasadena, CA, USA. (Abstract)
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- C47. Song, W. and **Wu, T.**, Real-Time Hybrid Simulation for Damper Performance Evaluation under Wind Load. *In: Proceedings of Engineering Mechanics Institute Conference 2019 (EMI 2019)*, June, 2019, Pasadena, CA, USA. (Abstract)
- C48. Nejadkhaki, H., Hall, J., Zheng, M. and **Wu, T.**, Integrative Modeling Platform for Design and Control of an Adaptive Wind Turbine Blade. *In: Proceedings of the ASME 2018 Dynamic Systems and Control Conference (DSCC201)*, September, 2018, Atlanta, Georgia, USA.
- C49. Argentini, T., Diana, G., Omarini, S., Rocchi, D., Aas-Jakobsen, K., Allsop, A., Kavrakov, I., Larsen, A., Øiseth, O., Svendsen, M., Larose, G., Kim, H., Hernández, S., **Wu, T.**, Andersen, M. and Katsuchi, H., Super-Long Span Bridge Aerodynamics: First Results of the Numerical Benchmark Tests from Working Group 10. *In: Proceedings of 40th IABSE Symposium – Tomorrow’s Megastructures*, September, 2018, Nantes, France.
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- C51. Song, W. and **Wu, T.**, Damper Performance under Winds: A Real-Time Hybrid Simulation Platform-based Evaluation. *In: Proceedings of 7th World Conference on Structural Control and Monitoring (7WCSCM)*, July, 2018, Qingdao, China.
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- C56. Wang, H. and **Wu, T.**, Nonstationarity Index of Winds: A Hilbert-Wavelet-based Approach. *In: Proceedings of 2018 Conference of Engineering Mechanics Institute (EMI 2018)*, Cambridge, Massachusetts, USA. (Abstract)
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- C60. He, X., Gai, Y. and **Wu, T.**, Simulation of Train-Bridge Interaction under Wind Loads: A Rigid-Flexible Coupling Approach. *In: Proceedings of 2nd International Conference on Industrial Aerodynamics (ICIA2017)*, October, 2017, Qingdao, China.

- C61. **Wu, T.**, Changing Bridge Aerodynamics under Nonstationary Winds. *In: Proceedings of 39th IABSE Symposium – Engineering the Future*, September, 2017, Vancouver, Canada.
- C62. He, X, Shi, K. and **Wu, T.**, An Integrated Structural Health Monitoring System for the Xijiang High-Speed Railway Arch Bridge. *In: Proceedings of the 2017 World Congress on Advances in Structural Engineering and Mechanics*, September, 2017, Seoul, Korea.
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- C72. **Wu, T.**, Effects of Nonstationarity on Nonlinear Bridge Aerodynamics. *In: Proceedings of 8th International Colloquium on Bluff-Body Aerodynamics and its Application (BBAAVIII)*, June, 2016, Boston, USA.
- C73. Snaiki, R. and **Wu, T.**, Temperature and Moisture Effects on the Tropical Cyclone Boundary Layer: Pressure and Wind Fields. *In: Proceedings of 8th International Colloquium on Bluff-Body Aerodynamics and its Application (BBAAVIII)*, June, 2016, Boston, USA.
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- C79. **Wu, T.**, Simulation of Nonstationary Wind Velocity Field Utilizing Multi-Scale Spatial Correlation Nested Hilbert-Wavelet Scheme. *In: Proceedings of 14th International Conference on Wind Engineering (ICWE14)*, June 2015, Porto Alegre, Brazil.
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- C101. **Wu, T.** and Kareem, A., Bridge Aerodynamics in Time Domain: Indicial and Impulse Responses. *In: Proceedings of 2012 Joint Conference of the Engineering Mechanics Institute and the 11th ASCE Joint Specialty Conference on Probabilistic Mechanics and Structural Reliability*, June, 2012, Notre Dame, IN, USA.
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Other Professional Activities and Services

- *Professional Membership*
 - American Society of Civil Engineers (ASCE)
 - International Association for Bridge and Structural Engineering (IABSE)
 - American Concrete Institute (ACI)
 - American Association for Wind Engineering (AAWE)
- *Editorial Board Member*
 - Current Chinese Science: Structural Engineering
 - International Journal of Architectural Engineering Technology
 - Journal of Atmosphere and Oceanography Environment
 - Transportation Safety and Environment
 - Wind
 - Wind & Structures, An International Journal
- *International Advisory Committee*
 - 16th International Conference on Wind Engineering (ICWE16), Florence, Italy, 2023
 - 9th International Colloquium on Bluff-Body Aerodynamics and Applications (BBAA9), Birmingham, United Kingdom, 2024
- *Conference Planning Committee*
 - AEI Conference 2023 | Climate Conscientiousness and Resilience: The Need for Integrated Building Solutions
- *Workshop Steering Committee*
 - National Institute of Standards and Technology/Structural Engineering Institute (NIST/SEI) Performance-Based Wind Design Workshop, 2023
- *Reviewer/Panelist*: US National Science Foundation (NSF); National Fund for Scientific and Technological Development of Chile; Natural Sciences and Engineering Research Council of Canada; Canada Foundation for Innovation; Research Manitoba; Mississippi-Alabama Sea Grant Consortium; Region 2 University Transportation Center Consortium; Mountain-Plains Consortium (MPC), USDOT University Transportation Center for Region 8.
- *Reviewer*: Advances and Applications in Fluid Mechanics; Advances in Mechanical Engineering; Advances in Structural Engineering; ASCE Journal of Bridge Engineering; ASCE Journal of Engineering Mechanics; ASCE Journal of Structural Engineering; Bulletin of Earthquake Engineering; Computer Communication & Collaboration; Engineering; Engineering Structures; Environmental Fluid Mechanics; International Journal of Distributed Sensor Networks; International Journal of Structural Stability and Dynamics; Journal of Applied Mechanical Engineering; Journal of Fluids and Structures; Journal of Vibration and Control; Journal of Wind Engineering and Industrial Aerodynamics; Journal of Zhejiang University-SCIENCE A; Mathematical Problems in Engineering; Nonlinear Dynamics; Palgrave Communications; Proceedings of the Royal Society A; Structural Health Monitoring; Smart Structures and Systems; Wind & Structures; Transportation Research Record.