

## TENG WU

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### Bio Sketch

Teng Wu is a Professor in the Department of Civil, Structural and Environmental Engineering at 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, 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 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, ASCE/EMI Fluid Dynamics Committee (Chair), Probabilistic Methods Committee, Machine Learning in Mechanics Committee, Objective Resilience Committee, Dynamics Committee and Structural Health Monitoring and Control Committee, 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, ASCE/Changing Climate Technical Committee on Future Weather and Climate Extremes (Chair), and ASCE/T&DI 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). 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 100 articles published in highly respected journals of structural/wind engineering, and presented over 120 conference papers.

### Education

Ph.D.	Civil Engineering	University of Notre Dame	12/2013
M.S.	Civil Engineering	University of Notre Dame	04/2012
M.S.	Bridge Engineering	Tongji University	09/2010
B.E.	Civil Engineering	Tongji University	06/2007
Minor	Financial Engineering	Fudan University	09/2006

### Research Interests

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; Knowledge-Enhanced Machine Learning.

### Professional Experience

Professor, Department of Civil, Structural and Environmental Engineering (CSEE), University at Buffalo	09/2024-Present
Director of Graduate Studies, CSEE, University at Buffalo	07/2024-Present
Associate Professor, CSEE, University at Buffalo	08/2019-08/2024
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

### Selected Honors & Awards

Outstanding Paper Award, IABSE (International Association for Bridge and Structural Engineering)	2024
<i>"In recognition of the contributions to Bridge and Structural Engineering for the paper titled 'IABSE Task Group 3.1 Benchmark Results. Numerical Full Bridge Stability and Buffeting Simulations' published in the IABSE Journal Structural Engineering International"</i>	
Outstanding Associate Editor Award, Frontiers in Built Environment	2023
<i>"In recognition of the high-quality contributions to the Wind Engineering and Science section in 2022"</i>	
Outstanding Paper Award, IABSE	2023
<i>"In recognition of the contributions to Bridge and Structural Engineering for the paper titled 'Investigating the Effects of Climate Change on Structural Actions' published in the IABSE Journal Structural Engineering International"</i>	
IABSE Prize, IABSE	2018
<i>"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"</i>	
Junior Award, IAWE (International Association for Wind Engineering)	2017
<i>"In recognition of many contributions to development of analytical methods focusing on nonlinear and unsteady features of structural aerodynamics"</i>	
Robert Scanlan Award, AAWE (American Association for Wind Engineering)	2017
<i>"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'"</i>	
Alfred Noble Prize, ASCE/ASME/IEEE (American Society of Civil Engineers/American Society of Mechanical Engineers/Institute of Electrical and Electronics Engineers)	2016
<i>"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"</i>	
ASCE ExCEED Fellow, ASCE	2015
Best Paper Award, AAWE	2014
<i>"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"</i>	
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

## Research Supervision

- *Ph.D. Degree, Advisor*
  - Mohammad Movahhed, University at Buffalo (Expected: August 2028)
  - Zhehong Zhang, University at Buffalo (Expected: August 2028)
  - Baoheng Li, University at Buffalo (Expected: August 2027)
  - Arash Asadi Abadi, University at Buffalo (Expected: August 2027)
  - Shiwei Meng, University at Buffalo (Expected: August 2027)
  - Pejman Fatehi, Colorado State University, co-advised with Y. Guo (Expected: August 2026)
  - Mahmoud Elnahla, Colorado State University, co-advised with Y. Guo (Expected: August 2026)
  - Baichuan Deng, University at Buffalo (Expected: August 2026)
  - Alireza Kazemian, University at Buffalo, co-advised with K. Sett and M. Bruneau (Expected: January 2025)
  - Shaopeng Li, University at Buffalo (August 2022) [Assistant Professor, University of Louisiana at Lafayette, USA]
  - Haifeng Wang, University at Buffalo (August 2021) [Assistant Professor, Washington State University, USA]
  - Reda Snaiki, University at Buffalo (January 2020) [Assistant Professor, ÉTS Montréal-University of Québec, Canada]
  - Jianming Hao, University at Buffalo (August 2018) [Assistant Professor, Chang'an University, China]
- *M.S. and M.Eng. Degree, Advisor*
  - Yukti Kholiwal (Expected: August 2025)
  - Kishorkumar Devasenapathy (Expected: August 2025)
  - Gaurav Sadashiv Aradhya (January 2024)
  - Michael Murphy (May 2022)
  - Paolo Bourdeau (May 2021)
  - Shivam Mishra (August 2020)
  - Nolan Colucci (January 2018)
  - Kashi V. Karne (May 2017)
  - Prasanth R. Sekaran, co-advised with J. Hall (May 2016)
  - Ji Xia (May 2015)
- *Visiting Students and Scholars & Postdoctoral Fellows*
  - Mr. Jian Kang, Central South University (2023-2024)
  - Mr. Haoyu Bin, University of Genoa (2023)
  - Dr. Simin Zou, Central South University (2018-2020)
  - Dr. Bo Su, Jiangsu University (2018-2019)
  - Dr. Fuyou Xu, Dalian University of Technology (2018)
  - Mr. Mingjie Zhang, Dalian University of Technology (2017-2018)
  - Mr. Kang Shi, Central South University (2017-2018)
  - Dr. Quan Wang, Hefei University of Technology (2016-2017)
  - Mr. Tao Li, Southeast University (2016-2017)
  - Dr. Yaojun Ge, Tongji University (2016)
  - Dr. Xiaolun Hu, Southeast University (2014-2015)
- *Dissertation/Thesis Committee Member*
  - Kareem Eltouny, Department of Civil, Structural and Environmental Engineering, Ph.D., December 2023

- Sai Sharath Parsi, Department of Civil, Structural and Environmental Engineering, Ph.D., December 2022
- Azadeh Sohrabi, Department of Mechanical and Aerospace Engineering, Ph.D., December 2022
- Kai Li, Department of Bridge Engineering, Changsha University of Science and Technology, Ph.D., June 2022
- Kang Shi, Department of Bridge Engineering, Central South University, Ph.D., December 2019
- Xianxiong Zhang, Department of Bridge Engineering, Hunan University, Ph.D., June 2018
- Maria Gibbs, Department of Civil and Environmental Engineering and Earth Sciences, University of Notre Dame, Ph.D., December 2017
- *Dissertation/Thesis External Examiner*
  - Zhenhua Jiang, Mechanical Engineering Department, University of Auckland, New Zealand, Ph.D., December 2024
  - Mekdes Tadesse Mengistu, Department of Civil, Chemical and Environmental Engineering, University of Genoa, Ph.D., December 2023
  - Andi Xhelaj, Department of Civil, Chemical and Environmental Engineering, University of Genoa, Ph.D., December 2022

### Refereed Journal Papers Published

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

- J1. Yang, Z., Li, S.\*, Yang, S., Li, S., Mao, D. and **Wu, T.**, 2024. Estimation of Extreme Wind Pressure Coefficients of Buildings Using POT with Automated Threshold Selection. *Journal of Building Engineering*. In Press.
- J2. Chen, L., Lu, Z., Chen, Q., Xu, Z., Wang, J. and **Wu, T.\***, 2024. Lateral Vibration Mitigation for Coupled High-Speed Rail Vehicle and Cable-Stayed Bridge System Subjected to Ground Motions. *International Journal of Structural Stability and Dynamics*. In Press.
- J3. He, X. and **Wu, T.\***, 2024. Advances in Wind Engineering: Vision and Mission. *Advances in Wind Engineering*, 1(1), 100001.
- J4. Giovannettone, J., Macey, G., AghaKouchak, A., Barbato, M., Capehart, W., Ganguly, A., Hall, M., Helgeson, J., Li, S., **Wu, T.**, Yan, G. and Vahedifard, F.\*, 2024. Equitable Infrastructure: Achieving Resilient Systems through Restorative Justice and Innovation. *PNAS Nexus*, 3(5), 157.
- J5. Yang, Q., Zhang, Y., Li, T.\*, Zhou, X., **Wu, T.** and Kwon, S., 2024. Dynamic Response of a Semi-Submersible Wind Turbine Platform Subjected to Focused Waves with Viscous Effects. *Physics of Fluids*, 36(4), 043320.
- J6. Zou, S., He, X. and **Wu, T.\***, 2024. Numerical Investigation of Flow Structures and Aerodynamic Pressures around a High-Speed Train under Tornado-Like Winds. *Wind and Structures*, 38(4), 295-307.
- J7. Li, S. and **Wu, T.\***, 2023. Physics-Statistics-Based Hybrid Simulation Scheme of Coupled Nonstationary Hurricane Wind and Wave Fields for Long-Span Floating Bridges. *Intelligent Transportation Infrastructure*, 2, 1-13.
- J8. 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.
- J9. Li, S. and **Wu, T.\***, 2023. Hurricane Wave Loads on Spar-type Floating Wind Turbines: A Comparison of Simulation Schemes. *Atmosphere*, 14(10), 1550.
- J10. *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*, 38(11), 1504-1519.

- J11. Da, L., Yang, Q., Liu, M.\*, Zhao, L., **Wu, T.** and Chen, B., 2023. Estimation of Extreme Wind Speed Based on Upcrossing Rate of Mean Wind Speeds with Weibull Distribution. *Journal of Wind Engineering and Industrial Aerodynamics*, 240, 105495.
- J12. 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*, 238, 105421.
- J13. 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.
- J14. Chen, L.\*, Zhai, C., Chen, Q., Hu, X., **Wu, T.**, Zhu, L. and Huang, X., 2023. Floating Column Mechanism Experimental Investigation in Historic Timber Buildings Subjected to Decay for Seismic Resilience. *The Structural Design of Tall and Special Buildings*, e2082.
- J15. Lu, M., Li, S., **Wu, T.**\*, 2023. Fast Prediction of Solitary Wave Forces on Box-Girder Bridges Using Artificial Neural Networks. *Water*, 15(10), 1963.
- J16. **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*, 36(5), 321-331.
- J17. 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.
- J18. 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.
- J19. 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.**, 2023. IABSE Task Group 3.1 Benchmark Results. Numerical Full Bridge Stability and Buffeting Simulations. *IABSE Structural Engineering International*, 33(4), 623-634.
- J20. 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.
- J21. 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.
- J22. Li, S. and **Wu, T.**\*, 2022. Deep Reinforcement Learning-Based Decision Support System for Transportation Infrastructure Management under Hurricane Events. *Structural Safety*, 99, 102254.
- J23. 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.
- J24. 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.
- J25. Orcesi, A.\*, O'Connor, A., Diamantidis, D., **Wu, T.**, Akiyama, M., Alhamid, A.K., Sykora, M., Schmidt, F., Pregolato, 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. (**Best Paper Award**)
- J26. Snaiki, R. and **Wu, T.**\*, 2022. Knowledge-Enhanced Deep Learning for Simulation of Extratropical Cyclone Wind Risk. *Atmosphere*, 13(5), 757.
- J27. 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.

- J28. **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**)
- J29. 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.
- J30. **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.
- J31. 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.
- J32. **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.
- J33. 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.
- J34. **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.
- J35. **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.
- J36. **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.
- J37. **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.
- J38. 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.
- J39. **Hao, J.** and **Wu, T.\***, 2020. Numerical Analysis of Long-span Bridge Response to Tornado Events. *Wind and Structures*, 31(5), 459-472.
- J40. **Snaiki, R.** and **Wu, T.\***, 2020. Revisiting Hurricane Track Model for Wind Risk Assessment. *Structural Safety*, 87, 102003.
- J41. **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**)
- J42. **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.
- J43. **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.
- J44. **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.
- J45. **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.
- J46. 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.

- J47. 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.
- J48. 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.
- J49. 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.
- J50. 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.
- J51. 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.
- J52. 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.
- J53. 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.
- J54. 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.
- J55. 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.
- J56. 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.
- J57. 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.
- J58. **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.
- J59. **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**)
- J60. **Wu, T.\***, 2019. Changing Bridge Aerodynamics under Nonstationary Winds. *IABSE Structural Engineering International*, 29(1), 74-83.
- J61. 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.
- J62. 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.
- J63. 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.

- J64. 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.
- J65. 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.
- J66. 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.
- J67. 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.
- J68. 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.
- J69. 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.
- J70. 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.
- J71. 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.
- J72. 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.
- J73. Hao, J. and **Wu, T.\***, 2017. Non-synoptic Wind-Induced Transient Effects on Linear Bridge Aerodynamics. *ASCE Journal of Engineering Mechanics*, 143(9), 04017092.
- J74. 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.
- J75. 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.
- J76. 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.
- J77. 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.
- J78. 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.
- J79. 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.
- J80. 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.
- J81. 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.
- J82. 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.
- J83. 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.
- J84. 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.
- J85. 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.



- J86. 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.
- J87. Yin, C., **Wu, T.\*** and Kareem, A., 2016. Synthetic Turbulence: A Wavelet-Based Simulation. *Probabilistic Engineering Mechanics*, 45, 177-187.
- J88. 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.
- J89. 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.
- J90. 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.
- J91. **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.
- J92. **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.
- J93. 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.
- J94. 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)**
- J95. 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.
- J96. **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)**
- J97. **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.
- J98. **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)**
- J99. **Wu, T.\***, Kareem, A. and Ge, Y., 2013. Linear and Nonlinear Aeroelastic Analysis Frameworks for Cable-Supported Bridges. *Nonlinear Dynamics*, 74(3), 487-516.
- J100. **Wu, T.\*** and Kareem, A., 2013. A Nonlinear Convolution Scheme to Simulate Bridge Aerodynamics. *Computers & Structures*, 128, 259-271.
- J101. **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.
- J102. 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.
- J103. **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.
- J104. **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.
- J105. 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.

- J106. **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.
- J107. **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.
- J108. **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.
- J109. **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.

### Books/Book Chapters

- B1. Zhang, R., Li, S. and **Wu, T.**, 2024. Three-Dimensional Numerical Simulation of Local Scour of Bridge Piers under Constant Current Using Asynchronous Time Marching Scheme. In: Li, D. and Zhang, Y. (Eds), *Lecture Notes in Civil Engineering: Advances in Frontier Research on Engineering Structures II*, Springer Nature, Berlin, Germany.
- B2. 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.
- B3. 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.
- B4. 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.
- B5. 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.
- B6. **Wu, T.** and Kareem, A., 2014. *Nonlinear Bluff-Body Aerodynamics: Analysis, Modeling and Applications*. LAP LAMBERT Academic Publishing, Saarbrücken, Germany.

### Technical Reports

- T1. Scott, D., Goupil, J., Burton, M., Denoon, R., Larsen, R., Spence, S. and **Wu, T.**, 2023. *Advancement in Performance-Based Wind Design*. Workshop Report submitted to National Institute of Standards and Technology (NIST GCR 23-045-upd1), Gaithersburg, MD, USA.
- T2. 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.
- T3. 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.
- T4. 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.
- T5. 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.
- T6. 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. Fatehi, P., Guo, Y., **Wu, T.**, Aerodynamic Shape Optimization of Long-Span Bridges: The Concept of Laminar Decks. In: *Proceedings of 7<sup>th</sup> American Association for Wind Engineering Workshop*, June 2024, Ann Arbor, MI, USA. (Abstract)
- C2. Elnahla, M., Guo, Y., **Wu, T.**, Statistical Analysis of Duration of Thunderstorm-Induced Extreme Wind Based on Surface Observations in the United States. In: *Proceedings of 7<sup>th</sup> American Association for Wind Engineering Workshop*, June 2024, Ann Arbor, MI, USA. (Abstract)
- C3. Snaiki, R. and **Wu, T.**, A Data-Driven Bias Correction Framework for Hurricane Risk Assessment under Changing Climate Conditions. In: *Proceedings of Symposium on Hurricane Risk in A Changing Climate (SHRCC 2024)*, June 2024, Honolulu, HI, USA. (Abstract)
- C4. Fatehi, P., Guo, Y., **Wu, T.**, Aerodynamic Mitigation of Single-Axis Solar Trackers Through Machine Learning-based Shape Optimization. In: *Proceedings of Joint Engineering Mechanics Institute Conference and Probabilistic Mechanics & Reliability Conference (EMI/PMC 2024)*, May 2024, Chicago, USA. (Abstract)
- C5. Elnahla, M., Guo, Y., **Wu, T.**, Nowcasting Thunderstorm Wind Speeds by Integrating Multi-Source Datasets to Enhance Safety of Solar Trackers. In: *Proceedings of Joint Engineering Mechanics Institute Conference and Probabilistic Mechanics & Reliability Conference (EMI/PMC 2024)*, May 2024, Chicago, USA. (Abstract)
- C6. Deng, B. and **Wu, T.**, Development of Loading Protocol for Hurricane Wind Performance Testing of Deformation-Controlled MWFRS Members. In: *Proceedings of Joint Engineering Mechanics Institute Conference and Probabilistic Mechanics & Reliability Conference (EMI/PMC 2024)*, May 2024, Chicago, USA. (Abstract)
- C7. Deng, B. and **Wu, T.**, Life-Cycle Cost Assessment for PBWD of a Tall Concrete Building Equipped with Climate-Adaptive Damping Systems. In: *Proceedings of Joint Engineering Mechanics Institute Conference and Probabilistic Mechanics & Reliability Conference (EMI/PMC 2024)*, May 2024, Chicago, USA. (Abstract)
- C8. Guo, Y., **Wu, T.** and Elsworth, J. and Dana, S., Enhancing Hardening and Resilience of Solar Trackers under Strong Winds. In: *Proceedings of 2024 SETO Peer Review*, March 2024, Arlington, Virginia, USA. (Poster Presentation)
- C9. Elnahla, M., Fatehi, P., Guo, Y., **Wu, T.**, Elsworth, J. and Dana, S., Enhancing Performance of Solar Trackers through Wind Nowcasting and Aerodynamic Mitigations. In: *Proceedings of 2024 Photovoltaic Reliability Workshop (PVRW)*, February 2024, Lakewood, Colorado, USA. (Poster Presentation)

- C10. Zhang, R., Li, S. and **Wu, T.**, Three-Dimensional Numerical Simulation of Local Scour of Bridge Piers under Constant Current Using Asynchronous Time Marching Scheme. *In: Proceedings of 9<sup>th</sup> International Conference on Architectural, Civil and Hydraulic Engineering (ICACHE 2023)*, October 2023, Qingdao, China.
- C11. Hao, J., Xin, L., Feng, Y., Li, J. and **Wu, T.**, Numerical Simulation of Bridge Response Under A Moving Downburst: Parameter Optimization Using Surrogate Mode. *In: Proceedings of 16<sup>th</sup> International Conference on Wind Engineering (ICWE16)*, August 2023, Florence, Italy.
- C12. Feng, Y., Hao, J., Su, B., Li, J. and **Wu, T.**, Downburst Outflow Generation in Boundary Layer Wind Tunnel Using a Multi-Blade Flow Control Device. *In: Proceedings of 16<sup>th</sup> International Conference on Wind Engineering (ICWE16)*, August 2023, Florence, Italy.
- C13. Yu, X. and **Wu, T.**, Embedded Large Eddy Simulation of Flow around a High-Rise Building with an Adjacent Structure. *In: Proceedings of 16<sup>th</sup> International Conference on Wind Engineering (ICWE16)*, August 2023, Florence, Italy.
- C14. **Wu, T.** and Deng, B., Performance-Based Wind Design of Tall Buildings: Challenges of Implementation. *In: Proceedings of Engineering Mechanics Institute Conference 2023 (EMI 2023)*, June, 2023, Atlanta, GA, USA. (Abstract)
- C15. Deng, B. and **Wu, T.**, Application of Incremental Dynamic Analysis to Performance-Based Wind Design. *In: Proceedings of Engineering Mechanics Institute Conference 2023 (EMI 2023)*, June, 2023, Atlanta, GA, USA. (Abstract)
- C16. 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.
- C17. 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)
- C18. **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**)
- C19. 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)
- C20. 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)
- C21. Snaiki, R. and **Wu, T.**, Reduced-Order Modeling with Efficient Data Assimilation: A Real-Time Prediction Framework for Wind-Turbine Wakes. *In: Proceedings of 13<sup>th</sup> International Conference on Structural Safety & Reliability (ICOSSAR 2021-2022)*, September, 2022, Shanghai, China.
- C22. **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)
- C23. 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)
- C24. 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 8<sup>th</sup> European-African Conference on Wind Engineering (8EACWE)*, September 2022, Bucharest, Romania.

- C25. Li, S. and **Wu, T.**, Optimizing Post-Hurricane Recovery of Interdependent Infrastructure Systems Via Deep Reinforcement Learning. In: *Proceedings of 14<sup>th</sup> Americas Conference on Wind Engineering (14ACWE)*, May, 2022, Lubbock, TX, USA.
- C26. Li, S. and **Wu, T.**, Knowledge-Enhanced Machine Learning In Wind Engineering: Taxonomy, Framework and Prospect. In: *Proceedings of 14<sup>th</sup> Americas Conference on Wind Engineering (14ACWE)*, May, 2022, Lubbock, TX, USA.
- C27. Li, S. and **Wu, T.**, Machine Learning-Based Framework For Hurricane-Resilient Cities. In: *Proceedings of 14<sup>th</sup> Americas Conference on Wind Engineering (14ACWE)*, May, 2022, Lubbock, TX, USA.
- C28. **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.
- C29. 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.
- C30. Orcesi, A., O'Connor, A., Diamantidis, D., Bastidas-Arteaga, E., Sýkora, M., **Wu, T.**, Markogiannaki, O., Imam, B., Schmidt, F., Li, Y., Pregolato, 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.
- C31. 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.
- C32. 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.
- C33. **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)
- C34. Wang, H. and **Wu, T.**, Deep Learning-Enhanced Wind Load Identification with Multi-Camera Videos. In: *Proceedings of 10<sup>th</sup> International Conference on Structural Health Monitoring of Intelligent Infrastructure*, June 2021, Online.
- C35. 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 6<sup>th</sup> American Association for Wind Engineering Workshop*, May 2021, Online.
- C36. Wang, H. and **Wu, T.**, Statistical Investigation of Wind Duration Using A Refined Hurricane Track Model. In: *Proceedings of 6<sup>th</sup> American Association for Wind Engineering Workshop*, May 2021, Online.
- C37. Li, S. and **Wu, T.**, Deep Reinforcement Learning-based Decision Support System for Transportation Infrastructure Management under Hurricane Events. In: *Proceedings of 6<sup>th</sup> American Association for Wind Engineering Workshop*, May 2021, Online.
- C38. 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.
- C39. 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.

- C40. **Wu, T.**, A Cyber-Physical System for Fluid-Structure Interaction: Wind Engineering Applications. *In: 1<sup>st</sup> IABSE (International Association for Bridge and Structural Engineering) Online Conference*, September, 2020, Online. (**Invited Speaker**)
- C41. 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**)
- C42. Snaiki, R. and **Wu, T.**, Knowledge-enhanced Deep Learning for Simulation of Tropical Cyclone Boundary Layer Winds. *In: Proceedings of 15<sup>th</sup> International Conference on Wind Engineering (ICWE15)*, September 2019, Beijing, China.
- C43. Snaiki, R. and **Wu, T.**, Knowledge-enhanced Deep Learning for Simulation of Tropical Cyclone Boundary Layer Winds. *In: Proceedings of 15<sup>th</sup> International Conference on Wind Engineering (ICWE15)*, September 2019, Beijing, China.
- C44. Snaiki, R. and **Wu, T.**, Knowledge-enhanced Deep Learning for Simulation of Extratropical Cyclone Wind Risk. *In: Proceedings of 15<sup>th</sup> International Conference on Wind Engineering (ICWE15)*, September 2019, Beijing, China.
- C45. Snaiki, R. and **Wu, T.**, A Simplified Dynamic System for Estimating Hurricane Supergradient Winds. *In: Proceedings of 15<sup>th</sup> International Conference on Wind Engineering (ICWE15)*, September 2019, Beijing, China.
- C46. Hao, J. and **Wu, T.**, Numerical Flutter Analysis of Full-Scale Long-Span Bridges: A 2D CFD-3D CSD FSI Approach. *In: Proceedings of 15<sup>th</sup> International Conference on Wind Engineering (ICWE15)*, September 2019, Beijing, China.
- C47. Hao, J. and **Wu, T.**, Numerical Investigation of Nonlinear Flutter Behaviors of Full-Scale Long-Span Bridges. *In: Proceedings of 15<sup>th</sup> International Conference on Wind Engineering (ICWE15)*, September 2019, Beijing, China.
- C48. 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 15<sup>th</sup> International Conference on Wind Engineering (ICWE15)*, September 2019, Beijing, China.
- C49. Zhang, M., Xu, F., **Wu, T.** and Zhang, Z., Differential Equation-based Model for Linear and Nonlinear Bridge Aerodynamics. *In: Proceedings of 15<sup>th</sup> International Conference on Wind Engineering (ICWE15)*, September 2019, Beijing, China.
- C50. Nikellis, A., Sett, K. and **Wu, T.**, Multi-Hazard Risk Assessment of a Bridge-Roadway-Levee System considering Downtime Losses. *In: Proceedings of 10<sup>th</sup> New York City Bridge Conference*, August, 2019, New York, USA.
- C51. 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.
- C52. 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 2<sup>nd</sup> International Conference on Natural Hazards & Infrastructure*, June, 2019, Chania, Greece.
- C53. 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)
- C54. 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)
- C55. 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.

- C56. 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)
- C57. 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)
- C58. 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)
- C59. Snaiki, R. and **Wu, T.**, Knowledge-Enhanced Deep Learning for Simulation of Tropical Cyclone Boundary-Layer Winds. *In: Proceedings of Engineering Mechanics Institute Conference 2019 (EMI 2019)*, June, 2019, Pasadena, CA, USA. (Poster presentation)
- C60. 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)
- C61. Snaiki, R. and **Wu, T.**, A Knowledge-Enhanced Deep Learning for Simulation of Idealized Storm Surge. *In: Proceedings of Engineering Mechanics Institute Conference 2019 (EMI 2019)*, June, 2019, Pasadena, CA, USA. (**Student Paper Competition Winner**)
- C62. 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)
- C63. 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.
- C64. 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.
- C65. Snaiki, R. and **Wu, T.**, A New Boundary Layer Wind Field Model for Landfalling Hurricanes. *In: Proceedings of 10th International Conference on Urban Climate/14th Symposium on the Urban Environment*, August, 2018, New York, NY, USA. (Poster presentation)
- C66. 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.
- C67. Shi, K., He, X. and **Wu, T.**, Coupled Vibration Analysis of Train-Track-Bridge System under Winds: A Structural Periodicity-Based Efficient Precise Integration Method. *In: Proceedings of 7th World Conference on Structural Control and Monitoring (7WCSCM)*, July, 2018, Qingdao, China.
- C68. Li, T., **Wu, T.**, Zhang, W. and Liu, Z., Simulation of Nonlinear Bridge Aerodynamics Based on A Long Short-Term Memory Neural Network. *In: Proceedings of 7th International Symposium on Computational Wind Engineering (CWE2018)*, June, 2018, Seoul, Republic of Korea.
- C69. **Wu, T.** and Song, W., Real-Time Aerodynamics Hybrid Simulation: Wind-induced Effects on Reduced-Scale Buildings Equipped with Full-Scale Dampers. *In: Proceedings of 7th International Symposium on Computational Wind Engineering (CWE2018)*, June, 2018, Seoul, Republic of Korea.
- C70. **Wu, T.**, Li, S. and Sivaselvan, M., Real-Time Aerodynamics Hybrid Simulation: A Novel Wind-Tunnel Model for Flexible Bridges. *In: Proceedings of 2018 Conference of Engineering Mechanics Institute (EMI 2018)*, Cambridge, Massachusetts, USA. (Abstract)

- C71. 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)
- C72. Wang, H. and **Wu, T.**, Fast Simulation of Multivariate Nonstationary Processes with Time-varying Correlation. In: *Proceedings of 2018 Conference of Engineering Mechanics Institute (EMI 2018)*, Cambridge, Massachusetts, USA.
- C73. Snaiki, R. and **Wu, T.**, An Improved Methodology for Risk Assessment of Tropical Cyclones under Changing Climate. In: *Proceedings of 33rd Conference on Hurricanes and Tropical Meteorology*, April, 2018, Ponte Vedra, FL, USA. (Poster presentation)
- C74. Shi, K., He, X. and **Wu, T.**, An Efficient Analysis Framework for High-Speed Train-Bridge Coupled Vibration under Nonstationary Track Irregularities and Winds. In: *Proceedings of International Forum on High-Speed Railway*, December, 2017, Changsha, China. (Abstract)
- C75. He, X., Gai, Y. and **Wu, T.**, Simulation of Train-Bridge Interaction under Wind Loads: A Rigid-Flexible Coupling Approach. In: *Proceedings of 2<sup>nd</sup> International Conference on Industrial Aerodynamics (ICIA2017)*, October, 2017, Qingdao, China.
- C76. **Wu, T.**, Changing Bridge Aerodynamics under Nonstationary Winds. In: *Proceedings of 39<sup>th</sup> IABSE Symposium – Engineering the Future*, September, 2017, Vancouver, Canada.
- C77. 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.
- C78. He, X., Gai, Y., Liu, Y., Zou, Y., Jing, H and **Wu, T.**, Simulation of the Train-Bridge Vibration under Wind Loads Using a Rigid-Flexible Coupling Method. In: *Proceedings of First International Conference on Rail Transportation*, July, 2017, Chengdu, China.
- C79. Zou, S., He, X., **Wu, T.**, Zou, Y. and Jing, H, Numerical Simulation of Aerodynamic Characteristics of Wind-Vehicle-Bridge System. In: *Proceedings of First International Conference on Rail Transportation*, July, 2017, Chengdu, China.
- C80. Snaiki, R. and **Wu, T.**, A Theoretical Model for Rapid Estimates of Rainfall during Tropical Cyclones. In: *Proceedings of 13<sup>th</sup> Americas Conference on Wind Engineering (13ACWE)*, May, 2017, Gainesville, FL, USA.
- C81. Wang, H. and **Wu, T.**, Gust-Front Factor: A Case Study of Tropical Cyclone-Induced Wind Load Effects on Tall Buildings. In: *Proceedings of 13<sup>th</sup> Americas Conference on Wind Engineering (13ACWE)*, May, 2017, Gainesville, FL, USA.
- C82. Hao, J. and **Wu, T.**, Non-Synoptic Wind-Induced Response of Long-Span Bridges: A Hybrid CFD-CSD-based Approach. In: *Proceedings of 13<sup>th</sup> Americas Conference on Wind Engineering (13ACWE)*, May, 2017, Gainesville, FL, USA. (Abstract)
- C83. Wu, T. and Sivaselvan, M., Real-Time Aerodynamics Hybrid Simulation: A Novel Aeroelastic Wind-Tunnel Model for Flexible Bridges. In: *Proceedings of 13<sup>th</sup> Americas Conference on Wind Engineering (13ACWE)*, May, 2017, Gainesville, FL, USA. (Abstract)
- C84. Snaiki, R. and **Wu, T.**, Dynamic Interaction of Wind and Rain Fields in the Boundary Layer of a Tropical Cyclone. In: *Proceedings of Engineering Mechanics Institute Conference 2017 (EMI 2017)*, June, 2017, San Diego, CA, USA.
- C85. Li, L., **Wu, T.**, Xiao, Y. and Song, L., Turbulent Wind Characteristics of Tropical Cyclones Based on A Revised Uniform Analysis Framework. In: *Mechanics of Structures and Materials XXIV - Proceedings of the 24th Australian Conference on the Mechanics of Structures and Materials (ACMSM24)*, 2016, Perth, Australia.
- C86. Hao, J. and **Wu, T.**, Tornado-Induced Effects on Aerostatic and Aeroelastic Behaviors of Long-Span Bridge. In: *Proceedings of the 2016 World Congress on Advances in Civil, Environmental, and Materials Research*, 2016, Jeju Island, Korea.



- C87. **Wu, T.**, Effects of Nonstationarity on Nonlinear Bridge Aerodynamics. *In: Proceedings of 8<sup>th</sup> International Colloquium on Bluff-Body Aerodynamics and its Application (BBAAVIII)*, June, 2016, Boston, USA.
- C88. Snaiki, R. and **Wu, T.**, Temperature and Moisture Effects on the Tropical Cyclone Boundary Layer: Pressure and Wind Fields. *In: Proceedings of 8<sup>th</sup> International Colloquium on Bluff-Body Aerodynamics and its Application (BBAAVIII)*, June, 2016, Boston, USA.
- C89. Wang, H. and **Wu, T.**, Nonstationary Wind Velocity Field with Multi-Scale Spatial Correlation: Simulation and Validation. *In: Proceedings of 8<sup>th</sup> International Colloquium on Bluff-Body Aerodynamics and its Application (BBAAVIII)*, June, 2016, Boston, USA.
- C90. Hao, J. and **Wu, T.**, Non-Synoptic Wind-Induced Effects on Linear Bluff-Body Aerodynamics. *In: Proceedings of 8<sup>th</sup> International Colloquium on Bluff-Body Aerodynamics and its Application (BBAAVIII)*, June, 2016, Boston, USA.
- C91. Li, S., **Wu, T.**, Huang, T. and Z. Chen, Aerodynamic Stability of Iced Stay Cables on Cable-Stay Bridge. *In: Proceedings of 8<sup>th</sup> International Colloquium on Bluff-Body Aerodynamics and its Application (BBAAVIII)*, June, 2016, Boston, USA. (Poster presentation)
- C92. Snaiki, R. and **Wu, T.**, A Simplified Analytical Wind-Field Model for Hurricane Boundary Layer. *In: Proceedings of Engineering Mechanics Institute Conference 2016 (EMI 2016) and the Probabilistic Mechanics & Reliability Conference 2016 (PMC 2016)*, May, 2016, Nashville, TN, USA.
- C93. Snaiki, R. and **Wu, T.**, Temperature and Moisture Effects on the Hurricane Wind Field Based on a Simplified Model. *In: Proceedings of Engineering Mechanics Institute Conference 2016 (EMI 2016) and the Probabilistic Mechanics & Reliability Conference 2016 (PMC 2016)*, May, 2016, Nashville, TN, USA. (Abstract)
- C94. **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.
- C95. Kwon, D.K., **Wu, T.**, Njoroge, S., Kijewski-Correa, T., Taflanidis, A., Krusche, M., Vrdeman II, C., Kennedy, A. and Kareem, A., CyberEye: An Integrated Cyber-Infrastructure to Support Rapid Hurricane Risk Assessment. *In: Proceedings of 14th International Conference on Wind Engineering (ICWE14)*, June 2015, Porto Alegre, Brazil.
- C96. Xu, F., **Wu, T.**, Ying, X. and Kareem, A., Investigation on Higher-Order Components of Self-Excited Drag Force for Bridge Decks. *In: Proceedings of 14th International Conference on Wind Engineering (ICWE14)*, June 2015, Porto Alegre, Brazil.
- C97. Wang, H., **Wu, T.**, Cheng, H., Zhang, Y., Li, A. and Kareem, A., Nonstationary Analysis of Measured Strong Wind Characteristics Based on SHMS of Sutong Bridge. *In: Proceedings of 6th World Conference on Structural Control and Monitoring (6WCSCM)*, July, 2014, Barcelona, Spain.
- C98. Gibbs, M., Sipple, J., Stauffer, E., Jennings, M., **Wu, T.**, Trost, D., Morgenthal, G., Aschermann, S. and Kareem, A., Dynamic Characteristics of Suspension Footbridges: A Novel Sensing Approach. *In: Proceedings of 6th World Conference on Structural Control and Monitoring (6WCSCM)*, July, 2014, Barcelona, Spain.
- C99. **Wu, T.**, Wang, H., Kareem, A. and Zhang, Y., Conditional Simulation of Nonstationary Wind Velocity Fields in Wavelet Domain: Application to Buffeting Analysis of Sutong Bridge. *In: Proceedings of the 6th World Conference on Structural Control and Monitoring (6WCSCM)*, July, 2014, Barcelona, Spain. (Abstract)
- C100. **Wu, T.** and Kareem, A., A Low-Dimensional Model for Nonlinear Bluff-Body Aerodynamics: A Peeling-An-Onion Analogy. *In: Proceedings of Sixth International Symposium on Computational Wind Engineering (CWE2014)*, June, 2014, Hamburg, Germany.
- C101. Kareem, A. and **Wu, T.**, Bluff Body Aerodynamics and Aeroelasticity: Nonstationary, Non-Gaussian and Nonlinear Features. *In: Proceedings of International Symposium on Unsteady*

- Separation in Fluid-Structure Interaction, European Research Community of Fluids, Turbulence and Combustion (ERCOFTAC)*, June, 2013, Mykonos, Greece. (**Invited Keynote Lecture**)
- C102. Yang, Y., **Wu, T.**, Ge, Y. and Kareem, A., Aerodynamic Stabilization Mechanism of Twin Box Girder with Various Slot Widths. In: *Proceedings of 7<sup>th</sup> New York City Bridge Conference*, August, 2013, New York, USA.
- C103. **Wu, T.** and Kareem, A., Volterra Series Based Model for Vortex-Induced Vibration of Bridge Decks. In: *Proceedings of 6<sup>th</sup> European and African Conference on Wind Engineering*, July, 2013, Cambridge, UK.
- C104. **Wu, T.** and Kareem, A., A Nonlinear Analysis Framework of Bluff-Body Aerodynamics: Solution to Navier-Stokes Equations Using Volterra Theory. In: *Proceedings of 12<sup>th</sup> Americas Conference on Wind Engineering (12ACWE)*, June, 2013, Seattle, Washington, USA.
- C105. **Wu, T.** and Kareem, A., Revisiting Convolution Scheme in Bridge Aerodynamics: A Comparison of Indicial and Impulse Responses. In: *Proceedings of 12<sup>th</sup> Americas Conference on Wind Engineering (12ACWE)*, June, 2013, Seattle, Washington, USA.
- C106. Spence, S.M.J., Bernardini, E., Wei, D., Bobby, S., Kareem, A. and **Wu, T.**, A Low-Dimensional Model for the Aerodynamic Shape Optimization of Tall Buildings. In: *Proceedings of 12<sup>th</sup> Americas Conference on Wind Engineering (12ACWE)*, June, 2013, Seattle, Washington, USA.
- C107. **Wu, T.** and Kareem, A., A Sparse Third-Order Volterra Model to Simulate Nonlinear Bridge Aerodynamics. In: *Proceedings of 11<sup>th</sup> International Conference on Structural Safety & Reliability (ICOSSAR 2013)*, June, 2013, New York, USA.
- C108. Yin, C., **Wu, T.** and Kareem, A., Stochastic Simulation of Wind-Related Processes with Intermittency. In: *Proceedings of 11<sup>th</sup> International Conference on Structural Safety & Reliability (ICOSSAR 2013)*, June, 2013, New York, USA.
- C109. Kareem, A. and **Wu, T.**, Wind Induced Effects on Bluff Bodies in Turbulent Flows: Nonstationary, Non-Gaussian and Nonlinear Features. In: *Proceedings of 7<sup>th</sup> International Colloquium on Bluff-Body Aerodynamics and its Application (BBAAVII)*, September, 2012, Shanghai, China. (**Invited Keynote Lecture**)
- C110. **Wu, T.** and Kareem, A., Comparison of Various Modeling Schemes for Bridge Aerodynamics and Aeroelasticity. In: *Proceedings of 7<sup>th</sup> International Colloquium on Bluff-Body Aerodynamics and its Application (BBAAVII)*, September, 2012, Shanghai, China.
- C111. **Wu, T.**, Kareem, A. and Li, S., Excitation Mechanism of Rain-Wind Induced Vibration of Cables: Unsteady and Nonlinear Aspects. In: *Proceedings of 7<sup>th</sup> International Colloquium on Bluff-Body Aerodynamics and its Application (BBAAVII)*, September, 2012, Shanghai, China.
- C112. Yin, C. **Wu, T.** and Kareem, A., Turbulent Simulation in Wavelet Domain Based on Log-Poisson Model: Univariate and Multivariate Wind Processes. In: *Proceedings of 7<sup>th</sup> International Colloquium on Bluff-Body Aerodynamics and its Application (BBAAVII)*, September, 2012, Shanghai, China.
- C113. Carassale, L., **Wu, T.** and Kareem, A., Non-Linear Buffeting and Flutter Analysis of Bridges: A Frequency Domain Approach. In: *Proceedings of 7<sup>th</sup> International Colloquium on Bluff-Body Aerodynamics and its Application (BBAAVII)*, September, 2012, Shanghai, China.
- C114. **Wu, T.** and Kareem, A., Nonlinear Aerodynamic and Aeroelastic Analysis Framework for Cable-Supported Bridges. In: *Proceedings of 3<sup>rd</sup> American Association for Wind Engineering Workshop*, August, 2012, Hyannis, Massachusetts, USA.
- C115. **Wu, T.** and Kareem, A., Modeling Unsteady Nonlinear Bridge Aerodynamics and Aeroelasticity. In: *2012 NSF CMMI Engineering Research and Innovation Conference*, July, 2012, Boston, Massachusetts, USA. (Poster presentation)
- C116. **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 11<sup>th</sup> ASCE Joint Specialty Conference on Probabilistic Mechanics and Structural Reliability*, June, 2012, Notre Dame, IN, USA.

- C117. **Wu, T.** and Kareem, A., Volterra Series-Based Nonlinear Oscillator for Vortex-Induced Vibration Modeling. *In: Proceedings of 2012 Joint Conference of the Engineering Mechanics Institute and the 11<sup>th</sup> ASCE Joint Specialty Conference on Probabilistic Mechanics and Structural Reliability*, June, 2012, Notre Dame, IN, USA.
- C118. Yin, C., **Wu, T.** and Kareem, A., Simulation of Turbulent Fluctuations via Random Cascade Model. *In: Proceedings of 2012 Joint Conference of the Engineering Mechanics Institute and the 11<sup>th</sup> ASCE Joint Specialty Conference on Probabilistic Mechanics and Structural Reliability*, June, 2012, Notre Dame, IN, USA. (Abstract)
- C119. Carassale, L., **Wu, T.** and Kareem, A., Non-Linear Analysis of Bridge Aerodynamics and Aeroelasticity: A Frequency Domain Approach. *In: Proceedings of 2012 Joint Conference of the Engineering Mechanics Institute and the 11<sup>th</sup> ASCE Joint Specialty Conference on Probabilistic Mechanics and Structural Reliability*, June, 2012, Notre Dame, IN, USA. (Abstract)
- C120. **Wu, T.** and Kareem, A., Modelling of Nonlinear Bridge Aerodynamics and Aeroelasticity: A Convolution based Approach. *In: Proceedings of International Conference on Structural Nonlinear Dynamics and Diagnosis*, April, 2012, Marrakech.
- C121. **Wu, T.** and Kareem, A., Nonlinear Modeling of Bridge Aerodynamics. *In: Proceedings of 13<sup>th</sup> International Conference on Wind Engineering (ICWE13)*, July, 2011, Amsterdam, the Netherlands.
- C122. **Wu, T.** and Kareem, A., Modeling Non-Linear Hysteretic Behavior of Bridge Aerodynamics via An Artificial Neural Network. *In: Proceedings of Fifth International Symposium on Computational Wind Engineering (CWE2010)*, May, 2010, Chapel Hill, North Carolina, USA.
- C123. Cao, F., Ge, Y. and **Wu, T.**, Modeling of Vortex-Induced Vibration on Cable Stayed Bridge with Steel Box Beam and Its Aerodynamic Control. *In: Proceedings of 13<sup>th</sup> National Conference on Structural Wind Engineering*, October, 2007, Dalian, China.

## Professional Activities

- *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)
- *Editor-in-Chief*
  - Advances in Wind Engineering
  - Prevention and Treatment of Natural Disasters
- *Associate Editor*
  - 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
  - Intelligent Transportation Infrastructure
- *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

- *Workshop Steering Committee*
  - National Institute of Standards and Technology/Structural Engineering Institute (NIST/SEI) Performance-Based Wind Design Workshop, 2023
- *Conference Planning Committee*
  - AEI Conference 2023 | Climate Conscientiousness and Resilience: The Need for Integrated Building Solutions
- *Recent International Advisory Committee*
  - 16<sup>th</sup> International Conference on Wind Engineering (ICWE16), Florence, Italy, 2023
  - 9<sup>th</sup> International Colloquium on Bluff-Body Aerodynamics and Applications (BBAA9), Birmingham, United Kingdom, 2024
- *Panelist/Reviewer for Proposal*: US National Science Foundation (NSF); National Institute of Standards and Technology (NIST); National Cooperative Highway Research Program (NCHRP); 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 Atmospheric Sciences; Advances in Engineering Software; Advances in Mechanical Engineering; Advances in Meteorology; Advances in Structural Engineering; Aerospace Science and Technology; Artificial Intelligence Review; ASCE Open: Multidisciplinary Journal of Civil Engineering; ASCE Journal of Bridge Engineering; ASCE Journal of Engineering Mechanics; ASCE Journal of Structural Engineering; Atmosphere; Building and Environment; Buildings; Bulletin of Earthquake Engineering; Climate; Communications in Nonlinear Science and Numerical Simulation; Computer-Aided Civil and Infrastructure Engineering; Computer Communication & Collaboration; Current Chinese Science; Earthquake Engineering and Structural Dynamics; Earthquakes and Structures: An International Journal; Energies; Engineering; Engineering Structures; Entropy; Environmental Fluid Mechanics; Environmental Science and Ecotechnology; Frontiers in Built Environment; Frontiers in Earth Science; GeoInformatica; Information Sciences; International Journal of Architectural Engineering Technology; International Journal of Distributed Sensor Networks; International Journal of Structural Stability and Dynamics; Journal of Aerospace Engineering; Journal of Applied Meteorology and Climatology; Journal of Applied Science and Engineering; Journal of Applied Mechanical Engineering; Journal of Building Engineering; Journal of Civil Structural Health Monitoring; Journal of Cleaner Production; Journal of Climate; Journal of Computational Physics; Journal of Fluids and Structures; Journal of Geophysical Research: Atmospheres; Journal of Rail and Rapid Transit; Journal of Sound and Vibration; Journal of the Atmospheric Sciences; Journal of the Brazilian Society of Mechanical Sciences and Engineering; Journal of Transportation Safety & Security; Journal of Vibration and Control; Journal of Water & Climate Change; Journal of Wind Engineering and Industrial Aerodynamics; Journal of Zhejiang University-SCIENCE A; Mathematical Problems in Engineering; Mechanics Based Design of Structures and Machines, An International Journal; MedCrave Online Journal of Civil Engineering; Natural Hazards; Natural Hazards and Earth System Sciences; Natural Hazards Review; Nonlinear Dynamics; Nuclear Engineering and Design; Palgrave Communications; Physics of Fluids; Probabilistic Engineering Mechanics; Proceedings of the Royal Society A; Quarterly Journal of the Royal Meteorological Society; Reliability Engineering & System Safety; Scientific Reports; Ships and Offshore Structures; Shock and Vibration; Smart Structures and Systems; Structural Engineering International; Structural Health Monitoring; Structure and Infrastructure Engineering; Structures; Sustainability; Thin-Walled Structures; Transportation Research Record; Water; Water Resources Research; Wind; Wind and Structures; Zeitschrift für Naturforschung A - A Journal of Physical Sciences.