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EDUCATION

Georgia Institute of Technology, Atlanta, GA	Civil/Structural Engineering	Ph.D., 2011
Utah State University, Logan, UT	Civil/Structural Engineering	M.S., 2008
University of Tehran, Tehran, Iran	Civil/Structural Engineering	M.S., 2006
University of Tehran, Tehran, Iran	Civil Engineering	B.S., 2003

PROFESSIONAL APPOINTMENTS

2019-Present	Affiliate Faculty, Translational Data Analytics Institute, The Ohio State University, Columbus, OH
2018-Present	Affiliate Faculty, Environmental Science Graduate Program, The Ohio State University, Columbus, OH
2018-Present	Affiliate Faculty, Sustainability Institute, The Ohio State University, Columbus, OH
2018-Present	Associate Professor, Department of Civil, Environmental and Geodetic Engineering, The Ohio State University, Columbus, OH
2012-2018	Assistant Professor, Department of Civil, Environmental and Geodetic Engineering, The Ohio State University, Columbus, OH
2011-2012	Post-doctoral Research Associate, School of Civil and Environmental Engineering & Sam Nunn School of International Affairs, Georgia Institute of Technology, Atlanta, GA
2008-2011	Graduate Research Assistant, School of Civil and Environmental Engineering, Georgia Institute of Technology, Atlanta, GA
2006-2008	Graduate Research Assistant, Department of Civil and Environmental Engineering, Utah State University, Logan, UT

HONORS, AWARDS AND FELLOWSHIPS

2022	2022 DesignSafe Dataset Award, DesignSafe-CI, NSF's The Natural Hazards Engineering Research Infrastructure (NHERI)
2021	Testified before the US Senate Committee on Banking, Housing and Urban Affairs on the topic of "21st Century Communities: Climate Change, Resilience, and Reinsurance", July 2021
2017	Lichtenstein Endowed Associate Professor of Civil, Environmental and Geodetic Engineering, The Ohio State University
2017	Lumley Research Award, College of Engineering, The Ohio State University
2011	Sam Nunn Security Fellowship on Role of Technology in Public Policy, MacArthur Foundation's Science, Technology, and Security Initiative, Sam Nunn School of International Affairs, Georgia Institute of Technology

PUBLICATIONS

Book Chapters

1. *Darestani Y. M., *Jeddi A. B., **Shafieezadeh A.**, “Hurricane fragility assessment of power transmission towers for a new set of performance-based limit states”, In *Engineering for Extremes: Decision-making in an Uncertain World*, Editors: Mark Stewart & David Rosowsky, Springer, Cham, 167-188, 2022.
2. *Dehghani, N.L., *Zhang, C. and **Shafieezadeh, A.**, “Evolutionary optimization for resilience-based planning for power distribution networks”, In *Nature-inspired Computing Paradigms in Systems Reliability, Availability, Maintainability, Safety, and Cost (RAMS+C) & Prognostics and Health Management (PHM)*, Editors: Mohamed Arezki Mellal & Michael G. Pecht, Academic Press, 47-61, 2021.

Published/In Press Refereed Journal Articles

3. Wang Z., **Shafieezadeh A.**, Xiao X., Wang X. and Li Q., “Optimal monitoring location for risk tracking of geotechnical systems: theory and application to tunneling excavation risks”, *Reliability Engineering and System Safety*, Accepted, 2022.
4. *Jeddi A.B., **Shafieezadeh A.**, Hur J., Kim M., Ha J., “Multi-hazard typhoon and earthquake collapse fragility models for transmission towers: An active learning reliability approach using gradient boosting classifiers”, *Earthquake Engineering and Structural Dynamics*, Accepted, 2022.
5. Eidelpes E., Bolisetti C., Gupta A., **Shafieezadeh A.**, “Fission battery transportation and siting aspects”, *Progress in Nuclear Energy*, 152, 104362, 2022.
6. *Dehghani NL, **Shafieezadeh A.**, “Multi-stage resilience management of smart power distribution systems: A stochastic robust optimization model”, *IEEE Transactions on Smart Grid*, DOI: 10.1109/TSG.2022.3170533, 2022.
7. *Zhang C., **Shafieezadeh A.**, “Simulation-free reliability analysis with active learning and Physics-Informed Neural Network”, *Reliability Engineering & System Safety*, 108716, 2022.
8. Wang X., Mazumder R.K., Salarieh B., Salman A.M., **Shafieezadeh A.**, Li Y., “Machine learning for risk and resilience assessment in structural engineering: progress and future trends”, *ASCE Journal of Structural Engineering*, In Press, 2022.
9. Darestani Y.M., Padgett J.E., **Shafieezadeh A.**, “Parametrized wind-surge-wave fragility functions for wood utility poles”, *ASCE Journal of Structural Engineering*, In Press, 2022.
10. *Song C., **Shafieezadeh A.**, Xiao R., “High-dimensional reliability analysis with error-guided active-learning probabilistic support vector machine: application to wind reliability analysis of transmission towers”, *ASCE Journal of Structural Engineering*, DOI: 10.1061/(ASCE)ST.1943-541X.0003332, 2022.
11. *Song C., *Wang Z., **Shafieezadeh A.**, Xiao R., “BUAK-AIS: Efficient Bayesian updating with active learning Kriging-based adaptive importance sampling”, *Computer Methods in Applied Mechanics and Engineering*, 391, 114578, 2022.
12. *Zhang C., *Song C., **Shafieezadeh A.**, “Adaptive reliability analysis for multi-fidelity models using a collective learning strategy”, *Structural Safety*, 94, 102141, 2022.
13. *Song C., *Zhang C., **Shafieezadeh A.**, and Xiao R., “Value of information analysis in non-stationary stochastic decision environments: A reliability-assisted POMDP approach”, *Reliability Engineering & System Safety*, 217, 108034, 2022.
14. *Zamanian S. and **Shafieezadeh A.**, “Temporal global sensitivity analysis of concrete sewer pipes

* Note: “*” Denotes student/scholar advised by Dr. Shafieezadeh.

- under compounding corrosion and heavy traffic loads”, *Structure and Infrastructure Engineering*, 1-14, 2021.
15. Flynn S., *Zamanian S., Vahedifard F., **Shafieezadeh A.**, Schaaf D., “Data-driven model for estimating the probability of riverine levee breach due to overtopping”, *Journal of Geotechnical and Geoenvironmental Engineering*, 148(3), 04021193, 2021.
 16. *Dehghani, N. L., *Zamanian, S., and **Shafieezadeh A.**, “Adaptive network reliability analysis: Methodology and applications to power grid”, *Reliability Engineering & System Safety*, 216, 107973, 2021.
 17. *Dehghani N. L., *Jeddi A. B., and **Shafieezadeh A.**, “Intelligent hurricane resilience enhancement of power distribution systems via deep reinforcement learning”, *Applied Energy*, 285, 116355, 2021.
 18. *Wang X., Li Z., and **Shafieezadeh A.**, “Seismic response prediction and variable importance analysis of extended pile-shaft-supported bridges against lateral spreading: Exploring optimized machine learning models”, *Engineering Structures*, 236, 112142, 2021.
 19. *Zhang C, *Wang Z, and **Shafieezadeh A.**, “Error quantification and control for adaptive Kriging-based reliability updating with equality information”, *Reliability Engineering & System Safety*, 207, 107323, 2021.
 20. *Zhang C and **Shafieezadeh A.**, “A quantile-based sequential approach to reliability-based design optimization via error-controlled adaptive Kriging with independent constraint boundary sampling,” *Structural and Multidisciplinary Optimization*, 63(5): 2231-2252, 2021.
 21. *Dehghani N.L., *Fereshtehnejad E. and **Shafieezadeh A.**, “A Markovian approach to infrastructure life-cycle analysis: Modeling the interplay of hazard effects and recovery”, *Earthquake Engineering & Structural Dynamics*, 50(3): 736-755, 2021.
 22. *Rahimi, M., **Shafieezadeh, A.**, Wood, D., and Kubatko, E., “A physics-based approach for predicting time-dependent progression length of backward erosion piping”, *Canadian Geotechnical Journal*, 58(7): 995-1004, 2021.
 23. *Fereshtehnejad E., **Shafieezadeh A.**, and Hur J., “Optimal budget allocation for bridge portfolios with element-level inspection data: a constrained integer linear programming formulation”, *Structure and Infrastructure Engineering*, 1-15, 2021.
 24. *Darestani Y. M., *Sanny K., **Shafieezadeh A.**, and *Fereshtehnejad E., “Life cycle resilience quantification and enhancement of power distribution systems: A risk-based approach”, *Structural Safety*, 90, 102075, 2021.
 25. *Wang Z. and **Shafieezadeh A.**, “Metamodel-based subset simulation adaptable to target computational capacities: the case for high-dimensional and rare event reliability analysis”, *Structural and Multidisciplinary Optimization*, 13: 1-27, 2021.
 26. *Zamanian, S., Hur, J., and **Shafieezadeh, A.**, “Significant variables for leakage and collapse of buried concrete sewer pipes: A global sensitivity analysis via Bayesian additive regression trees and Sobol’ indices”, *Structure and Infrastructure Engineering*, 17(5): 676-688, 2021.
 27. *Wang X., **Shafieezadeh A.**, and Padgett J., “FOSID: a fractional order spectrum intensity for probabilistic seismic demand modeling of extended pile-shaft-supported highway bridges under liquefaction and transverse spreading”, *Bulletin of Earthquake Engineering*, 19 (6): 2531-2559, 2021.
 28. *Zamanian, S., Hur, J., and **Shafieezadeh, A.**, “A high-fidelity computational investigation of buried concrete sewer pipes exposed to truckloads and corrosion deterioration”, *Engineering Structures*, 221, 111043, 2020.
 29. *Ye Z., Wu G., Feng D. C., and **Shafieezadeh A.**, “Shake table testing and computational investigation of the seismic performance of modularized suspended building systems”, *Bulletin of Earthquake Engineering*, 18(11): 5247-5279, 2020.
 30. Du A., Padgett J. E., and **Shafieezadeh A.**, “Influence of intensity measure selection on simulation-

- based regional seismic risk assessment”, *Earthquake Spectra*, 36(2): 647-672, 2020.
31. *Ye Z., **Shafieezadeh A.**, Sezen H., Wu G., and Feng D., “Cross-level fragility analysis of modularized suspended building structures based on experimentally validated numerical models”, *The Structural Design of Tall and Special Buildings*, 29(14), e1778, 2020.
 32. *Rahimi, M., and **Shafieezadeh, A.**, “Coupled backward erosion piping and slope instability performance model for levees”, *Transportation Geotechnics*, 24, 100394, 2020.
 33. *Zamanian S., Terranova B., and **Shafieezadeh A.**, “Significant variables affecting the performance of concrete panels impacted by wind-borne projectiles: a global sensitivity analysis”, *International Journal of Impact Engineering*, 144, 103650, 2020.
 34. *Zhang C., *Wang Z., and **Shafieezadeh A.**, “Value of information analysis via active learning and knowledge sharing in error-controlled adaptive Kriging”, *IEEE Access*, 8: 51021-51034, 2020.
 35. *Darestani Y. M., **Shafieezadeh A.**, and *Cha K., “Effect of modelling complexities on extreme wind hazard performance of steel lattice transmission towers”, *Infrastructure and Structure Engineering*, 16 (6): 898-915, 2020.
 36. *Wang Z. and **Shafieezadeh A.**, “Real-time high-fidelity reliability updating with equality information using adaptive Kriging”, *Reliability Engineering & System Safety*, 195, 106735, 2020.
 37. *Wang Z. and **Shafieezadeh A.**, “On confidence intervals for failure probability estimates in Kriging-based reliability analysis”, *Reliability Engineering & System Safety*, 196, 106758, 2020.
 38. *Wang Z. and **Shafieezadeh A.**, “Highly efficient Bayesian updating using metamodels: An adaptive Kriging-based approach”, *Structural Safety*, 84, 101915, 2020.
 39. *Rahimi M., *Wang Z., **Shafieezadeh A.**, Wood D., and Kubatko E. J., “Exploring passive and active meta-modeling-based reliability analysis methods for soil slopes: a new approach to active training”, *International Journal of Geomechanics*, 20(3), 04020009, 2020.
 40. Wood D., Kubatko E. J., *Rahimi M., **Shafieezadeh A.**, and Conroy C. J., “Implementation and evaluation of coupled discontinuous Galerkin methods for simulating overtopping of flood defenses by storm waves”, *Advances in Water Resources*, 136, 103501, 2020.
 41. *Dehghani, N. L., *Darestani Y. M., and **Shafieezadeh A.** “Optimal life-cycle resilience enhancement of aging power distribution systems: A MINLP-based preventive maintenance planning”, *IEEE Access*, 8: 22324-22334, 2020.
 42. *Rahimi M., **Shafieezadeh A.**, Wood D., Kubatko E. J., and Dormady, N. C., “Bayesian calibration of multi-response systems via multivariate Kriging: Methodology and geological and geotechnical case studies”, *Engineering Geology*, 260, 105248, 2019.
 43. *Wang X., **Shafieezadeh A.**, Ye A., “Optimal EDPs for post-earthquake damage assessment of extended pile-shaft-supported bridges in laterally spreading ground”, *Earthquake Spectra*, 35(3): 1367-1396, 2019.
 44. *Darestani Y. M., and **Shafieezadeh A.**, “Multi-dimensional wind fragility functions for wood utility poles,” *Engineering Structures*, 183: 937-948, 2019.
 45. *Wang, X., Ye, A., **Shafieezadeh, A.**, and Padgett, J. E., “Fractional order optimal intensity measures for probabilistic seismic demand modeling of extended pile-shaft-supported bridges in liquefiable and laterally spreading ground,” *Soil Dynamics and Earthquake Engineering*, 120: 301-315, 2019.
 46. *Wang Z., **Shafieezadeh A.**, “REAK: Reliability analysis through Error rate-based Adaptive Kriging”, *Reliability Engineering & System Safety*, 182: 33-45, 2019.
 47. Du A., Padgett J. E., and **Shafieezadeh A.**, “A posteriori optimal intensity measures for probabilistic seismic demand modeling”, *Bulletin of Earthquake Engineering*, 17(2): 681-706, 2019.
 48. *Wang Z., **Shafieezadeh A.**, “ESC: an efficient error-based stopping criterion for kriging-based reliability analysis methods”, *Structural and Multidisciplinary Optimization*, 59(5): 1621-1637, 2019.

49. *El-Khoury O., **Shafieezadeh, A.**, and *Fereshtehnejad, E. “A risk-based lifecycle cost optimal control of seismically excited nonlinear structures”, *Earthquake Engineering and Structural Dynamics*, 47(11): 2297-2314, 2018.
50. *El-Khoury O., **Shafieezadeh A.**, “Enhanced stochastic averaging of non-integrable nonlinear systems subjected to stochastic excitations”, *Soil Dynamics and Earthquake Engineering*, 113: 256-264, 2018.
51. Mishalani R., **Shafieezadeh A.**, and *Li Z., “Updating bridge deck condition transition probabilities as new inspection data are collected: methodology and empirical evaluation”, *Transportation Research Record: Journal of Transportation Research Board*, 2672(12): 93-102, 2018.
52. *Fereshtehnejad, E., Hur, J., **Shafieezadeh, A.**, Brokaw, M., Noll, B., Backs, J., and Waheed, A. “Systematic procedures for the analysis of agency- and user- costs of bridge repair actions”, *Transportation Research Record: Journal of Transportation Research Board*, 2672(12): 116-126, 2018.
53. *Fereshtehnejad E., **Shafieezadeh A.**, “A multi-type multi-occurrence hazard lifecycle cost analysis framework for infrastructure management decision making”, *Engineering Structures*, 167: 504-517, 2018.
54. *Schmuhl D. T., *Loos S., Hur J., and **Shafieezadeh A.**, “Time-dependent probabilistic capacity degradation assessment of prestressed concrete piles in marine environment”, *Structure and Infrastructure Engineering*, 14(10): 1372-85, 2018.
55. Jong-Su J., **Shafieezadeh A.**, and DesRoches R., “Component fragility assessment of a long, curved multi-frame bridge: Uniform excitation versus spatially correlated ground motions”, *Structural Engineering and Mechanics*, 65(5): 633-644, 2018.
56. *Darestani Y. M., **Shafieezadeh A.**, DesRoches R., “Effects of adjacent spans and correlated failure events on system-level hurricane reliability of power distribution lines”, *IEEE Transactions on Power Delivery*, 33(5): 2305-2314, 2018.
57. *Wang X., **Shafieezadeh A.**, Ye A., “Optimal intensity measures for probabilistic seismic demand modeling of extended pile-shaft-supported bridges in liquefied and laterally spreading ground”, *Bulletin of Earthquake Engineering*, 16(1):229-257, 2018.
58. *El-Khoury O., Kim C. G., **Shafieezadeh A.**, Hur J. E., Heo G. H., “Mitigation of the seismic response of multi-span bridges using MR dampers: Experimental study of a new SMC-based controller”, *Journal of Vibration and Control*, 24(1): 83-99, 2018.
59. *Wang X., Ye A., **Shafieezadeh A.**, Li J., “Shallow-layer p-y relationships for micro piles embedded in saturated medium dense sand using quasi-static test”, *ASTM Geotechnical Testing Journal*, 41(1): 193-206, 2018.
60. *El-Khoury O., **Shafieezadeh A.**, “Reliability-based control algorithms for nonlinear hysteretic systems based on enhanced stochastic averaging of energy envelope”, *Earthquake Engineering and Structural Dynamics*, 46(14): 2381-2397, 2017.
61. *Fereshtehnejad E., Hur J., **Shafieezadeh A.**, Brokaw M., “Ohio Bridge Condition Index: a multi-level cost-based performance index for bridge systems”, *Transportation Research Record: Journal of the Transportation Research Board*, No. 2612: 152-160, 2017.
62. Kale O., Padgett J., **Shafieezadeh A.**, “A ground motion prediction equation for novel peak ground fractional order response intensity measures”, *Bulletin of Earthquake Engineering*, 15: 3437-3461, 2017.
63. *Fereshtehnejad E., **Shafieezadeh A.**, “A randomized point-based value iteration POMDP enhanced with a counting process technique for optimal management of multi-state multi-element systems”, *Structural Safety*, 65: 113-125, 2017.
64. *Darestani Y. M., **Shafieezadeh A.**, DesRoches R., “An equivalent boundary model for effects of adjacent spans on wind reliability of wood utility poles in overhead distribution lines”, *Engineering*

Structures, 128: 441-452, 2016.

65. *El-Khoury O., **Shafieezadeh A.**, “A stochastic averaging-based optimal control method for nonlinear systems: Application to a building with soil-structure interactions”, *Engineering Structures*, 127: 635-644, 2016.
66. *Fereshtehnejad E., **Shafieezadeh A.**, “Multiple hazard incidents lifecycle cost assessment of structural systems considering state-dependent repair times and fragility curves”, *Earthquake Engineering and Structural Dynamics*, 45: 2327–2347, 2016.
67. *Fereshtehnejad E., Banazadeh M., and **Shafieezadeh A.**, “System reliability-based seismic collapse assessment of steel moment frames using incremental dynamic analysis and Bayesian probability network”, *Engineering Structures*, 118: 274-286, 2016.
68. *El-Khoury O., Kim C. G., **Shafieezadeh A.**, Hur J. E., Heo G. H., “Experimental study of the semi-active control of a nonlinear two span bridge using stochastic optimal polynomial control”, *Smart Materials and Structures*, 24: 065011, 2015.
69. **Shafieezadeh A.**, Cha E. J., and Ellingwood B. R., “A decision framework for managing risk to infrastructure systems from terrorist attack”, *Risk Analysis*, 35(2): 292-306, 2015.
70. Jeon J. S., **Shafieezadeh A.**, Lee D. H., Choi E., and DesRoches R., “Damage assessment of older highway bridges subjected to three-dimensional ground motions: characterization of shear-axial force interaction on seismic fragilities”, *Engineering Structures*, 87: 47-57, 2015.
71. Onyewuchi P. U., **Shafieezadeh A.**, Begovic M., and DesRoches R., “A probabilistic framework for prioritizing wood pole inspections given pole geospatial data”, *IEEE Transactions on Smart Grid*, 6(2): 973-979, 2015.
72. **Shafieezadeh A.**, and Ivey Burden L., “Scenario-based resilience assessment framework for critical infrastructure systems: case study for seismic resilience of seaports”, *Reliability Engineering and System Safety*, 132: 207-219, 2014.
73. Jeon J. S., **Shafieezadeh A.**, and DesRoches R., “Statistical models for shear strength of RC beam-column joints using machine-learning techniques”, *Earthquake Engineering and Structural Dynamics*, 43: 2075-2095, 2014.
74. **Shafieezadeh A.**, Onyewuchi P. U., Begovic M., and DesRoches R., “Age-dependent fragility models of utility poles in power distribution networks against extreme wind hazards”, *IEEE Transactions on Power Delivery*, 29(1): 131-139, 2014.
75. **Shafieezadeh A.**, DesRoches R., Rix G. J., and Werner S. D., “A probabilistic framework for correlated seismic downtime and repair cost estimation of geo-structures”, *Earthquake Engineering and Structural Dynamics*, 43: 739-757, 2014.
76. **Shafieezadeh A.**, Hur J.E., “Nonlinear time-domain seismic response modeling of NPPs considering soil-structure interactions”, *Transactions of the American Nuclear Society*, 109(1): 966-967, 2013.
77. Varun, Assimaki D., **Shafieezadeh A.**, “Soil-pile-structure interaction simulations in liquefiable soils via dynamic macroelements: Formulation and validation”, *Soil Dynamics and Earthquake Engineering*, 47: 92-107, 2013.
78. **Shafieezadeh A.**, DesRoches R., Rix G. J., and Werner S. D., “Three-dimensional wharf response to far-field and impulsive near-field ground motions in liquefiable soils”, *Journal of Structural Engineering*, 139(8): 1395–1407, 2013.
79. **Shafieezadeh A.**, Ramanathan K., Padgett J. E., and DesRoches R., “Fractional order intensity measures for probabilistic seismic demand modeling applied to highway bridges”, *Earthquake Engineering and Structural Dynamics*, 41: 391-409, 2012.
80. **Shafieezadeh A.**, Ellingwood B.R., “Confidence intervals for reliability indices using likelihood ratio statistics”, *Structural Safety*, 38: 48-55, 2012.
81. **Shafieezadeh A.**, DesRoches R., Rix G. J., and Werner S. D., “Seismic performance of pile-supported

wharf structures considering soil-structure interaction in liquefied soil”, *Earthquake Spectra*, 28(2): 729-757, 2012.

82. **Shafieezadeh A.** and Ryan K. L., “Demonstration of robust stability and performance of filter-enhanced H_2/LQG controllers for a nonlinear structure”, *Structural Control and Health Monitoring*, 18: 710-720, 2011.
83. Zahrai S. M. and **Shafieezadeh A.**, “Application of semi-active damper controlled by fuzzy logic to a wind excited tall building”, *Iranian Journal of Science & Technology*, 33(B1): 1-14, 2009.
84. **Shafieezadeh A.**, Ryan K. L., and Chen Y. Q., “Fractional order filter enhanced LQR for seismic protection of civil structures”, Special issue on “Discontinuous and Fractional Dynamical Systems” *ASME Journal of Computational and Nonlinear Dynamics*, 3(2): 21404-1-7, 2008.

Published Non-Refereed Journal Articles

85. *Jeddi A.B., *Dehghani, N.L., and **Shafieezadeh A.**, “Lyapunov-based uncertainty-aware safe reinforcement learning”, *arXiv preprint arXiv:2107.13944*, 2021.

Under Review Articles in Refereed Journals

86. *Jeddi A.B., Azzi Z., **Shafieezadeh A.**, Elawady A., Chowdhury A.G., Irwin P., “Revisit of underestimated wind drag coefficients and gust response factors of lattice transmission towers based on aeroelastic wind tunnel testing and multi-sensor data fusion”, *Engineering Structures*, submitted in 2021.
87. *Jeddi A.B., **Shafieezadeh A.**, “Resilience-informed hurricane fragility models of overhead transmission towers”, *Engineering Structures*, submitted in 2022.
88. *Jeddi A.B., **Shafieezadeh A.**, “Deep learning-based computer vision approach for damage detection in utility poles from post-hurricane reconnaissance data”, *IEEE Transactions on Power Delivery*, submitted in 2022.
89. *Zhang C., **Shafieezadeh A.**, “Modeling the dynamics of PDE systems with varying initial conditions using physics-informed neural networks with augmented space”, *Journal of Computational Physics*, submitted in 2021.
90. *Zhang C., **Shafieezadeh A.**, “Adaptively trained physics-informed neural network for reliability analysis”, *Reliability Engineering and System Safety*, submitted in 2021.
91. *Dehghani N.L., **Shafieezadeh A.**, “Multi-stage resilience management of smart power distribution systems: a stochastic robust optimization model”, *IEEE Transactions on Smart Grid*, submitted in 2021.
92. *Ye Z., **Shafieezadeh A.**, Feng D.C., Wu G., *Wang X., “Optimum weighted arithmetic means of peak- and spectral-based intensity measures for probabilistic seismic demand modeling of modularized suspended buildings”, *Bulletin of Earthquake Engineering*, submitted in 2021.

Refereed Conference Proceedings

1. *Rodriguez Avellaneda A. H., **Shafieezadeh A.**, Yilmaz A., “How important are socioeconomic factors for hurricane performance of power systems? An analysis of disparities through machine learning”, *2022 IEEE International Conference on Power System Technology (POWERCON)*, Pullman, Kuala Lumpur, Malaysia, September 12-14, 2022, Paper Accepted.
2. *Jeddi A.B., Azzi Z., **Shafieezadeh A.**, Elawady A., Chowdhury A.G., and Irwin P., “Wind load parameters for transmission towers using wind tunnel testing”, *14th Americas Conference on Wind Engineering (ACWE)*, 2022.
3. *Jeddi A.B., Hur J., **Shafieezadeh A.**, Kim M., and Ha J., “Global sensitivity analysis for the seismic performance of lattice towers considering nonlinear soil-foundation-structure interactions”, *13th International Conference on Structural Safety and Reliability (ICOSSAR)*, 2022.
4. *Jeddi A.B. and **Shafieezadeh A.**, “A physics-informed graph attention-based approach for power flow

- analysis”, *20th IEEE International Conference on Machine Learning and Applications (ICMLA)*, Virtually Online, December 13-15, 2021.
5. *Jeddi A. B., *Rahimi M., **Shafieezadeh A.**, Hur J., Ha J., Hahm D., Kim M., “Probabilistic seismic demand analysis of pile-supported transmission towers on infinite slopes: exploring machine learning models for optimal intensity measures”, *Proceedings of Geo-Congress 2022*, 619-628, Charlotte, North Carolina, March 20-23, 2022.
 6. *Rahimi M., *Gupta D., and **Shafieezadeh A.**, “Incorporating monitoring information from satellite radar imaging in levee internal erosion risk analysis”, *10th International Conference on Scour and Erosion*, Arlington, VA, October 18-21, 2021.
 7. Wood D., Kubatko, E. J., *Rahimi M., and **Shafieezadeh A.**, “Investigating failures of flood barriers caused by hurricane storm surge using joint coastal and geotechnical modeling”, *10th International Conference on Scour and Erosion*, Arlington, VA, October 18-21, 2021.
 8. *Zamanian S., *Rahimi M., **Shafieezadeh A.**, “Resilience of sewer networks to extreme weather hazards: Past experiences and an assessment framework”, *UESI pipeline conference*, San Antonio, Texas, August 9-12, 2020.
 9. Hur J. E., **Shafieezadeh A.**, “Multi-hazard probabilistic risk analysis of off-site overhead transmission systems”, *25th International Conference on Structural Mechanics in Reactor Technology (SMiRT-25)*, Charlotte, NC, USA, August 4-9, 2019.
 10. *Dehghani N. L., *Rahimi M., and **Shafieezadeh A.**, Padgett J. E., “Parameter estimation of a fractional order soil constitutive model using KiK-Net downhole array data: A Bayesian updating approach”, *Geo-Congress*, Minneapolis, Minnesota, February 25-28, 2020.
 11. *Dehghani N. L., **Shafieezadeh A.**, “Probabilistic sustainability assessment of bridges subjected to multi-occurrence hazards”, *International Conference on Sustainable Infrastructure*, Los Angeles, CA, November 7-9, 2019.
 12. *Rahimi M., *Dehghani N. L., **Shafieezadeh A.**, “Probabilistic lifecycle sustainability analysis of levees against storm surge hazards”, *International Conference on Sustainable Infrastructure*, Los Angeles, CA, November 7-9, 2019.
 13. *Mohammadi Darestani, Y. and **Shafieezadeh, A.**, “A framework for hurricane resilience assessment of power distribution systems”, *13th International Conference on Applications of Statistics and Probability in Civil Engineering, ICASP13*, Seoul, South Korea, May 26-30, 2019.
 14. *Mohammadi Darestani, Y., *Wang, Z., and **Shafieezadeh, A.**, “Wind reliability of transmission line models using kriging-based methods”, *13th International Conference on Applications of Statistics and Probability in Civil Engineering, ICASP13*, Seoul, South Korea, May 26-30, 2019.
 15. *Wang, Z., and **Shafieezadeh, A.**, “A parallel learning strategy for adaptive kriging-based reliability analysis methods”, *13th International Conference on Applications of Statistics and Probability in Civil Engineering, ICASP13*, Seoul, South Korea, May 26-30, 2019.
 16. *Wang, Z., and **Shafieezadeh, A.**, “Reliability-based Bayesian updating using machine learning”, *13th International Conference on Applications of Statistics and Probability in Civil Engineering, ICASP13*, Seoul, South Korea, May 26-30, 2019.
 17. *Wang, Z., and **Shafieezadeh, A.**, “Seismic reliability analysis of npp's nonstructural components using surrogate models”, *13th International Conference on Applications of Statistics and Probability in Civil Engineering, ICASP13*, Seoul, South Korea, May 26-30, 2019.
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 19. *Rahimi M., *Wang Z., **Shafieezadeh A.**, Wood D., Kubatko E. J., “An adaptive kriging-based approach with weakly stationary random fields for soil slope reliability analysis”, *Geo-Congress*,

Philadelphia, PA, March 24-27, 2019.

20. *Fereshtehnejad, E., and **Shafieezadeh, A.**, “Optimal bridge repair actions considering the potential for multiple earthquake occurrence”, *11th National Conference on Earthquake Engineering*, Los Angeles, California, June 25-29, 2018.
21. Du A., Padgett J. E., and **Shafieezadeh A.**, “Adaptive IMs for improved seismic demand modeling of highway bridge portfolios”, *11th U.S. National Conference on Earthquake Engineering*, June 25-29, 2018, Los Angeles, CA.
22. Bhat R., *Mohammadi Darestani Y., **Shafieezadeh A.**, Meliopoulos A.P., DesRoches R., “Resilience assessment of distribution systems considering the effect of hurricanes”, *IEEE PES Transmission and Distribution Conference & Exposition*. Denver, Co. USA. April 16-19, 2018.
23. *Wang X., Ye A., **Shafieezadeh A.**, and Padgett J., “Spectrum-based fractional order intensity measures for probabilistic seismic demand modelling of bridges in liquefiable soil”. *Proc. of 15th International Conference of the International Association for Computer Methods and Advances in Geomechanics (15IACMAG)*, Wuhan, China, October 19-23, 2017.
24. *Fereshtehnejad E., Hur J., **Shafieezadeh A.**, Brokaw M., “Ohio Bridge Condition Index: a novel cost and condition-based index for assessment of bridges”, *Proceedings of the 11th International Bridge and Structure Management Conference*, Mesa, Arizona, April 26-27, 2017.
25. *Fereshtehnejad E., **Shafieezadeh A.**, “Optimal retrofit decision-making for bridge systems based on multi-hazard lifecycle cost analysis”, *Proceedings of the 11th International Bridge and Structure Management Conference*, Mesa, Arizona, April 26-27, 2017.
26. *Fereshtehnejad E., Hur J. E., **Shafieezadeh A.**, “Performance measures for the assessment of the condition of bridges: a critical review”, *Proceedings of the 96th Annual Meeting Transportation Research Board*, Washington, DC, 7-05179, 2017.
27. *El-Khoury O., **Shafieezadeh A.**, “A constrained nonlinear stochastic optimal control for dynamic systems”, *Proceedings of the 12th International Conference on Applications of Statistics and Probability in Civil Engineering (ICASP12)*, University of British Columbia Library, Vancouver, Canada, DOI: 10.14288/1.0076207, 2015.
28. *El-Khoury O., **Shafieezadeh A.**, Kim C. G., Hur J. E., Heo G. H., “Shake table tests of stochastic optimal polynomial control of a two span bridge equipped with an MR damper”, *Proceedings of the 12th International Conference on Applications of Statistics and Probability in Civil Engineering (ICASP12)*, University of British Columbia Library, Vancouver, Canada, DOI: 10.14288/1.0076125, 2015.
29. **Shafieezadeh A.**, *Fereshtehnejad E., “Risk management of multi-state multi-component bridge systems using partially observable Markov decision processes”, *Proceedings of the 12th International Conference on Applications of Statistics and Probability in Civil Engineering (ICASP12)*, University of British Columbia Library, Vancouver, Canada, DOI: 10.14288/1.0076120, 2015.
30. Hur J. E., **Shafieezadeh A.**, “Seismic intensity measures for probabilistic demand modeling of rocking rigid components”, *Proceedings of the 12th International Conference on Applications of Statistics and Probability in Civil Engineering (ICASP12)*, University of British Columbia Library, Vancouver, Canada, DOI: 10.14288/1.0076215, 2015.
31. Jeon J. S., **Shafieezadeh A.**, DesRoches R., “System fragility curves for a long multi-frame bridge under differential support motions”, *Proceedings of the 12th International Conference on Applications of Statistics and Probability in Civil Engineering (ICASP12)*, University of British Columbia Library, Vancouver, Canada, DOI: 10.14288/1.0076185, 2015.
32. *Schmuhl D., **Shafieezadeh A.**, Hur J., “Probabilistic capacity assessment of a prestressed concrete pile in a corrosive marine environment using finite element analysis”, *Proceedings of the 12th International Conference on Applications of Statistics and Probability in Civil Engineering (ICASP12)*, University of British Columbia Library, Vancouver, Canada, DOI: 10.14288/1.0076126, 2015.

33. **Shafieezadeh A.**, Ivey Burden L., “Application of a scenario-based assessment framework for the seismic resilience of seaports”, Proceedings of the 12th *International Conference on Applications of Statistics and Probability in Civil Engineering (ICASP12)*, University of British Columbia Library, Vancouver, Canada, DOI: 10.14288/1.0076209, 2015.
34. Hur J., **Shafieezadeh A.**, “Characterization of main-shock effects on the aftershock fragility of rigid electrical equipment”, Proceedings of the 11th *International Conference on Structural Safety & Reliability (ICOSSAR)*, 4413-4421, DOI: 10.1201/b16387-638, CRC Press, Boca Raton, FL, 2014.
35. Cha E.J., **Shafieezadeh A.**, Ellingwood B.R., “Risk assessment of terrorist attack on buildings and other civil infrastructure systems”, Proceedings of the 11th *International Conference on Structural Safety & Reliability (ICOSSAR)*, 2721–2721, DOI: 10.1201/b16387-392, CRC Press, Boca Raton, FL, 2014.
36. Onyewuchi P.U., **Shafieezadeh A.**, Begovic M., and DesRoches R., “A stochastic framework to optimizing net benefits of a wood pole preventive maintenance program”, Proceedings of the 11th *International Conference on Structural Safety & Reliability (ICOSSAR)*, 4793–4800, DOI: 10.1201/b16387-693, CRC Press, Boca Raton, FL, 2014.
37. **Shafieezadeh A.**, Leelardcharoen K., Dueñas-Osorio L., “A framework for assessing the effectiveness of resilience enhancement strategies for interdependent infrastructure”, Proceedings of the 11th *International Conference on Structural Safety & Reliability (ICOSSAR)*, 573–580, DOI: 10.1201/b16387-85, CRC Press, Boca Raton, FL, 2014.
38. **Shafieezadeh A.**, DesRoches R., Ramanathan K., “Fragility analysis of a two dimensional plane strain model of a typical pile-supported wharf”, Proceedings of the 3rd *International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering (COMPDYN)*, National Technical University of Athens (NTUA), Athens, Greece, 2572-2581, 2012.
39. Ramanathan K., **Shafieezadeh A.**, Padgett J. E., DesRoches R., “Probabilistic seismic demand models for multi span continuous steel girder bridges using fractional order intensity measures”, Proceedings of the 14th *European Conference on Earthquake Engineering*, New York, Curran Associates. 884-891, 2010.
40. **Shafieezadeh A.**, Ryan K. L., Chen Y. Q., “Fractional order LQR for optimal robust control of a simple structure”, 2007 *ASME Design Engineering Technical Conferences*, DETC2007-34279, 1235-1243, 2007.
41. **Shafieezadeh A.**, Gsell D., Motavalli M., “SMA adaptive tuned mass dampers”, Proceedings of the 2nd *International Conference on Structural Health Monitoring and Intelligent Infrastructure*, 1529-1534, CRC Press, Boca Raton, FL, 2005.

Non-Refereed Conference Proceedings

1. *Qarib H., *Jeddi A. B., Hur J. E., **Shafieezadeh A.**, “Development of a vortex-induced vibration analysis process and evaluation of fatigue damage risk”, ASCE SEI Electrical Transmission & Substation Structures Conference, October 2022 (paper accepted).
2. *Jeddi A.B., **Shafieezadeh A.**, Hur J., Kim M., and Ha J., “Fragility assessment of overhead transmission towers under typhoon and earthquake multi-hazard events”, *Transactions of the Korean Nuclear Society, Autumn Meeting*, Jeju, Korea, May 21-22, 2020.
3. Hur J. E., **Shafieezadeh A.**, and Chen Z., “An integrated assessment of seismic hazard vulnerability and resilience of seaports”, *ASCE Ports 2019: Port Engineering*, Pittsburg, PA, 11-22, 2019.
4. Wood D., Kubatko E., *Rahimi M., Shafieezadeh A., “A modeling framework for assessing and communicating environmental risks due to hurricanes”, *Ohio Supercomputer Center Statewide Users Group Conference*, Columbus, Ohio, April 4, 2019.
5. *Fereshtehnejad, E., Hur, J., **Shafieezadeh, A.**, Brokaw, M., Noll, B., Backs, J., and Waheed, A. “A

bridge performance index with objective incorporation of safety risks”, *97th Transportation Research Board Annual Meeting*, Washington DC., January 7-11, 2018.

6. Mishalani R.G., **Shafieezadeh A.**, *Li Z., “Updating bridge deck condition transition probabilities as new inspection data are collected”, *2nd International Symposium on Infrastructure Asset Management*, Zurich, Switzerland, June 29-30, 2017.
7. *Mohammadi Darestani Y., **Shafieezadeh A.**, “Hurricane performance assessment of power distribution lines using multi-scale matrix-based system reliability analysis method”, *13th Americas Conference on Wind Engineering*, Gainesville, Florida, May 21-24, 2017.
8. *El-Khoury O., and **Shafieezadeh A.**, “An enhanced stochastic averaging method for optimal control of structures with nonlinear soil-structure interactions”, *Engineering Mechanics Institute Conference (EMI) 2016 and Probabilistic Mechanics & Reliability Conference (PMC) 2016*, Nashville, Tennessee, May 22-25, 2016.
9. *Mohammadi Darestani Y., and **Shafieezadeh A.**, “Modeling the impact of adjacent spans in overhead distribution lines on the wind response of utility poles”, *Geotechnical & Structural Engineering Congress, 2016 Geotechnical & Structural Engineering Congress*, DOI: 10.1061/9780784479742.090, American Society of Civil Engineers, Reston, Virginia, 2016.
10. *Schmuhl D., **Shafieezadeh A.**, “Time-dependent probabilistic capacity assessment of a prestressed concrete pile in a spatially varying corrosive marine environment using detailed finite element methods”, *Proceedings of 2015 Structures Congress*, DOI: 10.1061/9780784479117.125, American Society of Civil Engineers, Reston, Virginia, 2015.
11. Evcen I., **Shafieezadeh A.**, DesRoches R., “Evaluation of concrete bridge column strengthening methods using fragility analysis”, *Proceedings of the 2nd Turkey Earthquake Engineering and Seismology Conference*, Antakya, Hatay/Turkey, September 25-27, 2013.
12. **Shafieezadeh A.**, Onyewuchi P. U., Begovic M., and DesRoches R., “Fragility assessment of wood poles in power distribution networks against extreme wind hazards”, *Proceedings of 2012 ATC & SEI Conference on Advances in Hurricane Engineering*, DOI 10.1061/9780784412626.074, American Society of Civil Engineers, Reston, Virginia, 2013.
13. **Shafieezadeh A.**, Kosbab B. D., DesRoches R., Leon R., “Dynamic interaction behavior of pile-supported wharves and container cranes in liquefiable soil embankments”, *Proceedings of 2012 Structures Congress*, DOI 10.1061/9780784412367.049, American Society of Civil Engineers, 2012.
14. **Shafieezadeh A.**, DesRoches R., Werner S. D., and Rix G. J., “Seismic response of pile-supported container wharves”, *ASCE Technical Council on Lifeline Earthquake Engineering Conference*, DOI 10.1061/41050(357)83, 2009.
15. Werner S. D., DesRoches R., Rix G. J., and **Shafieezadeh A.**, “Fragility models for container cargo wharves”. *ASCE Technical Council on Lifeline Earthquake Engineering Conference*, DOI 10.1061/41050(357)81, 2009.
16. **Shafieezadeh A.**, and Motavalli M., “Assessing different methods of deriving instantaneous frequency including EMD-HT, Wavelet, GPOF, and STFT”, *Seventh International Congress of Civil Engineering (7th ICCE)*, Tehran, Iran, May 8-10, 2006.
17. Zahrai S. M., and **Shafieezadeh A.**, “Fuzzy control of high-rise structures subjected to wind excitation”. *7th International Conference on Multi-Purpose High-Rise Towers and Tall Buildings (IFHS2005)*, Dubai, U.A.E., December 10-11, 2005.

Invited Talks and Presentations

1. **Shafieezadeh**, “Life-cycle resilience and sustainability: a new paradigm for managing infrastructure systems in the face of climatic risks”, *Infrastructure and Civil Engineering World Forum*, March 22, 2022.

2. **Shafieezadeh**, “Reliability and resilience of the power grid: uncertainty quantification from components to systems”, University of Buffalo, March 11, 2022.
3. **Shafieezadeh**, Written and oral testimony before the US Senate Committee on Banking, Housing and Urban Affairs on the topic of “21st century communities: climate change, resilience, and reinsurance”, July 2021.
4. **Shafieezadeh A.**, “Risk-informed management of the power grid”, Ohio State University, Presented and participated in the panel “Where You Live Matters: Equity, Resilience, and the Built Environment”, April 1, 2021.
5. **Shafieezadeh A.**, Panelist for “Can Texas happen in Ohio?”, Sustainability Institute, Ohio State University, April 19, 2021.
6. **Shafieezadeh A.**, “Analysis and management of the power grid”, American Electric Power and Vertiv joint meeting, May 14, 2021.
7. **Shafieezadeh A.**, “Resilient infrastructure systems: Analyzing impacts of climatic hazards on the power grid”, WEBSTRUCT 2021, Lovely Professional University, India, 24 June 2021.
8. **Shafieezadeh A.**, “Infrastructure risk management: Reliability, resilience & uncertainty quantification”, Hanyang University, Seoul, South Korea, June 4, 2019.
9. **Shafieezadeh A.**, “Infrastructure risk management: The case for the power grid”, Korea Electric Power Corporation (KEPCO), Daejeon, South Korea, May 31, 2019.
10. **Shafieezadeh A.**, “Infrastructure risk management: Reliability, resilience & uncertainty quantification”, Korea Atomic Energy Research Institute (KAERI), Daejeon, South Korea, May 30, 2019.
11. *Rahimi M. and **Shafieezadeh A.**, “Uncertainty quantification in geotechnical systems using machine learning techniques”, *IEP Itasca Webinar*, August 29, 2019.
12. **Shafieezadeh A.**, “Analyzing and managing climatic risks to the power grid”, American Electric Power, December 5, 2018.
13. **Shafieezadeh A.**, “Infrastructure risk management: from reliability to resilience”, AIR Worldwide, Boston, MA, May 29, 2018.
14. **Shafieezadeh A.**, Panelist for “Building resilient communities in a changing climate”, Mid-Ohio Regional Planning Commission and The Ohio State University, Columbus, OH, May 18, 2018.
15. *Fereshtehnejad E., **Shafieezadeh A.**, Hur J., “A vulnerability assessment and management system for massive hard asset and infrastructure portfolios”, Ohio Department of Transportation (ODOT), Columbus, OH, 2018.
16. **Shafieezadeh A.**, “Fragility models for hurricane risk management of power grids”, Storm Outage Prediction, Preparedness and Response Workshop, Columbus, Ohio, August 15-16, 2017.
17. *Mohammadi Darestani Y., *Cha K., **Shafieezadeh A.**, Azzi Z., Chowdhury A., “Experimentally validated stochastic numerical framework to generate multi-dimensional fragilities for hurricane resilience enhancement of transmission systems”. 2017 *NSF NHERI Wall of Wind Experimental Facility User Workshop*, Florida International University, Miami, Florida, June 16-17, 2017.
18. *Mohammadi Darestani Y., **Shafieezadeh A.**, “An equivalent dynamic boundary model for effects of adjacent spans in overhead distribution lines during hurricanes”, 13th *Americas Conference on Wind Engineering*, Gainesville, Florida, USA, May 21-24, 2017.
19. **Shafieezadeh A.**, Dueñas-Osorio L., “Lifeline system dependencies for resilient infrastructures”, *ASCE Infrastructure Resilience Summit*. Reston, Virginia, 2015.
20. **Shafieezadeh A.**, Leelardcharoen K., Dueñas-Osorio L., “Resilient assessment of smart infrastructure systems”, 2013 *Structures Congress*, Pittsburg, Pennsylvania, May 2-4, 2013.
21. **Shafieezadeh A.**, Ramanathan K., Padgett J. E., and DesRoches R., “Fractional order intensity measures for seismic demand modeling of bridges”, *Fractional Order Calculus Day at Utah State*

University, Logan, Utah, 2012.

22. **Shafieezadeh A.**, “Probabilistic risk assessment of infrastructure systems”, University of Michigan, Ann Arbor, Michigan, 2012.
23. **Shafieezadeh A.**, “Probabilistic risk assessment of infrastructure systems” University of Memphis, Memphis, Tennessee, 2012.
24. **Shafieezadeh A.**, “Resilience assessment of infrastructure systems”, Rice University, Houston, Texas, 2012.
25. **Shafieezadeh A.**, DesRoches R., “Numerical modeling of wharf structures”, Annual meeting of *NEESR-GC: Seismic Risk Mitigation for Port Systems*, Atlanta, Georgia, January 10-11, 2008.
26. **Shafieezadeh A.**, Ryan K. L., and Chen Y. Q., “Fractional order control of civil structures using MR dampers”, *Fractional Order Calculus Day at Utah State University*, Logan, Utah, September 3, 2007.
27. **Shafieezadeh A.**, Ryan K. L., and Chen Y. Q., “H₂ controllers with fractional order filters”, *MR Damper FHT Workshop at the Colorado NEES Facility*, Boulder, Colorado. August 6-7, 2007.

Other Conference Presentations

1. *Jeddi A. B., **Shafieezadeh A.**, “Hurricane damage classification and performance-based fragility analysis of overhead transmission towers”, *International Conference on Sustainable Infrastructure (ICSI)*, Virtually Online, December 6-10, 2021.
2. *Jeddi A. B., Azzi Z., **Shafieezadeh, A.**, Elawady A., Chowdhury A., Irwin P. “Estimation of wind drag coefficients of lattice transmission towers and conductors using large-scale aeroelastic wind testing”, *Engineering Mechanics Institute Conference 2021 and Probabilistic Mechanics & Reliability Conference 2021 (EMI 2021/PMC 2021)*, Virtual Event, May 25-28, 2021.
3. *Jeddi A. B., Hur J., **Shafieezadeh A.**, Kim M., Ha J., “Multi-hazard hurricane-earthquake fragility surfaces for transmission towers via probabilistic support vector machine”, *Engineering Mechanics Institute Conference 2021 and Probabilistic Mechanics & Reliability Conference 2021 (EMI 2021/PMC 2021)*, Virtual Event, May 25-28, 2021.
4. *Zhang C., *Wang, Z., and **Shafieezadeh A.**, “Value of information analysis with adaptive Kriging”, *Engineering Mechanics Institute Conference 2021 and Probabilistic Mechanics & Reliability Conference 2021 (EMI 2021/PMC 2021)*, Virtual Event, May 25-28, 2021.
5. *Song C., *Wang Z., **Shafieezadeh A.**, and Xiao R., “Kriging-based adaptive importance sampling for reliability analysis of rare events”, *Engineering Mechanics Institute Conference 2021 and Probabilistic Mechanics & Reliability Conference 2021 (EMI 2021/PMC 2021)*, Virtual Event, May 25-28, 2021.
6. *Song C., *Wang Z., **Shafieezadeh A.**, and Xiao R., “Bayesian updating via Kriging-based adaptive importance sampling”, *Engineering Mechanics Institute Conference 2021 and Probabilistic Mechanics & Reliability Conference 2021 (EMI 2021/PMC 2021)*, Virtual Event, May 25-28, 2021.
7. *Dehghani, N.L., *Jeddi, A. B. and **Shafieezadeh, A.**, “Deep reinforcement learning for resilience-based planning of power distribution systems”, *Engineering Mechanics Institute Conference 2021 and Probabilistic Mechanics & Reliability Conference 2021 (EMI 2021/PMC 2021)*, Virtual Event, May 25-28, 2021.
8. *Zamanian, S., *Dehghani, N.L. and **Shafieezadeh, A.**, “Network reliability of gas pipelines under seismic hazards: An adaptive machine learning approach”, *Engineering Mechanics Institute Conference 2021 and Probabilistic Mechanics & Reliability Conference 2021 (EMI 2021/PMC 2021)*, Virtual Event, May 25-28, 2021.
9. *Dehghani, N.L., *Jeddi, A. B. and **Shafieezadeh, A.**, “Resilience enhancement of aging power distribution systems using deep reinforcement learning”, *Engineering Mechanics Institute (EMI) Virtual Competition in Objective Resilience*. July 8, 2020.

10. Wood D., Kubatko E. J., *Rahimi M., and **Shafieezadeh A.**, “Interfacing hydrodynamic and geotechnical modeling for the assessment and communication of flooding risks due to flood defense system failures”, *15th U.S. National Congress on Computational Mechanics*, Austin, TX, USA, July 28-August 1, 2019.
11. Wood D., Kubatko E. J., *Rahimi M., and **Shafieezadeh A.**, “Coupled discontinuous Galerkin methods for evaluating overtopping risks posed to flood barriers by storm waves and surge”, *20th International Conference on Finite Elements in Flow Problems*, Chicago, IL, USA, March 31-April 3, 2019.
12. Wood D., Kubatko E. J., *Rahimi M., and **Shafieezadeh A.**, “Developments on sub-grid scale modeling of failure mechanisms for flood control systems in a hydrodynamic storm surge model”, *13th World Congress on Computational Mechanics / 2nd Pan American Congress on Computational Mechanics*, New York City, July 22-27, 2018.
13. *Ye Z., Wu G., **Shafieezadeh A.**, and Feng D., “Shake table test validation, experimental-based modelling and optimization of an innovative modularized suspended building structure”, *2019 Pacific Conference on Earthquake Engineering and Annual NZSEE Conference*, Auckland, New Zealand, April 4-6, 2019.
14. *Ye Z., **Shafieezadeh A.**, Wu G., and Feng D., “Multi-objective optimization and fragility analysis of an innovative modularized suspended building structure based on the experimentally verified numerical models”, *3rd International Conference on Structure and Civil Engineering Research*, Prague, Czech Republic, June 26-28, 2019.
15. *Zhang, C., Hur, J., and **Shafieezadeh, A.** “Comparison among three bridge performance measure for allocation funds”, *98th Transportation Research Board Annual Meeting*, Washington DC, January 15, 2019.
16. *Wang, Z., and **Shafieezadeh, A.**, “A novel reliability analysis technique based on adaptive kriging and error estimation”, *13th World Congress on Computational Mechanics / 2nd Pan American Congress on Computational Mechanics*, New York City, July 22-27, 2018.
17. *Wang, Z., and **Shafieezadeh, A.**, “A combination of Bayesian network and surrogate model for structure or infrastructure system reliability analysis”, *13th World Congress on Computational Mechanics / 2nd Pan American Congress on Computational Mechanics*, New York City, July 22-27, 2018.
18. *Darestani Y. M., *Cha K., *Wang Z., and **Shafieezadeh A.**, “Wind reliability assessment of power transmission lines using an error rate-based adaptive kriging method”, *13th World Congress on Computational Mechanics / 2nd Pan American Congress on Computational Mechanics*, New York City, July 22-27, 2018.
19. *Rahimi M., **Shafieezadeh A.**, Wood D., Kubatko E. J., “Probabilistic calibration of soil parameters in total stress models of levees using Bayes’ theorem”, *13th World Congress on Computational Mechanics / 2nd Pan American Congress on Computational Mechanics*, New York City, July 22-27, 2018.
20. *Rahimi M., *Wang Z., **Shafieezadeh A.**, Wood D., Kubatko E. J., “Analysis of reliability of levees against slope instability using FLAC3D and an adaptive Kriging-based Monte Carlo simulation method”, *13th World Congress on Computational Mechanics / 2nd Pan American Congress on Computational Mechanics*, New York City, July 22-27, 2018.
21. *Wang, Z., and **Shafieezadeh, A.**, “Integration of meta-models into Bayesian networks for efficient reliability assessment of systems”, *Engineering Mechanics Institute (EMI) conference*, Massachusetts Institute of Technology (MIT), Cambridge, MA, May 29-June 1, 2018.
22. *Wang, Z., and **Shafieezadeh, A.**, “A new approach to estimate the error of reliability analysis based on adaptive Kriging”, *Engineering Mechanics Institute (EMI) conference*, Massachusetts Institute of Technology (MIT), Cambridge, MA, May 29-June 1, 2018.
23. *Mohammadi Darestani Y., **Shafieezadeh A.**, “Failure mode analysis of lattice transmission towers

considering unbalanced loadings due to conductor breakage under extreme wind hazards”, *Engineering Mechanics Institute (EMI) conference*, Massachusetts Institute of Technology (MIT), Cambridge, MA, May 29-June 1, 2018.

24. *Cha K., *Mohammadi Darestani Y., *Zamanian S., and **Shafieezadeh A.**, “Sensitivity analysis of structural uncertainties for the hurricane performance of transmission towers using BART”, *Engineering Mechanics Institute (EMI) conference*, Massachusetts Institute of Technology (MIT), Cambridge, MA, May 29-June 1, 2018.
25. *Mohammadi Darestani Y., *Fereshtehnejad, E., and **Shafieezadeh A.**, “A lifecycle cost framework for identification of optimal strengthening strategy for wood poles in electric distribution lines subjected to hurricanes”, *Engineering Mechanics Institute (EMI) conference*, Massachusetts Institute of Technology (MIT), Cambridge, MA, May 29-June 1, 2018.
26. *Zamanian S., **Shafieezadeh A.**, and Hur J., “Identification of significant uncertain parameters for crack formation in concrete sewer pipes using a sensitivity analysis based on BART”, *Engineering Mechanics Institute Conference (EMI)*, Massachusetts Institute of Technology (MIT), Cambridge, MA, May 29-June 1, 2018.
27. *Zamanian S., **Shafieezadeh A.**, Hur J., “Finite Element-based investigation of buried concrete sewer pipes exposed to aging and deterioration”, *Engineering Mechanics Institute Conference (EMI)*, Massachusetts Institute of Technology (MIT), Cambridge, MA, May 29-June 1, 2018.
28. *Rahimi M., **Shafieezadeh A.**, Wood D., Kubatko E. J., “Probabilistic calibration of hydro-mechanical soil properties of levees using integrated Kriging meta-models and likelihood function”, *Engineering Mechanics Institute (EMI) conference*, Massachusetts Institute of Technology (MIT), Cambridge, MA, May 29-June 1, 2018.
29. *Rahimi M., *Wang Z., **Shafieezadeh A.**, Wood D., Kubatko E. J., “Reliability assessment of the piping failure mechanism in levees using a surrogate model-based method”, *Engineering Mechanics Institute (EMI) conference*, Massachusetts Institute of Technology (MIT), Cambridge, MA, May 29-June 1, 2018.
30. *Dehghani N. L., **Shafieezadeh A.**, Padgett E. J., “Reduced fractional order models for dynamic representation of MDOF structures”, *Engineering Mechanics Institute (EMI) conference*, Massachusetts Institute of Technology (MIT), Cambridge, MA, May 29-June 1, 2018.
31. *Dehghani N. L., **Shafieezadeh A.**, Padgett E.J., “A semi-analytical approach for derivation of a fractional order ground motion intensity measure”, *Engineering Mechanics Institute (EMI) conference*, Massachusetts Institute of Technology (MIT), Cambridge, MA, May 29-June 1, 2018.
32. *Mohammadi Darestani Y., *Cha K., **Shafieezadeh A.**, Chowdhury A., and Irwin P., “Probabilistic analysis of failure modes of lattice transmission towers under extreme wind hazards”, *2018 Structures Congress*, Fort Worth, TX, April 19-21, 2018.
33. *Wang Z., and **Shafieezadeh A.**, “Supervised machine learning approaches for efficient reliability analysis of structural and infrastructure systems”, *2018 Structures Congress*, Fort Worth, TX, April 19-21, 2018.
34. *Ye Z., **Shafieezadeh A.**, and Sezen H., “Modeling, optimization and experimental validation of an innovative modularized suspended building structure”, *2018 International Scholar Research Exposition*, The Ohio State University.
35. Wood D., Kubatko E. J., *Rahimi M., **Shafieezadeh A.**, “Interfacing geotechnical and hydrodynamic models to resolve failure mechanisms of flood control systems under storm surge”, *USACM 14th U.S. National Congress on Computational Mechanics*, Montreal, Canada, July 17-20, 2017.
36. Mishalani R., **Shafieezadeh A.**, and *Li Z., “Updating bridge deck condition transition probabilities as new inspection data are collected”, *The 2nd International Symposium on Infrastructure Asset Management - SIAM2017*, ETH Zurich, Switzerland, June 29-30, 2017.

37. *El-Khoury O., **Shafieezadeh A.**, “Stochastic risk-based control methods of nonlinear structures exposed to seismic hazard”, 2017 *Engineering Mechanics Institute Conference*, University of California, San Diego, CA, June 4-7, 2017.
38. *Fereshtehnejad E., **Shafieezadeh A.**, “Lifecycle resilience assessment of infrastructures subjected to multiple types and occurrences of hazards”, 2017 *Engineering Mechanics Institute Conference*, University of California, San Diego, CA, June 4-7, 2017.
39. Wood D., Kubatko E. J., *Rahimi M., **Shafieezadeh A.**, “Improvements in internal barrier modeling for fluid-structure interaction models with storm surge”, *IACM 19th International Conference on Finite Elements in Flow Problems*, Rome, Italy, April 5-7, 2017.
40. *El-Khoury O., **Shafieezadeh A.**, “Reliability-based control algorithms for nonlinear hysteretic systems”, 2016 *Translational Data Analytics*, The Ohio State University, Columbus, OH, Oct. 15, 2016.
41. *Fereshtehnejad E., **Shafieezadeh A.**, “The impact of recovery time on the lifecycle performance of infrastructures exposed to multiple occurrences of multiple types of hazards”, *Engineering Mechanics Institute Conference (EMI) 2016 and Probabilistic Mechanics & Reliability Conference (PMC) 2016*, Nashville, Tennessee, May 22-25, 2016.
42. *Mohammadi Darestani Y., **Shafieezadeh A.**, “Reliability assessment of power distribution lines against wind loadings using an adaptive Kriging method”, *Engineering Mechanics Institute Conference (EMI) 2016 and Probabilistic Mechanics & Reliability Conference (PMC) 2016*, Nashville, Tennessee, May 22-25, 2016.
43. Hur J. E., **Shafieezadeh A.**, “Temporal probabilistic capacity models of prestressed concrete piles in corrosive marine environments using metamodeling techniques”, *Engineering Mechanics Institute Conference (EMI) 2016 and Probabilistic Mechanics & Reliability Conference (PMC) 2016*, Nashville, Tennessee, May 22-25, 2016.
44. Hur J. E., **Shafieezadeh A.**, “Seismic fragility assessment of restrained nonstructural components considering multiple modes of failure and existing damage from prior events”, *Engineering Mechanics Institute Conference (EMI) 2016 and Probabilistic Mechanics & Reliability Conference (PMC) 2016*, Nashville, Tennessee, May 22-25, 2016.
45. *Schmuhl D., Hur J.E., and **Shafieezadeh A.**, “Implications of integrated probabilistic corrosion modeling and detailed finite element modeling frameworks for prestressed concrete structures”, 2016 *Geotechnical & Structural Engineering Congress*, Phoenix, Arizona, February 14-17, 2016.
46. *Fereshtehnejad E., **Shafieezadeh A.**, “A comprehensive lifecycle cost analysis framework with consideration of multiple hazard occurrence scenarios”, 2016 *Geotechnical & Structural Engineering Congress*, Phoenix, Arizona, February 14-17, 2016.
47. Cha E. J., **Shafieezadeh A.**, Ellingwood B. R., “The role of decision-maker’s value system in managing risk to infrastructure systems from terrorist attack”, *Society for Risk Analysis (SRA) Annual Meeting*, Arlington, Virginia, December 6-10, 2015.
48. *El-Khoury O., **Shafieezadeh A.**, Hur J. E., “Optimal stochastic control of nonlinear civil engineering structures using active and semi-active strategies”, 2015 *Translational Data Analytics*, The Ohio State University, Columbus, OH, October 08, 2015.
49. *El-Khoury O., **Shafieezadeh A.**, Hur J. E., “Control engineering in seismic-excited multi-span bridges using semi-active strategies” *Graduate Engineering Research Colloquium and Open House*, The Ohio State University, Columbus, OH, October 2, 2015.
50. Hur J. E., **Shafieezadeh A.**, “Characterization of rocking behaviors of restrained blocks using analytical models and nonlinear finite element models”, 2015 *Structures Congress*, Portland, Oregon, April 23-25, 2015.
51. **Shafieezadeh A.**, Ellingwood B. R., “Likelihood-based approaches for confidence interval estimation

of reliability indices”, 11th *International Conference on Structural Safety & Reliability (ICOSSAR)*, Columbia University, New York, New York, June 16-20, 2013.

52. **Shafieezadeh A.**, DesRoches R., “Simplification of 3D wharf models for nonlinear dynamic analysis”, *EERI 62nd Annual Meeting*, San Francisco, California, February 3-6, 2010.

Poster Presentations

1. *Dehghani N.L., **Shafieezadeh A.**, “Toward robust optimal energy resilience of installations in the face of uncertainties of climate change”, *Strategic Environmental Research and Development Program (SERDP)/ Environmental Security Technology Certification Program (ESTCP) Symposium: Enhancing DOD’s Mission Effectiveness*, Virtually Online, November 29 – December 3, 2021.
2. *Dehghani N.L., *Zamanian S. and **Shafieezadeh A.**, “An active machine learning approach to reliability analysis of gas pipelines exposed to seismic hazards”, *UESI Pipelines 2020 Virtual Conference*, August 9-12, 2020.
3. *Sanny K., *Jeddi A. B., *Darestani Y. M., and **Shafieezadeh A.**, “Modeling and analysis of age-dependent transmission tower hurricane failures”, *International Mechanical Engineering Congress and Exposition (IMECE)*, Salt Lake City, UT, November 11-14, 2019.
4. *Sanny K., *Darestani Y. M., **Shafieezadeh A.**, and *Fereshtehnejad E., “Hurricane resilience assessment for optimal maintenance of power distribution systems”, *Ohio State Undergraduate Research Forum*, The Ohio State University, April 4, 2019.
5. *Fereshtehnejad E., **Shafieezadeh, A.**, “Role of aging in multi-hazard lifecycle cost of infrastructure systems,” *Lloyd’s Day at Rice University*, Rice University, 2018.
6. *Mohammadi Darestani, Y., *Fereshtehnejad E., **Shafieezadeh, A.**, “A risk-based strengthening strategy to improve lifecycle cost of aging electric power distribution lines subjected to hurricanes,” *Lloyd’s Day at Rice University*, Rice University, 2018.
7. *Zhang, C., *Fereshtehnejad, E, Hur, J., and **Shafieezadeh, A.** “Ohio Bridge Condition Index: Comparative studies and budget optimization”, *Ohio Transportation Engineering Conference (OTEC)*, Oct. 3, 2018.
8. El-Khoury, O., Hur, J., and **Shafieezadeh, A.** “Fractional order control for pounding mitigation in multi-span bridges using MR dampers”, *11th U.S. National Conference on Earthquake Engineering*, June 26, 2018.
9. *Fereshtehnejad, E., Hur, J., and **Shafieezadeh, A.**, Backs, J., Brokaw, M., “Ohio Bridge Condition Index: A Practical tool to assist in decision-making for bridge management”, *Ohio Department of Transportation Central Office. Invited Poster Presentation*, Dec. 12, 2017.
10. *Fereshtehnejad E., **Shafieezadeh, A.**, “A dynamic programming approach for a comprehensive and computationally efficient lifecycle cost assessment of infrastructures exposed to multiple hazards”, *Hayes Forum*, The Ohio State University, 2016.
11. *Fereshtehnejad, E., and **Shafieezadeh, A.**, “Optimal decision-making of large-scale multi-state infrastructures considering system performance uncertainties and measurement randomness”, *Translational Data Analytics*, The Ohio State University, 2015.

Other Publications and Reports

1. **Shafieezadeh A.**, Hur J., and *Jeddi A.B., “Fragility assessment of transmission towers under geological hazards”, Final project report prepared for *Korea Atomic Energy Research Institute (KAERI)*, November 22, 2021.
2. *Dehghani N. L. and **Shafieezadeh A.**, “Probabilistic life cycle sustainability assessment of preventive maintenance approaches on bridge assets at The Ohio State University”, *Sustainability Institute Funding Grant Final Report*, 2020.

3. **Shafieezadeh A.**, Hur J., and *Jeddi A.B., “Multi-hazard fragility modeling for transmission towers under typhoon and earthquake hazards”, Final project report prepared for *Korea Atomic Energy Research Institute (KAERI)*, November 30, 2019.
4. *Fereshtehnejad, E., **Shafieezadeh, A.**, and Hur, J., “A vulnerability assessment and management system for massive hard asset and infrastructure portfolios”, *Startup Technology Showcase, Ohio Idea Foundry*, Columbus, Ohio, May 2018.
5. **Shafieezadeh, A.**, Hur, J., *Fereshtehnejad, E., “A bridge condition index for transportation asset management in Ohio”, *Ohio Department of Transportation, Annual report*, 2017.
6. *Fereshtehnejad, E. **Shafieezadeh, A.**, Hur, J., “A bridge condition index for transportation asset management in Ohio”, *Ohio Department of Transportation, Final report*, 2018.
7. **Shafieezadeh A.**, Mishalani R., and Zequn L., “Bayesian updating procedure for prediction of concrete bridge deck condition using visual inspection data”, Prepared for USDOT Region V Regional University Transportation Center, NEXTRANS Project No.173OSUY2.2, 2017.
8. **Shafieezadeh, A.**, Hur, J., Fereshtehnejad, E., “A bridge condition index for transportation asset management in Ohio”, *Ohio Department of Transportation, Phase I report*, 2016.
9. Lee S. Y., Rus G., **Shafieezadeh A.**, “Waveform-based condition assessments in civil engineering”, Editorial for *Shock and Vibration*, 2016.
10. **Shafieezadeh A.**, “Seismic vulnerability assessment of wharf structures”, Ph.D. Thesis, Georgia Institute of Technology, School of Civil and Environmental Engineering, Atlanta, Georgia, 2011.
11. **Shafieezadeh A.**, Hu W., Erduran E., and Ryan K. L., “Seismic vulnerability assessment and retrofit recommendations for state highway bridges: case studies”, Prepared for Utah Department of Transportation, Research Division, Report No. UT-09.08, 2009.
12. **Shafieezadeh A.**, “Application of structural control for civil engineering structures”, M.S. Thesis, Utah State University, Department of Civil and Environmental Engineering, Logan, Utah, 2008.

Other Products

1. Wang X., Shafieezadeh A., Padgett J., *PRJ-3148: Fractional Order Intensity Measure for High-Confidence Probabilistic Seismic Demand Modeling of Structures*, NSF Natural Hazards Engineering Research Infrastructure (NHERI) DesignSafe-CI
 - a. Wang X., Shafieezadeh A., Padgett J., *Computing spectrum intensity for fractionally damped SDF system (Sidalpha)*, DOI: 10.17603/ds2-ttdg-s637, 05-28-2021.
 - b. Wang X., Shafieezadeh A., Padgett J., *Computing spectrum intensity for traditionally damped SDF system with fractional response (Siralpha)*, DOI: 10.17603/ds2-tgdv-1d39, 05-28-2021.
 - c. Wang X., Shafieezadeh A., Padgett J., *Computing spectral acceleration at a period for traditionally damped SDF system with fractional response (Sar-Tnalpha)*, DOI: 10.17603/ds2-fmtc-we50, 05-28-2021.
 - d. Wang X., Shafieezadeh A., Padgett J., *Computing spectral acceleration at a period for fractionally damped SDF system (Sad-Tnalpha)*, DOI: 10.17603/ds2-yfy0-aq17, 05-28-2021.
 - e. Wang X., Shafieezadeh A., Padgett J., *Computing modified cumulative absolute fractional response (CAR5alpha)*, DOI: 10.17603/ds2-kkkv-vc05, 05-28-2021.
 - f. Wang X., Shafieezadeh A., Padgett J., *Computing cumulative absolute fractional response (CARalpha)*, DOI: 10.17603/ds2-sp0b-6016, 05-28-2021.
 - g. Wang X., Shafieezadeh A., Padgett J., *Computing peak ground fractional response (PGRalpha)*, DOI: 10.17603/ds2-vcb3-5s82, 05-28-2021.
2. Wang X., Shafieezadeh A., Padgett J., *PRJ-3005: FOSID: A Novel Fractional Order Spectrum Intensity Measure for Probabilistic Seismic Demand Modeling of Bridges under Liquefaction and*

Transverse Spreading, NSF Natural Hazards Engineering Research Infrastructure (NHERI) DesignSafe-CI

- a. Wang X., Shafieezadeh A., Padgett J., *Matlab codes for computing FOSID*, DOI: 10.17603/ds2-n1xq-5a58, 02-10-2021.
3. Dormady N, Fasano A., Wood D. Rahimi M., Shafieezadeh A., Kubatko E, *PRJ-3276: A Novel Dynamically Coupled Storm Surge Hazard-Infrastructure Model for Effective Real-Time Risk-Informed Decision Making*, , NSF Natural Hazards Engineering Research Infrastructure (NHERI) DesignSafe-CI, DOI: 10.17603/ds2-hwh3-3w47, 01-03-2022.
4. Shafieezadeh A. and Chowdhury G., Arindam, PRJ-1379: *Experimentally Validated Stochastic Numerical Framework to Generate Multi-Dimensional Fragilities for Hurricane Resilience Enhancement of Transmission Systems*, NSF Natural Hazards Engineering Research Infrastructure (NHERI) DesignSafe-CI
 - a. Azzi Z., Jeddi A. B., Elawady A., Chowdhury A., Darestani Y. M., Shafieezadeh A., Erwin J., Chen D., *Phase 1: Single transmission tower wind test without insulators*, DOI: 10.17603/ds2-zp1t-cv26, 10-27-2021.
 - b. Azzi Z., Jeddi A. B., Elawady A., Chowdhury A., Darestani Y. M., Shafieezadeh A., Erwin J., Chen D., *Phase 2: Three transmission towers wind tests with conductors*, DOI: 10.17603/ds2-mazf-t957, 10-27-2021.
 - c. Azzi Z., Jeddi A. B., Elawady A., Chowdhury A., Darestani Y. M., Shafieezadeh A., Erwin J., Chen D., *Phase 3: Three transmission towers wind tests with conductor rupture*, DOI: 10.17603/ds2-rk2m-cg30, 10-27-2021.

SERVICE

University Service

2022 – present	Member, Energy Strategy Advisors Group, RDO advisory committee on energy science research strategy, OSU
2021 – present	Chair, Faculty Search Committee – Geotechnical Engineering, Department of CEGE
2021 – present	Member, CEGE Advisory Committee, Department of CEGE
2021 – present	Mentor, Mentor of Lisa Burris, Department of CEGE
2021 – present	Co-Lead, Exploratory Research Group (ERG) for Resilient Infrastructure, OSU
2019 – present	Member, Mentorship Committee of Jordan Clark, Department of CEGE
2019 – present	Member, Graduate Studies Committee, Department of CEGE
2018 – present	Member, Graduate Curriculum Renewal Committee, Department of CEGE
2015 – present	Reviewer, Discovery Scholars Fellowship, College of Engineering (COE)
2015 – present	Reviewer, Graduate Fellowship for Diversity, COE
2013 – present	Academic Advisor, Undergraduate Steel Bridge Team, Department of CEGE
2021	Reviewer, Graduate Enrichment Fellowship, OSU
2021	Reviewer, Accelerator Proposals, OSU
2021	Reviewer, Catalyst Proposals, OSU
2020 – 2021	Member, Mentorship Committee of Santina Contreras, Knowlton School of Architecture, COE: I was a mentor for Dr. Santina Contreras. The mentoring committee was established by Sustainability Institute of OSU. I met with Dr. Contreras multiple times, reviewed her materials and provided recommendations.
2020 – 2021	NSF CAREER Grant Reviewer, COE

2019 Judge for undergraduate research symposium, COE

2018 – 2021 Lead of Track 1 on the Resilience of Built Environment, RTM-CoP Resilience Theory Modeling - Community of Practice, Sustainability Institute, OSU

2018 – 2019 Chair, Faculty Search Committee – Resilient Infrastructure, CEGE-ISE-SRE

2018 – 2109 Member, Executive Committee, CEGE

2017 – 2019 Member, Strategic Research Committee, COE

2017 – 2018 Chair, Faculty Search Committee – Resilient Infrastructure, CEGE-ISE-SRE

2017 – 2018 Member, Strategic Planning Committee, CEGE

2016 – 2019 Member, Faculty Advisory Board, Global Water Initiative, OSU

2016 – 2017 Member, Graduate Studies Committee, Department of CEGE

2016 – 2017 Member, Faculty Search Committee – Resilient Infrastructure, COE

2016 – 2017 Member, Faculty Search Committee – Structure, Department of CEGE

2015 – 2016 Member, Faculty Search Committee – Structure, Department of CEGE

2015 – 2016 Member, Undergraduate Studies Committee, Department of CEGE

2015 – 2019 Member, Planning Committee for Ohio Institute for Reliable and Resilient Infrastructure, COE

2014 – 2016 Advisor, Undergraduate Honors, Department of CEGE

2014 – 2016 Member, Undergraduate Honors Committee, COE

2014 – 2015 Member, Faculty Search Committee – Infrastructure, Department of CEGE

2014 – 2015 Member, Faculty Search Committee – Smart Urban Systems, COE

2012, 2014, 2015, 2018, 2019 & 2020 Graduate Faculty Representative for Ph.D. Dissertation Defense, OSU

2012 – 2014 Member, Strategic Planning Committee, Department of CEGE

Non-OSU University Service

2022 - present Member, Ph.D. Committee, Purdue University, IN (Minsoo Choi)

2018 - 2020 Member, Ph.D. Committee, Lehigh University, PA

2019 - 2020 Member, Ph.D. Committee, Rice University, TX

2016 - 2017 Member, Ph.D. Evaluation Committee, University of New Castle, Australia

2016 - 2017 Member, Ph.D. Evaluation Committee, University of Auckland, New Zealand

Editorial Activity

2022 - present Editorial Board Member, *Civil Engineering Infrastructures Journal*, University of Tehran

2021 - present Associate Editor, *ASCE Journal of Structural Engineering*, ASCE

2021 - present Editorial Board Member, *Journal of Infrastructure Preservation and Resilience*, Springer

2020 - present Editorial Board Member, *Structural Safety*, Elsevier

2020 - present Editorial Board Member, *Sustainability*, MDPI

2021 - present Editor for a Wiley-IEEE Book: *Resilience of the Power Grid under Natural Hazards and Climate Change: from Analysis to Decision-Making*

- 2021 - present Guest Editor, *Advances in Data-Driven Risk-Based Performance Assessment of Structures and Infrastructure Systems*, *ASCE Journal of Structural Engineering*
- 2021 - present Guest Editor, *Natural Hazard Mitigation Saves*, *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering*
- 2016 - 2017 Guest Editor, *Shock and Vibration Journal*; special issue on Advanced Materials for Structural Vibration and Control (10/2017).
- 2015 - 2016 Guest Editor, *Shock and Vibration Journal*; special issue on Waveform-Based Condition Assessments in Civil Engineering (04/2016).

Grant Panels and Grant Proposal Reviewer

Note: “*” denotes the activity happened between years 2018 and 2022

“**” denotes the activity happened between years 2012 and 2017

- DOE, Idaho National Lab (INL), Small Business Innovation Research (SBIR), 2022
 NSF Engineering for Civil Infrastructure Program* (one time - Ad-hoc reviewer)
 DOE, Nuclear Energy University Program (NEUP), 2021
 USGS, External Grants Panel for Engineering Seismology and Impacts, 2021
 DOE, Nuclear Energy University Program (NEUP), 2020
 NSF Engineering for Civil Infrastructure Program* (three times)
 NAS, National Cooperative Highway Research Program, 2018 – present
 Discovery Grants Division, Natural Sciences and Engineering Research Council of Canada, 2021
 USGS, External Grants Panel for Engineering Seismology and Impacts, 2020
 Increasing Reviewer Risk Tolerance Through Awareness, NSF CMMI Panel, 2019-2020
 Discovery Grants Division, Natural Sciences and Engineering Research Council of Canada, 2020
 DOE, Nuclear Energy University Program (NEUP), 2019
 National Academy of Sciences (NAS), Gulf Research Program, 2019
 NSF Engineering for Civil Infrastructure Program, CAREER Proposal* (one time - Ad-hoc reviewer)
 Ohio Supercomputer Center, 2019
 DOE, Idaho National Lab (INL), Small Business Innovation Research (SBIR), 2018
 NAS, Early-Career Research Fellowship - Collaboration Grants, 2018
 University of Tehran, Blue Sky Ideas, 2018
 DOE, Nuclear Energy University Program (NEUP), 2018
 NSF Hazard Mitigation and Structural Engineering Program** (two times)
 NSF Structural and Architectural Engineering Program** (one time)
 NSF Infrastructure Management and Extreme Events Program** (one time)
 NSF Research Instrumentation Program** (one time)
 NSF Engineering for Natural Hazard Program** (one time)
 NSF Computational and Data-Enabled Science and Engineering Program** (one time)
 Ontario Research Fund, Ministry of Research and Innovation and Science, Ontario, Canada, 2016
 Sustainable and Resilient Economy Discovery Themes Program, The Ohio State University, 2016

Book Review

2021-2021 Reviewer of book proposal for Elsevier, Woodhead Publishing Limited

Journal Review

2021-2022 ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems (1), Earthquake Engineering and Structural Dynamics (1), Engineering Optimization (1), Engineering Structures (1), IEEE Transactions on Power Delivery (1), IEEE Transactions on Neural Networks and Learning Systems (2), International Journal of Electrical Power and Energy Systems (2), ASCE Journal of Structural Engineering (2), Reliability Engineering and System Safety (5), Structural and Multidisciplinary Optimization (1), Structural Safety (15), Structure and Infrastructure Engineering (5)

2020-2021 Earthquake Engineering and Structural Dynamics (3), Engineering Structures (3), Georisk (2), IEEE Access (1), International Journal of Electrical Power and Energy Systems (1), Journal of Risk and Reliability (1), ASCE Journal of Structural Engineering (2), Reliability Engineering and System Safety (9), Structural and Multidisciplinary Optimization (2), Structural Safety (14), Structure and Infrastructure Engineering (3), Sustainability (2)

2019-2020 Applied Mathematical Modeling (1), ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems (1), Computer Methods in Applied Mechanics and Engineering (2), Engineering Structures (5), IEEE Access (2), IEEE Transactions on Power Delivery (1), IEEE Transactions on Reliability (1), International Journal on Geomathematics (1), ASCE Journal of Infrastructure Systems (6), ASCE Journal of Structural Engineering (4), Reliability Engineering and System Safety (4), Structural and Multidisciplinary Optimization (1), Structural Safety (11), Structure and Infrastructure Engineering (5), Structures (1)

2018-2019 Reliability Engineering and System Safety (2), Structural Safety (3), Soil Dynamics and Earthquake Engineering (1), ASCE Journal of Structural Engineering (4), Structure and Infrastructure Engineering (1), International Journal of Disaster Risk Reduction (2), ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems (1)

2017-2018 Engineering Structures (1), ASCE Journal of Infrastructure Systems (1), ASCE Journal of Structural Engineering (3), Reliability Engineering and System Safety (1); Applied Ocean Research (1); Earthquake Engineering and Structural Dynamics (1)

2016-2017 Structural Safety (3), Reliability Engineering and System Safety (1), Advances in Concrete Construction (1), Earthquake Engineering and Structural Dynamics (3), Earthquakes and Structures (2), ASCE Journal of Bridge Engineering (4), ASCE Journal of Structural Engineering (1), Structural Engineering and Mechanics (1)

2015-2016 Structural Safety (4), Reliability Engineering and System Safety (2), Engineering Structures (3), ASCE Journal of Structural Engineering (1), ASCE Journal of Infrastructure Systems (1), Advances in Structural Engineering (1)

2014-2015 Earthquake Engineering and Structural Dynamics (2), ASCE Journal of Structural Engineering (3)

2013-2014 Soil Dynamics and Earthquake Engineering (2), ASCE Journal of Bridge Engineering (1), ASCE Journal of Infrastructure Systems (1)

- 2012-2013 Computer-Aided Civil and Infrastructure Engineering (1), ACI Special Publication (1), ASCE Journal of Bridge Engineering (1)
- 2011-2012 ASCE Journal of Bridge Engineering (2), ASCE Journal of Computing in Civil Engineering (1), Engineering Structures (1)

Conference Paper Review

- 2021 4th International Conference on Mechanical, Electric and Industrial Engineering (MEIE2021)
- 2019 13th International Conference on Applications of Statistics and Probability (ICASP13) in Civil Engineering, Seoul, South Korea
- 2019 Fourth International Conference on Energy Engineering and Environmental Protection (EEEP2019)
- 2019 The Second International Conference on Physics, Mathematics and Statistics-2019

Service and Affiliation to Professional Societies

- 2019 - present Member, Institute of Electrical and Electronics Engineers (IEEE)
- 2017 - present Member, American Association for Wind Engineering (AAWA)
- 2010 - 2011 & 2017 - present Member, Earthquake Engineering Research Institute (EERI)
- 2015 - present Member, American Society of Civil Engineers, Technical Council on Life-Cycle Performance, Safety, Reliability and Risk of Structural Systems,
 Vice Chair, Task Group 3 on “Risk Assessment of Structural Infrastructure Facilities and Risk-Based Decision Making”
 Member, Task Group 2 on “Reliability-Based Structural System Performance Indicators”
 Member of “Working Group 3: Life-Cycle Risk-Based Decision Making in a Changing Climate”
- 2015 - present Member, American Society of Civil Engineers, ASCE Infrastructure Resilience Division (IRD)
 Member, Risk and Resilience Measurements Committee (RRMC)
- 2020 Technical Reviewer, “State of Art in Computational Simulation for Natural Hazards Engineering”, Center for Computational Modeling and Simulation (SimCenter), NSF Natural Hazards Engineering Research Infrastructure (NHERI), September, 2020.
- 2013 - 2015 Member, Technical Council on Lifeline Earthquake Engineering, Lifeline Interdependencies Committee, Lifeline Interdependencies Committee of TCLEE
- 2011 - present Member, Structural Engineering Institute
- 2011 - present Associate Member, American Society of Civil Engineers

Conference Session Convener / Organizer / Participant

- 2022 Mini-symposium Co-Organizer with Dr. Eun Jeong Cha, “Civil Infrastructure in a Changing Climate: from Nonstationary Risk Assessment to Developing Adaptation Strategies”, Engineering Mechanics Institute Conference 2022.

- 2022 Mini-symposium Co-Organizer with Dr. Gaofeng Jia, “Surrogate Modeling for Uncertainty Quantification, Optimization, and Statistical Inference in Engineering Applications”, Engineering Mechanics Institute Conference 2022.
- 2022 Mini-symposium Co-Organizer with Dr. Negin Alemazkoo, “Advances in Machine Learning and Surrogate Modeling for Probabilistic Analysis and Optimal Operation, Control, and Planning of Infrastructure Systems”, Engineering Mechanics Institute Conference 2022.
- 2021 Workshop Organizer and Session Chair, “Fission Battery Initiative Workshop Series: Transportation and Siting for Fission Batteries”, Idaho National Lab (INL), March 15, 2021
- 2021 Mini-symposium Organizer and Session Chair, “Surrogate Modeling for Uncertainty Quantification, Optimization, and Statistical Inference in Engineering Applications”, Engineering Mechanics Institute Conference 2021 and Probabilistic Mechanics & Reliability Conference 2021 (EMI 2021/PMC 2021)
- 2021 Technical Committee Member, International Conference on Artificial Intelligence and Applications, Suzhou, Jiangsu, China, October 15-17, 2021
- 2021 Organizing Committee Member, PSA 2021 17th International Topical Meeting on Probabilistic Safety Assessment and Analysis, “Risk-Informed Decision-Making in an Evolving World,” American Nuclear Society, November 7–12, 2021.
- 2019 Scientific Committee Member, Organizer and Session Co-Chair, “Probabilistic Assessment of Risks to Power Grids: Component to Network-Level Analyses”, 13th International Conference on Applications of Statistics and Probability (ICASP13) in Civil Engineering, Seoul, South Korea.
- 2015 Scientific Committee Member, 12th International Conference on Applications of Statistics and Probability (ICASP12) in Civil Engineering, Vancouver, Canada.
- 2013 Organizer and Session Co-Chair, “Risk assessment of terrorist attack on buildings and other civil infrastructure systems”, The 11th *International Conference on Structural Safety & Reliability (ICOSSAR 2013)*, Columbia University, New York, New York.
- 2013 Session Moderator, “Fragility analysis”, The 11th *International Conference on Structural Safety & Reliability (ICOSSAR 2013)*, Columbia University, New York, New York.
- 2012 Session Moderator, “Reliability-based assessment & design”, 2012 Joint Conference of the Engineering Mechanics Institute and 11th ASCE Joint Specialty Conference on Probabilistic Mechanics and Structural Reliability (EMI/PMC 2012), Notre Dame, Indiana.

OUTREACH ACTIVITIES

Press Features

- August 2022 “Transformer shortage worries nation's utility owners”, NewsNation, <https://www.newsnationnow.com/weather/transformer-shortage-worries-nations-utility-owners/>
- June 2022 “Widespread outages: Ohio State infrastructure expert explains it’s a sign of what’s to come”, 10WBNS TV: <https://www.10tv.com/article/news/local/ohio-state->

[infrastructure-expert-widespread-outages/530-d62a57ae-f2c2-4b84-bd4b-e8beca0e7d4e](https://www.sciencechannel.com/video/engineering-catastrophes-science/pennsylvania-ice-flood).

- January 2022 “Failure of Walnut Street Bridge”, Episode 18 of *Engineering Catastrophes* series by Science Channel, aired on January 5, 2022:
<https://www.sciencechannel.com/video/engineering-catastrophes-science/pennsylvania-ice-flood> & https://fb.watch/aEavOH_FOx/.
- December 2021 “Is the U.S. energy grid ready for the future? Not really”, Alumni Magazine, Ohio State University, <https://www.osu.edu/alumni/news/ohio-state-alumni-magazine/issues/winter-2021/is-the-us-energy-grid-ready-for-the-future.html>
- November 2021 “Infrastructure and Climate Change”, The American Association for Wind Engineering Newsletter, <https://aawe.org/wp-content/uploads/2021/12/The-Wind-Engineer-2021-November.pdf>
- July 2021 “Is our energy grid ready for the future? Nope”, OSU Insight, https://insights.osu.edu/science/outdated-energy-grid?utm_source=sfmc&utm_medium=email&utm_campaign=umar_general-newsletter_fy22_insights-20210723&sfmc_id=57970731
- August 2020 “Weak concrete, heavy trucks—understanding reasons for sewer line failure”, <https://ceramics.org/ceramic-tech-today/cement-2/weak-concrete-heavy-trucks-understanding-reasons-for-sewer-line-failure>
- August 2020 “Study Identifies Biggest Causes of Sewer Failure”, <https://blog.envirosight.com/study-identifies-biggest-causes-of-sewer-failure>
- July 2020 “Study identifies top reasons for sewer line failure, Weak concrete, heavy trucks are the biggest threat, researchers say”, <https://www.sciencedaily.com/releases/2020/07/200727145806.htm>
- July 2020 “Study identifies top reasons for sewer line failure, Weak concrete, heavy trucks are the biggest threat, researchers say”, <https://techxplore.com/news/2020-07-sewer-line-failure.html>
- July 2020 “Study Identifies Biggest Causes of Sewer Failure”, <https://www.multibriefs.com/briefs/nspe/NSPE080320.php>
- July 2020 “Study identifies top reasons for sewer line failure”, https://eurekaalert.org/pub_releases/2020-07/osu-sit072720.php
- July 2020 “Study identifies top reasons for sewer line failure”, <https://news.osu.edu/study-identifies-top-reasons-for-sewer-line-failure/>
- October 2016 “Cutting Edge Research for Safer Structures in Extreme Winds”, <https://www.designsafe-ci.org/community/news/2016/fiu-wall-of-wind/>.
- October 2016 “Resilience in the face of the storm”, <https://engineering.osu.edu/news/2016/09/resilience-face-storm>.
- October 2016 NYS SmartGrid Consortium: “NYPA Collaborates on Study to Support Grid Resiliency”, <http://nyssmartgrid.com/nypa-collaborates-study-support-grid-resiliency/>.
- September 2016 T&D World Magazine: “NYPA Part of Hurricane Study Aimed at Strengthening Grid”, <http://www.tdworld.com/overhead-transmission/nypa-part-hurricane-study-aimed-strengthening-grid>.

- September 2016 Electric Light & Power and POWERGRID International: “NYPA working with Ohio State on studying hurricane impact to transmission”,
<http://www.elp.com/articles/2016/09/nypa-working-with-ohio-state-on-studying-hurricane-impact-to-transmission.html>.
- September 2016 New York Power Authority: “N.Y. Power Authority Collaborates on Study to Protect Transmission Systems from Hurricane Damage”,
<http://www.nypa.gov/news/press-releases/2016/20160920-study>.
- March 2015 NBC4i: “Warehouse roof collapse in Groveport, Ohio”,
<https://ceg.osu.edu/news/2015/03/warehouse-roof-collapse>.

K-12

- Judge at 2021 Ohio Science Fair, ASCE team led by Peter Narsavage, Columbus, Ohio
- Judge at 2019 Ohio Science Fair, ASCE team led by Peter Narsavage, Columbus, Ohio
- Faculty participant in TEK8 program to prepare teachers and university students to translate research to K-8 students, The Ohio State University, summer 2017-2020
- Judge at 2016 Science Fair, Horizon Science Academy Columbus Elementary, Columbus, Ohio
- Organized a bridge demonstration table (using steel and paper) at 2014 STEM Expo for K-8 students, The Metro School, Columbus, Ohio