

Jian Li, Ph.D., P.E., F.ASCE

Deane E. Ackers Professor

Dean R. and Florence W. Frisbie Associate Chair of Graduate Studies

Department of Civil, Environmental, and Architectural Engineering

Department of Electrical Engineering and Computer Science (Courtesy)

The University of Kansas

2150C Learned Hall

1530 W. 15th St.

Lawrence, KS 66045

Phone: (785) 864-6850

E-mail: jianli@ku.edu

<http://shm.ku.edu>

BIOGRAPHICAL SUMMARY

Dr. Jian Li is the Deane E. Ackers Professor and the Dean R. and Florence W. Frisbie Associate Chair of Graduate Studies in the Department of Civil, Environmental, and Architectural Engineering at the University of Kansas, with a courtesy appointment in Electrical Engineering and Computer Science. His research bridges structural engineering, sensing, artificial intelligence, and digital twins to advance data-driven monitoring, diagnostics, and predictive modeling of civil infrastructure systems. His work integrates machine learning, computer vision, Bayesian inference, data assimilation, and cyber-physical sensing technologies to improve the reliability, resilience, and safety of buildings, bridges, dams, and other large-scale structural systems. His recent contributions include advances in wireless smart sensor networks, human-AI collaborative inspection, pixel-level damage segmentation, automated 3D digital twin updating, and uncertainty-aware structural modeling.

Dr. Li is a Fellow of the American Society of Civil Engineers (ASCE) and has received several major recognitions, including the ASCE Walter L. Huber Civil Engineering Research Prize, the IASCM Takuji Kobori Prize, the Rising Stars in Structural Engineering Award, and the Miller Professional Service Award for Distinguished Research. He currently serves as Chair of the ASCE Structural Health Monitoring and Control Committee, Secretary and board member of the U.S.–China Earthquake Engineering Foundation, and an editorial board member for multiple international journals.

EDUCATION

Ph.D. in Civil Engineering	May 2013
University of Illinois at Urbana-Champaign, Urbana, IL	
M.S. in Civil Engineering	July 2007
Harbin Institute of Technology, Harbin, China	
B.S. in Civil Engineering	July 2005
Harbin Institute of Technology, Harbin, China	

PROFESSIONAL EXPERIENCE

The University of Kansas, Lawrence, Kansas, United States

Department of Civil, Environmental & Architectural Engineering

Deane E. Ackers Professor

Aug. 2025–Present

Professor

Aug. 2024–Present

Dean R. and Florence W. Frisbie Associate Chair of Graduate Studies

July 2023–Present

Francis M. Thomas Chair's Council Associate Professor

Aug. 2022–Aug. 2024

Associate Professor

Aug. 2019–Aug. 2024

Chair's Council Assistant Professor

Aug. 2018–Aug. 2019

Assistant Professor

Aug. 2013–Aug. 2019

Department of Electrical Engineering & Computer Science

Courtesy Professor

Aug. 2024–Present

Courtesy Associate Professor

Aug. 2022–Aug. 2024

RESEARCH INTERESTS

- AI-enabled structural condition assessment and diagnostics
- Computer vision, deep learning, and human-AI collaboration for civil infrastructure
- Digital twin technologies for large-scale structural systems
- Structural health monitoring, sensing, and wireless smart sensor networks
- Bayesian machine learning, data assimilation, and uncertainty quantification

HONORS AND AWARDS

Walter L. Huber Civil Engineering Research Prize <i>American Society of Civil Engineers</i>	2025
Fellow of American Society of Civil Engineers <i>American Society of Civil Engineers</i>	2025
Deane E. Ackers Endowed Professorship <i>School of Engineering, The University of Kansas</i>	2025
Fellow for CMMI's Game Changer Academies for Advancing Research Innovation <i>National Science Foundation</i>	2022
Inaugural Francis M. Thomas Chair's Council Professorship <i>CEAE Department, The University of Kansas</i>	2022
Senior Administrative Fellow <i>The University of Kansas</i>	2022
Miller Professional Service Award for Distinguished Research <i>School of Engineering, The University of Kansas</i>	2020
Rising Star in Structural Engineering <i>Civil + Structural Engineer Magazine, Zweig Group</i>	2019
Big XII Faculty Fellowship <i>The University of Kansas</i>	2019
Tier 1 SEI Young Professional Scholarship <i>Structural Engineering Institute, American Society of Civil Engineers</i>	2019
Chair's Council Professorship <i>CEAE Department, The University of Kansas</i>	2018
NSF Travel Award to participate in the 2017 NSF Aspiring CPS PIs Workshop, <i>National Science Foundation</i>	2018
NSF Travel Award to participate in the 2018 NHERI Summer Institute <i>National Science Foundation</i>	2018
Takuji Kobori Prize <i>International Association of Structural Control and Monitoring (IASCM)</i>	2016
ASCE ExCEED Fellow <i>American Society of Civil Engineers</i>	2015
Best Practices Institute Fellow <i>Center for Teaching Excellence, University of Kansas</i>	2014

PATENTS

1. Kong, X., 60%; and Li, J., 40%. (2024). "Fatigue Crack Detection in Civil Infrastructure." *U.S. Patent No. 11,954,844*, issued [April 7, 2024].
2. Li, J., 30%; Shaheen, M., 30%; Bennett, C., 30%; and Collins, W., 30%. (2024) "Constrained Layer Damper for Reducing Global Vibrations of Tubular Structures." *U.S. Nonprovisional Patent Application # 18/830,006*, submitted [September 10, 2024].

3. Li, J., 35%; Mojidra, R., 30%; Crane, A., 20%; and Taher, S., 15%. (2024) "Mobile Augmented Reality for Immersive Learning in Structural Analysis." *Invention Disclosed to KU Center for Technology Commercialization* [September 22, 2024].
4. Li, J., 50%; and Kong, X., 50%. (2023). "Fatigue Crack Detection Using Feature Tracking." *U.S. Patent No. 11,714,02*, issued [August 1, 2023].
5. Kong, X., 60%; and Li, J., 40%. (2022). "Vision Based Fastener Loosening Detection." *U.S. Patent No. 11,354,814*, issued [June 7, 2022].

PROFESSIONAL ENGINEER (P.E.) LICENSURE

State of Kansas

License No. 25703

June 2017–present

JOURNAL PUBLICATIONS

1. Gharehbaghi, V., Zhao, H., Lequesne, R., Bennett, C., and Li, J. (2026). "Iterative image annotation for deep learning-based concrete damage segmentation through Human-AI collaboration." *Computer-Aided Civil and Infrastructure Engineering*, 49, 100151.
2. Zhao, H., Gharehbaghi, V., Bennett, C., Lequesne, R., and Li, J. (2026). "Pixel-Level Image Localization for Updating 3D Digital Twins of Dams Based on Frequency Convolutional Networks." *Automation in Construction*, 182, 106715.
3. Gharehbaghi, V., Bennett, C., Lequesne, R., Zhao, H., and Li, J. (2026). "DamCrack: A Drone and Smartphone Image Dataset for 2D/3D Damage Assessment in Concrete Dams." *Data in Brief*, 66, 112737.
4. Gharehbaghi, V., Bennett, C., Lequesne, R., Zhao, H., and Li, J. (2026). "DamSegment: A Curriculum-Structured Image Dataset for Damage Assessment in Concrete Dams." *Data in Brief*, 66, 112671.
5. Zheng, W., Yi, Z., Meng, W., Tan, P., Li, J., Ye, X., and Liu, Y. (2026). "Seismic performance evaluation of bridge isolated by damping enhanced-friction pendulum system considering variable friction effect." *Soil Dynamics and Earthquake Engineering*, 210, 110526.
6. Mojidra, R., Li, J., Crane, A., and Taher, S. (2025). "Immersive Learning for Structural Analysis through Mobile Augmented Reality and the MOLA Structural Kit." *Computers & Education: X Reality*, 7, 100100.
7. Shaheen, M., Li, J., Bennett, C., and Collins, W. (2025). "A Novel Constrained Layer Damper for Vibration Mitigation of High Mast Illumination Poles." *Journal of Engineering Mechanics*, 151(6): 04025017.
8. Zheng, W., Chen, J., Wang, H., Tan, P., Li, J., and Wang, S. (2025). "A Novel Damping Adaptive Pendulum Isolation System for Seismic Resilience Enhancement of Continuous Bridges." *Engineering Structures*, 339, 120456.
9. Oggunniyi, E., Liu, H., Downey, A., Laflamme, S., Li, J., Bennett, C.R., Collins, W., Jo, H., and Ziehl, P. (2024). "In Situ Assembly Enabling Adhesive-free Bonding of Large Area Electronic Sensors to Concrete for Structural Health Monitoring." *Smart Materials and Structures*, 33(10), 105047.
10. Liu, H., Laflamme, S., Li, J., Downey, A., Bennett, C., Collins, D., Ziehl, P., Jo, H., and Todsén M. (2024). "Sensing Skin Technology for Fatigue Crack Monitoring of Steel Bridges: Laboratory Development, Field Validation, and Future Directions." *International Journal of Bridge Engineering, Management and Research*, 1(1): 21424002.
11. Taher, S. and Li, J. (2024). "Time-delayed Joint Input and State Estimation for Systems with and without Direct Feedthrough in Structural Dynamics." *Mechanical Systems and Signal Processing*, 210, 111138.
12. Mojidra, R., Li, J., Mohammadkhorasani, A., Moreu, F., Bennett, C., and Collins, W. (2024). "Computer Vision and Augmented Reality for Human-Centered Fatigue Crack Inspection." *Sensors*, 24(11), 3685.

13. Shaheen, M., Li, J., Bennett, C., and Collins, W. (2024). "Wind-induced Vibration Monitoring of High Mast Illumination Poles Using Wireless Smart Sensors." *Sensors*, 24(8), 2506.
14. Gao, H., Wang, H., Li, J., Lang, T., Gao, W., and Tao, T. (2024). "Spacers Combined with Dampers for the Wake-induced Vibration Mitigation of Two Parallel Hanger Cables." *Engineering Structures*, 304, 117590.
15. Yu, X., Fu, Y., Li, J., Mao, J., Hoang, T., and Wang, H. (2024). "Recent Advances in Wireless Sensor Network for Structural Health Monitoring of Civil Infrastructure." *Journal of Infrastructure Intelligence and Resilience*, 3(1), 100066.
16. Ahmad, T., Gharehbaghi, V., Li, J., Bennett, C., and Lequesne, R. (2023). "Crack Segmentation in the Wild using Convolutional Neural Networks and Bootstrapping." *Earthquake Engineering and Resilience*, 2: 348-363.
17. Zheng, W., Tan, P., Li, J., Wang, H., Liu, Y., and Xian, Z. (2023). "Superelastic pendulum isolator with multi-stage variable curvature for seismic resilience enhancement of cold-regional bridges." *Engineering Structures*, 284, 115960.
18. Laflamme, S., Ubertini, F., Di Matteo, A., Pirrotta, A., Perry, M., Fu, Y., Li, J., Wang, H., Hoang, T., et al. (2023). "Roadmap on Measurement Technologies for Next Generation Structural Health Monitoring Systems." *Measurement Science and Technology*, 34, 093001.
19. Mohammadkhorasani, A., Malek, K., Mojidra, R., Li, J., Bennett, C., Collins, W., and Moreu, F. (2023). "Augmented Reality-Computer Vision Combination for Automatic Fatigue Crack Detection and Localization." *Computers in Industry*, 149, 103936.
20. Taher, S., Li, J., and Fang, H. (2023). "Simultaneous Seismic Input and State Estimation with Optimal Sensor Placement for Building Structures using Incomplete Acceleration Measurements." *Mechanical Systems and Signal Processing*, 188(2023), 110047.
21. Zheng, W., Tan, P., Li, J., Wang, H., Liu, Y., and Xian, Z. (2023). "Superelastic Conical Friction Pendulum Isolator for Seismic Isolation of Bridges under Near-Fault Ground Motions." *Structural Control and Health Monitoring*, 2023, 5497731.
22. Liu, H., Laflamme, S., Taher, S., Jeong, J., Li, J., Bennett, C., Collins, W., Eisenmann, D., Downey, A., Ziehl, P., and Jo, H. (2023). "Investigation of Soft Elastomeric Capacitor for the Monitoring of Large Angular Motions." *Materials Evaluation*, 81(2), 46-51.
23. Mojidra, R., Li, J., Mohammadkhorasani, A., Moreu, F., Bennett, C., and Collins, W. (2023). "Vision-based fatigue crack detection using global motion compensation and video feature tracking." *Earthquake Engineering and Engineering Vibration*, 1-12.
24. Zheng, W., Tan, P., Li, J., Wang, H., Liu, Y., and Yang, K. (2023). "Seismic performance upgrading of bridges using superelastic pendulum isolators with variable stiffness considering temperature effects." *Engineering Structures*, 275, 115244.
25. Ogunniyi, E., Vereen, A., Downey, A., Laflamme, S., Li, J., Bennett, C.R., Collins, W., Jo, H., Henderson, A., and Ziehl, P. (2023). "Investigation of electrically isolated capacitive sensing skins on concrete to reduce structure/sensor capacitive coupling." *Measurement Science and Technology*, 34, 055113.
26. Liu, Y., Wang, H., Xu, Z., Li, J., Wu, T., and Mao, J. (2023). "Modeling multi-dimensional multi-variate turbulent wind fields using a correlated-turbulence wavenumber-frequency spectral representation method." *Journal of Engineering Mechanics*, 149(4), 04023010.
27. Gao, H., Xing, C., Wang, H., Li, J., and Zhang, Y. (2023). "Performance improvement and demand-oriented optimum design of the tuned negative stiffness inerter damper for base-isolated structures." *Journal of Building Engineering*, 63, Part A:105488.
28. Jeong, J.H., Jo, H., Laflamme, S., Li, J., Downey, A.R.J., Bennett, C., Collins, W., Taher, S., Liu, H., Jung, H.J. (2022). "Automatic control of AC bridge-based capacitive strain sensor interface for wireless structural health monitoring." *Measurement*, 111789.
29. Gao, H., Wang, H., Li, J., Mao, J., Wang, Z. (2022). "Dynamic behavior and damping enhancement of cable with negative stiffness inerter damper." *International Journal of Mechanical Sciences*, 107664.

30. Taher, S., Li, J., Jeong, J.H., Laflamme, S., Jo, H., Bennett, C., Collins, W.N., and Downey, A. R.J. (2022). "Structural Health Monitoring of Fatigue Cracks for Steel Bridges with Wireless Large-Area Strain Sensors. " *Sensors*, 22(14).
31. Zheng, W., Wang, H., Tan, P., Li, J., and Liu, Y. (2022). "Numerical modeling and experimental validation of Sliding-LRBs considering hysteretic strength degradation." *Engineering Structures*, 262, 114374.
32. Liu, H., Laflamme, S., Li, J., Bennett, C., Collins, W., Eisenmann, D., Downey, A., Ziehl, P., and Jo, H. (2022). "Investigation of Textured Sensing Skin for Monitoring Fatigue Cracks on Fillet Welds. " *Measurement Science and Technology*, 33, 084001.
33. Wang, H., Liang, R. Li, J., Liu, J., Li, H., Hu, X., Zhu, K. (2022). "Anchorage performance of grouted corrugated duct connection under monotonic loading: Experimental and numerical investigation." *Construction and Building Materials*, 329, 127096,
34. Zheng, W., Tan, P., Li, J., Wang, H., Tan, J., Sun, Z. (2022). "Sliding-LRB incorporating superelastic SMA for seismic protection of bridges under near-fault earthquakes: A comparative study. " *Soil Dynamics and Earthquake Engineering*, 155, 107161.
35. Yu, D., Bennett, C., Li, J., and Collins, W. (2022). "Fatigue Performance of Saddle Connections in Aluminum Overhead Truss Sign Structures. " *Journal of Performance of Constructed Facilities*. ASCE, 36(3), 04022016.
36. Yu, D., Bennett, C., Li, J., and Collins, W. (2022). "Fatigue Performance of Overhead Truss Sign Structure Coupler Connections." *Journal of Performance of Constructed Facilities*, ASCE, 36(2), 04021120.
37. Wang, H., Gao, H., Li, J., Ni, Y., Liang, R. (2021). "Optimum design and performance evaluation of the tuned inerter-negative-stiffness damper for seismic protection of single-degree-of-freedom structures. " *International Journal of Mechanical Sciences*, 212, 106805.
38. Liang, R., Wang, H., Li, J., Gao, H., Zheng, W., and Xu, Z. (2021) "Multiple tuned inerter-based dampers for seismic response mitigation of continuous girder bridges. " *Soil Dynamics and Earthquake Engineering*, 151, 106954.
39. Li, J., Huang, Y., and Asadollahi, P. (2021). "Sparse Bayesian Learning with Model Reduction for Probabilistic Structural Damage Detection with Limited Measurements" *Engineering Structures*, 247, 113183.
40. Liu, H., Laflamme, S., Li, J., Bennett, C., Collins, W., Downey, A., Ziehl, P., and Jo, H. (2021). "Soft Elastomeric Capacitor for Angular Rotation Sensing in Steel Components." *Sensors*, 21(21), 7017.
41. Bao Y, Li J, Nagayama T, Xu Y, Spencer BF, Li H. (2021) "The 1st International Project Competition for Structural Health Monitoring (IPC-SHM, 2020): A summary and benchmark problem. " *Structural Health Monitoring*, 20(4): 2229-2239.
42. Liu, H., Laflamme, S., Li, J., Bennett, C., Collins, W., Downey, A., Ziehl, P., and Jo, H. (2021). "Investigation of surface textured sensing skin for fatigue crack localization and quantification." *Smart Materials and Structures*, 30(10), 105030.
43. Al-Salih, H., Juno, M., Collins, W., Bennett, C., and Li, J. (2021). "Application of a digital image correlation bridge inspection methodology on geometrically complex bifurcated distortion-induced fatigue cracking. " *Fatigue & Fracture of Engineering Materials & Structures*, 2021, 1-16.
44. Tao, T., Wang, H., Zhu, Q., Zou, Z., Li, J., and Wang, L. (2021). "Long-term temperature field of steel-box girder of a long-span bridge: Measurement and simulation. " *Engineering Structures*, 236, 111924.
45. Taher, S., Li, J., and Fang, H. (2021). "Earthquake Input and State Estimation for Buildings using Absolute Floor Accelerations." *Earthquake Engineering and Structural Dynamics*, 50(4): 1020-1042.
46. Gao, H., Wang, H., Li, J., Wang, Z., Liang, R., Xu, Z., and Ni, Y. (2021). "Optimum Design of Viscous Inerter Damper Targeting Multi-Mode Vibration Mitigation of Stay Cables." *Engineering Structures*, 226, 111375.

47. Zheng, W., Wang, H., Li, J., and Shen, H. (2021). "Parametric Study of SMA-based Friction Pendulum System for Response Control of Bridges under Near-fault Ground Motions." *Journal of Earthquake Engineering*, 25 (8), 1494-1512.
48. Dellenbaugh, L., Kong, X., Al-Salih, H., Collins, W., Bennett, C., Li, J. and Sutley, E. (2020) "Development of Distortion-Induced Fatigue Crack Characterization Methodology using Digital Image Correlation." *ASCE Journal of Bridge Engineering*, 25(9), 04020063.
49. Zheng, W., Wang, H., Li, J., and Shen, H. (2020). "Parametric Study of Superelastic-Sliding LRB System for Seismic Response Control of Continuous Bridges." *ASCE Journal of Bridge Engineering*, 25(9), 04020062.
50. Mao, J., Wang, H., Li, J., and Spencer Jr., B. F. (2020). "Bayesian FEM Updating of a Long-Span Suspension Bridge Utilizing Hybrid Monte Carlo Simulation and Kriging Predictor." *KSCE Journal of Civil Engineering*, 24, 569-579.
51. Zheng, W., Wang, H., Li, J., and Shen, H. (2019). "Performance evaluation of bridges isolated with SMA-based friction pendulum system at low temperatures." *Soil Dynamics and Earthquake Engineering*, 125, 105734.
52. Wang, H., Zheng, W., Li, J., and Gao, Y. (2019). "Effects of Temperature and Lead Core Heating on Response of Seismically Isolated Bridges Under Near-fault Excitations." *Advances in Structural Engineering*, 22(14), 2966-2981.
53. Nasouri, R., Nguyen, K., Montoya, A., Matamoros, A., Bennett, C., and Li, J. (2019). "Thermally-induced demands due to hot dip galvanization of high mast illumination poles. Part I: Finite element model development." *Journal of Constructional Steel Research*, 162, 105705.
54. Nasouri, R., Nguyen, K., Montoya, A., Matamoros, A., Bennett, C., and Li, J. (2019). "Simulating the Hot Dip Galvanizing Process of High Mast Illumination Poles. PART II: Effects of Geometrical Properties and Galvanizing Practices." *Journal of Constructional Steel Research*, 159, 584-597.
55. Jin, Y., Downey, A., Cancelli, A., Laflamme, S., Chen, A., Li, J., and Ubertini, F. (2019). "Concrete crack detection and monitoring using a capacitive dense sensor array." *Sensors*, 19(8), 1843.
56. Nguyen, K., Bennett, C., Matamoros, A., Nasouri, R., Li, J., and Montoya, A. (2019). "Galvanizing-Induced Distortion in Steel Plate Girders. I: Effects of Girder Geometry." *ASCE Journal of Bridge Engineering*, 24(12), 04019110.
57. Nguyen, K., Bennett, C., Matamoros, A., Nasouri, R., Li, J., and Montoya, A. (2019). "Galvanizing-Induced Distortion in Steel Plate Girders. II: Effects of Welding and Galvanizing Practices." *ASCE Journal of Bridge Engineering*, 24(12), 04019111.
58. Wu, Y., Wang, H., Li, J., Sha, B., and Li, A. (2019). "Inelastic Displacement Spectra for Seismically Isolated Bridges Subjected to Near-fault Pulse-like Ground Motions." *Earthquake Spectra*, EERI, 35(3), 1109-1140.
59. Kong, X. and Li, J. (2019). "Non-contact fatigue crack detection in civil infrastructure through image overlapping and crack breathing sensing." *Automation in Construction*, 99: 125-139.
60. Wang, H., Zhu, Q., Li, J., Mao, J., Hu, S., and Zhao, X. (2019). "Identification of Moving Train Loads on Railway Bridge Based on Strain Monitoring." *Smart Structures and Systems*. 23(3): 263-278.
61. Kong, X., Li, J., Bennett, C., Collins, W., Laflamme, S., and Jo, H. (2019). "Thin-film Sensor for Fatigue Crack Sensing and Monitoring in Steel Bridges under Varying Crack Propagation Rate and Random Traffic Load." *ASCE Journal of Aerospace Engineering*, 32(1): 04018116.
62. Mao, J., Wang, H., and Li, J. (2019). "Fatigue Reliability Assessment of a Long-Span Cable-Stayed Bridge Based on One-Year Monitoring Strain Data: Case Study." *ASCE Journal of Bridge Engineering*, 24(1): 05018015.
63. Jeong, J., Xu, J., Jo, H., Li, J., Kong, X., Collins, W., Bennett, C., Laflamme, S. (2018). "Development of Wireless Sensor Node Hardware for Large-area Capacitive Strain Monitoring." *Smart Materials and Structures*, 28(1): 015002.
64. Asadollahi, P., Huang, Y., and Li, J. (2018). "Bayesian model updating and assessment of cable-stayed bridges using long-term monitoring data." *Sensors*, 18(9), 3057.

65. Kong, X., Li, J., Collins, W., Bennett, C., Laflamme, S., and Jo, H. (2018). "Sensing Distortion-induced Fatigue Cracks in Steel Bridges with Capacitive Skin Sensor Arrays." *Smart Materials and Structures*, 27(11), 13pp.
66. Kong, X. and Li, J. (2018). "Image Registration-Based Bolt Loosening Detection of Steel Joints." *Sensors*, 18(4), 20pp.
67. Kong, X. and Li, J. (2018). "Vision-based Fatigue Crack Detection of Steel Structures Using Video Feature Tracking." *Computer-Aided Civil and Infrastructure Engineering*, Wiley, 33(9), 783-799.
68. Nguyen, K., Nasouri, R., Bennett, C., Matamoros, A., Li, J., and Montoya, A. (2018). "Thermomechanical Modeling of Welding and Galvanizing of a Steel Beam Connection Detail to Examine Susceptibility to Cracking." *Materials Performance and Characterization*, ASTM, 7(2), 26pp.
69. Liu, H., Zhou, J., Bun, S., Simmons, G., Bennett, C.R., Matamoros, A., and Li, J. (2017). "Effectiveness of Crack-Arrest Holes under Distortion-Induced Fatigue Loading." *ASCE Journal of Bridge Engineering*, 23(2), 04017141
70. Kong, X., Li, J., Collins, W., Bennett, C., Laflamme, S., and Jo, H. (2017). "A Large-area Strain Sensing Technology for Monitoring Fatigue Cracks in Steel Bridges." *Smart Materials and Structures*, 26, 12pp.
71. Asadollahi, P. and Li, J. (2017). "Statistical Analysis of Modal Properties of a Cable-stayed Bridge through Long-term Wireless Structural Health Monitoring." *ASCE Journal of Bridge Engineering*, 22(9), 04017051.
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74. Li, J., Mechitov, K.A., Kim, R.E., and Spencer Jr., B.F. (2016). "Efficient Time Synchronization for Structural Health Monitoring using Wireless Smart Sensor Networks." *Journal of Structural Control and Health Monitoring*, 23(3), 470-486. (Takuji Kobori Prize, IASCM)
75. Moreu, F., Li, J., Jo, H., Kim, R.E., Scola, S., Spencer Jr., B.F., and LaFave, J.M. (2016). "Reference-free Displacement Estimation for Timber Railroad Bridge Assessment using Wireless Smart Sensors." *ASCE Journal of Bridge Engineering*, 21(2), 04015052.
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77. Wang, H., Li, J., Guo, T., Wang, C., and Li, A. (2015). "Influence of Apparent Wave Velocity on Seismic Performance of a Super-long-span Triple-tower Suspension Bridge." *Advances in Mechanical Engineering*, 7(6), 1-14.
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79. Moreu, F., Jo, H., Li, J., Kim, R., Cho, S., Kimmle, A., Scola, S., Le, H., Spencer Jr., B.F., LaFave, J.M. (2014). "Dynamic assessment of timber railroad bridges using transverse displacements." *ASCE Journal of Bridge Engineering*, 20(10), 04014114.
80. Wang, H., Tao, T., Guo, T., Li, J., and Li, A. (2014). "Full-Scale Measurement and System Identification on Sutong Cable-stayed Bridge during Typhoon Fung-Wong." *The Scientific World Journal*, 2014, 936832, 13pp.
81. Sim, S., Li, J., Jo, H., Park, J., Cho, S., Spencer Jr., B. F., and Jung, H. (2014). "Wireless Smart Sensor Network for Automated Monitoring of Cable Tension." *Smart Materials and Structures*, 23(2), 10pp.

82. Li, J., Ruiz-Sandoval, M., Spencer Jr., B.F., and Elnashai, A.S. (2014). "Parametric Time-domain Identification of Multiple-Input Systems Using Decoupled Output Signals." *Earthquake Engineering and Structural Dynamics*, 43(9), 1307-1324.
83. An, Y., Ou, J., Li, J., and Spencer Jr., B. F. (2014). "Stochastic DLV Method for Steel Truss Structures: Simulation and Experiment." *Smart Structures and Systems*, 14(2), 105-128.
84. Wang, H., Li, A., Niu, J., Zong, Z., and Li, J. (2013). "Long-term Monitoring of Wind Characteristics at Sutong Bridge Site." *Journal of Wind Engineering and Industrial Aerodynamics*, 115, 39-47.
85. Li, J., Spencer Jr., B.F., and Elnashai, A.S. (2013). "Bayesian Updating of Fragility Functions using Hybrid Simulation." *ASCE Journal of Structural Engineering*, 139(7), 1160-1171.
86. Jang, S., Li, J., and Spencer Jr., B.F. (2013). "Corrosion Estimation of a Historic Truss Bridge using Model Updating." *ASCE Journal of Bridge Engineering*, 18(7), 678-689.
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TECHNICAL REPORTS AND OTHER PUBLICATIONS

1. Laflamme, S., Han, L., Li, J., Bennett, C., Collins, W., Downey, A., and Jo, H. (2024). "Robust Wireless Skin Sensor Networks for Long-Term Fatigue Crack Monitoring of Bridges (Phase I)." Final Report to the Transportation Pooled Fund Program, Project TPF-5(449). May.
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 4. Li, J., Bennett, C., Collins, W., and Moreu, F. (2022). "Fatigue Crack Inspection Using Computer Vision and Augmented Reality." NCHRP IDEA Project 223 Final Report. Transportation Research Board, Washington, DC.
 5. Yount, T., Yu, D., Bennett, C., Collins, W., and Li, J. (2021). "Investigation of High Mast Illumination Pole Handhole Cracking." Final Report to KDOT, Project RE-0781-01. SM Report 147. Lawrence, KS: University of Kansas Center for Research, Inc.
 6. Bennett, C., Li, J., and Matamoros, A. (2021). "NCHRP Research Report 965: Mitigation of Weldment Cracking in Steel Highway Structures Due to the Galvanizing Process." Transportation Research Board of the National Academies, Washington, D.C., USA.
 7. Bridwell, L., Bennett, C., Collins, W., and Li, J. (2021). "Effectiveness of Mechanical Treatment of Crack-Arrest Holes Subject to Distortion-Induced Fatigue." *Structural Engineering and Engineering Materials Report No. 145*, The University of Kansas Center for Research.
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 12. Sutley, E., Chen, Z., Li, J., Chao, H., Daniel, L., Clements, J., Sharma, P., Taher, S., Kim, J., Lequesne, R., Kirkham, W., Roueche, D. (2019) "StEER–28 May 2019 Linwood, KS EF4 Tornado: Field Assessment Structural Team 1 (FAST-1)." *DesignSafe-CI*, DOI: 10.17603/ds2-a06x-f358.
 13. Sutley, E., Lequesne, R., Li, J., Kirkham, W., Chen, Z., Al-Sabawy, A., Daniel, L., Enderami, S., Kim, J., Mudaliar, T., Taher, S., Sharma, P., Roueche, D., (2019-06-12) "StEER–28 May 2019 Linwood, KS EF4 Tornado: Field Assessment Structural Team (FAST) Early Access Reconnaissance Report (EARR)." *DesignSafe-CI*. https://aub.ie/Steer_prj2396
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 15. Zhou, J., Bennett, C., Matamoros, A., Li, J., and Rolfe, S. (2016). "Skewed Steel Bridges, Part I: Effect of Cross-Frame Layout on Lateral Flange Bending Stresses." *Final Report to the Kansas Department of Transportation*, Project KTRAN KU-13-3. February.
 16. Bun, S.H., Bonet, E., Matamoros, A.B., Bennett, C.R., Barrett-Gonzalez, R., Li, J., and Rolfe, S. (2016). "Improving Infrastructure Sustainability 2: Repairing Existing Fatigue Cracks in Steel Bridges Using Carbon Fiber Reinforced Polymer Materials." *Final Report to the Kansas Department of Transportation*, Project KTRAN KU-11-5. January.
 17. Liu, H., Bennett, C.R., Matamoros, A.B., Li, J., Barrett-Gonzalez, R., and Rolfe, S. (2016). "Improving Infrastructure Sustainability 1: Extending Useable Lives of Steel Bridges by Halting Distortion-Induced Fatigue Crack Propagation Using Pretensioned Bolts and Plate Washers." *Final Report to the Kansas Department of Transportation*, Project KTRAN KU-11-3. January.

18. McElrath, K., Matamoros, A.B., Bennett, C.R., Li, J., and Rolfe, S. (2015). "Repair of Distortion-Induced Fatigue Damage in Bridge No. 135-87 (043SB and 044NB) Using Newly-Developed Strengthening Schemes." *Final Report to the Kansas Department of Transportation*, Project C1916. November.
19. Li, J. and Spencer Jr., B.F. (2015). "Monitoring, Modeling, and Hybrid Simulation An Integrated Bayesian-based Approach to High-fidelity Fragility Analysis." *Newmark Structural Engineering Laboratory (NSEL) Report Series*, No. 37, University of Illinois at Urbana-Champaign, Urbana, IL (<http://hdl.handle.net/2142/78092>).
20. Cho, S., Spencer Jr. B.F., Jo, H., Li, J., and Kim, R. (2012). "Bridge Monitoring using Wireless Smart Sensors." *SPIE Newsroom*. doi: 10.1117/2.1201201.004043.
21. Miller, T., Spencer Jr., B.F., Li, J., and Jo, H. (2010). "Solar Energy Harvesting and Software Enhancements for Autonomous Wireless Smart Sensor Networks." *Newmark Structural Engineering Laboratory (NSEL) Report Series*, No. 22, University of Illinois at Urbana-Champaign, Urbana, IL

PLENARY PRESENTATIONS & INVITED SEMINARS

1. *16th International Workshop on Advanced Smart Materials and Smart Structures Technology (ANCRiSST)*, Hong Kong, China, **Plenary Presentation**. "AI-powered Concrete Dam Monitoring." July 22, 2025.
2. *Southwest Jiaotong University*, Chengdu, China, Host: Professor Jian Guo, "Advanced Monitoring, Inspection, and Control for Risk Mitigation in Critical Civil Infrastructure." July 14, 2025.
3. *Lanzhou University of Technology*, Lanzhou, China, Host: Professor Jianping Han, "Advanced Monitoring, Inspection, and Control for Risk Mitigation in Critical Civil Infrastructure." July 7, 2025.
4. *South China University of Technology*, Guangzhou, China, Host: Professor Quansheng Yan, "Advanced Monitoring, Inspection, and Control for Risk Mitigation in Critical Civil Infrastructure." July 4, 2025.
5. *Guangzhou University*, Guangzhou, China, Host: Professor Ping Tan and Professor Wenzhi Zheng, "Advanced Monitoring, Inspection, and Control for Risk Mitigation in Critical Civil Infrastructure." July 4, 2025.
6. *Shenzhen University*, Shenzhen, China, Host: Professor Jun Guo and Professor Chengyu Hong, "Advanced Monitoring, Inspection, and Control for Risk Mitigation in Critical Civil Infrastructure." July 3, 2025.
7. *San Francisco State University*, San Francisco, California, Host: Professor Zhaoshuo Jiang, "Enhancing Risk Management and Mitigation for Critical Civil Infrastructures through Advanced Monitoring, Inspection, and Control." February 10, 2025.
8. *NSBA Bridge Task Force Meeting*, Tampa, FL, Host: Dan Snyder, "Structural Health Monitoring of Fatigue Cracks for Steel Bridges with Wireless Large-Area Strain Sensors." January 30, 2025.
9. *FHWA Concrete NDE Working Group*, Online, Host: Hoda Azari, "Fatigue Crack Inspection using Computer Vision and Augmented Reality." November 1, 2024.
10. *Future City Leadership Retreat*, Lawrence, KS, Host: Danielle Lotten-Barker, "How Do Structures Survive Natural Disasters?" October 4, 2024.
11. *7th Huixian International Forum on Earthquake Engineering for Young Researchers (7HIFEE)*, Harbin, China, **Plenary Presentation**. "Simultaneous Input-State Estimation of Building Structures Under Earthquake Excitation." August 19, 2024.
12. *Harbin Institute of Technology*, Harbin, China, Host: Professor Hui Li and Yuequan Bao, "Enhancing Risk Management and Mitigation for Critical Civil Infrastructures through Advanced Monitoring, Inspection, and Control." August 21, 2024.
13. *Nanchang University*, Nanchang, China, Host: Professor Jin-Gang Xiong and Shujun Hu, "Enhancing Risk Management and Mitigation for Critical Civil Infrastructures through Advanced Monitoring, Inspection, and Control." December 22, 2023.
14. *East China Jiaotong University*, Nanchang, China, Host: Professor Qingsong Feng, "Enhancing Risk

- Management and Mitigation for Critical Civil Infrastructures through Advanced Monitoring, Inspection, and Control. " December 21, 2023.
15. *Southeast University*, Nanjing, China, Host: *Professor Hao Wang*, "Enhancing Risk Management and Mitigation for Critical Civil Infrastructures through Advanced Monitoring, Inspection, and Control. " December 20, 2023.
 16. *ZJU-UIUC Institute*, Haining, China, Host: *Professor Yasutaka Narazaki and Binbin Li*, "Enhancing Risk Management and Mitigation for Critical Civil Infrastructures through Advanced Monitoring, Inspection, and Control. " December 18, 2023.
 17. *The 2nd Conference on Artificial Intelligence for Civil Engineering (AICE)*, Host: *Professor Jiazeng Shan*, "Human-Centered Fatigue Crack Inspection using Computer Vision and Augmented Reality. " December 15, 2023.
 18. *Tongji University*, Shanghai, China, Host: *Professor Yanbo Wang*, "Enhancing Risk Management and Mitigation for Critical Civil Infrastructures through Advanced Monitoring, Inspection, and Control. " December 15, 2023.
 19. *Hong Kong Polytechnic University*, Hong Kong, China, Host: *Professor Yiqing Ni*, " Enhancing Risk Management and Mitigation for Critical Civil Infrastructures through Advanced Monitoring, Inspection, and Control. " December 13, 2023.
 20. *KU-VTT Collaboration Seminar*, Online, Host: *William Collins and Tommi Seppänen*, "Computer Vision and Machine Learning for Infrastructure Inspection and Monitoring. " October 26, 2023.
 21. *AASHTO S&E and AM Technical Committee Midyear Meeting*, West Lafayette, Host: *Edward Lutgen*, "Fatigue Crack Inspection Using Computer Vision and Augmented Reality. " October 4, 2023.
 22. *Midwest Bridge Preservation Partnership (MWBPP) Meeting*, Online, Host: *Michael Brokaw*, "Human-Centered Fatigue Crack Inspection Using Computer Vision and Augmented Reality." May 4, 2023.
 23. *Southeast Bridge Preservation Partnership (SEBPP) Meeting*, Online, Host: *Nancy Huether and Stephanie Doolittle*, "Human-Centered Fatigue Crack Inspection Using Computer Vision and Augmented Reality." May 30, 2023.
 24. *AASHTO Technical Committee T-14 Meeting*, Orlando, FL, Host: *Brian Hanks*, "Fatigue Crack Inspection Using Computer Vision and Augmented Reality. " January 26, 2023.
 25. *Tianjin University*, Tianjin, China, Host: *Professor Jie Xu*, "Advanced sensing and computer vision for civil infrastructure monitoring and inspections. " November 10, 2022.
 26. *Harbin Institute of Technology*, Harbin, China, Host: *Professor Yong Huang*, "Advanced sensors and computer vision for civil infrastructure monitoring and inspections. " August 1, 2022.
 27. *Engineering Mechanics Institute Conference 2022*, Baltimore, MD, **Keynote Presentation**. "Human-centered steel bridge inspection using computer vision and augmented reality." June 2, 2022.
 28. *Shenzhen University*, Shenzhen, China, Host: *Professor Chengyu Hong*, "Advanced sensors and computer vision for civil infrastructure monitoring and inspections. " January 4, 2022.
 29. *The SIR Frontiers Seminar Series*, South China University of Technology, Guangzhou, China, Host: *Professor Nan Hu*, "Advanced sensors and computer vision for civil infrastructure monitoring and inspections. " August 12, 2021.
 30. *Annual Structural Engineering Conference*, The University of Kansas, Lawrence, Kansas, Host: *Professor Caroline Bennett* (Conference Chair), "Advances in Fatigue Crack Detection and Monitoring." March 5, 2020 (Joint presentation with William Collins).
 31. *The K-TRAN Research Program Council Meeting*, Kansas Department of Transportation, Topeka, KS, Host: *Dave Meggers*, "Strain-Based Fatigue Crack Monitoring of Steel Bridges using Wireless Elastomeric Skin Sensors. " February 11, 2020.
 32. *Iowa State University*, Ames, Iowa, Host: *Professor Simon Laflamme*, "Bayesian-based Finite Element Model Updating, Damage Detection, and Uncertainty Quantification for Cable-stayed Bridges." October 7, 2019.
 33. *University of New Mexico*, Albuquerque, New Mexico, Host: *Professor Fernando Moreu*, "Multiscale

- Sensing and Monitoring for Probabilistic Risk Assessment of Civil Infrastructure." October 2, 2019.
34. *San Francisco State University*, San Francisco, California, *Host: Professor Zhaoshuo Jiang*, "Multiscale Sensing and Monitoring for Probabilistic Risk Assessment of Civil Infrastructure." June 12, 2019.
 35. *Langston Hughes Elementary School*, Lawrence, Kansas, *Host: Mrs. Chris Heider*, "Structural Engineer and Structural Engineering." February 11, 2019.
 36. *East China Jiaotong University*, Nanchang, China, *Host: Professor Jinhua Li*, "Multi-scale Data-rich Environment for Modeling and Probabilistic Risk Assessment of Civil Infrastructure." August 6, 2018.
 37. *Nanchang University*, Nanchang, China, *Host: Professor Shujun Hu*, "Multi-scale Data-rich Environment for Modeling and Probabilistic Risk Assessment of Civil Infrastructure." August 3, 2018.
 38. *Dalian University of Technology*, Dalian, China, *Host: Professor Zhen He*, "Multi-scale Data-rich Environment for Modeling and Probabilistic Risk Assessment of Civil Infrastructure." July 29, 2018.
 39. *Southeast University*, Nanjing, China, *Host: Professor Hao Wang*, "Multi-scale Data-rich Environment for Modeling and Probabilistic Risk Assessment of Civil Infrastructure." July 27, 2018.
 40. *The Seventh World Conference on Structural Control and Monitoring (7WCSCM)*, Qingdao, China, "Sensing Fatigue Damage in Steel Bridges Using Strain-based Skin Sensor Networks." July 23, 2018.
 41. *Iowa State University*, Ames, Iowa, *Host: Professor Simon Laflamme*, "Multi-scale Data-rich Environment for Modeling and Probabilistic Risk Assessment of Civil Infrastructure." December 9, 2017.
 42. *Dalian University of Technology*, Dalian, China, *Host: Professor Zhen He*, "Monitoring, modeling, and hybrid simulation—an integrated Bayesian-based approach to high-fidelity fragility analysis." August 4, 2016.
 43. *Harbin Institute of Technology (Shenzhen)*, Shenzhen, China, *Host: Professor Jinping Ou*, "Monitoring, modeling, and hybrid simulation—an integrated Bayesian-based approach to high-fidelity fragility analysis." July 29, 2016.
 44. *South China University of Technology*, Guangzhou, China, *Host: Professor Quansheng Yan*, "Monitoring, modeling, and hybrid simulation—an integrated Bayesian-based approach to high-fidelity fragility analysis." July 27, 2016.
 45. *Beijing University of Civil Engineering and Architecture*, Beijing, China, *Host: Professor Chiyu Jiao*, "Monitoring, modeling, and hybrid simulation—an integrated Bayesian-based approach to high-fidelity fragility analysis." July 24, 2016.
 46. *Southeast University*, Nanjing, China, *Host: Professor Hao Wang*, "Monitoring, modeling, and hybrid simulation—an integrated Bayesian-based approach to high-fidelity fragility analysis." July 22, 2016.
 47. *The Cambridge Conference on WSN for Civil Engineering and Infrastructure Monitoring*, Cambridge, United Kingdom, *Host: Professor Kenichi Soga*, "Fatigue Crack Monitoring of Steel Bridges using Wireless Soft Elastomeric Capacitor Sensor Networks." June 30, 2015.
 48. *University of Kansas Professional Development Series*, Kansas City, Missouri, "Bridge Inspection for the 21st Century." April 7, 2014.

CONFERENCE AND WORKSHOP PRESENTATIONS

1. *The 9th World Conference on Structural Control and Monitoring (9WCSCM)*, Sheffield, UK. "A High-Resolution Texture-Based Framework for 2D-to-3D Damage Mapping of Concrete Dams." July 22, 2026.
2. *The 9th World Conference on Structural Control and Monitoring (9WCSCM)*, Sheffield, UK. "Damage Segmentation for Concrete Dams Without Manual Pixel-Level Labeling via Curriculum Learning and Pseudo-Label Refinement." July 22, 2026.
3. *The 13th International Conference on Bridge Maintenance, Safety and Management (IABMAS 2026)*, Orlando, Florida, USA. "Human-Centered Steel Bridge Inspection with Augmented Reality and AI." July 8, 2026.

4. *The 13th International Conference on Bridge Maintenance, Safety and Management (IABMAS 2026)*, Orlando, Florida, USA. "AI-Powered Digital Twinning and Monitoring of Concrete Dams." July 8, 2026.
5. *Engineering Mechanics Institute Conference 2026*, Boulder, CO, "Human-Centered Corrosion Inspection of Steel Bridges Using Augmented Reality and Meta-Ensemble Learning." June 3, 2026.
6. *Engineering Mechanics Institute Conference 2025*, Anaheim, CA, "Immersive Learning for Structural Analysis through Mobile Augmented Reality and the MOLA Structural Kit." May 30, 2025.
7. *Engineering Mechanics Institute Conference 2025*, Anaheim, CA, "Deep Learning-Based Digital Image Correlation for Displacement Field in Cracked Specimens." May 29, 2025.
8. *The U.S. Workshop on Multidimensional Digital Twins in the Built Environment*, Rolla, MO, "AI-Powered Concrete Dam Monitoring." May 15, 2025.
9. *Engineering Mechanics Institute Conference 2024*, Chicago, IL, "Automating Synthetic Data Generation for Deep Learning-Based Damage Detection in Concrete Dams." May 30, 2024.
10. *Celebration of Teaching*, Center for Teaching Excellence, University of Kansas, Lawrence, KS, "Enhancing Structural analysis learning with Augmented reality and Mola toolkit." May 3, 2024.
11. *Engineering Mechanics Institute Conference 2023*, Atlanta, GA, "Simultaneous Seismic Input and State Estimation with Optimal Sensor Placement for Building Structures using Incomplete Acceleration Measurements." June 8, 2023.
12. *SPIE Smart Structures/NDE 2023*, Long Beach, CA, "Time-delayed joint seismic input and state estimation for building structures using incomplete acceleration measurements." March 14, 2023.
13. *The Eighth World Conference on Structural Control and Monitoring (8WCSCM)*, Orlando, FL, "Computer Vision and Augmented Reality for Human-centered Fatigue Crack Inspection of Steel Bridges." June 6, 2022.
14. *Engineering Mechanics Institute Conference 2021*, New York City, NY, "Damage locating vectors of stiff truss structures enabled by machine vision." May 27, 2021.
15. *The 12th International Workshop on Structural Health Monitoring (IWSHM)*, Stanford, CA, "UAV-based Non-contact Fatigue Cracking Monitoring of Steel Structures." September 10, 2019.
16. *The 9th International Conference on Structural Health Monitoring of Intelligent Infrastructure (ISHMII-9)*, St. Louis, Missouri, "Structural damage detection based on sparse Bayesian learning and model reduction for long-span bridges." August 5, 2019.
17. *The 9th International Conference on Structural Health Monitoring of Intelligent Infrastructure (ISHMII-9)*, St. Louis, Missouri, "Wireless Soft Elastomeric Capacitor Sensor Network for Long-term Fatigue Crack Monitoring of Steel Bridges." August 5, 2019.
18. *Engineering Mechanics Institute Conference 2019*, Pasadena, CA, "Sparse Bayesian Learning and Model Reduction for Robust Structural Damage Identification." June 21, 2019.
19. *Engineering Mechanics Institute Conference 2019*, Pasadena, CA, "Fatigue crack monitoring of metallic structures through vision-based surface motion tracking using unmanned aerial vehicles." June 20, 2019.
20. *Structures Congress 2019*, Orlando, FL, "Fatigue Crack Sensing of Steel Structures Using UAV-based Computer Vision." April 26, 2019.
21. *Engineering Mechanics Institute Conference 2018*, Cambridge, MA, "Dense capacitive sensor arrays for monitoring distortion-induced fatigue cracks in steel bridges." June 1, 2018.
22. *SPIE Smart Structures/NDE 2018*, Denver, CO, "Input and State Estimation for Earthquake-excited Building Structures using Acceleration Measurements." March 7, 2018.
23. *SPIE Smart Structures/NDE 2018*, Denver, CO, "Automated Fatigue Crack Identification through Motion Tracking in a Video Stream." March 6, 2018.
24. *The Third Huixian International Forum on Earthquake Engineering for Young Researchers*, Champaign-Urbana, IL, "Bayesian Model Updating of a Cable-stayed Bridge Considering Modeling Error Using Long-term Monitoring Data." August 12, 2018.
25. *Engineering Mechanics Institute Conference (EMI 2017)*, San Diego, CA, "A large-area strain sensing technology for monitoring high-cycle fatigue cracks in steel bridges." June 7, 2017.

26. *SPIE Smart Structures/NDE 2017*, Portland, OR, "Prediction-error Variance in Bayesian Model Updating: a Comparative Study." *Poster presentation*, March 27, 2017.
27. *The 43rd Conference on Quantitative Nondestructive Evaluation (QNDE)*, Atlanta, GA, "Fatigue Crack Monitoring under High-cycle Fatigue Loading using Large-area Soft Elastomeric Capacitive Sensor." July 19, 2016.
28. *Engineering Mechanics Institute Conference (EMI 2016) and the Probabilistic Mechanics & Reliability Conference (PMC 2016)*, Vanderbilt University, Nashville, TN, "System Identification and Bayesian Model Updating of a Cable-Stayed Bridge through Long-Term Structural Health Monitoring Using Wireless Smart Sensor Networks." May 25, 2016.
29. *Bridge DAWG Forum on bridge performance data analysis, the 95th Annual Meeting of the Transportation Research Board*, Washington, DC, "Statistical Analysis of Modal Properties of a Cable-stayed Bridge through Long-term Wireless Structural Health Monitoring." January 9, 2016.
30. *SPIE Smart Structures/NDE*, San Diego, CA, "Characterization of a Soft Elastomeric Capacitive Strain Sensor for Fatigue Crack Monitoring." *Poster presentation*, March 10, 2015.
31. *The Sixth World Conference on Structural Control and Monitoring (6WCSCM)*, Barcelona, Spain, "Long-term and Short-term Autonomous Structural Health Monitoring Strategies using Wireless Smart Sensor Networks." July 15, 2014.
32. *The Sixth World Conference on Structural Control and Monitoring (6WCSCM)*, Barcelona, Spain, "Improved Synchronized Sensing for Structural Health Monitoring using Wireless Smart Sensor Networks." July 15, 2014.
33. *SPIE Smart Structures/NDE 2014*, San Diego, CA, "System Identification of Civil Engineering Structures with Multiple Inputs by Decoupling Output Signals." March 11, 2014.
34. *The Tenth EKS (Elnashai-Kuchma-Spencer) retreat*, Robert Allerton Park, Monticello, IL, "Improved Synchronized Sensing for Structural Health Monitoring using Wireless Smart Sensor Networks." February 1, 2014.
35. *The Ninth EKS retreat*, Robert Allerton Park, Monticello, IL, "Parametric Time-domain Identification of Multiple-input Systems Using Decoupled Output Signals." February 2, 2013.
36. *SPIE Smart Structures/NDE 2012*, San Diego, CA, "Efficient Campaign-type Structural Health Monitoring Using Wireless Smart Sensors." March 13, 2012.
37. *The Eighth EKS (Elnashai-Kuchma-Spencer) retreat*, Robert Allerton Park, Monticello, IL, "Efficient campaign-type structural health monitoring system using wireless smart sensors." February 5, 2012.
38. *The Seventh EKS (Elnashai-Kuchma-Spencer) Retreat*, Robert Allerton Park, Monticello, IL, "NEES Integrated Seismic Risk Assessment Framework—Application to the Meloland Overcrossing Bridge." February 5, 2011. (Best presentation award, third place).
39. *Workshop on Cyber-Physical Co-Design of Wireless Monitoring and Control for Civil Infrastructure*, University of Illinois at Urbana-Champaign, Urbana, IL, "Autonomous Wireless Smart Sensor Network (WSSN) Operation." February 17, 2011.
40. *NSF CMMI Grantee Conference*, Atlanta, GA, "NEES Integrated Seismic Risk Analysis Framework." *Poster Presentation*, January 4-7, 2011.
41. *The Fifth World Conference on Structural Control and Monitoring (5WCSCM)*, Tokyo, Japan, "Hybrid Simulation with Multiple-Support Excitation." July 11, 2010.
42. *The Sixth EKS (Elnashai-Kuchma-Spencer) retreat*, Robert Allerton Park, Monticello, "Hybrid Simulation with Multiple-Support Excitation (MSE)." February 6, 2010.
43. *Asian-Pacific Network of Centers for Earthquake Engineering Research (ANCER) Workshop*, University of Illinois at Urbana-Champaign, Urbana, IL, "An Integrated Earthquake Impact Assessment Framework." August 14, 2009.
44. *The Fifth EKS (Elnashai-Kuchma-Spencer) retreat*, Robert Allerton Park, Monticello, IL, "An Integrated Earthquake Impact Assessment System." February 7, 2009.
45. *The Fourth EKS (Elnashai-Kuchma-Spencer) retreat*, Robert Allerton Park, Monticello, IL, "Framework for Development of Hybrid Simulation in an Earthquake Impact Assessment Context." February 17, 2008.

PROFESSIONAL ACTIVITIES

Journal Editorial Roles

- Associate Editor, Smart Structures and Systems (Techno-Press), 2026–present
- Associate Editor, Smart Civil Infrastructures (Elsevier), 2025–present.
- Assistant Editor and Editorial Board Member, *Engineering Structures* (Elsevier), 2021–present.
- Editorial Board Member, *Journal of Building Structures* (Architectural Society of China), 2022–present.
- Editorial Board Member, *International Journal of Lifecycle Performance Engr.*, 2020–present.
- Editorial Board Member, *Smart Structures and Systems* (Techno-Press), 2019–present.
- Associate Editor, *Frontiers in Built Environment: Structural Sensing*, 2016–present.
- Review Editor, *Frontiers in Built Environment: Bridge Engineering*, 2016–present.
- Editorial Board Member, *Engineering Research Express* (IOPscience), 2019–2024.

Professional Leadership and Governance

- Chair (2025–present), Vice Chair (2023–2025), Secretary (2022–2023), and Member (2016–present), Structural Health Monitoring and Control Committee, Engineering Mechanics Institute (EMI), ASCE
- Member, Dynamics Committee, EMI, ASCE (2024–present)
- Member, Structural Identification of Constructed Systems Committee, Structural Engineering Institute (SEI), ASCE (2021–present)
- Member, Methods of Monitoring Structural Performance Committee, SEI, ASCE (2016–2022)
- Secretary and Member of the Board of Directors, U.S.–China Earthquake Engineering Foundation (2018–present)

Conference and Technical Program Leadership

- Co-Chair, 7th Huixian International Forum on Earthquake Engineering for Young Researchers (2024)
- Chair, KU Structural Engineering Conference (2025–present)
- Co-Chair, KU Structural Engineering Conference (2023–2024)
- International Organizing Committee, 1st and 2nd International Conference on Engineering Structures (ICES 2025, ICES 2026)
- Conference Committee Member, Sensors and Smart Structures Technologies for Civil, Mechanical, and Aerospace Systems, SPIE Smart Structures & NDE (2017–present)
- Co-Chair, International Competition for Structural Health Monitoring (IC-SHM), 2021–2022
- Co-Chair, International Project Competition for Structural Health Monitoring (IPC-SHM), 2020
- Chair, Student Paper Competition, ASCE EMI Structural Health Monitoring & Control Committee (2020, 2023)
- Judge, Student Paper Competition, ASCE EMI Structural Health Monitoring & Control Committee (2021–2023)

Special Issue Editorship

- Lead Guest Editor, Special Issue on “Computer Vision Empowering Earthquake Engineering and Engineering Vibration,” *Earthquake Engineering and Engineering Vibration* (Springer), 2022–2023.
- Guest Editor, Special Issue on “Structural Hidden Damage Detection and Condition Diagnosis of Large-scale Infrastructure,” *Smart Structures and Systems* (Techno-Press), 2021–2022.
- Lead Guest Editor, Special Issue on “Smart Sensor Networks for Civil Infrastructure Monitoring,” *Sensors* (MDPI), 2021–2022.
- Guest Editor, Special Issue on “Machine Learning Methods and Big Data Analytics in Structural Health Monitoring,” *Frontiers in Built Environment*, 2020–2021.
- Guest Editor, Special Issue on “The First International Project Competition for Structural Health Monitoring (IPC-SHM, 2020),” *Smart Structures and Systems* (Techno-Press), 2021–2022.

- Guest Editor, Special Issue on “Machine Learning and Big Data-based Structural Health Monitoring,” *Structural Health Monitoring: An International Journal*, 2019–2020.
- Guest Editor, Special Issue on “Smart Devices for Structural Control,” *Smart Structures and Systems* (Techno-Press), 2018–2019.
- Guest Editor, Special Issue on “Smart Sensors for Structural Health Monitoring,” *Sensors* (MDPI), 2018–2019.

Session Chair and Mini-Symposium Organizer

- Session Chair and Special Session Organizer, 9th World Conference on Structural Control and Monitoring, Sheffield, UK (2026)
- Session Chair and Mini-Symposium Organizer, EMI 2026, Boulder, CO (2026)
- Session Chair and Mini-Symposium Organizer, EMI 2025, Anaheim, CA (2025)
- Session Chair and Mini-Symposium Organizer, EMI 2024, Chicago, IL (2024)
- Session Chair and Mini-Symposium Organizer, EMI 2023, Atlanta, GA (2023)
- Session Chair and Mini-Symposium Organizer, 8th World Conference on Structural Control and Monitoring (8WCSCM), Orlando, FL (2022)
- Session Chair and Mini-Symposium Organizer, EMI 2022, Baltimore, MD (2022)
- Session Chair and Mini-Symposium Organizer, EMI 2021, Virtual (2021)
- Session Co-Chair, 7th International Symposium on Reliability Engineering and Risk Management (ISRERM 2020), Beijing (Virtual) (2020)
- Session Chair, 8th International Conference on Vibration Engineering, Shanghai, China (2021)
- Mini-Symposium Organizer, EMI 2020, Columbia University, NY (Cancelled)
- Special Session Organizer, 2020 Structures Congress, St. Louis, MO (Cancelled)
- Session Chair, 9th International Conference on Structural Health Monitoring of Intelligent Infrastructure (ISHMII-9), St. Louis, MO (2019)
- Session Chair and Mini-Symposium Organizer, EMI 2019, Caltech, Pasadena, CA (2019)
- Special Session Organizer, 2019 Structures Congress, Orlando, FL (2019)
- Special Session Organizer, 7th World Conference on Structural Control and Monitoring, Qingdao, China (2018)
- Session Chair and Mini-Symposium Organizer, EMI 2018, MIT, Cambridge, MA (2018)
- Session Chair, Sensors and Smart Structures Technologies for Civil, Mechanical, and Aerospace Systems, SPIE Smart Structures & NDE, Denver, CO (2018)
- Session Chair, 3rd Huixian International Forum on Earthquake Engineering for Young Researchers, Champaign-Urbana, IL (2017)
- Session Chair, 43rd Conference on Quantitative Nondestructive Evaluation (QNDE), Atlanta, GA (2016)
- Symposium Organizer, Mini-Symposium on Wireless Sensor Technology, 11th ANCRiSST, Champaign, IL (2015)
- Session Chair, 6th World Conference on Structural Control and Monitoring, Barcelona, Spain (2014)
- Session Chair, 59th Annual Structural Engineering Conference, Lawrence, KS (2014)

Proposal Review for Funding Agencies

- Reviewer, The National Center for Infrastructure Transformation (NCIT), Prairie view A&M university: 2025, 2026.
- Review Panelist and Ad-hoc Reviewer, U.S. National Science Foundation: 2016, 2017, 2018, 2022.
- Reviewer, Natural Sciences and Engineering Research Council (NSERC) of Canada–Discovery Grants.
- Reviewer, Canada Research Chairs (CRC) Program.
- Reviewer, INSPIRE University Transportation Center, Missouri S&T.
- Reviewer, Mountain-Plains Consortium (USDOT Region 8 University Transportation Center).

Journal Peer Review Service

Provided peer review service for over **50 international journals**, including:

- **ASCE (5):** *Journal of Structural Engineering; Journal of Bridge Engineering; Journal of Materials in Civil Engineering; Journal of Computing in Civil Engineering; Journal of Aerospace Engineering.*
- **Elsevier (21):** *Automation in Construction; Composites Part B: Engineering; Construction and Building Materials; Engineering; Engineering Applications of Artificial Intelligence; Engineering Fracture Mechanics; Engineering Structures; International Journal of Mechanical Sciences; International Journal of Non-Linear Mechanics; ISPRS Journal of Photogrammetry and Remote Sensing; Journal of Building Engineering; Journal of Constructional Steel Research; Journal of Cultural Heritage; Journal of Infrastructure Intelligence and Resilience; Measurement; Mechanical Systems and Signal Processing; Optical Fiber Technology; Probabilistic Engineering Mechanics; Results in Engineering; Sensors and Actuators A: Physical; Ultrasonics.*
- **Wiley (3):** *Earthquake Engineering and Structural Dynamics; Structural Control and Health Monitoring; Computer-Aided Civil and Infrastructure Engineering.*
- **Nature Portfolio (2):** *Scientific Reports; Communications Engineering.*
- **IEEE (2):** *IEEE Sensors Journal; IEEE Transactions on Automation Science and Engineering.*
- **SAGE (4):** *Advances in Structural Engineering; Advances in Mechanical Engineering; Experimental Techniques; Structural Health Monitoring: An International Journal.*
- **Springer Nature (5):** *AI in Civil Engineering; Civil Structural Health Monitoring; Earthquake Engineering and Engineering Vibration; Journal of the Brazilian Society of Mechanical Sciences and Engineering; Journal of Zhejiang University–Science A.*
- **Taylor & Francis (3):** *International Journal of Human-Computer Interaction; Journal of Earthquake Engineering; Structure and Infrastructure Engineering.*
- **Techno-Press (2):** *Earthquakes and Structures; Smart Structures and Systems.*
- **Other Publishers (9):** *Frontiers in Built Environment; Advances in Materials Science and Engineering; Shock and Vibration; The Scientific World Journal; International Journal of Structural Stability and Dynamics; Engineering Computations; Engineering Research Express; Philosophical Transactions of the Royal Society A; Sensors.*

STUDENT AWARDS AND RECOGNITIONS

- Vahidreza Gharehbaghi, 3rd Place, EMI SHM & Control Committee Student Paper Competition, 2026
- Luke Attard, UTC Outstanding Student of the Year Award, Mid-America Transportation Center, 2025
- Mona Shaheen, Scholarly Communication Award, CEAE Department, University of Kansas, 2025
- Mona Shaheen, 1st Place, EMI SHM & Control Committee Student Paper Competition, 2024
- Curtis Nelson, Undergraduate Research Award, University of Kansas, 2022
- Xiangxiong Kong, 3rd place, EMI SHM & Control Committee Student Paper Competition, 2017
- Xiangxiong Kong, SPIE Student Author Travel Grant, SPIE Smart Structures/NDE, 2017
- Xiangxiong Kong, Scholarship, Asian-Pacific Summer School on Smart Structures Technology, 2015

COURSES TAUGHT AT THE UNIVERSITY OF KANSAS

CE 461	Structural Analysis	Fall 2013–present
CE 704	Dynamics and Vibrations	Spring 2016–present
CE 895	Experimental Structural Dynamics	Fall 2015–Fall 2018
CE 804	Advanced Structural Dynamics	Spring 2018–present
CE 895	Responsible Scholarships in CEAE	Spring 2024–present

UNIVERSITY SERVICE

Department/Unit Service–Civil, Environmental & Architectural Engineering

- Dean R. and Florence W. Frisbie Associate Chair for Graduate Studies (July 2023–present)
- CEAE Scholarship Committee, Chair (August 2014–present)
- CEAE Graduate Studies Committee, Member (August 2011–July 2023), Chair (July 2023–present)
- CEAE Sabbatical Committee, Member (2021, 2024)
- Undergraduate Student Recruitment Committee, Member (August 2014–present)
- Qingdao University of Technology (QUT) Committee, Member and KU Liaison (August 2019–present)
- KU Structural Engineering Conference, Chair (2025–present), Co-Chair (2023–2024), Moderator (2014, 2019, 2020)
- KU Student Chapter of the Earthquake Engineering Research Institute (EERI), Faculty Advisor (August 2013–present)
- ARCE Faculty Search Committee, Member (December 2024–April 2025)
- Structures Faculty Search Committee (three positions), Member (December 2014–April 2015)
- CEAE Professional Development Series, Presenter (Spring 2014; March 2020)
- CEAE Fundamentals of Engineering (FE) Exam Review Sessions, Lecturer (Fall 2016; Spring 2019)

Department/Unit Service–Electrical Engineering and Computer Science

- EECS Faculty Search Committee, Member (2025–2026)

School/College Service–School of Engineering

- School of Engineering Academic Grade Appeal Hearing Committee, Member (2025)
- Search Committee: Program Coordinator for Research and Graduate Recruitment, Member (2024)
- General Research Fund Review Panel (2024)
- School of Engineering Graduate Studies & Research Committee (2023–present)
- School of Engineering Scholarship Committee, Member (June 2015–present)
- Faculty Panel, KU ONE Scholars Program (Fall 2022)
- Miller Award for Research Selection Committee, Member (2021, 2023)
- Project Discovery Summer Camp, Organizer (June 2016)
- Engineering Teaching Workshop, Panelist (Spring 2019)
- Graduate Engineering Association Research Competition, Judge (April 2014; April 2018; April 2022)

University Service

- Mentor, McNair Scholars Program, The University of Kansas (2022–2023)
- Mentor, Emerging Scholars Program, The University of Kansas (2019–2025)