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Assistant Teaching Professor

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EDUCATION

2022 Ph.D., Civil Engineering, Northeastern University, Boston, MA

2016 M.S., Civil Engineering, Tongji University, Shanghai, China

2013 B.S., Civil Engineering, Central South University, Changsha, China

ACADEMIC APPOINTMENTS

8/2025 – present, Assistant Teaching Professor, The University of Kansas

9/2022 – 5/2025, Postdoctoral Scholar, University of California, Berkeley

COURSES TAUGHT AT THE UNIVERSITY OF KANSAS

CE 310 Strength of Materials, Fall 2025, Spring 2026, and Fall 2026

CE 461 Structural Analysis, Fall 2026

CE 525/725 Applied Probability and Statistics, Spring 2026

CE 765 Advanced Steel Design - Building Structures, Fall 2026

CE 810 Theory of Elastic Stability, Fall 2025

CE 895 Advanced Special Topics: Wind Engineering, Spring 2026

AWARDS

- 2022 Graduate Teaching Award, The College of Engineering at Northeastern University
- 2022 Dissertation Completion Fellowship Award, Northeastern University
- 2022 SEI Electrical Transmission & Substation Structures Conference Student Scholarship, ASCE
- First Place, DesignSafe Academy 2021 Hackathon

PEER-REVIEWED JOURNAL PUBLICATIONS

1. **Du, X.**, Becker, T.*, Taylor, Z., and Needham, C. (2025). Cyclic Demands on Solar Structural Joints under Wind Loading. *Journal of Structural Engineering*, 151(10), 04025156.
2. Rodrigues, M.A.C.*, Burgos, R.B., **Du, X.**, Hajjar, J., and Martha, L.F. (2025). A unified three-dimensional nonlinear mixed formulation with analytical interpolation functions for slender column analysis. *Engineering Structures*, 325, 119481.
3. **Du, X.*** and Hajjar, J.F. (2024). Methodology for collapse fragility development for hurricane events: electrical transmission towers. *Journal of Constructional Steel Research*, 223, 109005.
4. **Du, X.***, Hajjar, J. F., Bond, R. B., Ren, P., and Sun, H. (2023). Clustering and Selection of Hurricane Wind Records Using Autoencoder and *k*-Means Algorithm. *Journal of Structural Engineering*, 149(8), 04023096.
5. **Du, X.** and Hajjar, J.* (2021). Three-dimensional nonlinear displacement-based beam element for members with angle and tee sections. *Engineering Structures*, 239, 112239.
6. **Du, X.** and Hajjar, J.F.* (2021). Three-dimensional nonlinear mixed 6-DOF beam element for thin-walled members. *Thin-Walled Structures*, 164, 107817.
7. **Du, X.**, Wang, W., and Chan, T.M.* (2018). Seismic design of beam-through steel frames with self-centering modular panels. *Journal of Constructional Steel Research*, 141, 179-188.

8. Wang, W.*, **Du, X.**, Zhang, Y., Chu, G., and Chen, Y. (2018). Full-scale cyclic testing of self-centering modular panels for seismic resilient structures. *Key Engineering Materials*, 763, 339-346.
9. Wang, W., **Du, X.**, Zhang, Y.*, and Chen, Y. (2017). Experimental investigation of beam-through steel frames with self-centering modular panels. *Journal of Structural Engineering*, 143(5), 04017006.

CONFERENCE PROCEEDINGS

1. **Du, X.** and Becker, T. Deformation analysis of solar photovoltaic (PV) structures: lateral-torsional buckling of C purlins restrained by solar modules. *Proceedings of the Annual Stability Conference*. Structural Stability Research Council; March 19, 2024; Chicago, IL.
2. **Du, X.**, Hajjar, J.F., Bond, R.B., and Sun, H. Collapse fragility development of electrical transmission towers subjected to hurricanes. *Proceedings of the IABSE Symposium 2022*. International Association for Bridge and Structural Engineering; May 25, 2022; Zurich, Switzerland.
3. **Du, X.** and Hajjar, J.F. Nonlinear dynamic analysis and fragility development of electrical transmission towers under hurricanes. *Proceedings of the Annual Stability Conference*. Structural Stability Research Council; March 22, 2022; Chicago, IL.
4. **Du, X.** and Hajjar, J.F. Hurricane fragility analysis of electrical transmission towers. *Proceedings of the Electrical Transmission and Substation Structures Conference*. American Society of Civil Engineers; October 2, 2022; Reston, VA.
5. Hajjar, J.F., **Du, X.**, and Bond, R.B. Collapse fragility development of electrical transmission towers. *Proceedings of the 18th world conference on earthquake engineering*. June 30, 2024; Milan, Italy.

PRESENTATIONS AND POSTERS

1. **Du, X.**, Becker, T., Melaku, A., and Taylor, Z. DES and LES simulation of wind loads on a ground-mounted solar array. *Proceedings of the 15th Americas Conference on Wind Engineering*. American Association of Wind Engineering; May 19-22, 2025; St. Louis, MO.
2. **Du, X.**, Becker, T., Taylor, Z., and Needham, C. Towards determining lifetime duty cycles of solar structural joints under wind loading. *Proceedings of the 15th Americas Conference on Wind Engineering*. American Association of Wind Engineering; May 19-22, 2025; St. Louis, MO.
3. Melaku, A., **Du, X.**, Alegbeleye, C., Górlé, C., Zsarnoczay, A., McKenna, F., Davidson, R., Taciroglu, E., and DeJong, M. Towards developing a comprehensive aerodynamic database for low-rise buildings using CFD: validation against wind tunnel data. *NHERI Computational Symposium*. NHERI Computational Modeling and Simulation Center (SimCenter); February 5-7, 2025; Los Angeles, CA.
4. **Du, X.** and Becker, T. Detached-eddy simulation of wind loads on a ground-mounted solar array. *NHERI Computational Symposium*. NHERI Computational Modeling and Simulation Center (SimCenter); February 1-2, 2024; Los Angeles, CA.
5. **Du, X.** and Becker, T. Towards determining lifetime duty cycles of solar PV joints. *Photovoltaic Reliability Workshop (PVRW)*. National Renewable Energy Laboratory; February 28-March 2, 2023; Denver, CO.
6. **Du, X.** and Hajjar, J.F. Three-dimensional nonlinear beam element for asymmetric steel sections subjected to dynamic loading. *Engineering Mechanics Institute Conference 2021 and Probabilistic Mechanics & Reliability Conference 2021*. American Society of Civil Engineers; May 25-28, 2021. (Virtual event)