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Associate Professor

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EDUCATION

University of California, Los Angeles, MS, Statistics, March 2022

Stanford University, Ph.D., Civil and Environmental (Structural) Engineering, August 2014

Stanford University, MS, Civil and Environmental (Structural) Engineering, June 2004

Morgan State University, BS, Civil and Environmental Engineering, May 2002

EMPLOYEMENT HISTORY

Associate Professor, Department of Civil and Environmental Engineering, **University of California, Los Angeles**, July 2020 – Present

Assistant Professor, Department of Civil and Environmental Engineering, **University of California, Los Angeles**, Sept. 2014 – June 2020

Graduate Research Assistant, **Stanford University**, Sept. 2010 – Aug. 2014

Project Engineer, **Degenkolb Engineers**, Oakland, California, Dec. 2008 – Sept. 2010.

Design Engineer, **Degenkolb Engineers**, Oakland, California, Jun. 2006 – Dec. 2008.

Designer, **Degenkolb Engineers**, Oakland, California, Jun. 2004 – Jun. 2006.

PROFESSIONAL MEMBERSHIPS

Earthquake Engineering Research Institute

American Society of Civil Engineering (ASCE)

Structural Engineering Association of California (SEAOC)

National Society of Black Engineers

PROFESSIONAL REGISTRATION

Registered *Professional Civil Engineer in California, USA* Since 2006.

Registered *Professional Structural Engineer in California, USA* Since 2009.

SELECTED AWARDS AND HONORS

Outstanding Reviewer Award 2019, ASCE Natural Hazard Review Journal

Recognized for Contribution to Developing Design Guide for Implementing Los Angeles Soft-Story Ordinance Retrofit, 2017

Outstanding Reviewer Award 2017, ASCE Journal of Structural Engineering

Presidential Chair in Structural Engineering, 2016

National Science Foundation CAREER Award, 2016

National Science Foundation, Next Gen. of Hazards, and Disaster Researchers Fellowship, 2014

Best Paper Award, 4th Int. Conference on Building Resilience, Manchester, England, 2014

Diversifying Academia Recruiting Excellence (DARE) Fellowship, Stanford University, 2012

UNIVERSITY AND PROFESSIONAL SERVICE

Professional

Paper Reviewer: Earthquake Spectra, ASCE Journal of Structural Engineering, International Journal of Disaster Risk Reduction and ASCE Natural Hazards Review, Structural Safety, Earthquake engineering and Structural Dynamics, Journal of Earthquake Engineering, ASCE Journal of Engineering Mechanics, Journal of Tall and Special Buildings, Bulletin of Earthquake Engineering, Engineering Structures, Structure and Infrastructure Engineering and ASCE Journal of Uncertainty in Engineering Systems.

Board of Directors: Structural Engineers Association of Southern California (SEAOSC), 2019-2021

Associate Editor: Earthquake Spectra, ASCE Journal of Structural Engineering and ASCE Natural Hazards Review

Co-Chair: of ASCE Infrastructure Resilience Division, Risk and Resilience Measurement Committee, 2018 to 2020

Member: National Academy of Sciences, Engineering and Medicine (NASEM) Committee on Transportation Resilience Metrics, 2020 to 2022

Member: ASCE Structural Engineering Institute (SEI) Board of Governors Task Committee on Building Structural Leaders

Mentor: National Science Foundation, Next Gen. of Hazards, and Disaster Researchers Fellowship, 2020-2021

Member: Pacific Earthquake Engineering Research Center Research Committee, 2022-Present

Member: ASCE (National) Standards Committee on Minimum Loads for Buildings and Other Structures Future Conditions of Environmental Hazards Subcommittee, ASCE 7-28 Revision Cycle, 2023-Present.

Member: UCLA Rising to the Challenge Faculty University-Wide Search Ad Hoc Committee, 2020-2021

Chair: UCLA Rising to the Challenge Faculty Samueli Engineering Search Ad Hoc Committee

Member: UCLA Samueli Engineering Dean Search Ad Hoc Committee, 2022-2023

Chair: UCLA Civil and Environmental Engineering Course and Curriculum Committee, 2020 to present

Chair: UCLA Civil and Environmental Engineering Merit Increase Committee, 2022-2023

Board Member: UCLA Garrick Institute for the Risk Sciences, Natural Hazards Risk and Resilience Research Center 2022-Present

Member: UCLA Undergraduate Council's Honors, Awards & Prizes Committee (HAP), 2015-2017

Faculty Advisor: UCLA EERI Student Chapter, Fall 2016 to Present

Faculty Advisor: UCLA NSBE Student Chapter, 2021 to Present

Member: UCLA HSSEAS Honors & Awards Committee 2015

MAJOR GRANTS

Co-Principal Investigator, Probabilistic Regional Seismic Risk Assessment of a Los Angeles Bridge Network using a New Generation of Fragility Functions, Pacific Earthquake Engineering Research Center, 08/01/2023 - 7/31/2025, \$75,250.

Co-Principal Investigator, California Center for Green Buildings Research, University of California Multicampus Research Programs, and Initiatives, 01/01/2023 - 12/31/2024, \$300,000.

Co-Principal Investigator, NHERI Computational Modeling and Simulation Center, National Science Foundation, 10/01/2021 – 09/30/2025, \$239,904.

Principal Investigator, An investigation of the racial disparities in the benefits derived from local and state seismic risk mitigation programs, University of California, Los Angeles, Racial and Social Justice Grant, 07/01/2021 - 06/30/2022, \$23,000.

Principal Investigator, California Informatics for Equitable Disaster Recovery, University of California Multicampus Research Programs, and Initiatives, 01/01/2021 - 12/31/2022, \$262,000.

Principal Investigator, CAREER: From Performance-Based Engineering to Resilience and Sustainability: Design and Assessment Principles for the Next Generation of Buildings, National Science Foundation, 01/01/2016 - 12/31/2021, \$516,000.

Principal Investigator, Developing framework and computational tools to model post-earthquake housing recovery in California, California Seismic Safety Commission/Global Earthquake Model, 05/28/2015 – 10/01/2016, \$110,000.

Principal Investigator, Utilizing Remote Sensing to Assess the Implication of Tall Building Performance on the Resilience of Urban Centers, National Science Foundation, 10/01/2015 – 09/30/2019, \$550,100.

Principal Investigator, Modeling Post-Disaster Housing Recovery Integrating Performance Based Engineering and Urban Simulation, National Science Foundation, 9/01/2015 – 09/30/2018, \$272,791.

Principal Investigator, Stochastic Characterization of Aftershock Building Collapse Risk, United States Geological Survey, 01/01/2016 - 12/31/2016, \$74,722.

Co-Principal Investigator, Research and Education Program Towards a Probabilistic Resilience Assessment Model for Nuclear Facilities, Nuclear Regulatory Commission, 4/1/2017 to 3/31/2020, \$450,000.

Principal Investigator, Aftershock Vulnerability and Time-Dependent Risk Assessment of Bridges. Pacific Earthquake Engineering Research (PEER) Center Transportation Research Program, 01/01/2018 - 12/31/2018, \$68,753.

Principal Investigator, A Reliability-Based Assessment of Orthogonal Effects and Ground Motion Directionality on the Seismic Demands in SCBF Columns. American Institute of Steel Construction (AISC), 11/15/2016 - 10/31/2017, \$64,000.

Principal Investigator, Quantifying the Performance of Retrofit of Cripple Walls and Sill Anchorage in Single Family Wood-frame Buildings. Pacific Earthquake Engineering Research (PEER) and California Earthquake Authority, 12/01/2016 - 04/17/2021, \$212,000.

Principal Investigator, UC-HBCU Summer Pathways Research Program for Disaster Resilient Residential Communities, 12/01/2015 - 9/30/2018, \$90,462.

COURSES TAUGHT

Structural Testing and Analysis (Undergraduate): Spring 2015, 2016, 2017, 2018 and 2019.
Structural Reliability (Graduate): Winter 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023.
Advanced Structural Analysis (Graduate): Fall 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022.
Engineering Resilient Infrastructure Systems and Communities (Undergraduate, Fiat Lux): Fall 2018
Nonlinear Structural Analysis (Graduate): Spring 2019, 2020 and 2021, 2022
Indeterminate Structural Analysis (Undergraduate): Winter 2023

JOURNAL PUBLICATIONS

1. Lu, X., & **Burton, H.** EESD special issue: AI and data-driven methods in earthquake engineering-Part 1. *Earthquake Engineering & Structural Dynamics*.
2. Abdelmalek-Lee, E., Jain, T., Galicia Madero, S., Sun, H., **Burton, H.**, & Wallace, J. (2023). Relational database for building strong motion recordings used for seismic impact assessments. *Earthquake Spectra*, 39(2), 1277-1297.
3. Issa, O., Silva-Lopez, R., Baker, J. W., & **Burton, H. V.** (2023). Machine-learning-based optimization framework to support recovery-based design. *Earthquake Engineering & Structural Dynamics* (accepted for publication).
4. Bedriñana, L. A., Sucasaca, J., Tovar, J., & **Burton, H.** (2023). Design-Oriented Machine-Learning Models for Predicting the Shear Strength of Prestressed Concrete Beams. *Journal of Bridge Engineering*, 28(4), 04023009.
5. Sharma, M., Singh, Y., & **Burton, H. V.** (2023). Parametric study on the collapse probability of modern reinforced concrete frames with infills. *Earthquake Spectra*, 39(2), 772-798.
6. Haindl, M., **Burton, H. V.**, & Sattar, S. (2023). Quantification of Equivalent Strut Modeling Uncertainty and Its Effects on the Seismic Performance of Masonry Infilled Reinforced Concrete Frames. *Journal of Earthquake Engineering*, 1-21.
7. **Burton, H. V.** (2023). Causal inference on observational data: Opportunities and challenges in earthquake engineering. *Earthquake Spectra*, 39(1), 54-76.
8. Abdelmalek-Lee, E., & **Burton, H.** (2023). A dual Kriging-XGBoost model for reconstructing building seismic responses using strong motion data. *Bulletin of Earthquake Engineering*, 1-27.
9. Asjodi, A. H., Dolatshahi, K. M., & **Burton, H. V.** (2023). Three-dimensional fragility surface for reinforced concrete shear walls using image-based damage features. *Earthquake Engineering & Structural Dynamics*, DOI: 10.1002/eqe.3832.
10. Guan, X., & **Burton, H. V.** (2022, December). Bias-variance tradeoff in machine learning: Theoretical formulation and implications to structural engineering applications. In *Structures* (Vol. 46, pp. 17-30). Elsevier.
11. Odikamnor, I., Badal, P. S., **Burton, H. V.**, & Tesfamariam, S. (2022). Seismic collapse risk of RC-timber hybrid building with different energy dissipation connections considering NBCC 2020 hazard. *Journal of Infrastructure Preservation and Resilience*, 3(1), 14.
12. Omoya, M., **Burton, H. V.**, & Baroud, H. (2022). Bayesian parameter estimation of duration-based variables used in post-earthquake building recovery modeling. *Earthquake Spectra*, 38(3), 2088-2108.
13. Yi, Z., & **Burton, H. V.** (2022). Methodology for effective and efficient regional seismic retrofit using machine learning and stochastic optimization. *Structure and Infrastructure Engineering*, 1-15.

14. Huang, H., & **Burton, H. V.** (2022). Dynamic seismic damage assessment of distributed infrastructure systems using graph neural networks and semi-supervised machine learning. *Advances in Engineering Software*, 168, 103113.
15. Sun, H., **Burton, H. V.**, Stewart, J. P., & Wallace, J. W. (2022). Development of a Generalized Cross-Building Structural Response Reconstruction Model Using Strong Motion Data. *Journal of Structural Engineering*, 148(6), 04022053.
16. **Burton, H. V.** (2022). A moving forest model to predict the building-level progression of ordinance-mandated seismic retrofits. *Journal of Building Engineering*, 49, 104020.
17. Aladsani, M. A., **Burton, H. V.**, Abdullah, S. A., & Wallace, J. W. (2022). Explainable Machine Learning Model for Predicting Drift Capacity of Reinforced Concrete Walls. *ACI Structural Journal*, 119(3).
18. Omoya, M., Ero, I., Zaker Esteghamati, M., **Burton, H. V.**, Brandenberg, S., Sun, H., ... & Nweke, C. C. (2022). A relational database to support post-earthquake building damage and recovery assessment. *Earthquake Spectra*, 38(2), 1549-1569.
19. Dahal, L., **Burton, H. V.**, & Onyambu, S. (2022). Quantifying the effect of probability model misspecification in seismic collapse risk assessment. *Structural Safety*, 96, 102185.
20. Tomar, A., **Burton, H. V.**, & Mosleh, A. (2022). Dynamic updating of post-earthquake damage and functional restoration forecasts of water distribution systems using Bayesian inferencing. *Earthquake Spectra*, 38(1), 109-127.
21. **Burton, H. V.**, Xu, H., & Yi, Z. (2021). Design of computer experiments for developing seismic surrogate models. *Earthquake Spectra*, 87552930211033309.
22. Dhulipala, S. L., **Burton, H. V.**, & Baroud, H. (2021). A Markov framework for generalized post-event systems recovery modeling: From single to multihazards. *Structural Safety*, 91, 102091.
23. Dastmalchi, S., & **Burton, H. V.** (2021). Effect of modeling uncertainty on multi-limit state performance of controlled rocking steel braced frames. *Journal of Building Engineering*, 39, <https://doi.org/10.1016/j.jobe.2021.102308>.
24. Guan, X., **Burton, H. V.**, Shokrabadi, M., & Yi, Z. (2021). Seismic Drift Demand Estimation for Steel Moment Frame Buildings: From Mechanics-Based to Data-Driven Models. *Journal of Structural Engineering*, 147(6), 04021058.
25. Tomar, A., & **Burton, H. V.** (2021). Active learning method for risk assessment of distributed infrastructure systems. *Computer-Aided Civil and Infrastructure Engineering*, <https://doi.org/10.1111/mice.12665>.
26. Rad, A. R., **Burton, H. V.**, Rogeau, N., Vestartas, P., & Weinand, Y. (2021). A framework to automate the design of digitally-fabricated timber plate structures. *Computers & Structures*, 244, 106456.
27. Zhang, Y., & **Burton, H. V.** (2021). Optimal decision-making for tall buildings in the aftershock environment. *Automation in Construction*, 122, <https://doi.org/10.1016/j.autcon.2020.103472>.
28. Tomar, A., & **Burton, H. V.** (2021). Risk-based assessment of the post-earthquake functional disruption and restoration of distributed infrastructure systems. *International Journal of Disaster Risk Reduction*, 52, <https://doi.org/10.1016/j.ijdr.2020.102002>.
29. Wang, J., **Burton, H. V.**, & Dai, K. (2021). Reliability-based assessment of percentage combination rules considering the collapse performance of special concentrically braced frames. *Engineering Structures*, 226, <https://doi.org/10.1016/j.engstruct.2020.111370>.
30. Dastmalchi, S., & **Burton, H. V.** (2020). Reliability-Based Design of Force-Controlled Components in Rocking Steel-Braced Frames. *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering*, 6(4), 04020040.

31. Guan, X., **Burton, H. V.**, & Sabol, T. (2020). Python-based computational platform to automate seismic design, nonlinear structural model construction and analysis of steel moment resisting frames. *Engineering Structures*, 224, 111199.
32. Tomar, A., **Burton, H. V.**, Mosleh, A., & Yun Lee, J. (2020). Hindcasting the Functional Loss and Restoration of the Napa Water System Following the 2014 Earthquake Using Discrete-Event Simulation. *Journal of Infrastructure Systems*, 26(4), 04020035.
33. Rad, A. R., **Burton, H. V.**, & Weinand, Y. (2020). Out-of-plane (flatwise) behavior of through-tenon connections using the integral mechanical attachment technique. *Construction and Building Materials*, 262, 120001.
34. Guan M. EERI, X., **Burton, H. V.**, & Shokrabadi, M. (2020). A database of seismic designs, nonlinear models, and seismic responses for steel moment-resisting frame buildings. *Earthquake Spectra*, <https://doi.org/10.1177/8755293020971209>.
35. Rezaei Rad, A., **Burton, H. V.**, & Weinand, Y. (2020). Macroscopic model for spatial timber plate structures with integral mechanical attachments. *Journal of Structural Engineering*, 146(10), 04020200.
36. Sun, H., **Burton, H. V.**, & Huang, H. (2020). Machine learning applications for building structural design and performance assessment: state-of-the-art review. *Journal of Building Engineering*, 33, <https://doi.org/10.1016/j.jobe.2020.101816>.
37. Huang, H., & **Burton, H. V.** (2020). A database of test results from steel and reinforced concrete infilled frame experiments. *Earthquake Spectra*, 36(3), 1525-1548.
38. Yi, Z., **Burton, H. V.**, Shokrabadi, M., & Issa, O. (2020). Multi-scale cost-benefit analysis of the Los Angeles Soft-Story Ordinance. *Engineering Structures*, 214, 110652.
39. Huang, H., **Burton, H. V.**, & Sattar, S. (2020). Development and utilization of a database of infilled frame experiments for numerical modeling. *Journal of Structural Engineering*, 146(6), 04020079.
40. Masoomi, H., **Burton, H. V.**, Tomar, A., & Mosleh, A. (2020). Simulation-based assessment of post-earthquake functionality of buildings with disruptions to cross-dependent utility networks. *Journal of Structural Engineering*, 146(5), 04020070.
41. Mangalathu, S., Sun, H., Nweke, C. C., Yi, Z., & **Burton, H. V.** (2020). Classifying earthquake damage to buildings using machine learning. *Earthquake Spectra*, 36(1), 183-208.
42. **Burton, H. V.**, Kang, H., Miles, S., Nejat, A. and Yi, Z. (2019). "A framework and case study for integrating household decision-making into post-earthquake recovery models," *International Journal of Disaster Risk Reduction*, 37, 101167.
43. Rad, A. R., Weinand, Y. and **Burton, H. V.** (2019). "Experimental push-out investigation on the in-plane force-deformation behavior of integrally-attached timber through-tenon joints," *Construction and Building Materials* 215, 925-940.
44. **Burton, H. V.**, Doorandish, N. and Sabol, T (2019). "Probabilistic assessment of seismic force demands in biaxially loaded columns in chevron-configured special concentrically braced frames," *AISC Engineering Journal* 56(2), 109-122.
45. Huang, H. and **Burton, H. V.** (2019). "Classification of in-plane failure modes for reinforced concrete frames with infills using machine learning," *Journal of Building Engineering* 25, 1-11.
46. Zhang, Y., **Burton, H. V.**, Shokrabadi, M. and Wallace, J. (2019). "Seismic risk assessment of a 42-story reinforced concrete dual-system building considering mainshock and aftershock hazard," *ASCE Journal of Structural Engineering*, 145 (11), 04019135.
47. Wang, J., **Burton, H. V.**, & Dai, K. (2019). Combination rules used to account for orthogonal seismic effects: State-of-the-art review. *Journal of Structural Engineering*, 145(11), 03119001.

48. Mangalathu, S. and **Burton, H. V.** (2019). “Deep learning-based classification of earthquake-impacted buildings using textual damage descriptions,” *International Journal of Disaster Risk Reduction*, <https://doi.org/10.1016/j.ijdr.2019.101111>.
49. Sun, H., **Burton, H. V.** and Wallace, J. W. (2019). “Reconstructing seismic response demands across multiple tall buildings using kernel-based machine learning methods,” *Structural Control and Health Monitoring*, 26(7), e2359.
50. Rad, A. R., **Burton, H. V.** and Weinand, Y. (2019). “Performance assessment of through-tenon timber joints under tension loads,” *Construction and Building Materials* 207, 706-721.
51. Shokrabadi, M. and **Burton, H. V.** (2019). “Regional short-term and long-term risk and loss assessment under sequential seismic events,” *Engineering Structures* 185, 366-376.
52. Zhang, Y. and **Burton, H. V.** (2019). “Pattern recognition approach to assess the residual structural capacity of damaged tall buildings,” *Structural Safety* 78, 12-22.
53. Krishnan, N. A., Mangalathu, S., Smedskjaer, M. M., Tandia, A., **Burton, H. V.**, and Bauchy, M. (2018). “Predicting the dissolution kinetics of silicate glasses using machine learning.” *Journal of Non-Crystalline Solids*, 487, 37-45.
54. **Burton, H. V.**, Rad, A. R., Yi, Z., Gutierrez, G. and Ojuri, K. (2018). “Seismic collapse performance of Los Angeles soft, weak, and open-front wall-line woodframe structures retrofitted using different procedures,” *Bulletin of Earthquake Engineering* , <https://doi.org/10.1007/s10518-018-00524-w>.
55. **Burton, H. V.**, Doorandish, N. and Shokrabadi, M. (2018). “Probabilistic evaluation of combination rules for seismic force demands from orthogonal ground motion components,” *Engineering Structures* 177, 234-243.
56. Moradi, S., **Burton, H. V.** and Kumar, I. (2018). “Parameterized fragility functions for controlled rocking steel braced frames” *Engineering Structures* 176, 254-264.
57. Guan, X., **Burton, H. V.**, and Moradi, S. (2018). “Seismic Performance of a Self-Centering Steel Moment Frame Building: From Component-Level Modeling to Economic Loss Assessment,” *Journal of Constructional Steel Research*, 150, 129-140.
58. Miles, S.B., **Burton, H. V.**, and Kang, H. (2018). “Towards a community of practice for disaster recovery modeling,” *Natural Hazards Review* 19(1), 1-11.
59. **Burton, H. V.**, Miles, S.B. and Kang, H. (2018). “Integrating performance based engineering and urban simulation to model post-earthquake housing recovery,” *Earthquake Spectra* 34(4), 1763-1785.
60. Kang, H. and **Burton, H. V.** (2018). “Replicating the recovery following the 2014 South Napa earthquake using stochastic process models,” *Earthquake Spectra*, 34(3), 1247-1266.
61. Yun, J. Y., **Burton, H. V.** and Lallemand, D. (2018). “Adaptive decision-making for civil infrastructure systems and communities subjected to evolving risks,” *Structural Safety*, 75, 1-12.
62. Moradi, S. and **Burton, H. V.** (2018). “Response surface analysis and optimization of controlled rocking steel braced frames ,” *Bulletin of Earthquake Engineering*, 16(10), 4861-4892.
63. Shokrabadi, M. and **Burton, H. V.** (2018). “Risk-based assessment of aftershock and mainshock-aftershock seismic performance of reinforced concrete frames,” *Structural Safety* 73, 64-74.
64. Shokrabadi, M. and **Burton, H. V.** (2018). “Building service life economic loss assessment under sequential seismic events,” *Earthquake Engineering Structural Dynamics* 47(9), 1864-1881.
65. Shokrabadi, M., **Burton, H. V.**, and Stewart, J. (2018). “Impact of Sequential Ground Motion Pairing on Mainshock-Aftershock Structural Response and Collapse Performance Assessment,” *ASCE Journal of Structural Engineering* 144(10), 1-13.

66. Zhang, Y., **Burton, H. V.**, Sun, H. and Shokrabadi, M. (2017). “A machine-learning framework for assessing post-earthquake structural safety,” *Structural Safety* 17, 1-16.
67. Sun, H., **Burton, H. V.**, Zhang, Y. and Wallace, J. W. (2017). “Interbuilding interpolation of peak seismic response demands using spatially correlated demand parameters,” *Earthquake Engineering Structural Dynamics*, 47(5), 1168-1188.
68. Shokrabadi, M. and **Burton, H. V.** (2017). “Ground motion intensity measures for rocking building systems,” *Earthquake Spectra*, 33(4), 1533-1554.
69. **Burton, H. V.** and Deierlein, G. (2017). “Integrating visual damage simulation, virtual inspection and collapse capacity to evaluate post-earthquake structural safety of buildings,” *Earthquake Engineering Structural Dynamics*, 47(2), 298-310.
70. **Burton, H. V.**, Deierlein, G, Lallemand, D. and Singh, Y. (2017). “Measuring the impact of enhanced building performance on the seismic resilience of a residential community,” *Earthquake Spectra*, 33(4), 1347-1367.
71. **Burton, H. V.**, Sreekumar, S., Sharma, M. and Sun, H. (2017). “Estimating aftershock collapse vulnerability using mainshock intensity, structural response and physical damage indicators,” *Structural Safety* 68, 85-96.
72. Lallemand, D., **Burton, H. V.**, Ceferino, L., Bullock, Z. and Kiremidjian, A. (2017). “A framework and case study for earthquake vulnerability assessment of incrementally expanding buildings,” *Earthquake Spectra*, 33(4), 1369-1384.
73. **Burton, H. V.** and Sharma, M. (2017). “Quantifying the reduction in collapse safety of mainshock-damaged reinforced concrete frames with infills,” *Earthquake Spectra*, 33(1), 25-44.
74. **Burton, H. V.**, Deierlein, G., Mar, D., Mosalam, K., Rodgers, J. and Gunay, S. (2016). “A rocking spine for enhanced seismic performance of reinforced concrete frames with infills,” *ASCE Journal of Structural Engineering*, 142(11), 1-11.
75. **Burton, H. V.**, Deierlein, G., Lallemand, D., and Lin, T. (2015). “Framework for Incorporating Probabilistic Building Performance in the Assessment of Community Seismic Resilience,” *ASCE Journal of Structural Engineering*, 142 (8), 1-11.
76. Lallemand, D., Kiremidjian, A., and **Burton, H. V.** (2015). “Statistical procedures for developing earthquake damage fragility curves.” *Earthquake Engineering Structural Dynamics*, 44(9), 1373-1389
77. **Burton, H. V.**, and Deierlein, G. G. (2014). Simulation of seismic collapse in nonductile reinforced concrete frame buildings with masonry infills. *ASCE Journal of Structural Engineering*, 140(8), 1-10.

CONFERENCE PUBLICATIONS

1. Dahal, L., **Burton, H.**, & Yi, Z. An End-to-End Computational Platform to Automate Seismic Design, Nonlinear Analysis, and Loss Assessment of Woodframe Buildings. In Twelfth US National Conference on Earthquake Engineering, Salt Lake City, UT.
2. Shokrabadi, M., Bozorgnia, Y., & **Burton, H. V.** (2022). A Platform for Efficient Ground Motion Selection Considering Multi-Target Spectra. In *Lifelines 2022* (pp. 175-184).
3. Rezaei Rad, A., **Burton, H.**, & Weinand, Y. (2021). Macro Modeling Technique for Integrally-Attached Timber Plates: Sensitivity Analysis. In *WCTE 2021 World Conference on Timber Engineering*.
4. Lee, J. Y., Ellingwood, B. R., **Burton, H. V.**, & Ma, F. (2019). Dynamic Risk Assessment of Resilient Infrastructure Systems under Uncertain Conditions. 13th International Conference on Applications of Statistics and Probability in Civil Engineering, ICASP13, Seoul, South Korea,

May 26-30, 2019.

5. Rad, A. R., **Burton, H. V.**, & Weinand, Y. (2019). A new macro modeling approach in structural analysis of integrally-attached timber plate structures. *CompWood*, 26-26.
6. Poland, C., **Burton, H.**, & Tuesday, J. (2018). Resilience-based performance standards for buildings and lifeline systems. In Eleventh US National Conference on Earthquake Engineering, Los Angeles, CA.
7. Lee, J.Y., Tomar, A., Burton, H. (2018). A framework for water distribution system exposed to seismic events and evolving conditions. In 11th U.S. National Conference on Earthquake Engineering, Los Angeles, California
8. Zhang, Y., **Burton, H. V.**, & Wallace, J. (2018). Damage detection and evaluation of tall buildings using pattern recognition. In Eleventh US National Conference on Earthquake Engineering, Los Angeles, CA.
9. **Burton, H.** (2018). A framework for performance-based analytics driven design. In Proceedings of the 11th national conference in earthquake engineering, Los Angeles, CA (pp. 24-29).
10. Gebelein, J., Barnard, M., **Burton, H.**, Cochran, M., Haselton, C., McLellan, R., & Porter, K. (2017, September). Considerations for a framework of resilient structural design for earthquakes. In 2017 SEAOC Convention Procs.
11. **Burton, H. V.**, & Kang, H. (2017). Towards the seismic resilience of residential communities: A conceptual framework and case study. In Proceedings of the 16th World Conference on Earthquake Engineering (pp. 9-13).
12. Zhang, Y., **Burton, H.**, Han, S., Shokrabadi, M. (2017). Application of the random forest machine learning in assessing the post-earthquake structural safety of damaged buildings. 12th Int. Conf. on Structural Safety and Reliability, Vienna, Austria
13. Kang, H., **Burton, H.** (2017). Stochastic characterization of post-earthquake, community-scale recovery. 12th Int. Conf. on Structural Safety and Reliability, Vienna, Austria
14. **Burton, H.**, Wang, S., Zhang, Y., Wallace, J. (2016). Application of the US resiliency council seismic rating procedure to two tall buildings designed by alternative means. In Proceedings of the 85th Structural Engineers Association of California (SEAOC) Annual Convention.
15. **Burton, H.**, Deierlein, G., & Lepech, M. (2011). Assessing the scale of environmental impacts from a major California earthquake. In Proceedings of the 80th Structural Engineers Association of California (SEAOC) Annual Convention.

BOOK CHAPTERS

1. Sharma, M., Singh, Y., & **Burton, H.** (2023). Seismic Performance of a Masonry Infilled Reinforced Concrete Frame Building Designed as per Indian Codes. *Earthquake Engineering and Disaster Mitigation: Contributions in the Honor of Late Professor DK Paul*, 241-254.
2. **Burton, H. V.**, Lee, J. Y., Moradi, S., & Dastmalchi, S. (2019). Multi-objective performance-based design optimization of a controlled rocking steel braced frame system. *Resilient structures and infrastructure*, 243-268.