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EDUCATION

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

EMPLOYMENT HISTORY

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

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

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

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

UCLA EERI Student Chapter Advisor, Fall 2016 to Present

UCLA HSSEAS Honors & Awards Committee 2015

MAJOR GRANTS

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.

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 - 12/31/2020, \$508,000.

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 and 2019

Advanced Structural Analysis (Graduate): Fall 2015, 2016, 2017, 2018

Engineering Resilient Infrastructure Systems and Communities (Undergraduate, Fiat Lux): Fall 2018

Nonlinear Structural Analysis (Graduate): Spring 2019

JOURNAL PUBLICATIONS

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*, <https://doi.org/10.1016/j.ijdr.2019.101167>.

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.

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.

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* (accepted for publication).

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* (accepted for publication).

Wang, J., Burton, H. V. and Dai, K. (2019). "A state-of-the-art review of the combination rules used to account for orthogonal seismic effects," *ASCE Journal of Structural Engineering* (accepted for publication).

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>.

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*, <https://doi.org/10.1002/stc.2359>.

Rad, A. R., Burton, H. V. and Weinand, Y. (2019). "Performance assessment of through-tenon timber joints under tension loads," *Construction and Building Materials* (accepted for publication).

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.

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.

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.

- 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>.
- 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.
- Moradi, S., Burton, H. V. and Kumar, I. (2018). "Parameterized fragility functions for controlled rocking steel braced frames" *Engineering Structures* 176, 254-264.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- Shokrabadi, M. and Burton, H. V. (2017). "Ground motion intensity measures for rocking building systems," *Earthquake Spectra*, 33(4), 1533-1554.
- 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.

- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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
- 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.