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EDUCATION

Ph.D. in Civil Engineering and Scientific Computing, University of Michigan	May 2020
M.S. in Civil Engineering / Structural Engineering Division, National Taiwan University	June 2015
B.S. in Civil Engineering, National Taiwan University	June 2013

RESEARCH INTERESTS & EXPERTISE

Hazard risk analysis 災害風險分析
Community sustainability and resilience 社區復原韌性與永續性分析
Distributed simulation of community response to disasters 分佈式災害模擬
Agent-based modeling of human behavior in disasters 災害中個體行為模式及影響

PUBLICATIONS & PRESENTATIONS

Journal Publications

- [1] **Lin, S.-Y.**, Hung, H.H., Yang, J.P., and Yang, Y.B. (2017). Seismic Analysis of Twin Tunnels by a Finite/Infinite Element Approach. *International Journal of Geomechanics*, 17(9): 04017060. [https://doi.org/10.1061/\(ASCE\)GM.1943-5622.0000940](https://doi.org/10.1061/(ASCE)GM.1943-5622.0000940)
- [2] **Lin, S.-Y.**, Chuang, W.C., Xu, L., El-Tawil, S., Spence, S.M.J., Kamat, V.R., Menassa, C.C., and McCormick, J. (2019). Framework for Modeling Interdependent Effects in Natural Disasters: Application to Wind Engineering. *Journal of Structural Engineering*, 145(5): 04019025. [https://doi.org/10.1061/\(ASCE\)ST.1943-541X.0002310](https://doi.org/10.1061/(ASCE)ST.1943-541X.0002310)
- [3] **Lin, S.-Y.** and El-Tawil, S. (2020). Time-Dependent Resilience Assessment of Seismic Damage and Restoration of Interdependent Lifeline Systems. *Journal of Infrastructure Systems*, 26(1): 04019040. [https://doi.org/10.1061/\(ASCE\)IS.1943-555X.0000522](https://doi.org/10.1061/(ASCE)IS.1943-555X.0000522).
- [4] **Lin, S.-Y.**, El-Tawil, S., and Aguirre, B.E. Computational Simulation of Benefit Fraud and Community Resilience in the Wake of Disaster. *Natural Hazards Review*, accepted.
- [5] **Lin, S.-Y.**, Hlynka, A. W., Xu, L., Lu, H., El-Tawil, S., Kamat, V.R., Prakash A., Menassa, C.C., Spence, S. M. J., McCormick, J., and Aguirre, B. A Distributed Computing Software Solution for Simulating. *Natural Hazards Review*, under review.
- [6] **Lin, S.-Y.**, Hlynka, A.W., Xu, L., Lu, H., Sediek, O.A., El-Tawil, S., Kamat, V.R., McCormick, J., Menassa, C.C., Spence, S. M. J., Prakash A., and Aguirre, B. Simple Run-Time Infrastructure (SRTI): An Accessible Distributed Computing Platform for Interdisciplinary Simulation. *Journal of Computational Science*, under review.
- [7] Xu, L., **Lin, S.-Y.**, Hlynka, A.W., Lu, H., Kamat, V.R., Menassa, C.C., El-Tawil, S., Prakash A., Spence, S.M.J., and McCormick, J. Distributed Simulation Platforms and Data Passing Tools for Natural Hazards Engineering: Reviews, Limitations, and Recommendations. *Advanced Engineering Informatics*, under review.

Conference Publications

- [1] **Lin, S.-Y.**, Hung, H.H., You, P.L., and Yang, Y.B. (2015). Seismic Analysis of Underground Twin-Tunnels by Finite/Infinite Element Approach. *Proceeding of the Twenty-Eighth KKHTCNN Symposium on Civil Engineering, Bangkok, Thailand, November 16-18, 2015*.
- [2] **Lin, S.-Y.**, Xu, L., Chuang, W.C., El-Tawil, S., Spence, S.M.J., Kamat, V.R., Menassa, C.C., and

McCormick, J. (2018). Modeling Interactions in Community Resilience. *Proceeding of the Structures Congress 2018, Fort Worth, Texas, United States, April 19-21, 2018.*

- [3] Abdelhady, A.U., **Lin, S.-Y.**, Xu, L., Sediek, O.A., Hlynka, A.W., El-Tawil, S., Spence, S.M.J., McCormick, J., Kamat, V.R., and Menassa, C.C. (2019). A Distributed Computing Platform for Community Resilience Estimation. *Proceeding of the 13th International Conference on Applications of Statistics and Probability in Civil Engineering, ICASP13, Seoul, South Korea, May 26-30, 2019.*
- [4] **Lin, S.-Y.** and El-Tawil, S. (2019). Time-Dependent Computation of Multiscale Interdependencies between Lifeline Systems Subjected to Seismic Events. *International Conference in Commemoration of 20th Anniversary of the 1999 Chi-Chi Earthquake, Taipei, Taiwan, September 15-19, 2019.*
- [5] **Lin, S.-Y.**, Hlynka, A.W., Xu, L., Lu, H., Sediek, O.A., El-Tawil, S., Kamat, V.R., Prakash A., Menassa, C.C., Spence, S. M. J., McCormick, J., and Aguirre, B. (2020). Simple Real-Time Infrastructure (SRTI): A Distributed Computational tool for Natural Hazards Simulation. *Proceeding of the 17th World Conference on Earthquake Engineering, 17WCEE, Sendai, Japan, September 13-18, 2020.* Accepted.
- [6] **Lin, S.-Y.**, El-Tawil, S., and Aguirre, B.E. (2020). Effect of Benefit Fraud on Community Resilience in the Wake of Disaster. *Proceeding of the 17th World Conference on Earthquake Engineering, 17WCEE, Sendai, Japan, September 13-18, 2020.* Accepted.

Invited Talks/Seminars/Conference Presentations

- [1] **Lin, S.-Y.**, Hung, H.H., You, P.L., and Yang, Y.B. (2015). Seismic Analysis of Underground Twin-Tunnels by Finite/Infinite Element Approach. *Proceeding of the Twenty-Eighth KKHTCNN Symposium on Civil Engineering, Bangkok, Thailand, November 16-18, 2015.*
- [2] **Lin, S.-Y.**, Xu, L., Chuang, W.C., El-Tawil, S., Spence, S.M.J., Kamat, V.R., Menassa, C.C., and McCormick, J. (2018). Modeling Interactions in Community Resilience. *Proceeding of the Structures Congress 2018, Fort Worth, Texas, United States, April 19-21, 2018.*
- [3] **Lin, S.-Y.**, Chuang, W.C., Xu, L., El-Tawil, S., Spence, S. M. J., Kamat, V. R., Menassa, C.C., and McCormick, J. (2018). A Distributed Computing Platform for Modeling Interdependent Effects: Application to Hurricanes. Poster Session. *Lloyd's Day at Rice University: The Future Smart and Resilient City, Houston, Texas, United States, October 4, 2018.*
- [4] **Lin, S.-Y.** and El-Tawil, S. (2019). Multiscale resilience assessment of interdependent lifeline systems subjected to a series of earthquakes. *Engineering Mechanics Institute Conference 2019 (EMI 2019), Los Angeles, CA, United States, June 19-21, 2019.*
- [5] **Lin, S.-Y.** and El-Tawil, S. (2019). Time-Dependent Computation of Multiscale Interdependencies between Lifeline Systems Subjected to Seismic Events. *International Conference in Commemoration of 20th Anniversary of the 1999 Chi-Chi Earthquake, Taipei, Taiwan, September 15-19, 2019.*
- [6] **Lin, S.-Y.** (2020) Seminar: Distributed Modeling of Interdependencies in Community Resilience, *Department of Civil and Environmental Engineering, George Washington University, Washington, DC, United States, February 11, 2020.*
- [7] **Lin, S.-Y.**, Hlynka, A.W., Xu, L., Lu, H., Sediek, O.A., El-Tawil, S., Kamat, V.R., Prakash A., Menassa, C.C., Spence, S. M. J., McCormick, J., and Aguirre, B. (2020). Simple Real-Time Infrastructure (SRTI): A Distributed Computational tool for Natural Hazards Simulation. *Proceeding of the 17th World Conference on Earthquake Engineering, 17WCEE, Sendai, Japan, September 13-18, 2020.* Accepted.
- [8] **Lin, S.-Y.**, El-Tawil, S., and Aguirre, B.E. (2020). Effect of Benefit Fraud on Community Resilience in the Wake of Disaster. *Proceeding of the 17th World Conference on Earthquake Engineering, 17WCEE, Sendai, Japan, September 13-18, 2020.* Accepted.

PROFESSIONAL AFFILIATIONS

- Student Member, American Society of Civil Engineers (ASCE), 09/2016—05/2020
- Member, EMI Objective Resilience Committee, ASCE, 09/2019—present

HONORS & AWARDS

- Lloyd's Day at Rice University Travel Grant Award, Rice University, United States, 2018
- Rackham Conference Travel Grant, University of Michigan, United States, 2017–2019
- Full Ride Scholarship for Doctor of Philosophy Degree, Dept. of Civil and Environmental Engineering, University of Michigan, United States, 2016–2020
- H.E. Riggs Engineering Fellowship, Dept. of Civil and Environmental Engineering, University of Michigan, United States, 2016

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