

Experience

- **Assistant Professor**, Department of Transportation and Logistics Management, National Yang Ming Chiao Tung University, Hsinchu, Taiwan August 2021 – *present*
- **Postdoctoral Research Associate** in Rail Transportation and Engineering Center (RailTEC) University of Illinois at Urbana-Champaign (UIUC), Urbana, Illinois, USA June. 2019 – July 2021
- **Graduate Research Assistant** in Rail Transportation and Engineering Center (RailTEC), University of Illinois at Urbana-Champaign (UIUC), Urbana Illinois, USA Aug. 2012 – May 2019
- **Undergraduate Research Assistant** in Railway Technology Research Center (RTRC), National Taiwan University (NTU), Taipei, Taiwan Sept. 2009 – June 2011

Education

- Ph.D in Engineering**, Department of Civil and Environment Engineering
University of Illinois at Urbana-Champaign, Urbana (UIUC), Illinois, USA Aug. 2014 – May 2019
- Master of Science in Engineering**, Department of Civil and Environment Engineering
University of Illinois at Urbana-Champaign, Urbana (UIUC), Illinois, USA Aug. 2012 – June 2014
- Bachelor of Science in Engineering**, Department of Civil Engineering
National Taiwan University (NTU), Taipei, Taiwan Sept. 2007 – June 2011

Publication

- **Lin, C-Y.**, Gerstein, T., Barkan C.P.L., Jack, A., Blumenfeld, M., and Abdurrahman, U.T. 2022. International Benchmarking of Railroad Safety Data System and Performance – A Case Study of Six Cross-Continent Countries. In: *Proceedings of the 101st Transportation Research Board Annual Conference*, Washington D.C (Accepted).
- **Lin, C-Y.**, Liu, X., Kim, J., and Barkan C.P.L. 2022. A General Model of the Effect of Hazardous Materials Car Placement in Trains and Their Probability of Derailment. In: *Proceedings of the 101st Transportation Research Board Annual Conference*, Washington D.C (Accepted).
- Kirkpatrick, S.W., Treichel, T.T., Barkan, C.P.L., **Lin, C-Y.**, Iannacone, L., Gharzouzi, P., and Gardoni, P. 2022. Derailment Simulation Analysis of the Relationship Between Railroad Tank Car Structural Modeling, Physical Testing, and the Probability of Damage and Release. In: *Proceedings of the 101st Transportation Research Board Annual Conference*, Washington D.C (Accepted, Corresponding Author).
- **Lin, C-Y.**, Saat, M.R., and Barkan C.P.L. 2021. Hazards Associated with Shared-Use Rail Corridors in the United States – Literature Review and Research Needs (*Working paper*)
- **Lin, C-Y.**, Saat, M.R. 2021. Semi-Quantitative Risk Assessment of Adjacent Track Accidents on Shared Used-Rail Corridor. (*Working paper*).
- **Lin, C-Y.**, Sooter, B.C., and Barkan C.P.L. 2020. Effect of Automatic Train Protection Technologies on Railroad Accident Prevention. In: *Proceedings of the 99th Transportation Research Board Annual Conference*, Washington D.C.
- **Lin, C-Y.**, Saat, M.R., and Barkan C.P.L. 2019. Analysis of Mainline Passenger Train Accidents in the United States and Safety Implications on Shared-Use Rail Corridors. *Journal of Rail and Rapid Transit* (DOI: 10.1177/0954409719876128).
- **Lin, C-Y.**, Saat, M.R., and Barkan C.P.L. 2016. Fault Tree Analysis of Adjacent Track Accidents on Shared-Use Rail Corridor. *Transportation Research Record*, volume 2546, pp 129-136.
- Lai, Y-C., Kawprasert, A., **Lin, C-Y.**, Saat, M.R., Liang, C.H., and Barkan C.P.L. 2011 Integrated Optimization Model to Manage the Risk of Transporting Hazardous Materials on Railroad Networks, *Transportation Research Record*, volume 2261, pp 115-123.

Participation in Research Projects

Risk Analyses of Rail Transportation of Hazardous Materials (Principal Investigator): conduct quantitative risk assessments and provide risk estimations for train accidents involving releases of hazardous materials during their transportation, accounting for railroad infrastructure, rolling stock, operation, and transportation route characteristics. These analyses assist rail and hazardous material industry in assessing hazardous material transportation risk, determining optimal transportation route, and identifying and evaluating risk mitigation measures.

Tank Car Conditional Probability of Release Assessment (Leading Researcher): develop quantitative, probabilistic models to evaluate the likelihood of a railroad tank car releasing hazardous materials in train accidents, accounting for various tank car and accident related factors, and provide probability of release and release quantity estimates for common rail tank car types.

Annual Report of Hazardous Material Transportation by Rail in the United States (Leading Researcher): analyze railroad hazardous material shipment data to provide important statistics for the rail industry.

Literature Review for Potential Hazards on Shared Use Rail Corridors (Leading Researcher): conduct a thorough literature review on state-of-the-art research and industry practices addressing major hazards identified to be significant on shared-use rail corridors where multiple types of railroad systems share trackage, right-of-way, or corridors, and identify research gaps and needs.

Track Maintenance System in Taiwan's Railroad System (Leading Researcher): analyze track maintenance standards in Taiwan's railroad system and compare them with those the United States (track class system) to provide insights in refining and improving track maintenance standards for optimal train operation and infrastructure maintenance planning.

Risk Analysis Methodology for Hazardous Material Unit and Manifest Trains: use both statistical and physical modeling approaches to determine if unit train operation of hazardous materials presents any unique or additional risks compared with 1) unit train operations of non-hazardous materials or 2) mixed-freight manifest train operations involving the same hazardous materials as currently transported or planned for transport in unit trains.

Official Services

Refereed Academic Journal and Conference Paper Reviewer:

Journal of Infrastructure Systems	September 2021 – present
Accident Analysis and Prevention	August 2021 – present
Transportation Research Record	August 2020 – present
Journal of International Journal of Disaster Risk Reduction	January 2020 – present
Journal of Transportation Safety & Security	November 2018 - present
Journal of Rail and Rapid Transit	April 2018 - present
Journal of Rail Transport Planning & Management	July 2017 – present

Committee Member Transportation Research Board (TRB). Committee AR070: Rail Operational Safety *June 2019 – Present*

Committee Member American Railway Engineering and Maintenance-of-Way Association (AREMA) Committee 11: Intercity Passenger Rail and Committee 17: High-Speed Rail. *June 2019 – Present (was student member from October 2013 – May 2019)*

Chair, Midwest High-Speed Rail Association Young Profession Board *August 2018 – May 2019*

President, Midwest High-Speed Rail Association Student Chapter at UIUC *August 2018 – May 2019*

Treasurer, AREMA UIUC Student Chapter (2017 Board) *Jan. 2017 – Dec. 2017*

Chair, National University Rail Center (NURail) Student Leadership Council *Aug. 2015 – August 2016*

Engineering Council Representative, AREMA UIUC Student Chapter (2014 Board) *Jan. 2014 – Dec. 2014*

Student Ambassador of NTU, Taiwan *Oct. 2010 – Oct. 2011*