

Hao Luo



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EDUCATION

- Purdue University, West Lafayette, USA** (GPA: 3.9/4.0) **08/2019 – 06/2023 (expected)**
Ph.D. in Environmental and Ecological Engineering
Advisor: Hua Cai
- Purdue University, West Lafayette, USA** **08/2017 – 05/2019**
Master of Science in Environmental and Ecological Engineering (GPA: 3.8/4.0)
Advisors: Fu Zhao and Hua Cai
- Hohai University, Nanjing, China** **08/2013 – 06/2017**
Bachelor of Engineering in Environmental Engineering (GPA: 3.7/4.0)

PROFESSIONAL EXPERIENCES

- Purdue University, West Lafayette, IN, 2018 – present**
- Graduate Research Assistant, Environmental and Ecological Engineering

CERTIFICATION

- LEED Green Associate
- Certificate of Foundations in College Teaching, Purdue University, 2022

AWARD & SCHOLARSHIP

- Bilsland Dissertation Fellowship, Purdue University, 2022
- Outstanding Reviewer, *Transportation Research Part D: Transport and Environment*, 2022
- Seth Bonder Foundation INFORMS Student Scholarship, 2022
- Russell O. Blosser Environmental Travel Grant, Purdue University, 2022
- Best Poster Presentation Award, CAPEES student e-poster competition, 2021
- International Conference on Resource Sustainability (icRS) Travel Grant, 2021
- Frederick N. Andrews Environmental Travel Grant, Purdue University, 2020
- First Place Best Poster Award, International Conference on Cleaner Production & Sustainability, 2019
- International Conference on Cleaner Production & Sustainability (CPS) Travel Grant, 2019

PROFESSIONAL AFFILIATION & SERVICES

- **Reviewer (Journal)**
 - Transportation Research Part A: Policy and Practice
 - Transportation Research Part D: Transport and Environment
 - Journal of Cleaner Production
 - Resources, Conservation and Recycling
- **Reviewer (Conference)**
 - Transportation Research Board (TRB) Annual Meeting, Washington DC, 2020-2022
 - International Symposium on Sustainable Systems and Technology (ISSST 2019), Portland, OR
- **Volunteer**
 - 26th CIRP Conference on Life Cycle Engineering, 2019
- **Membership and Professional Service**

- Open Mobility Foundation, Member, 2021-present
- Institute for Operations Research and the Management Sciences (INFORMS), Student Member. 2020-present
- Chinese-American Professors in Environmental Engineering & Science (CAPEES), Student Member, 2020-present
- Transportation Research Board, Student Member, 2019-present
- International Society for Industrial Ecology (ISIE), Member, 2019-present

TEACHING EXPERIENCES

At Purdue University

- **Graduate Teaching Assistant**
 - EEE530, Life Cycle Assessment: Principles and Applications, Fall 2018, Fall 2019
 - Deliver lectures on System Boundary and Life Cycle Impact Assessment (LCIA)
 - Lead lab session on using SimaPro for building LCA model; Designed a SimaPro demo
 - Lead course project design and discussion
 - Hold office hours and grade homework assignments
- **Student Mentoring**
 - Fernandez Leidy, Civil Engineering, Visiting Student, October 2021-present
 - Develop an excel-tool to calculate carbon footprint of bike-sharing system in 20 U.S. cities
 - Utkuhan Genc, Industrial Engineering, Master thesis student, Aug 2020-present
 - Design an algorithm to extract trip information from a large set of mobile phone data
 - Chartsiri Jirachotkulthorn, Department of Computer Science, Undergraduate, Nov 2019-present
 - Build a web-based data collector for global shared micro-mobility systems to track the system usage
 - Give a training session on scrapping data from website to a Purdue Research Team
 - Investigate how crime rate would affect shared micro-mobility system usage based on time-series model
 - Rachael Snow, Industrial Engineering, Undergraduate, Jan 2021-June 2021
 - Evaluate the environmental impacts of five bike sharing systems in U.S. cities using a life cycle assessment approach
 - Bijon Rafie, Environmental and Ecological Engineering, Undergraduate, Aug 2019-Dec 2019
 - Built a life cycle assessment model for station-based bike sharing system

JOURNAL PUBLICATIONS

Published/accepted papers

1. **Luo, H.**, Zhang, Z., Gkritza, K., & Cai, H. (2021). [Are shared electric scooters competing with buses? a case study in Indianapolis](#). *Transportation Research Part D: Transport and Environment*, 97, 102877.
2. **Luo, H.**, Zhao, F., Chen, W. Q., & Cai, H. (2020). [Optimizing bike sharing systems from the life cycle greenhouse gas emissions perspective](#). *Transportation Research Part C: Emerging Technologies*, 117, 102705.
3. **Luo, H.**, Kou, Z., Zhao, F., & Cai, H. (2019). [Comparative life cycle assessment of station-based and dock-less bike sharing systems](#). *Resources, Conservation and Recycling*, 146, 180-189.
4. You, G., Hou, J., Wang, P., Xu, Y., Wang, C., Miao, L., & **Luo, H.** (2016). Effects of CeO₂ nanoparticles on sludge aggregation and the role of extracellular polymeric substances—explanation based on extended DLVO. *Environmental research*, 151, 698-705.

Media coverage

1. Luo, H. (2022) Poison or Cure? A lifecycle evaluation of shared micro-mobility's contribution to climate change. [Graduate School InnovatED: Issue Three](#)

Under review/preparation papers

1. Sun, R., **Luo, H.**, Kou, Z., Cai, H. Estimating the Rebalancing Activities and Vehicle Use for Existing Station-based Bike Share Systems. *Transportation Research Part C: Emerging Technologies*. (Under review)
2. **Luo, H.**, Gkritza, K., Cai, H. [What motivates the use of shared mobility and their integration with public transit: evidence from a mode choice study](#). *Transportation Research Part C: Emerging Technologies*. (Under review)
3. Chahine, R., **Luo, H.**, Cai, H., Gkritza, K., [A Comparative Analysis of Bike-Sharing and E-Scooter Sharing Services in a College Town](#). *Transportation Research Part A: Policy and Practice*. (Under review)
4. Li, Y., **Luo, H.**, Cai, H. Are photovoltaic-battery powered bike share stations energy self-sufficient? *Applied energy*. (Under review)
5. Genc, U., **Luo, H.**, Cai, H. Assessing transportation equity considering individual travel demand and the feasibility of trip mode alternatives. *Transportation Research Part A: Policy and Practice*. (Under preparation)

CONFERENCE PRESENTATIONS (Referenced by abstract)

1. What motivates the use of shared mobility and their integration with public transit: evidence from a mode choice study, Poster Presentation, 2023 Transportation Research Board (TRB) Annual Meeting, Jan 10, 2023, Washington, D.C.
2. Rethink the carbon mitigation technology: A systematical analysis of shared micro-mobility, Oral presentation (Invited), Institute of Urban Environment, Chinese Academy of Sciences, Dec 15, 2022, Xiamen
3. How Will Shared Mobility Reshape the Travel Demand: Evidence from Indianapolis, Poster Presentation, Institute for Operations Research and the Management Sciences (INFORMS) Annual Meeting, October 16, 2022, Indianapolis, IN
4. “A modeling framework to evaluate global bike-sharing environmental impacts”, Gordon Research Conference: Industrial Ecology, June 10, 2022, ME
5. “Assessing the Travel Demand and Mobility Impacts of Transformative Transportation Technologies in Indiana”, Poster Presentation, Purdue Road School Transportation Conference, West Lafayette, IN
6. “Estimating the bike share rebalancing operations for U.S. cities”, Poster Presentation, 2022 Transportation Research Board (TRB) Annual Meeting, Jan 12, 2022, Washington, D.C.
7. “Life cycle carbon emission of shared micro-mobility in global cities”, Invited Presentation, Institute for Operations Research and the Management Sciences (INFORMS) Annual Meeting, October 24, 2021, Los Angeles, CA
8. “How does COVID-19 have impact on the environmental sustainability of shared micro-mobility?”, Platform presentation, 2021 International Conferences on Resource Sustainability (icRS), July 19, 2021, Dublin, Ireland
9. “Understanding the relationship between shared micro-mobility and public transit system”, Poster Presentation, 2021 Chinese-American Professors in Environmental Engineering & Science (CAPEES) Student Poster Competition, July 17, 2021, Virtual (Received **Best Poster Award**)
10. “Are shared e-scooter competing with the bus?”, Poster Presentation, 2021 Transportation Research Board (TRB) Annual Meeting, Jan 11, 2021, Virtual
11. “Optimizing the environmental impacts of bike sharing system”, Poster Presentation, 2020 AEESP Distinguished Lecturer Conference, Feb 21, 2021, West Lafayette, IN
12. “Bike sharing optimization from life cycle perspective”, Poster Presentation, 2020 Transportation Research Board (TRB) Annual Meeting, Jan 8, 2020, Washington D.C.
13. “Optimizing the bike sharing system: system design and operation”, Poster Presentation, 2019 International Conference on Cleaner Production & Sustainability, Oct 30, 2019, Hong Kong, China (Received **First place Best Poster Award**)
14. “Comparative life cycle assessment of station-based and dock-less bike sharing system”, Poster Presentation, 2019 26th CIRP Conference on Life Cycle Engineering, West Lafayette, IN