

Hua Cai, Ph.D., P.E.

revised: 4/20/2020

Industrial Engineering | Environmental and Ecological Engineering
Purdue University, 315 N. Grant Street, West Lafayette, IN 47907-2023

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EDUCATION

University of Michigan, Ann Arbor, MI

Joint Ph.D. in Environmental Engineering & Natural Resources and Environment, August 2015

with Graduate Certificate in Complex Systems, offered by Center for the Study of Complex Systems

Graduate Certificate of Science, Technology, and Public Policy, offered by Gerald R. Ford School of Public Policy

Santa Fe Institute, Santa Fe, NM

Complex Systems Summer School, May-June 2013

The Pennsylvania State University, University Park, PA

M.S. in Environmental Engineering, May 2007

Tsinghua University, Beijing, China

B.E. in Environmental Engineering, July 2005

PROFESSIONAL EXPERIENCE

Purdue University, West Lafayette, IN, 2015 - present

- Assistant Professor, Industrial Engineering
- Assistant Professor, Environmental and Ecological Engineering
- Faculty Affiliate, Purdue Climate Change Research Center
- Faculty Affiliate, Ecological Sciences & Engineering

University of Michigan, Ann Arbor, MI, 2011-2015

- Graduate Research Assistant, Center for Sustainable Systems

Camp Dresser & McKee (CDM, now CDM Smith), Bellevue, WA, 2007-2011

- *Laboratory Manager of CDM Environmental Treatability Laboratory (2008-2011)*
- *Project Engineer (2007-2011)*

The Pennsylvania State University, University Park, PA, 2005 - 2007

- Graduate Research Assistant, Department of Civil and Environmental Engineering

CERTIFICATION

- Licensed Professional Engineer (P.E.), registered in the State of Michigan, 2012
- LEED® Green Associate, 2010

AWARDS AND HONORS

- **Faculty Early Career Development (CAREER) Award, National Science Foundation, 2020**
- Best Paper Award, Chinese Society for Industrial Ecology (CSIE), 2018
- CAPEES/Nanova Young Investigator Award, Chinese-American Professors in Environmental Engineering and Science (CAPEES), 2018
- IE Outstanding Mentor for Graduate Students, Purdue University, 2018
- The 3M Prize for Outstanding Achievement in Industrial Ecology, University of Michigan School of Natural Resources and Environment, 2015

- The Samuel Trask Dana Award, University of Michigan School of Natural Resources and Environment, 2015
- Dow Sustainability Doctoral Fellowship, University of Michigan, 2014-2015
- Student Paper Competition, 3rd Place, International Symposium on Sustainable Systems and Technology (ISSST), 2014
- Rackham International Research Award, University of Michigan, 2014
- Rosina M. Bierbaum Award in Climate Adaptation and Mitigation, University of Michigan School of Natural Resources and Environment, 2014
- Second Place Poster Award, University of Michigan Energy Institute Symposium, 2013
- Best Poster Award, 3rd place, AEESP 50th Anniversary Conference, 2013
- First Place Poster Award, 7th International Conference of the International Society for Industrial Ecology, 2013
- Second Place Poster Award, Symposium on Industrial Ecology for Young Professionals, 2013
- Barbour Scholarship, University of Michigan, 2013
- ERM Foundation Sustainability Fellowship, ERM Group Foundation, 2013
- Rackham International Student Fellowship, University of Michigan, 2012
- Ayers Brinser Award, Outstanding Ph.D. student in Natural Resource Policy and Management; University of Michigan School of Natural Resources and Environment, 2012
- Climate Adaptation Fellowship, University of Michigan School of Natural Resources and Environment, 2011
- McKee Groundwater Protection, Restoration or Sustainable Use Award, Water Environment Federation, 2011
- Superior Achievement Award for Environmental Engineering Excellence (project key participant), American Academy of Environmental Engineers, 2010
- IWA Project Innovation Awards Global Grand Honor Award – Applied Research Projects (project key participant), International Water Association, 2010
- Quick Hit Awards, CDM, 2008 and 2010
- Technical Awards, Best Paper Honorable Mention, CDM, 2010

PROFESSIONAL AFFILIATION & SERVICE

- **Editorship:**
 - Editorial Advisory Board**, *Transportation Research Part D: Transport and Environment* (Elsevier), 2020 - present
 - Associate Editor**, *Journal of Cleaner Production* (Elsevier), 2018 - present
 - Guest Editor**, Special Issue on Information and Communication Technologies (ICT)-based Innovations for Sustainable Production and Service Operations Management, *Journal of Cleaner Production* (Elsevier), 2019 – present
 - Guest Editor**, Special Issue on Data Analytics for Energy, Water, and Environment, *IEEE Transactions on Engineering Management* (IEEE), 2018-2019
 - Co-Editor**, *Michigan Journal of Sustainability* (Michigan Publishing), 2014-2015
- **Invited Referee (Ad hoc reviewer and panelist):**
 - Northern Illinois University
 - National Center for Sustainable Transportation, UC Davis
 - U.S. National Science Foundation (NSF)
- **Reviewer (Book manuscript and teaching tools):**
 - MIT Press
 - Oxford University Press
 - Pearson
 - Wiley
- **Reviewer (Journal manuscripts):**
 - Applied Energy
 - Cities
 - Clean Technologies and Environmental Policy
 - Energies
 - Energy Policy
 - Energy, Ecology, and Environment
 - Land Use Policy
 - Physica A: Statistical Mechanics and its Applications
 - Procedia CIRP
 - Resources, Conservation & Recycling
 - Scientific Data
 - Sustainable Cities and Society

- Energy Strategy Reviews
 - Environmental Science & Technology
 - European Journal of Operational Research
 - Frontiers of Environmental Science and Engineering
 - IEEE Access
 - IEEE Transactions on Intelligent Transportation Systems
 - International Journal of Sustainable Transportation
 - Journal of Cleaner Production
 - Journal of Environmental Management
 - Journal of Industrial Engineering
 - Journal of Mechanical Design
 - Journal of Transportation Engineering
 - Journal of Transport Geography
 - Technological Forecasting & Social Change
 - The Open Fuels & Energy Science Journal
 - Transactions on Knowledge Discovery from Data
 - Transport Policy
 - Transportation Research Part A: Policy and Practice
 - Transportation Research Part B: Methodological
 - Transportation Research Part C: Emerging Technologies
 - Transportation Research Part D: Transport and Environment
 - Transportation Research Part E: Logistics and Transportation Review
 - Transportmetrica A: Transport Science
- **Reviewer (Conferences):**
 - Transportation Research Board Annual Meeting (TRB 2020), Washington DC, USA
 - International Society for Industrial Ecology Biannual Conference (ISIE 2019), Beijing, China
 - International Symposium on Sustainable Systems and Technology (ISSST 2019), Portland, OR, USA
 - Transportation Research Board Annual Meeting (TRB 2018), Washington DC, USA
 - Transportation Research Board Annual Meeting (TRB 2017), Washington DC, USA
 - ASME Manufacturing Science and Engineering Conference (MSEC 2017), Los Angeles, CA, USA
 - ASME Joint Rail Conference (JRC 2017), Philadelphia, PA, USA
 - International Symposium on Sustainable Systems and Technologies (ISSST 2016), Phoenix, AZ, USA
 - International Conference on Industrial Engineering and Management (ICIEM 2015), Chiang Mai, Thailand
 - International Conference on Engineering and Applied Sciences (ICEAS 2015), Jakarta, Indonesia
 - **Membership and Professional Service**
 - Institute of Industrial and Systems Engineers (IISE), Member, 2018 – present
 - Institute for Operations Research and the Management Sciences (INFORMS), Member 2016 - present
 - American Society of Civil Engineers (ASCE), Member, 2014-present
 - The American Association for the Advancement of Science (AAAS), Member, 2014-present
 - Institute of Electrical and Electronics Engineers (IEEE), Student Member, 2012-present
 - International Society for Industrial Ecology (ISIE), Member, 2011-present (Board Member and Secretary for the Sustainable Urban System section, 2017-present)
 - The Association of Environmental Engineering and Science Professors (AEESP), Member, 2011-present
 - Chinese-American Professors in Environmental Engineering & Science (CAPEES), Member, 2013-present
 - **Conference Committee**
 - International Organizing Committee, International Society for Industrial Ecology Biannual Conference, Beijing, China, July 2019
 - Organizing Committee, Urban Metabolism Seminar, Beijing, China, July 2019
 - Organizing Committee, the 26th CIRP Life Cycle Engineering Conference, West Lafayette, IN, May 2019
 - Program Committee, the 1st ACM SIGSPATIAL Workshop on Advances in Resilient and Intelligent Cities (ARIC 2018), Seattle, Washington, November 6th, 2018.
 - Scientific Committee, International Conference on Resource Sustainability (icRS), June 27-29, 2018, Beijing, China
 - INFORMS ENRE (Energy, Natural resources, and Environment) Young Researcher Prize Committee Member, December 2017 - present
 - Abstract Reviewing Committee, International Society for Industrial Ecology-International Symposium on Sustainable Systems and Technology (ISIE-ISSST) 2017 Joint Conference, Chicago, IL, USA
 - Student Poster Competition Chair, International Symposium on Sustainable Systems and Technologies (ISSST 2016), Phoenix, AZ, USA

Session Chair for the Transportation and Biofuel Session, International Symposium on Sustainable Systems and Technologies (ISSST 2016), Phoenix, AZ, USA

Session Chair for the Sustainability V session, INFORMS 2016 Annual Meeting, Nashville, TN USA

- **Internal Service**

Faculty Search Committee, Industrial Engineering, Purdue University, 2019-2020

Graduate Committee, Ecological Sciences & Engineering, Purdue University, 2018-2019

Graduate Committee, Environmental and Ecological Engineering, Purdue University, 2015-present

Staff Hiring Committee, Environmental and Ecological Engineering, Purdue University, December 2018

Undergraduate Committee, Industrial Engineering, Purdue University, 2016-2018

Graduate Committee, Industrial Engineering, Purdue University, 2016

Staff Hiring Committee, Environmental and Ecological Engineering, Purdue University, December 2015

Co-Coordinator, Rackham Interdisciplinary Workshop on Interdisciplinary Science and Policy Initiative for Research Engagement (InSPIRE), University of Michigan, 2012-2015

Ph.D. Committee, School of Natural Resources and Environment, University of Michigan, 2011-2012; 2013-2014

Graduate Council Student Representative, Pennsylvania State University, 2006-2007

TEACHING EXPERIENCE

At Purdue University

- **IMPACT** (Instruction Matters: Purdue Academic Course Transformation) **Fellow**, Spring 2017
- **Instructor**, IE 343, Engineering Economics, Fall 2015 – 2020
 - IMPACT course, redesigned for student-centered active learning
 - Discuss the time value of money, cash flow analysis, capital depreciation, tax, and, cost-benefit analysis and their application in real world case studies
 - Enrollment: 175-178
 - Supervise two to three graduate teaching assistants
- **Instructor**, IE 590 / EEE595, Urban Mobility Optimization, Spring 2018 -2020
 - Developed the course from scratch to discuss how to develop optimization and simulation models to inform the design, operation, and evaluation of emerging transportation and shared mobility systems for economic, environment, and social sustainability impacts
 - Enrollment: 6-24 students
- **Instructor**, CE/EEE 355, Engineering Environmental Sustainability, Spring 2017 – 2020
 - IMPACT course, redesigned for student-centered active learning
 - Discuss the engineering and non-technical aspects of environmental sustainability for food, water, and energy problems
 - Enrollment: 96-98, from 22 different engineering disciplines
 - Supervise one graduate teaching assistant and six to eight peer teaching assistants
- **Instructor**, EEE 595, The Internet of Sustainability, Fall 2016 - 2017 (Co-taught with Dr. Chad Jafvert)
 - Co-developed instructional materials from scratch to teach students the environmental sustainability and energy implications of the cyber-physical systems (CBS) and the Internet of Things (IOT), including sensors, data, connectivity and collaboration, modeling, and algorithms.
 - Enrollment: 23-28
- **Guest Lecturer**, FS 591 Principles of Sustainability in Food Processing, “LCA Modeling using SimaPro” April, 2017
 - Hands on training session to teach the students to use the SimaPro Software to conduct life cycle assessment for a food system
- **Instructor**, EEE 595 / IE 590, Transportation, Energy, and Sustainability, Spring 2016
 - Developed the course from scratch to teach students the links and feedbacks among energy system, ecosystem, and the different transportation systems.
 - Enrollment: 16 students

At University of Michigan

- **Facilitator for Teaching Practice**, Engineering Instructor Aid and Graduate Student Instructor Orientation, Fall 2014
- **Teaching Assistant**, NRE 501.036, Consumption, Trade, and Environmental Input-Output Analysis, Winter 2013
- **Teaching Assistant**, Environ 367 Global Enterprise and Sustainable Development, Fall 2011

STUDENT MENTORING

At Purdue University

- **Postdoctoral advisees**
 - Ting Liu, 2020 – present, co-advised with Dr. Inez Hua (CE/EEE)
- **Ph.D. students**
 - As committee chair/co-chair (7)
 - Kendrick Hardaway, Environmental and Ecological Engineering, expected May, 2024, co-advised with Dr. Roshi Nateghi (IE/EEE)
 - Fang Chen, Industrial Engineering, expected May 2023, co-advised with Dr. Hong Wan (IE)
 - Li Song, Environmental and Ecological Engineering, expected May, 2021)
 - Ruoxi Wen, Industrial Engineering, expected May, 2021
 - Zhaoyu Kou, Industrial Engineering, expected Aug, 2020
 - Mustafa Lokhandwala, Industrial Engineering, Ph.D., Aug, 2019, dissertation title “Assessing the Environmental Impacts of Shared Autonomous Electric Vehicle Systems with Varying Adoption Levels Using Agent-based Models” (immediate placement: Senior Operations Research Analyst, NetJets)
 - Tian Ni, Industrial Engineering, Ph.D., May, 2019, co-advised with Dr. Hong Wan (IE), dissertation title “Supply Chain Relationship for Quality Improvement: Empirical Tests on Principal Agent Theory” (immediate placement: Senior Advanced Analytics Researcher, General Motors)
 - As Committee Member (13)
 - Ho Young Jeong, Industrial Engineering, expected 2023
 - Daniel F. Uribe, Industrial Engineering, expected 2023
 - Xuda Lin, Environmental and Ecological Engineering, expected Aug., 2022
 - Matt Triebe, Environmental and Ecological Engineering, expected May, 2022
 - Cansu Agrali, Industrial Engineering, expected May, 2021
 - Theodora Konstantinou, Civil Engineering, expected Dec. 2021
 - Nehika Mathur, Environmental and Ecological Engineering, expected Aug., 2021
 - Debora Maia Silva, Industrial Engineering, expected May, 2021
 - Sungbum Jun, Industrial Engineering, expected May, 2020
 - Christos Gkartzonikas, Civil Engineering, expected May, 2020
 - Enze Jin, Environmental and Ecological Engineering, Ph.D., May, 2019
 - Yu Qiao, Civil Engineering, Ph.D., May, 2019
 - Wenbo Zhang, Civil Engineering, Ph.D., Dec., 2018
 - Chul Hun (Chris) Choi, Industrial Engineering, Ph.D., May 2018
- **Master thesis students**
 - As committee chair/co-chair (6)
 - Zhuoli, Yin, Industrial Engineering, expected May, 2021
 - Ruihua Sun, Industrial Engineering, expected May, 2021
 - Zequn Li, Industrial Engineering, expected Aug, 2020, co-advised with Dr. Vaneet Aggarwal (IE)
 - Juan Carlos Orozco, Industrial Engineering, M.S., May, 2019, thesis title “Energy efficient drone-truck delivery systems”

- Hao Luo, Environmental and Ecological Engineering, M.S., May, 2019, co-advised with Dr. Fu Zhao (ME/EEE), thesis title “Environmental Impact Assessment and Improved Design of Bike Sharing Systems from the Life Cycle Perspective”
 - Yue Zhou, Industrial Engineering, M.S., May, 2018, thesis title “Optimizing electric vehicle battery ranges considering stochastic individual charging decisions”
 - As Committee Member (11)
 - Maria Belen Salazar Tijerino, Food Science, expected May 2020
 - Billy He, Industrial Engineering, expected May 2020
 - Maria Emilia Ponton, Civil Engineering, expected May, 2020
 - Abeer Abdelhadi, Industrial Engineering, expected May, 2020
 - Aiyshwariya Paulvannan Kanmani, Industrial Engineering, M.S., Aug, 2019
 - Jackson Bennett, Industrial Engineering, M.S., Aug 2019
 - Praneet Singh Arshi, Mechanical Engineering, M.S., Dec., 2017
 - Huiting Su, Industrial Engineering, M.S., Dec., 2018,
 - Theodora Konstantinou, Civil Engineering, M.S., Dec., 2018
 - Archit Mokashi, Industrial Engineering, M.S., May, 2018
 - Ho Young Jeong, Industrial Engineering, M.S., May, 2018
- **Master non-thesis students (Independent Studies, 4)**
 - Bijon Ali Rafie, Environmental and Ecological Engineering, Fall 2019 - present
 - Divinitha Sreenivas, Environmental and Ecological Engineering, Fall 2019
 - Yifan Tong, Environmental and Ecological Engineering, Oct 2016 – Aug 2018
 - Li Song, Civil Engineering, Jan 2016 – May 2016
- **Master non-thesis students (Committee member, 3)**
 - Zimo Zhang, Civil Engineering, expected May, 2020
 - Runjia Du, Civil Engineering, expected May, 2020
 - Boting Hou, Environmental and Ecological Engineering, Oct 2016 – May 2018
- **Industrial Engineering Senior Design Projects (6)**
 - VA Hospital Transport (Spring 2018)
 - Streamline Material Flow for Discount Filters (Fall 2018)
 - Supply Chain Analysis of the Wabash Refrigerated Vans (Fall 2018)
 - Inventory optimization for Southwire (Spring 2019)
 - Program Registration Improvement for Purdue RecWell (Fall 2019)
 - Space Allocation Tool Development for Northrup Grumman (Fall 2019)
- **Undergraduate students - independent study (40)**
 - Nicholas Ryu Mori, Industrial Engineering, Summer 2019-present
 - Mokammel Hossain Sanju, Environmental and Ecological Engineering, Summer 2019-present
 - Nihar Vallem, Industrial Engineering, Spring 2019
 - Ana M Diaz Abad, Industrial Engineering, Spring 2019 – Fall 2019
 - Weizhou Zhang, Industrial Engineering, Fall 2018 - present
 - Delzin Navroze Gamir, Industrial Engineering, Fall 2018
 - Laurel Elizabeth Stevenson, Environmental and Ecological Engineering, Fall 2018
 - Richard Wolfschoon, Industrial Engineering, Spring 2018 – Fall 2018
 - Alison Whitehead, Environmental and Ecological Engineering, Fall 2018
 - Nikhil Carnereiro, First-year Engineering, Spring 2018
 - Shivam Duhan, Computer Engineering, Spring 2018
 - Deep Sandeep Mehta, Industrial Engineering, Spring 2018
 - Anthony Neimic, First-year Engineering, Fall 2017
 - Jessica Kurniawan, Industrial Engineering, Fall 2017
 - Junxue Zhang, Mechanical Engineering, Fall 2017 – Spring 2018
 - Xiayu Cai, Industrial Engineering Fall 2017 – Spring 2018
 - Anna Andreyevna Poznyak, Industrial Engineering, Fall 2017 – Summer 2018

- Jackson Bennett, Environmental and Ecological Engineering, Fall 2017
- Emily Johncox, Industrial Engineering, Fall 2017
- Ertica Susanto, Civil Engineering, Fall 2017
- Ruth Zhong, Electrical Engineering, Summer 2017
- Junran Xu, Computer Science, Summer 2017
- Lingyou Pang, Math and Statistics, Summer 2017
- Fajar Ausri, Industrial Engineering, Summer 2017 – Spring 2019
- Yibo Gou, Computer Science, Summer 2017
- Jiaqi Zhu, Computer Science, Summer 2017 - Spring 2018
- David H Park, Industrial Engineering, Spring 2017 – Spring 2018
- Pengyu Chang, Industrial Engineering, Spring 2017 – Spring 2018
- Kirsten Lynne Castelli, Industrial Engineering, Spring 2017
- Katherine Elizabeth Leinenbach, Industrial Engineering, Spring 2017
- Jackson Reed Honnold, Industrial Engineering, Spring 2017
- Wen Li, Industrial Engineering, Spring 2016 – Spring 2019
- Koichiro Hadiprajitno, Industrial Engineering, Fall 2016 – Spring 2017
- Mingyu Zhang, Environmental and Ecological Engineering, Summer 2016 – Spring 2018
- Yechan Lim, Environmental and Ecological Engineering, Summer 2016 – Fall 2016
- Jian Pan, Industrial Engineering, Fall 2015 – Fall 2016
- Xiao Shi, Industrial Engineering, Fall 2015 – Fall 2016
- Yingnan Guo, Industrial Engineering, Fall 2015-Fall 2016
- Yichen Zhong, Environmental and Ecological Engineering, Fall 2015 – Spring 2016
- Henry Shi, First-year Engineering, Sep - Fall 2015
- **High school teacher (RET training)**
 - Emily Lawson, McCutcheon High School, Summer 2019, co-advised with Dr. Inez Hua (CE/EEE)

At University of Michigan

- Research mentoring for 2 master’s students, 1 undergraduate student, and 1 visiting scholar (3 out of these 4 students are women)

Student/Postdoc Achievements

- 2020-2021 Bilsland Fellowship (Li Song)
- First Place Best Poster Award (Hao Luo), International Conference on Cleaner Production and Sustainability (CPS 2019), Oct 30 – Nov 2, 2019, Hong Kong
- 2019-2020 Hugh W. and Edna M. Donnan Dissertation Fellowship (Zhaoyu Kou)
- Honorable Mention (Zhaoyu Kou), Student Poster Competition, Sustainable Urban Systems Section, 2019 International Society for Industrial Ecology (ISIE) Biannual Conference, July 9, 2019, Beijing, China.
- Honorable Mention (Li Song), Student Poster Competition, Life Cycle Sustainability Assessment Section, 2019 International Society for Industrial Ecology (ISIE) Biannual Conference, July 9, 2019, Beijing, China.
- 2018-19 Bilsland Dissertation Fellowship (Mustafa Lokhandwala)
- Fourth place Student Poster Competition (Mustafa Lokhandwala), 2017 Joint Conference for International Society for Industrial Ecology (ISIE) and International Symposium on Sustainable Systems and Technology (ISSST), June 25-29, 2017, Chicago, IL

ENTREPRENEURSHIP RECOGNITION

- Michigan Business Challenge Semi-finalist (Top 8), University of Michigan, 2014
- Chinese Business Challenge Finalist (Top 10), China Entrepreneur Network Michigan, 2013
- Mayleben Venture Shaping Grant, Zell Lurie Institute for Entrepreneurial Studies, Univ. of Michigan, 2013

FUNDING

- **Single PI**, “CAREER: Risk Modified Life Cycle Assessment”, National Science Foundation (NSF), 8/15/2020-8/14/2025, \$502,917 (Cai share: \$502,917)

- **PI** (Co-PI: N. Gkritza, CE/ABE), “Assessing the economic, safety, transit and/or travel demand impacts of Disruptive Transportation technology in Indiana”, Indiana Department of Transportation (INDOT), 8/1/2019-7/31/2021, \$244,101 (Cai share: \$108,804)
- **Co-PI** (PI: A. Mitchell, Indiana Recycling Coalition), “Identify the recycling infrastructure and demands in Indiana WHIN counties”, Wabash Heartland Innovation Network (WHIN), 5/1/2019-4/30/2020, \$95,110 (Cai share: \$36,550)
- **PI** (Co-PI: I. Hua, CE/EEE), “Understanding the Industrial Water Consumption for Smart Cities”, Purdue COE EFC Smart City, 6/1/2019-5/30/2020, \$75,000 (Cai share: \$37,500)
- **Single PI**, “Bike Share System Simulation”, Chicago Department of Transportation (CDOT), 2/15/2019 – 5/15/2019, \$12,000 (Cai share: \$12,000)
- **Single PI**, “Understanding the Greenhouse Gas Emission Impacts of Smart Transportation Systems”, Ford Motor Company, 05/01/2018 - 04/30/2020, \$199,516 (Cai share: \$199,516)
- **Co-PI** (PI: J.-Y. Huang, Food Science) “Assessment of Life Cycle Environmental Impacts of Nano-packaging for Food Waste Reduction”, Purdue Center for Environment Seed Grant, 1/8/2018-7/7/2018, \$19,886
- **Single PI**, “Identify the Gaps and Opportunities in Bike Sharing Systems for Sustainable Transportation”, Purdue EEE Summer Exploratory Research Grant, 5/15/2017 – 8/5/2017, \$9,866 (Cai share: \$9,866)

INVITED TALKS

- Transportation Active Safety Institute; and Department of Electrical and Computer Engineering, IUPUI, 2/20/2020
- Department of Environmental Science and Engineering, Fudan University, 7/18/2019
- Institute of Urban Environment, China Academy of Science, 7/15/2019
- International Cleaner Production Workshop, Beijing Normal University, 7/12/2019
- School of Civil and Transportation Engineering, Beijing University of Civil Engineering and Architecture, 7/12/2019
- Moving Forward Together Conference Panelist, North American Bikeshare Association, 9/6/2018
- Product Development and Sustainability Analytics, Ford Motor Company, 6/23/2017
- Purdue Institute of Transportation Engineers, Purdue University, 11/8/2016
- INFORMS Purdue Chapter Seminar, Purdue University, 11/3/2016
- Department of Industrial Engineering, Tsinghua University, 12/23/2015
- Department of Civil and Environmental Engineering, Carnegie Mellon University, 3/17/2015
- Division of Environmental and Ecological Engineering, Purdue University, 2/5/2015
- School of Environment, Tsinghua University, 9/26/2014

PUBLICATION

Google scholar profile: <https://scholar.google.com/citations?hl=en&authuser=1&user=COAc4DkAAAAJ>

Published/accepted papers

1. Luo, H., Zhao, F., Chen, W., **Cai, H.**, (2020) “Optimizing bike sharing systems from the life cycle greenhouse gas emissions perspective”, *Transportation Research Part C: Emerging Technologies*, 117: 102705
2. Wang, J., Li, L., Guo, S., **Cai, H.**, Zhang, J., Ni, Y., “Can China's BEV market sustain without government subsidies?: an explanation using cues utilization theory”, *Journal of Cleaner Production*, 272(1): 122589
3. Xiao, D., An, S., **Cai, H.**, Wang, J., Cui, J. “An optimization model for electric vehicle charging infrastructure planning considering queuing behavior with finite queue length”, *Journal of Energy Storage*, 29, 101317
4. Lokhandwala, M., **Cai, H.**, “Siting Charging Stations Considering Increasing Adoption of Electric Vehicles, Ride Sharing and Autonomous Driving using Simulation Optimization”, *Transportation Research Part D: Transport and Environment*, 80, 102231
5. Zhou, Y., Wen, R., Wang, H., **Cai, H.** “Optimal Battery Electric Vehicles Range: A Model Considering Heterogeneous Travel Patterns, Charging Behaviors, and Access to Charging Infrastructure”, *Energy*, 116945
6. Pang, Y., He, Y., Jiao, J., **Cai, H.**, (2020) “Power load demand response potential of secondary sectors in China: the case of western Inner Mongolia”, *Energy*, 192: 116669

7. Kou, Z., Wang, X., Chiu, A., **Cai, H.** (2020) "Quantifying the Environmental Benefits of Bike Share Systems", *Resources, Conservation & Recycling*, 153: 1045347
8. Zhang, B.Y., Tong, Y., Singh, S., **Cai, H.**, Huang, J.-Y., (2019) "Assessment of life cycle environmental impacts of nano-packaging considering food waste reduction", *Resources, Conservation & Recycling*, 149:322-331
9. Salazar, M. B., **Cai, H.**, Bailey, R., Huang, J.-Y., (2019) "Defining nutritionally and environmentally healthy dietary choices of omega-3 fatty acids", *Journal of Cleaner Production*, 228(10):1025-1033
10. Pang, Y., He, Y., **Cai, H.**, (2019) "Business model of distributed photovoltaic energy integrating investment and consulting services in China", *Journal of Cleaner Production*, 218:943-965
11. Li, L., Wang, J., Zhang, J., Gallachoir, B.O., **Cai, H.**, (2019) "Energy-intensive industries in China: Policy priorities for achieving climate mitigation and energy conservation targets", *Climate Policy*, 19(5):598-610
12. Luo, H., Kou, Z., Zhao, F., **Cai, H.** (2019) "Comparative Life Cycle Assessment of Station-based and Dock-less Bike Sharing Systems", *Resources, Conservation & Recycling*, 146:180-189
13. **Cai, H.**, Wang, X., Adrianes, P., Xu, M. (2019) "Environmental implications of ride sharing", *Energy*, 174:503-508
14. Song, L., Lim, Y., Chang, P., Guo, Y., Zhang, M., Wang, X., Yu, X., Lehto, M., **Cai, H.** (2019) "Ecolabel's Role in Informing Sustainable Consumption: A Naturalistic Decision Making Study", *Journal of Cleaner Production*, 218:685-695
15. Chapa, J., Salazar, M. B., Kipp, S., **Cai, H.**, Huang, J.-Y., (2019) "A Comparative Life Cycle Assessment of Fresh Imported and Frozen Domestic Organic Blueberries Consumed in Indiana", *Journal of Cleaner Production*, 217:716-723
16. Shi, X., Pan, J., Wang, H., **Cai, H.** (2019) "Battery Electric Vehicles: What are the Minimum Ranges Required?", *Energy*, 166:352-358
17. Kamyabniyaa, A., Lotfia, M. M.*, **Cai, H.**, Hosseininasab, H., Yaghoubib, S., Yih, Y. (2019) "A two-phase coordinated platelets logistics planning for humanitarian relief operations", *IISE Transactions* 51(1):1-21
18. Kou, Z., **Cai, H.** (2019) "Understanding Bike Sharing Travel Patterns: An Analysis of Trip Data from Eight Cities", *Physica A: Statistical Mechanics and its Applications*, 515:785-797
19. Sun, W., **Cai, H.**, Wang, Y. (2018), "Refined Laspeyres Decomposition Based Analysis of Relationship between Economy and Electric Carbon Productivity from the Provincial Perspective", *Energies*, 11(12), 3426
20. Liu, J., Xu, F., Lin, S., **Cai, H.**, Yan, S. (2018) "A multi-agent based optimization model for microgrid operation using dynamic guiding chaotic search particle swarm optimization", *Energies*, 11(12), 3286
21. Lokhandwala, M., **Cai, H.**, (2018) "Dynamic Ride Sharing using Traditional Taxis and Shared Autonomous Taxis: A Case Study of NYC", *Transportation Research Part C: Emerging Technologies*, 97:45-60
22. Li, L., Gu, Y., Ge, X., Yang, Y., **Cai, H.**, Hang, J., Zhang, J. (2018) "Exploring the residents' intention to separate MSW in Beijing and understanding the reasons: An explanation by extended VBN theory", *Sustainable Cities and Society*, 37:637-648.
23. Sun, J.-Q., Xu, L., Liu, X.-Y., Zhao, G.-F., **Cai, H.**, Nie, Y., Wu, X.-L., (2018) "Functional genetic diversity and culturability of petroleum-degrading bacteria isolated from oil-contaminated soils", *Frontiers in Microbiology, section Microbiotechnology, Ecotoxicology and Bioremediation*, 9(1332)
24. Rao, R., **Cai, H.**, Xu, M. (2018) "Modeling charging behavior for electric vehicles", *International Journal of Sustainable Transportation*, 0(0):1-9.
25. Wang, X., **Cai, H.**, H. Keith Florig (2016) "Energy-Saving Implications from Supply Chain Improvement: An Exploratory Study on China's Consumer Goods Retail System", *Energy Policy*, 95: 411-420.
26. **Cai, H.***, Zhan, X., Zhu, J., Chiu, A., Jia, X., Xu, M. (2016) "Understanding taxi travel patterns", *Physica A: Statistical Mechanics and its Applications*, 457:590-597.
27. Shahraki, N., **Cai, H.***, Turkay, M., Xu, M. (2015) "Optimization of Public Charging Station Locations based on Big-Data Informed Travel Patterns", *Transportation Research Part D: Transport and Environment*, 41:165-176
28. Xu, M., **Cai, H.**, Liang, S. (2015) "Big Data and Industrial Ecology", *Journal of Industrial Ecology*, 19(2): 205-210.
29. Pontaua, P., Hou, Y., **Cai, H.**, Zhen, Y., Jia, X., Chiu, A., Xu, M. (2015) "Assessing Land Use Impacts by Clean Vehicle Systems", *Resources, Conservation & Recycling*, 95:112-119.
30. **Cai, H.**, Jia, X., Chiu, A., Hu, X., Xu, M. (2014) "Siting Public Electric Vehicle Charging Stations using Big-Data Informed Travel Patterns", *Transportation Research Part D: Transport and Environment*, 33:39-46.

31. Pan, X.C., Geng, S., Mei, R., Wang, Y.N., **Cai, H.**, Liu, X.Y., Tang, Y.Q., Nie, Y., Ye, S.Y., Wu, X.L. (2014) "Nitratireductor shengliensis sp. nov., isolated from an oil-polluted saline soil", *Current Microbiology*, 69(4):561-566.
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38. **Cai, H.**, Eramo, A.G., Evans, P.J., Fricke, R., Brennan, R.A. (2010) "In situ bioremediation of perchlorate in vadose zone soil using gaseous electron donors: microcosm treatability study." *Water Environment Research*, 82 (5): 409 - 417.
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Note: # - co-first authorship

Technical report

1. Whelton, A. J., Gill, J., Song, L., Froderman, B., Teimouri, M., **Cai, H.** (2016) "Lack of Data for Predicting Storm Water Pollutant Removal by Post-Construction Best Management Practices", *Joint Transportation Research Program Publication*, No. FHWA/IN/JTRP-2016/09
2. Evans, P., **Cai, H.**, Hopfensperger, K., Oppitz, E., Titus, T., Brennan, R. (2009) "In Situ Bioremediation of Perchlorate in Vadose Zone Soil Using Gaseous Electron Donors". *ESTCP Project ER-0511 Final Report*, Environmental Security Technology Certification Program, November.

Refereed conference proceedings

1. **Cai, H.**, Xu, M. (2014) "Informing Electric Vehicle Public Charging Infrastructure Development using Travel Patterns Mined from Big-Data." *Oral paper presentation*, International Symposium on Sustainable Systems and Technology (ISSST), Oakland, CA, May 20.
2. **Cai, H.**, Xu, M. (2012) "Assessing Clean Vehicle Systems under Constraints of Freshwater Resource." *Oral paper presentation*, IEEE International Symposium on Sustainable Systems and Technology, Boston, MA, May 17.
3. Wen, R., Jiang, Z., Liang, C., Telenko, C., Wang, B., Fu, Y., **Cai, H.** (2020) "A New Approach of Generating Travel Demands for Smart Transportation Systems Modeling", (No. 2020-01-1047). SAE Technical Paper.

Conference presentations (Refereed by abstract)

1. Lokhandwala, M., **Cai, H.**, "Siting charging stations for electric vehicle adoption in shared autonomous fleets", poster presentation, 2020 Transportation Research Board (TRB) Annual Conference, January 14, 2020, Washington, D.C.
2. Luo, H., Zhao, F., Chen, W-Q., **Cai, H.**, "Optimizing the Bikesharing System from a Life-Cycle Perspective", poster presentation, 2019 Transportation Research Board (TRB) Annual Conference, January 14, 2020, Washington, D.C.
3. Zhang, Z., Gkritza, K., **Cai, H.**, "An Agent-Based Simulation Model of Autonomous Vehicles Based on CTPP Commuting Data", poster presentation, 2020 Transportation Research Board (TRB) Annual Conference, January 13, 2020, Washington, D.C.
4. Zhang, Z., Gkritza, K., **Cai, H.**, "Assessing the Energy and Environmental Implications due to the Emergence of Autonomous Vehicles", Poster presentation, the 3rd International Symposium on Multimodal Transportation (ISMT 2019)
5. Luo, H., Chen, W., Zhao, F., **Cai, H.**, "Optimizing bike sharing systems from the life cycle greenhouse gas emissions perspective", International Conference on Cleaner Production and Sustainability (CPS 2019), Hong Kong, Oct 30 – Nov 2, (Received **1st Place Best Poster Award**)
6. Kou, Z., **Cai, H.**, "Demand Prediction For Bike Share System Expansion and a Modeling Framework to Evaluate System Performance: a Case Study of Chicago", Platform presentation, INFORMS 2019 annual meeting, Oct. 19 - Oct. 23, Seattle WA
7. Lokhandwala, M., **Cai, H.**, "Understanding the Impact of Heterogeneous Rider Preferences On a Shared Autonomous Vehicle System", Platform presentation, INFORMS 2019 annual meeting, Oct. 19 - Oct. 23, Seattle WA
8. **Cai, H.**, Lokhandwala, M., "The system impact of rider preferences in a shared autonomous vehicle system", Platform presentation, the 10th International Conference of the International Society for Industrial Ecology (ISIE 2019), Beijing, China, 7 to 11, 2019.
9. **Cai, H.**, Lokhandwala, M., "Understanding the sharing limit in dynamic ride sharing", Poster presentation, the 10th International Conference of the International Society for Industrial Ecology (ISIE 2019), Beijing, China, 7 to 11, 2019.
10. **Cai, H.**, Wen, R., "Shared Autonomous Vehicle Systems and their Impacts on a City' s Sustainability", Platform presentation, the 10th International Conference of the International Society for Industrial Ecology (ISIE 2019), Beijing, China, 7 to 11, 2019.
11. **Cai, H.**, Lokhandwala, M., "Siting charging stations for a growing electric vehicle fleet", Poster presentation, the 10th International Conference of the International Society for Industrial Ecology (ISIE 2019), Beijing, China, 7 to 11, 2019
12. Kou, Z., **Cai, H.**, "Comparing dock-based, dockless, and hybrid bike share systems regarding bike supply: a case study of Chicago", poster presentation, 2019 ISIE Conference, July 9, 2019, Beijing, China. (Received **Honorable Mention** of the ISIE 2019 Student Poster Competition from the Sustainable Urban Systems section.)
13. Song, L., Zhu, T., **Cai, H.**, "Quantifying the U.S. Households' Environmental Footprints", poster presentation, 2019 ISIE Conference, July 9, 2019, Beijing, China. (Received **Honorable Mention** of the ISIE 2019 Student Poster Competition from the Life Cycle Sustainability Assessment Section.)
14. Song, L., **Cai, H.**, "The Environmental Footprints of U.S. Household Food Consumption Based on Big Data", Poster presentation, 2019 Association of Environmental Engineering & Science Professors (AEESP) Research and Education Conference, Tempe, AZ, May 14-16, 2019
15. Kou, Z., **Cai, H.**, "How many bikes are needed in a bike share system?", Poster presentation, 2019 Association of Environmental Engineering & Science Professors (AEESP) Research and Education Conference, Tempe, AZ, May 14-16, 2019
16. Kou, Z., **Cai, H.**, "Quantifying the Environmental Benefits of Bike Share Systems", poster presentation, 2019 Transportation Research Board (TRB) Annual Conference, January 14, 2019, Washington, D.C.
17. Lokhandwala, M., **Cai, H.**, "Developing comparative agent-based model scenarios to evaluate emerging transportation systems", poster presentation, 2019 Transportation Research Board (TRB) Annual Conference, January 15, 2019, Washington, D.C.

18. Salazar, B., **Cai, H.**, Bailey, R., and Huang, J.-Y. "Defining nutritionally and environmentally healthy dietary choices of omega-3 fatty acids", Platform presentation, 11th International Conference on Life Cycle Assessment of Food (LCA Food 2018), October 17-19, 2018, Bangkok, Thailand
19. Wen, R., **Cai, H.**, Nataghi, R., Rachunok, B., and Tong, Y., "Assessing changes in residential electric power consumption due to emerging changes in climate and technology", Platform presentation, 2018 International Symposium on Sustainable Systems & Technology (ISSST), June 27, 2018
20. Wen, R., **Cai, H.**, "Shared Autonomous Vehicle Systems: How Many Are Needed and What Are the Sustainability Implications", Poster presentation, 2018 International Symposium on Sustainable Systems & Technology (ISSST), June 26, 2018
21. Lokhandwala, M., **Cai, H.**, "A long term view on the future of personal mobility", Poster presentation, 2018 International Symposium on Sustainable Systems & Technology (ISSST), June 26, 2018
22. Kou, Z., **Cai, H.**, "Inferring the Environmental Benefit of Bike Sharing Systems Using Trip", Poster presentation, , 2018 International Symposium on Sustainable Systems & Technology (ISSST), June 26, 2018
23. Wen, R., **Cai, H.**, Nataghi, R., Rachunok, B., and Tong, Y., "Assessing changes in residential electric power consumption due to emerging changes in climate and technology", 2018 International Conference on Resource Sustainability (icRS 2018), Platform presentation, June 28, 2018
24. Wen, R., **Cai, H.**, "Shared autonomous vehicle systems: how many are needed and what are the sustainability implications", 2018 International Conference on Resource Sustainability (icRS 2018), Platform presentation, June 28, 2018
25. Song, L., **Cai, H.**, "A naturalistic decision making study on the effectiveness of Ecolabels in inform sustainable consumption", 2018 International Conference on Resource Sustainability (icRS 2018), Platform presentation Platform presentation, June 27, 2018
26. **Cai, H.**, "The Social, Environmental, and Resource Sustainability of "New Mobility" Systems", Poster presentation, Industrial Ecology Gordon Research Conference, May 23, 2018, Les Diablerets, Switzerland
27. Lokhandwala, M., **Cai, H.**, "A long term view on the future of personal mobility", Poster presentation, Industrial Ecology Gordon Research Conference, May 22, 2018, Les Diablerets, Switzerland
28. Kou, Z., **Cai, H.**, "Understanding the Sustainability of Bike Sharing Systems: A Tale of Eight Cities", Poster presentation, Industrial Ecology Gordon Research Conference, May 22, 2018, Les Diablerets, Switzerland
29. Song, L., Lim, Y., Chang, P., Guo, Y., Zhang, M., Wang, X., Yu, X., Lehto, M. R., **Cai, H.**, "The effectiveness of ecolabels in informing sustainable consumption: A naturalistic decision making study", Poster presentation, Industrial Ecology Gordon Research Conference, May 21, 2018, Les Diablerets, Switzerland
30. Neubauer, K., Huang, W., Fundator, R., **Cai, H.**, Hands, N., Zimpfer, M., Diao, X., & Reed, J.B. Teamwork makes the dream work: Purdue's IMPACT course transformation faculty learning community. Presented at Purdue Global 2018 Virtual General Education Conference, May 10, 2018.
31. **Cai, H.**, Nataghi, R., Wen, R., Rachunok, B., Tong, Y. "Assessing Changes in Residential Electric Power Consumption Due to Emerging Changes in Climate and Technology", Platform presentation, INFORMS, October 24, 2017, Houston, TX
32. Kou, Z, **Cai, H.**, "Understanding the Sustainability of Bike Sharing Systems: A Tale of Eight Cities" Platform presentation, ISIE-ISSST Joint Conference, June 29, Chicago, IL
33. Lokhandwala, M., **Cai, H.** "Taxi Sharing: Sustainable Transportation Systems in New York City", Poster presentation, ISIE-ISSST Joint Conference, June 27, Chicago, IL (received **4th Place Student Poster Competition Award**)
34. Wen, R., **Cai, H.** "Shared Autonomous Vehicle Systems: How Many Autonomous Vehicles Are Needed and What Are the Sustainability Implications", Poster presentation, ISIE-ISSST Joint Conference, June 27, Chicago, IL
35. Song, L., **Cai, H.** "How Much Attention Do Consumers PAY ON Ecolabels? – A Case Study of Real-World Grocery Shopping using Eye-Tracking Glasses", Poster presentation, ISIE-ISSST Joint Conference, June 27, Chicago, IL (received **First Place Poster Award from CSIE**)
36. **Cai, H.**, Lokhandwala, M., "Taxi Sharing: An Agent Based Modelling Analysis for New York City", Platform Presentation, 2017 Association of Environmental Engineering & Science Professors (AEESP) Research and Education Conference, June 21 Ann Arbor, MI 47907

37. Song, L., **Cai, H.**, "Do Consumers Pay Attention to Sustainability-Related Information When Shopping in A Real-World Environment?", Poster Presentation, 2017 Association of Environmental Engineering & Science Professors (AEESP) Research and Education Conference, June 21 Ann Arbor, MI 47907
38. Kou, Z., **Cai, H.**, "Understanding the Sustainability of Bike Sharing Systems: A Tale of Eight Cities", Poster Presentation, 2017 Association of Environmental Engineering & Science Professors (AEESP) Research and Education Conference, June 21 Ann Arbor, MI 47907
39. Wen, R., **Cai, H.**, "How Many Autonomous Vehicles Are Needed in a SAV System and What Are the Environmental Implications", Poster Presentation, 2017 Association of Environmental Engineering & Science Professors (AEESP) Research and Education Conference, June 21 Ann Arbor, MI 47907
40. Shi, X., Pan, J., Wang, H., **Cai, H.** "Considering Individual Battery Range Needs in Environmental Assessments of Electric Vehicles". Poster presentation, The Transportation Research Board (TRB) 96th Annual Meeting, January 10, 2017, Washington D.C.
41. Lokhandwala, M. and **Cai, H.** (2016) "Taxi Sharing: Sustainable Transportation for New York City". Poster presentation, *INFORMS*, November 15, 2016, Nashville, TN.
42. **Cai, H.**, Shi, X., Pan, J. (2016) "Environmental Benefits of Individually Optimized Electric Vehicle Battery Range". Platform presentation, *INFORMS*, November 16, 2016, Nashville, TN.
43. Shi, X., Pan, J., **Cai, H.** (2016) "Environmental Benefits of Individually Optimized Electric Vehicle Battery Range". Platform presentation, *International Symposium on Sustainable Systems and Technology (ISSST)*, May 16, 2016, Phoenix, AZ
44. **Cai, H.**, Xu, M. (2015) "Environmental Benefits of Ride Sharing in Cities". Platform presentation, *International Society for Industrial Ecology Biennial Conference, Platform presentation*, July 7, Surrey, United Kingdom.
45. **Cai, H.**, Xu, M. (2015) "Assessing the Environmental Benefits of Ride Sharing in Cities." Platform presentation, *International Symposium on Sustainable Systems and Technology (ISSST)*, May 18-20, 2015, Dearborn, MI.
46. **Cai, H.**, Xu, M. (2015) "Urban Environmental Benefits of Ride Sharing using Autonomous Vehicles". Poster presentation, *AEESP Research and Education Conference: Environmental Engineering and Science At the Nexus*, June 13-16, 2015, New Haven, CT.
47. **Cai, H.**, Xu, M. (2014) "Informing Electric Vehicle Public Charging Infrastructure Development using Travel Patterns Mined from Big-Data". *Poster presentation*, Gordon Research Conference on Industrial Ecology, June 1-6, Lucca (Barga), Italy.
48. **Cai, H.**, Xu, M. (2014) "Informing Electric Vehicle Public Charging Infrastructure Development using Travel Patterns Mined from Big-Data". *Oral paper presentation*, International Symposium on Sustainable Systems and Technology (ISSST), May 20, Oakland, CA
49. **Cai, H.**, Xu, M. (2013) "Characterizing Individual Driving Patterns through Big Data Mining". *Poster Presentation*, AEESP 50th Anniversary Conference, July 16th, 2013, Golden, CO
50. **Cai, H.**, Xu, M. (2013) "Big Data Mining for Evaluating Electric Vehicles Market Acceptance and Environmental Impacts". *Oral Presentation*, AEESP 50th Anniversary Conference, July 16th, 2013, Golden, CO
51. **Cai, H.**, Xu, M. (2013) "Characterizing Individual Driving Patterns through Big Data Mining". *Poster Presentation*, Symposium on Industrial Ecology for Young Professionals, Ulsan, South Korea, June 29th, 2013
52. **Cai, H.**, Xu, M. (2013) "Understanding Market Acceptance of Electric Vehicles Based on Individual Travel Patterns". *Oral Presentation*, 7th International Society for Industrial Ecology Biennial Conference, Ulsan, South Korea, June 28th, 2013
53. **Cai, H.**, Xu, M. (2013) "Characterizing Individual Driving Patterns through Big Data Mining". *Poster Presentation*, 7th International Society for Industrial Ecology Biennial Conference, Ulsan, South Korea, June 27th, 2013
54. Pontau, P., **Cai H.**, Zhen, Y., Hou, Y., Xu, M. (2013) "Assessing Land Use Impact by Clean Vehicle Systems". *Oral Presentation*, 7th International Society for Industrial Ecology Biennial Conference, Ulsan, South Korea, June 28th.
55. **Cai, H.**, Xu, M., Liang, S. (2013) "Characterizing Individual Driving Patterns through Big Data Mining". *Poster Presentation*, IEEE International symposium on Sustainable Systems and Technology. Cincinnati, Ohio, May 15th.

56. **Cai, H.**, Xu, M. (2012) "Freshwater Demand of Clean Vehicle Systems and Its Policy Implications". *Poster Presentation*, Gordon Research Conference on Science and Technology Policy. Waterville Valle, NH, August 5-6.
57. **Cai, H.**, Xu, M. (2012) "Integrated Assessment of Clean Vehicle Systems under Constraints of Water and Land Resources". *Poster Presentation*, Gordon Research Conference on Industrial Ecology. Les Diablerets, Switzerland, June 20-21.
58. Lo, I., Mankad, V., **Cai, H.**, Nguyen, D., Evans, P. (2011) "Application of Bioremediation and Chemical Reduction Leads to Simultaneous Remediation of Multiple Constituents of Concern". *Platform Presentation*. International Symposium on Bioremediation and Sustainable Environmental Technologies, Reno, NV, June 30.
59. Evans, P., Parry, D., Amador, J., **Cai, H.**, Melancon, P., Stensel, D., Hykes, T., Hume, R. (2011) "Anaerobic Bioconversion of Department of Defense Food Waste into Energy". *Platform Presentation*. International Symposium on Bioremediation and Sustainable Environmental Technologies, Reno, NV, June 30.
60. **Cai, H.**, Amador, J., Nelsen, D., Lopez, A., Nguyen, D., Evans, P., Parry, D., Stensel, D., Stallman, D. (2011) "Renewable Energy Production from Food Wastes by Anaerobic Digestion". *Poster Presentation*. International Symposium on Bioremediation and Sustainable Environmental Technologies, Reno, NV, June 29.
61. Nguyen, D., **Cai, H.**, Lopez, A., Evans, P. (2011) "Gaseous Electron Donor Injection Technology (GEDIT) Using Low Concentrations of Hydrogen". *Poster Presentation*. International Symposium on Bioremediation and Sustainable Environmental Technologies, Reno, NV, June 29.
62. Amador, J., **Cai, H.**, Lopez, A., Evans, P. (2011) "Biogas Production from Slaughterhouse Waste". *Poster Presentation*. International Symposium on Bioremediation and Sustainable Environmental Technologies, Reno, NV, June 29.
63. Evans, P., Nguyen, D., **Cai, H.**, Lopez, A., Wilson, J., Gillette, S., Aodour, A., Becvar, E. (2011) "Design and Optimization of Biogeochemical Transformation". *Platform Presentation*. International Symposium on Bioremediation and Sustainable Environmental Technologies, Reno, NV, June 28.
64. **Cai, H.**, Evans, P., Lopez, A., Lai, H., Weaver, W. (2010) "Application of Water-, Vegetable Oil-, and Gas-Based Electron Donors to Treat Perched Water". *Poster presentation*. Remediation of Chlorinated and Recalcitrant Compounds 7th International Conference, Monterey, CA, May 24.
65. **Cai, H.**, Lopez, A., Evans, P., Weaver, W., Amini, H. (2010) "Gaseous Electron Donor Injection Technology Application for In Situ Bioremediation of Perchlorate in Vadose Zone Soil". *Poster presentation*. Remediation of Chlorinated and Recalcitrant Compounds 7th International Conference, Monterey, CA, May 24.
66. Lo, I., Coan, S., Mankad, V., Smith, R., Gupta, H., **Cai, H.**, Evans, P. (2010) "Feasibility Evaluation of Thermal Remediation and Dual-Phase Extraction for Cleanup of a Multicontaminant Site." *Poster presentation*. Remediation of Chlorinated and Recalcitrant Compounds 7th International Conference, Monterey, CA, May 24.
67. Lopez, A., Evans, P., **Cai, H.**, Lai, H., Weaver, W. (2010) "Biodiesel Waste as an Electron Donor for Enhanced Anaerobic Bioremediation of Chlorinated Solvents" *Poster presentation*. Remediation of Chlorinated and Recalcitrant Compounds 7th International Conference, Monterey, CA, May 24.
68. **Cai, H.**, Nguyen, D., Evans, P. (2009) "Oxidation of 1,4-Dioxane Using Permanganate." *Poster presentation*, In Situ and On-Site Bioremediation 10th International Symposium, Baltimore, MD, May 6.
69. Evans, P.J., **Cai, H.**, Hopfensperger, K., Fricke, R., (2009) "Perchlorate and Nitrate Bioremediation in Vadose Zone Soil by Gaseous Electron Donor Injection Technology (GEDIT)". *Platform presentation*, In Situ and On-Site Bioremediation 10th International Symposium, Baltimore, MD, May 6.
70. Lopez, A., Evans, P., **Cai, H.**, Lai, H. (2009) "Management of Perchlorate Contamination Using Gaseous Electron Donor Technology". *Platform Presentation*, Portland GSA Annual Meeting, Portland, OR, October 21.
71. Evans, P. J., Titus, T., Brennan, R.A., **Cai, H.**, Fricke, R. (2008) "Perchlorate remediation in vadose zone soil by Gaseous Electron Donor Injection Technology (GEDIT)." *Platform presentation*, Remediation of Chlorinated and Recalcitrant Compounds: The 6th International Conference, Monterey, CA, May 22.
72. **Cai, H.**, Brennan, R. A., Fricke, R., Evans, P. J. (2007) "Vadose zone treatment of perchlorate using gaseous electron donors." *Platform presentation*, In Situ and On-Site Bioremediation 9th International Symposium, Baltimore, MD, May 8.

73. **Cai, H.**, Brennan, R. A. (2007) "Bioremediation of perchlorate in vadose zone soil using gaseous electron donors: microcosm tests." *Poster presentation*, The Graduate Exhibition, The Pennsylvania State University, University Park, PA, March 25.
74. **Cai, H.**, Brennan, R. A. (2007) "Bioremediation of perchlorate in vadose zone soil using gaseous electron donors: microcosm tests." *Poster presentation*, College of Engineering Research Symposium, The Pennsylvania State University, University Park, PA February 8.
75. Brennan, R. A., **Cai, H.**, Min, B., Evans, P. J. (2006) "Treatability study for the bioremediation of perchlorate in vadose zone soils using gaseous electron donors." *Poster presentation*, Remediation of Chlorinated and Recalcitrant Compounds: The 5th International Conference, Monterey, CA.