Yangfang (Helen) Zhou

Address Lee Kong Chian School of Business
Singapore Management University
Office 065-6808-5370
Email helenzhou@smu.edu.sg

Published under the name Yangfang (Helen) Zhou, thus known as Y. H. Zhou, or Y. Zhou. But my name may appear as Helen Zhou, Yangfang Zhou, Helen Yangfang Zhou, thus known as H. Zhou, or Y. Zhou, H.Y. Zhou, respectively, in popular press.

ORCID: 0000-0001-6408-3448; Personal website; Faculty webpage

Research Interests

- Domain (sustainability):
  - Renewable energy and energy storage operations
  - Electrical vehicle adoption and operations
  - Agriculture operations
  - Food waste and food loss
- Methods:
  - Stochastic dynamic programming
  - Asset price modeling
  - Mechanism design
  - Math programing

Positions Held

Associate Professor in Operations Management, Lee Kong Chian School of Business *2022-now*
Singapore Management University (SMU) (on maternity leave from May 2023 to Sept 2023)
Assistant Professor in Operations Management, Lee Kong Chian School of Business *2013-2021*
Singapore Management University (SMU) (on maternity leave from July 2016 to October 2016)
Teaching Assistant, Tepper School of Business, Carnegie Mellon University *2008-2012*
Instructor of an MBA course, Tepper School of Business, Carnegie Mellon University *2008*
Teaching and Research Assistant, Department of Industrial Engineering, Tsinghua University *2005-2007*

Education

Tepper School of Business, Carnegie Mellon University (CMU), Pittsburgh, U.S.A. *2007~2012*
Ph.D. in Operations Management (Joint program with Robotics Institute)

- Thesis: Managing Wind-Based Electricity Generation with Storage
- Committee: Co-Chairs: Alan Scheller-Wolf, Stephen Smith
  Members: Jay Apt, Nicola Secomandi, Fallaw Sowell

M.S. in Industrial Administration *2007~2009*
Tsinghua University, Beijing, China
M.E. in Industrial Engineering *2005~2007*
Huazhong University of Science and Technology (HUST), Wuhan, China
B.E. in Mechanical Engineering (with the highest honor, ranked No. 1 among 280 students) *2001~2005*

Published papers

- Yangfang (Helen) Zhou, Alan Scheller-Wolf, Nicola Secomandi, and Stephen Smith. 2016. Electricity Trading and Negative Prices: Storage vs. Disposal. ***Management Science*** 62(3): 880-898
  - Former titles: "Is It More Valuable to Store or Destroy Electricity Surpluses?" and "Merchant Management of Electricity Surpluses: Storage vs. Disposal"
  - Honorable Mention of the 2014 Columbia University China Business Initiative/ CSAMSE (Chinese Scholars Association for Management Science and Engineering) Annual Conference Best Paper Award
  - Best Research Presentation by a Junior Faculty or a Doctoral Student, Workshop on Analytics for Business, Consumer and Social Insights (BCSI)
  - Media mention: SMU podcast titled "**The downside of renewable energy."**
  - Media mention: Asian Scientist magazine article "**When the switch flips on electricity prices."**
- Yangfang (Helen) Zhou, Alan Scheller-Wolf, Nicola Secomandi, and Stephen Smith. 2019. Managing Wind-Based Electricity Generation in the Presence of Storage and Transmission Capacity. ***Production and Operations Management*** *28(4): 970-989*
  - Media mention: SMU video titled **"Management of renewable energy"**
  - Media mention: Asian Scientist magazine article **"When the switch flips on electricity prices."**
  - **2020 Best Publication Award in Environment-Sustainability in the INFORMS Section of ENRE (Energy, Natural Resources, and the Environment).**
- Onur Boyabatli, Javad Nasiry, and Yangfang (Helen) Zhou. 2019. Crop Planning in Sustainable Agriculture: Dynamic Farmland Allocation in the Presence of Crop Rotation Benefits. ***Management Science*** 65(5): 1949-2443
  - Media mention: SMU news article, **From farming to retailing: Here's how math models can help**
- Owen Wu, Safak Yucel, Yangfang (Helen) Zhou. 2022. Smart Charging of Electric Vehicles: An Innovative Business Model for Utility Firms ***Manufacturing and Service Operations Management.*** 24(5):2481-2499
  - **2023 Best Publication Award in Environment and Sustainability in the INFORMS Section of ENRE (Energy, Natural Resources, and the Environment)**
  - **Finalist for 2023 Best OM paper award in M&SOM**
  - Media mention: **Managing a city of electric vehicles: How can this happen?** Dec, 2023 (City Perspective, SMU)
  - Media mention: **OM Prof's paper on charging electric vehicles wins best publication award** 2023
  - Media mention: **Smart Charging of Electric Vehicles**, Sept 2022 (Podcast, ResearchPod)
  - Media mention: **Charging smart for profit and benefit**, Research@SMU 2022
  - Media mention: **New Electric Vehicle Charging Business Model Poses Multiple Benefits for Consumers, Utilities and the Environment - INFORMS**
- Chen Li, Long He, Yangfang (Helen) Zhou. 2023 An Exponential Cone Programming Approach for Managing Electric Vehicle Charging ***Operations Research*** 72(5):2215-2240
  - Runner-up award for Harvey Greenberg Research Award, INFORMS Computing Society, 2023
  - Media mention: **Study on Electric Vehicle Charging to be Published (SMU news)**, 2023
  - **OM Prof's paper on charging electric vehicles wins best publication award** 2023
- Onur Boyabatli, Lusheng Shao, and Yangfang (Helen) Zhou. 2026. Integrated Optimization of Cultivation and Fertilizer Application: Implications for Farm Management and Food Security ***Management Science.*** *(Accepted)*
- Pascale Crama, Yangfang (Helen) Zhou, Manman Wang. 2026. Cosmetic Standard and the Impact on Food Loss ***Manufacturing and Service Operations Management.*** *(Accepted)*

Working papers

- Yangfang (Helen) Zhou, Meichun Lin, Owen Wu, John Pang. 2026. Power of Many: A Nobel Aggregator Business model for Vehicle-To-Grid service
- Mac Dada, Ali Fattahi, Yangfang (Helen) Zhou, Lee Wee Chia. Moto-Taxi Industry in Rwanda: Transition to Electric Motors

Unpublished manuscripts

- Yangfang (Helen) Zhou. Is Electricity Storage Green? A Study of the Commercial Sector. (Working paper; a three-page extended abstract was peer-reviewed and accepted at MSOM conference 2017)
- Yangfang (Helen) Zhou, Jay Apt, Alan Scheller-Wolf, Nicola Secomandi, and Stephen Smith. 2012. Combining Operations Management and Engineering Models to Effectively Manage Electricity Storage.

Grant

- Minister for Education (MOE) of Singapore Tier-2 Research Grant (2026–2029). "Aggregator Business Model for Vehicle-to-Grid and a Pilot Program to Study Driver Behavior." Lead PI: Yangfang Helen Zhou; Co-PIs: Liang Leon Xu and Hanzhang Qin. Collaborators: John Pang, Zhen Fu, Owen Wu, Meichun Lin, and Javad Nasiry. S$599,768.
- SMU Urban Institute Seed Grant (2026–2028). "Urban and Vehicle Analytics for Vehicle-to-X Service." PI: Yangfang Helen Zhou; Collaborators: Mark Stevenson, Sheng Liu, and Omar Castrejon Campos. S$149,665.
- Minister for Education (MOE) of Singapore Decentralised Gap Funding (MDGF) (2025). "Aggregator Business Model for Vehicle-to-Grid Services / Vehicle-to-Grid Business Model Innovation." PI: Yangfang Helen Zhou. S$49,750.
- Minister for Education (MOE) of Singapore Tier-1 Research Grant (2022–2024). "Cosmetic Quality Standard and Implications on Food Waste." PI: Yangfang Helen Zhou; Co-PI: Pascale Crama. S$39,992.

Invited seminar presentations

Darden Graduate School of Business, University of Virginia	*Nov. 2026*
INSEAD, Asia Campus	*Mar. 2026*
Harvard Business School	*Oct. 2025*
Indian School of Business (Virtual)	*Oct. 2021*
Massachusetts Institute of Technology, Data Science Lab	*Nov. 2019*
Massachusetts Institute of Technology, Laboratory for Information & Decision Systems	*Nov. 2019*
McDonough School of Business, Georgetown University	*May. 2019*
Tepper School of Business, Carnegie Mellon University	*May. 2019*
Kelly School of Business, Indiana University	*Oct. 2017*
Fuqua School of Business, Duke University	*Jun. 2017*
Nanyang Business School, Nanyang Technological University	*May. 2017*
Lundquist College of Business, University of Oregon	*May. 2017*
Tepper School of Business, Carnegie Mellon University	*Nov. 2015*
Rutgers Business School, Rutgers University	*Nov. 2015*
Business School, National University of Singapore	*Feb. 2014*
Nanyang Business School, Nanyang Technological University	*Sept. 2013*

Conference presentations

INFORMS Annual Meeting, San Francisco (Invited)	*Oct. 2026*
Manufacturing & Service Operations Management Conference, Boston (Peer-reviewed)	*July. 2026*
INFORMS Annual Meeting, Atlanta (Invited)	*Oct. 2025*
Manufacturing & Service Operations Management Conference, London (Peer-reviewed)	*Jun. 2025*
INFORMS Annual Meeting, Seattle (Invited)	*Oct. 2024*
Manufacturing & Service Operations Management Conference, Minnesota (Peer-reviewed)	*Jun. 2024*
INFORMS Annual Meeting, Phoenix (Invited, presented by co-authors)	*Oct. 2023*
POMS Annual Meeting (Invited, presented by co-authors)	*May. 2023*
INFORMS Annual Meeting, Minneapolis (Invited, presented by co-authors)	*Nov. 2022*
Manufacturing & Service Operations Management Conference, Munich (Peer-reviewed)	*Jun. 2022*
INFORMS Annual Meeting (Hybrid, Invited)	*Oct. 2021*
Manufacturing & Service Operations Management Conference (Virtual, Peer-reviewed)	*Jun. 2021*
POMS Annual Meeting (Invited)	*May. 2021*
INFORMS Annual Meeting (Virtual, Invited)	*Oct. 2020*
INFORMS Annual Meeting, Seattle (Invited)	*Oct. 2019*
Manufacturing & Service Operations Management Conference, Singapore (Peer-reviewed)	*Jul. 2019*
POMS Annual Meeting, D.C. (Invited)	*May. 2019*
INFORMS Annual Meeting, Houston (Invited)	*Nov. 2018*
Manufacturing & Service Operations Management Conference, Dallas (Peer-reviewed)	*Jul. 2018*
POMS International Meeting, Taipei (Invited)	*June. 2018*
INFORMS Annual Meeting, Houston (Invited)	*Oct. 2017*
Chinese Scholars Association for Management Science and Engineering (CSAMSE) Annual Conference, Guangzhou (Invited)	*Jul. 2017*
Manufacturing & Service Operations Management Conference, Chapel Hill (Peer-reviewed)	*Jun. 2017*
POMS, Seattle, 2017 (Invited)	*May. 2017*
POMS-HK, Hong Kong, 2017 (Invited)	*Jan. 2017*
INFORMS Annual Meeting, Philadelphia (Invited)	*Nov. 2015*
Manufacturing & Service Operations Management Conference, Toronto (Peer-reviewed)	*Jun. 2015*
Workshop on Analytics for Business, Consumer and Social Insights (BCSI)	*Mar. 2015*
INFORMS Annual Meeting, San Francisco (Invited)	*Nov. 2014*
Chinese Scholars Association for Management Science and Engineering (CSAMSE) Annual Conference, Inner Mongolia (Invited)	*Jul. 2014*
Manufacturing & Service Operations Management Conference, Seattle (Peer-reviewed)	*Jul. 2014*
INFORMS Annual Meeting, Minneapolis (Invited)	*Oct. 2013*
Supply Chain Analytics Workshop, Sydney	*Dec. 2013*
Manufacturing & Service Operations Management Conference, Fontainebleau (Peer-reviewed)	*Jul. 2013*
INFORMS Annual Meeting, Phoenix (Invited)	*Oct. 2012*
INFORMS Annual Meeting, Charlotte (Invited)	*Nov. 2011*
MSOM Special Interest Group on Sustainability, Ann Arbor (Peer-reviewed, Invited)	*Jun. 2011*
INFORMS Annual Meeting, Austin (Invited)	*Nov. 2010*
Smart Grid Conference, Electricity Industry Center, Carnegie Mellon University	*Apr. 2010*

Teaching Experience

Instructor

- Operations Management (Undergraduate in SMU) (Three most recent ratings: 6.75/7 in 2025, 6.77/7 in 2023, 6.75/7 in 2022) *Spring 2013- now*
- Sustainable Operations (MBA in SMU) (Ratings: 6.30/7 in 2025) *Mar 2025-present*
- Sustainable Operations (MSc in Management in SMU) (Ratings: 5.86/7 in 2020) *Fall 2020-2022*
- Dynamic Programming (PhD course in SMU) (Ratings: 7/7 in 2019, 6.95/7 in 2017, 7/7 in 2016) *Spring 2016, 2017, 2019*
- Quantitative Skills Review Program (for incoming MBAs, CMU) *Summer 2008*

Recitation Leader

- Introduction to Accounting (Undergraduate core, CMU) *Spring 2011*
- Production and Operations Management (Undergraduate core, CMU) *Fall 2010*

Teaching Assistant

- Investment Analysis (Undergraduate, CMU) *Fall 2010*
- Logistics and Supply Chain Management (Undergraduate core, CMU) *Fall 2009*
- Data Mining (MBA, CMU) *Spring 2008, 2009, 2010*
- Operations Research Techniques for Consultants (MBA, CMU) *Spring 2009, 2010*
- Optimization Methods in Finance (MBA, CMU) *Summer 2008, 2009*
- Optimization and Decision Making (MBA core, CMU) Fall 2008
- Production and Operations Management (MBA core, CMU) *Spring 2008*
- Introduction to Industrial Engineering (Tsinghua University) *Fall 2006*

Awards and Honors

SMU MPA Research Fellow *2025*

Lee Kong Chian School of Business Dean's Teaching Honor List, 2024- 2025 *2025*

SMU MPA Research Fellow *2024*

Lee Kong Chian School of Business Dean's Teaching Honor List, 2023- 2024 *2024*

Best Publication Award in Environment and Sustainability in the INFORMS Section on ENRE (Energy, Natural Resources, and the Environment) *2023*

Runner-up award for Harvey Greenberg Research Award, INFORMS Computing Society *2023*

Urban Fellow, Singapore Management University *2024-present*

Finalist for 2023 Best OM paper award in M&SOM *2023*

Lee Kong Chian School of Business Dean's Teaching Honor List, 2022 - 2023 *2023*

Lee Kong Chian Fellowship *2022*

Lee Kong Chian School of Business Dean's Teaching Honor List, 2021 - 2022 *2022*

Lee Kong Chian School of Business Dean's Teaching Honor List, 2020 - 2021 *2021*

Best Publication Award in Environment and Sustainability in the INFORMS Section on ENRE (Energy, Natural Resources, and the Environment). *2020*

Lee Kong Chian School of Business Dean's Teaching Honor List, 2019 - 2020 *2020*

Lee Kong Chian School of Business Dean's Teaching Honor List, 2018 - 2019 *2019*

Lee Kong Chian School of Business Dean's Teaching Honor List, 2017 - 2018 *2018*

Nominee for The Most Promising Teacher Award, Singapore Management University *2016*

Lee Kong Chian School of Business Dean's Teaching Honor List, 2015 - 2016 *2016*

Lee Kong Chian School of Business Dean's Teaching Honor List, 2014 - 2015 *2015*

Best Research Presentation by a Junior Faculty or a Doctoral Student, Workshop on Analytics for Business, Consumer and Social Insights (BCSI)	*2015*
Honorable Mention of The 2014 CSAMSE Annual Conference Best Paper Award	*2014*
Research assistantship, Carnegie Mellon University	*2010-2012*
Department Nominee to the INFORMS Future Academician Colloquium	*Nov. 2011*
William Larimer Mellon Fellowship, Tepper School of Business	*2007-2010*
The second prize of Yellow Roadway Corporation Scholarship, Tsinghua University (Top 3%)	*Oct. 2006*
Research assistantship, Department of Industrial Engineering, Tsinghua University	*2005-2007*
The second prize of undergraduate thesis of Hubei Province (Top 0.1%)	*Jul. 2005*
The first prize of undergraduate thesis, HUST (Top 1%)	*Jun. 2005*
Excellent Graduate Award, HUST (Top 1%)	*Jun. 2005*
The Model Student Award, HUST (20 out of 50,000 students) (Top 0.04%)	*Oct. 2003*
The first-class scholarship of HUST (Top 5%)	*2002-2004*
Excellent league leader, HUST (Top 3%)	*Dec. 2002*
The first-class scholarship of PeiXinXing, Department of Mechanical Engineering, HUST	*Sept. 2002*

Service

Service for Lee Kong Chian School of Business, Urban Institute, and Singapore Management University

- Member of the Faculty Senator, SMU *2024-2026*
- Operations Management Summer Camp Co-chair *2024-present*
- Urban Fellow, Urban Institute *2023-present*
- Chair of Operations Management seminar committee *2022-2024*
- Member of hiring committee *2022-2023*
- Operations Management (OPIM 201) Course coordinator *2018-2024*
- Member of Operations Management seminar committee *2013-2022*
- PhD thesis committee member of Bin Li *2017-2020*
- Co-advisor of the Master thesis of Jiahui Xu *2018-2020*

Service for the profession:

- Ad-hoc Referee for the following journals:
  Management Science, Manufacturing and Service Operations Management, Production and Operations Management, *Operations Research*, *International Journal of Control*, *Computer and Operations Research, OR spectrum, IEEE SmartGridComm Symposium*, *IIE transactions*, *Special Issue on Energy in Computational Management Science, Computational Management Science, Wind Energy, European Journal of Operations Research, Annals of Operations Research, Management Information Systems Quarterly, Journal of Optimization, Economics Modelling*
- Co-chair for the Special Interest Group on Sustainability in MSOM conference, 2022 *2021-2022*
- POMS sustainable operations track co-chair, 2023 *2022-2023*
- Moderator for the SMU International Advisory Committee (IAC) panel discussion on food security and sustainability *Oct. 2021*
- Judge for the MSOM student paper competition *2021-present*
- External committee member of the PhD thesis of Preethi Kulasekara Manavala Ramanujam, from Nanyang Technological University *2020-present*
- Co-organizer of the annual lunch gathering of Operations Management scholars in energy *2017-present*

and sustainability in INFORMS

- Reviewer for iFORM SIG, in MSOM *2021*
- Moderator for the panel discussion session "European Excellence in Sustainability Sharing Sessions: Clean and Efficient Energy" organized by European Chamber of Commerce in Singapore *2020*
- VP of meetings for the college of POMS sustainable operations *2020-2022*
- External reviewer of a research proposal from Hong Kong Polytechnic University *2020*
- Discussant of a paper in Special Interest Group on Sustainability in MSOM conference *Jul. 2019*
- Committee member of the MSOM conference in Singapore *2019*
- Judge for the POMS Hong Kong student paper competition *2018, 2019,2022*
- Session chairs for INFORMS, POMS, and CSAMSE conferences *2013-present*

Media mention of research

- **Managing a city of electric vehicles: How can this happen?** (28-December 2023)
- **OM Prof's paper on charging electric vehicles wins best publication award** (8-December 2023)
- **International Symposium on Electromobility in the UK and Singapore 2023** (see minute 1.50 onward)
- **Study on Electric Vehicle Charging to be Published** (SMU news), 2023
- **Sustainable strategic planning: 3 ways to become a responsible organisation** (SMU city perspectives), 2023
- **Charging smart for profit and benefit**, Research@SMU 2022
- **Smart Charging of Electric Vehicles**, Sept 2022 (Podcast, ResearchPod)
- Moderator of the panel discussion on clean and efficient energy organized by the European Chamber of Commerce in Singapore as part of the European Excellence in Sustainability Sharing Sessions, 2020
- **New Electric Vehicle Charging Business Model Poses Multiple Benefits for Consumers, Utilities and the Environment - INFORMS News Room,** Feb 2022
- **Shedding Light on Solar Challenges (SMU Blog)** Jan 2022
- **Riding The Solar Power Wave | Money Mind | Green Technology (Channel News Asia),** 2021
- **From farming to retailing: Here's how math models can help (SMU news),** 2019
- **Crop Planning in Sustainable Agriculture (Podcasts@SMU; discussed by one of my co-authors)** 2019
- **Management of Renewable Energy (SMU mediacast),** 2019
- **The Downside of Renewable Energy (Podcasts@SMU),** 2018
- **Technology and the art of the optimum (SMU news),** 2017
- **When The Switch Flips On Electricity Prices (Asian Scientist Magazine),** 2017

Business Case Studies

Rwanda Electric Motors: Carbon Credit Monetisation. (2024). SMU-24-0025. By Yangfang Helen Zhou and Lakshmi Appasamy. **https://cmp-shop.smu.edu.sg/products/rwanda-electric-motors-carbon-credit-monetisation-copy?variant=42309601394730**.

https://store.hbr.org/product/rwanda-electric-motors-carbon-credit-monetisation/148SMU (Very detailed teaching notes with accompanying Excel sheet for instructors)

Last revised in Nov-2026