

## MING XU, PH.D.

School for Environment and Sustainability  
Department of Civil and Environmental Engineering  
University of Michigan  
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### SUMMARY

Ming Xu is a Professor in School for Environment and Sustainability and a Professor in Department of Civil and Environmental Engineering at University of Michigan, Ann Arbor. He is also the inaugural Director of China Programs in School of Environment and Sustainability and Co-Director of the Graduate Certificate Program in Industrial Ecology. He received the 2015 Robert A. Laudise Medal from International Society for Industrial Ecology (ISIE), the National Science Foundation Faculty Early Career Development (CAREER) Award in 2016, and the Walter L. Huber Civil Engineering Research Prize from American Society of Civil Engineers (ASCE) in 2021. He serves on the Editorial Board of the journal *Engineering*. He has been serving as the Editor-in-Chief of the journal *Resources, Conservation & Recycling* since 2015 (2019 Impact Factor: 8.086). He founded the International Conference on Resource Sustainability (icRS) series in 2018 and has served as the conference General Chair. He was elected Chair of the 2024 Gordon Research Conference on Industrial Ecology and President of International Society for Industrial Ecology for 2023-2024.

### EDUCATION

- **Ph.D.**, Civil and Environmental Engineering, Arizona State University, Tempe, AZ, 2009
- **M.S.**, Environmental Science and Engineering, Tsinghua University, Beijing, China, 2006
- **B.S.**, Environmental Engineering, Tsinghua University, Beijing, China, 2003

### PROFESSIONAL EXPERIENCES

- **University of Michigan**
  - Professor
    - School for Environment and Sustainability, 09/2020-present
    - Department of Civil and Environmental Engineering, 09/2020
  - Director of China Programs, School for Environment and Sustainability, 09/2017-present
  - Associate Professor
    - School for Environment and Sustainability (formally School of Natural Resources and Environment), 09/2016-08/2020
    - Department of Civil and Environmental Engineering, 09/2016-08/2020
  - Assistant Professor
    - School of Natural Resources and Environment, 09/2010-08/2016
    - Department of Civil and Environmental Engineering, 09/2011-08/2016
  - Co-Director, Graduate Certificate Program in Industrial Ecology, 09/2012-present
  - Core Faculty, Center for Sustainable Systems, 09/2010-present
  - Faculty Associate, Energy Institute, 09/2010-12/2020
  - Faculty Associate, Program in the Environment, 11/2010-05/2018
  - Faculty Affiliate, Erb Institute for Global Sustainable Enterprise, 01/2011-present
  - Faculty Associate, Lieberthal-Rogel Center for Chinese Studies, 04/2012-present

- Faculty Associate, China Data Center, 11/2015-09/2019
- Affiliated Faculty, Michigan Institute for Data Science, 11/2015-present
- Affiliated Faculty, Michigan Institute for Computational Discovery & Engineering, 01/2016-present
- **Georgia Institute of Technology**
  - Postdoctoral Fellow, Brook Byers Institute for Sustainable Systems, 06/2009-08/2010

#### **AWARDS AND HONORS**

- Walter L. Huber Civil Engineering Research Prize, American Society of Civil Engineers (ASCE) for *“his significant contributions in advancing life-cycle environmental impact assessment of industrial systems”*, 2021
- Distinguished Visiting Professorship, School of Environment, Tsinghua University, 2021
- Research Frontier Award, Chinese Society for Industrial Ecology (CSIE), 2019
- ES&T and ES&T Letters Early Career Scientists Virtual Issue, 2019 (one of 24 “outstanding researchers” for *“critical role that early career investigators play in discovering new phenomena and pioneering new approaches for solving old problems”* in the environmental science and technology field)
- Nanova/CAPEES Frontier Research Award, Chinese-American Professors in Environmental Engineering and Science (CAPEES), 2017 (for *“recognized research leadership and pioneered an innovative research area”* in environmental science and engineering)
- Ministry of Science and Technology ERDT Visiting Professor, Republic of the Philippines, 2017
- NSF CAREER Award, 2016 (NSF’s *“most prestigious award in support of junior faculty who exemplify the role of teacher-scholars through outstanding research, excellent education and the integration of education and research within the context of the mission of their organizations”*)
- Robert A. Laudise Medal, International Society for Industrial Ecology (ISIE), 2015 (*“for outstanding achievements in industrial ecology by a researcher under the age of 36”*)
- Recognized for Impact in Global Education (among 54 faculty/staff members recognized campus wide), Council on Global Engagement, University of Michigan, 2013
- Francois Fiessinger Scholarship, Environmental Research and Education Foundation (EREF), 2008-2010
- Excellent Graduate Award, Tsinghua University, 2006
- Excellent Master Thesis Award, Tsinghua University, 2006
- Tsinghua-Samsung First-Class Scholarship, Samsung Corp., 2006
- Danaher-Hach Environment Scholarship, Danaher Corp., 2005

#### **PROFESSIONAL AFFILIATIONS**

- Chinese Society for Industrial Ecology (CSIE), Founding Member, 2015-present
- American Association for the Advancement of Science (AAAS), Member, 2010-present
- American Society of Civil Engineers (ASCE), Student Member, 2006-2009; Associate Member, 2009-present
- Association of Environmental Engineering and Science Professors (AEESP), Member, 2010-present
- International Society for Industrial Ecology (ISIE), Member, 2009-present

#### **EDITORSHIP AND EDITORIAL BOARD MEMBERSHIP**

- **Editor-in-Chief**, *Resources, Conservation & Recycling* (Elsevier), 06/2015-present

- **Editorial Board**, *Engineering (Environment & Light and Textile Industries Engineering Section)*, 02/2020-present
- **Associate Editor**, *Journal of Environmental Informatics*, 01/2021-12/2025
- **Editorial Board**, *Frontiers in Sustainable Production - Quantitative Sustainability Assessment*, 10/2019-present
- **Editorial Board**, *Journal of Environmental Accounting and Management*, 12/2017-present
- **Guest Editor**, Special Issue on Advances in Complex Adaptive Systems and Industrial Ecology, *Journal of Industrial Ecology* (Wiley), 2015
- **Associate Editor**, *Elementa: Science of the Anthropocene - Sustainable Engineering*, 03/2013-09/2019
- **Associate Editor**, *Resources, Conservation & Recycling* (Elsevier), 01/2013-05/2015

## SERVICES

### *School services*

- **Promotion & Tenure Committee**, School for Environment and Sustainability, 03/2021-present
- **Space Committee**, School for Environment and Sustainability, 09/2019-08/2020
- **Chair, Faculty Search Committee** (Sustainable Systems), School for Environment and Sustainability, 09/2019-04/2020
- **Chair, Global Engagement Committee**, School for Environment and Sustainability, 09/2017-05/2018
- **PhD Committee**, School for Environment and Sustainability, Winter 2018; Winter 2019
- **Global Engagement Committee**, School of Natural Resources and Environment, 11/2013-12/2016
- **PhD Committee**, School of Natural Resources and Environment, 09/2013-05/2016
- **Research Committee**, School of Natural Resources and Environment, 09/2012-08/2013
- **Faculty Search Committee**, School of Natural Resources and Environment, 09/2011-05/2012

### *University services*

- **COVID-19 Research Disparities Committee**, University of Michigan, 08/2020-12/2020
- **Faculty Co-Lead**, Internal Analysis Team on University Travel, President's Carbon Neutrality Commission, University of Michigan, 09/2019-05/2020
- **China Working Group**, Provost Office, University of Michigan, 04/2019-present
- **Council of Global Engagement**, University of Michigan, 09/2017-present
- **Committee on Environment and Sustainability Programs**, University of Michigan, 01/2016-04/2016
- **Advisory Committee**, University of Michigan Transportation Research Institute (UMTRI), 09/2014-08/2016
- **Internal Review Committee**, University of Michigan Transportation Research Institute (UMTRI), 10/2014-08/2015
- **Executive Committee**, China Data Center, 07/2013-09/2019

### *Services to scientific and professional organizations*

- **President**, International Society for Industrial Ecology, 2023-2024
- **Chair**, Gordon Research Conference on Industrial Ecology, 2024 (elected in 2018, Vice Chair in 2022)
- Chinese Society for Industrial Ecology
  - **President**, 01/2018-12/2018
  - **Councilor**, 07/2015-12/2017

- **Award Committee**, Chinese-American Professors in Environmental Engineering and Science (CAPEES), 2018
- **Advisory Board**, Greenometry, 01/2017-12/2018
- International Society for Industrial Ecology
  - **Councilor**, 01/2013-12/2015
  - **Award Committee**, 01/2017-06/2017

- **Invited Referee**

Grant proposals (*ad hoc* reviewer and panelist):

- Canada Social Sciences and Humanities Research Council
- European Research Council
- Israel Science Foundation
- National Natural Science Foundation of China
- UK Research & Innovation
- US National Science Foundation
- US Environmental Protection Agency
- Vienna Science and Technology Fund
- World Bank

Book manuscripts:

- United Nations University Press
- Oxford University Press
- CRC Press

Contest:

- China Food Waste Solution Contest 2017 organized by UNEP, FAO, Swedish Environmental Research Institute

Journal manuscripts:

- |  |   |
|--|---|
| ○ ACS Sustainable Chemistry & Engineering            | ○ International Journal of Sustainable Transportation |
| ○ Applied Energy                                     | ○ Journal of Cleaner Production                       |
| ○ Building and Environment                           | ○ Journal of Environmental Management                 |
| ○ Economic Systems Research                          | ○ Journal of Industrial Ecology                       |
| ○ Ecological Economics                               | ○ Natural Resources                                   |
| ○ Ecological Modelling                               | ○ Nature Energy                                       |
| ○ Energy Economics                                   | ○ Proceedings of the ICE – Engineering Sustainability |
| ○ Energy Policy                                      | ○ PNAS  |
| ○ Environmental Engineering and Management           | ○ Regional Development Dialogue                       |
| ○ Environment International                          | ○ Regional Environmental Change                       |
| ○ Environmental Management                           | ○ Resources, Conservation & Recycling                 |
| ○ Environmental Science & Policy                     | ○ Science Advances                                    |
| ○ Environmental Science & Technology                 | ○ Science of the Total Environment                    |
| ○ Environmental Science & Technology Letters         | ○ Sustainability                                      |
| ○ Frontiers of Environmental Science and Engineering | ○ Sustainability Science                              |
| ○ IEEE Transactions on Engineering Management        | ○ Water   |
|  | ○ Water Research                                      |
|  | ○ Water Resources Research                            |
|  | ○ Waste Management                                    |

- **Conference Committees**

- *Founder and General Chair*: International Conference on Resource Sustainability (icRS), [www.icrsconf.com](http://www.icrsconf.com)
- *Co-Chair, Scientific Committee*: 2019 International Conference on Cleaner Production and Sustainability (CPS 2019), October 30-November 2, Hong Kong, China
- *Chair, Organizing Committee*: US-China Environment and Sustainability Forum at the University of Michigan (UCESF@UM), October 1-2, Ann Arbor, MI
- *Advisory Committee*: 2018 International Conferences on Intelligent Manufacturing and Internet of Things (IMIOT'2018) & Intelligent Computing for Sustainable Energy and Environment (ICSEE'2018), September 21-23, 2018, Chongqing China.
- *Co-Chair*: The 18<sup>th</sup> International Society for Business Innovation and Technology Management Conference (ISBITM), May 1-3, 2016, Ann Arbor, MI
- *Leadership Committee*: 2015 International Conference on Sustainable Design, Engineering and Construction (ICSDEC 2015), May 10-13, 2015, Chicago, IL
- *Poster Session Chair*:
  - 2016 International Symposium on Sustainable Systems and Technology (ISSST), May 16-18, Phoenix, AZ
  - 2015 International Symposium on Sustainable Systems and Technology (ISSST), May 18-20, Dearborn, MI
- *Organization Committee*: Third ISIE Asia-Pacific Meeting, October 20-21, 2012, Beijing, China
- *Technical/Program/Scientific Committees*:
  - 2<sup>nd</sup> International Conference on Circularity in the Built Environment (CiBEn), September 22-24, Delft, the Netherlands
  - International Society for Industrial Ecology Conference ISIE Americas 2020, July 6-8, 2020, Lima, Peru
  - 2019 International Society for Industrial Ecology (ISIE) Conference, July 7-11, 2019, Beijing, China
  - The 26<sup>th</sup> CIRP Conference on Life Cycle Engineering, May 7-9, 2019, West Lafayette, IN
  - 2018 International Symposium on Sustainable Systems and Technology (ISSST), June 26-28, 2018, Buffalo, NY
  - Sustainable Asia Conference 2018 (SAC 2018), May 18-21, Beijing, China (Program Committee Co-Chair)
  - 2016 International Conference on Sustainable Infrastructure (ICSI 2016), October 17-19, Shenzhen, China
  - 2016 International Symposium on Sustainable Systems and Technology (ISSST), May 16-18, Phoenix, AZ
  - 2015 International Society for Industrial Ecology (ISIE) Conference, July 7-10, Guildford, UK
  - The 4<sup>th</sup> Symposium on Industrial Ecology for Young Professionals (SIEYP), July 11, 2015, Guildford, UK
  - 2015 International Symposium on Sustainable Systems and Technology (ISSST), May 18-20, Dearborn, MI
  - The 4<sup>th</sup> International Engineering Systems Symposium (CESUN 2014), June 8-11, Hoboken, NJ
  - 2014 International Symposium on Sustainable Systems and Technology (ISSST), May 18-21, 2014, Oakland, CA

- 2013 International Symposium on Sustainable Systems and Technology (ISSST), May 15-17, 2013, Cincinnati, OH
- IADIS International Conference on Sustainability, Technology and Education 2012 (STE 2012), November, 28-30, 2012, Perth, Australia
- 2012 IEEE International Symposium on Sustainable Systems and Technology (ISSST), May 16-18, 2012, Boston, MA
- 2011 IEEE International Symposium on Sustainable Systems and Technology (ISSST), May 16-18, 2011, Chicago, IL
- 2010 IEEE International Symposium on Sustainable Systems and Technology (ISSST), May 16-19, 2010, Washington, DC
- 2009 International Society for Industrial Ecology (ISIE) Conference, June 21-24, 2009, Lisbon, Portugal
- **Founding Chair**, International Conference on Resource Sustainability (icRS)
- **Founding Co-Chair**, The Symposium on Industrial Ecology for Young Professionals (SIEYP)
- **President**, Student Chapter, International Society for Industrial Ecology, 2007-2008

#### TEACHING

- **University of Michigan**
  - EAS 550/Strategy 566, Systems Thinking for Sustainable Development and Enterprise, Winter 2019
  - EAS 573 (formally NRE 573), Environmental Footprinting and Input-Output Analysis, Winter 2013-15; Winter 2018-2019
  - ENVIRON 367, Global Enterprise and Sustainable Development, Fall 2011; Winter 2013; Winter 2015; Winter 2018
  - NRE 501.036, Sustainable Systems in Developing Countries, Winter 2011-2012

#### STUDENT/POSTDOCTORAL ADVISEES AND VISITING SCHOLARS

- Postdoctoral advisees
  - Ping Hou, 2019 (current position: Data Scientist, Bank of America)
  - Chunyan Wang, 2019-2020 (current position: Assistant Research Professor, Tsinghua University)
  - Shen Qu, Dow Sustainability Fellow, 2015-2020 (current position: Associate Professor, Beijing Institute of Technology)
  - Sai Liang, Dow Sustainability Fellow, 2013-2016 (current position: Professor, Beijing Normal University, China)
- Ph.D. students
  - As Committee Chair
    - Chenyang Shuai, Environment and Sustainability, expected 2022
    - Bu Zhao, Environment and Sustainability, expected 2022
    - Morteza Taiebat, Natural Resources and Environment & Civil and Environmental Engineering, expected 2020
    - Ping Hou, Natural Resources and Environment & Scientific Computing, 2019 (current position: Data Scientist, Bank of America)
    - Hua Cai, Natural Resources and Environment & Civil and Environmental Engineering, 2015 (current position: Assistant Professor, Purdue University)
  - As Committee Member
    - Li Chen, Mechanical Engineering, Villanova University, expected 2022
    - Gregory Oberhausen, Mechanical Engineering, expected 2022

- Zachary Gersten, Public Health, expected 2021
- Yabin Dong, Environment and Sustainability, expected 2022
- Mingyan Tian, Environmental Engineering, expected 2023
- Yongxian Zhu, Mechanical Engineering, expected 2022
- Dennis Sugrue, Civil and Environmental Engineering, 2021
- Huanyu Wu, Architecture and Built Environment (external examiner), University of Adelaide, 2020
- Lirong Liu, Environmental Systems Engineering (external examiner), University of Regina, 2019 (immediate placement: Research Associate, Stockholm Environment Institute)
- Katerina Stylianou, Public Health, 2018 (immediate placement: Research Fellow, University of Michigan)
- Shamitha Keerthi, Natural Resources and Environment, 2017 (immediate placement: Postdoctoral Researcher, Nature Conservancy)
- Xi Tian, Economics, Beijing University of Technology (immediate placement: Assistant Professor, Beijing University of Technology), 2017
- Francisco Sotomayor, Civil and Environmental Engineering, 2016 (immediate placement: Application Scientist, Quantachrome Instruments)
- Zhihao Chen, Industrial Engineering, 2016 (immediate placement: Analyst, Amazon)
- Sarang Supekar, Mechanical Engineering, 2015 (immediate placement: Research Fellow, University of Michigan)
- Najet Bichraoui, Environmental Studies and Sustainability (Examiner), University of Technologies of Troyes, 2015
- Jose Alfaro, Natural Resources and Environment, 2014 (immediate placement: Assistant Professor of Practice, University of Michigan)
- Xi Wang, Engineering and Public Policy, Carnegie Mellon University, 2013
- Master thesis students
  - As Committee Chair
    - Mengqing Kan, Environment and Sustainability, 2021 (immediate placement: PhD student, University of Toronto)
    - Zitong Liao, Environment and Sustainability, 2021
    - Jinming Xu, Environment and Sustainability, 2020
    - Yichuan Song, Environment and Sustainability, 2020 (immediate placement: Analyst, Chinese Academy of Environmental Planning)
    - Kaihui Song, Natural Resources and Environment, 2018 (immediate placement: Ph.D. student, University of Maryland)
    - Zahra Bahrani Fard, Natural Resources and Environment, 2017 (immediate placement: Transportation Systems Analyst, Center for Automotive Research)
    - Yifan Xu, Natural Resources and Environment, 2017 (immediate placement: Sustainability Developer, H&M)
    - Rui Shi, Natural Resources and Environment, 2017 (immediate placement: Ph.D. student, Johns Hopkins University)
    - Zeqi Zhu, Natural Resources and Environment, 2016 (immediate placement: Investor Relationship Manager, Tsing Capital)
    - Jiarui Cai, Natural Resources and Environment, 2016 (immediate placement: Associate Environmental Engineer, Steelcase)

- Xiaoyue Zhao, Natural Resources and Environment, 2015 (immediate placement: Engineer, China Railway Eryuan Engineering Group)
  - Yu Feng, Natural Resources and Environment, 2014 (current job: Senior Big Data Engineer, EBates)
  - Ye Yue, Natural Resources and Environment, 2013 (immediate placement: Associate Consultant, Bain & Company, Shanghai)
  - Michelle H.W. Lee, Natural Resources and Environment, 2012 (immediate placement: Ph.D. student, Indiana University)
  - Sonika Choudhary, Natural Resources and Environment (Co-Chair), 2012 (immediate placement: Senior Analyst, Pacific Gas & Electric)
- As Committee Member
  - Shreyas Vangala, Natural Resources and Environment, 2016 (immediate placement: Strategy Analysis, New York Power Authority)
  - Yu-De Lee, Natural Resources and Environment, 2014 (immediate placement: self-employed start-up)
  - Minetta van Strien, Natural Resources and Environment, 2012 (immediate placement: Sustainability Coordinator, Central Community College)
- Master's Projects advised (*capstone of Master's students in School of Natural Resources and Environment, conducted by groups of students with diverse background to solve problems for real-world clients*)
  - Water for All: Sustainable Solutions for Reducing and Utilizing Sarvajal's Reverse Osmosis Brine in Northwestern India (client: Piramal Water Private Limited), 2011-2012
  - Sustainable Enterprise: Plastic Waste Recycling in Jakarta (client: PepsiCo), 2011-2012
  - Pursuing Sustainability with University of Michigan, Patient Food and Nutrition Services: Aligning Sustainable Practices with Healthcare Delivery (client: University of Michigan), 2012-2013
  - Green Infrastructure Analysis, Design and Application in Detroit's Lower Eastside Action Plan (client: Lower Eastside Action Plan), 2012-2013 (secondary advisor)
  - Exploring Commodity Tradeoffs in Soft Commodity Production (client: World Wildlife Fund), 2013-2014
  - The Business Case for Sustainable Agriculture in Asia (client: Kellogg Company), 2014-2015 (secondary advisor)
  - Defining Next Generation Supply Chain Sustainability Performance & Resilience to Climate Change and Environmental Risks (client: Schneider Electric), 2014-2015
  - Carbon Sources, Sinks and Offsets in Global Forest Investment (client: Global Forest Partners LP), 2015-2016
  - Stone Paper LCA (client: Taiwan Lung Meng Technology Co. Ltd), 2015-2016
  - Combination of Water Sensitive Urban Design and Ecological Landscape Design in China (client: SPD Planning & Design Corporation), 2015-2016 (secondary advisor)
  - Natural Capital Valuation and Post-Consumer Waste Assessment: A study of Amcor's Flexible Packaging (client: Amcor), 2016-2017
  - Comparing Carbon Footprints of Brick & Mortar and E-commerce Retail (client: Stitch Fix), 2018-2019
  - Evaluating the Scope 3 Emissions Inventory and Setting Science-Based Targets for Steelcase, Inc. (client: Steelcase), 2020-2021
  - Climate Risk Scenario Analysis for Steelcase, Inc. (client: Steelcase), 2021-2022
- Undergraduate students



- Amir Soleimany, Literature, Science, and the Arts (Michigan Internship Learning Environment), 2018
- Abby Bass, Program in the Environment (Michigan Internship Learning Environment), 2018
- Imari Willingham, Environmental Engineering, 2018-2019
- Beatrix Yan, Program in the Environment, 2015-2017
- Kristen Collins, Program in the Environment, 2015-2016
- Anthony Zheng, Literature, Science, and the Arts, 2015-2016
- Xintong Zhu, Literature, Science, and the Arts, 2015-2016
- Kate Peterson, Mechanical Engineering, summer 2015
- Donald Chao, Business, 2013-2014
- Austin Smith, Literature, Science, and the Arts, 2012-2014
- Ranya Ilayian, Literature, Science, and the Arts, 2011-2012
- Shane Freeman, Economics, 2010-2011
- High school student researchers
  - Alan Zhu, Greenhills School, 2019
  - Harrison Li, Greenhills School, 2018
  - Megan He, Ann Arbor Huron High School, 2014-2016

#### **STUDENT/POSTDOC ACHIEVEMENTS**

- Morteza Taiebat, Dow Sustainability Doctoral Fellow
- Shen Qu, Dow Sustainability Postdoctoral Fellow
- Sai Liang, Dow Sustainability Postdoctoral Fellow
- Hua Cai, Dow Sustainability Doctoral Fellow; Barbour Scholar; ERM Foundation Sustainability Fellow

#### **DATABASE AND WEBSITE**

- Chinese Environmentally Extended Input-Output (CEEIO) Database, <http://www.ceeio.com>

#### **ENTREPRENEURSHIP RECOGNITIONS**

- 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, University of Michigan, 2013

#### **SELECTED MEDIA EXPOSURE**

- The Economic Times, “Just how bad is India’s plastic problem?” 06/09/2019, <https://economictimes.indiatimes.com/news/politics-and-nation/how-india-is-drowning-in-plastic/articleshow/69706090.cms>
- Energy Wire, “Self-driving cars may need more fuel than previously thought,” 04/18/2019, <https://www.eenews.net/energywire/stories/1060175895/search?keyword=self-driving%20Michigan>
- E&E News, “Self-driving cars and CO<sub>2</sub> emissions: It’s complicated,” 09/19/2018, <https://www.eenews.net/climatewire/2018/09/19/stories/1060098281>
- NBC MACH, “This skyscraper-sized air purifier is the world’s tallest,” 03/21/2018, <https://www.nbcnews.com/mach/science/skyscraper-sized-air-purifier-world-s-tallest-ncna858436>

- China Daily USA, “Microsoft, IBM help on pollution,” 01/19/2016
- Al Jazeera English, “News Hour,” 01/01/2016

## GRANTS

### *External*

- **Co-PI** (PI: D. Cooper), “Creating rapid, transparent, and updateable material flow analyses,” National Science Foundation, \$375,380, 02/15/2021-01/31/2024.
- **Co-PI** (PI: G. Daigger), “Life Cycle Analysis of the Great Lakes Water Authority (GLWA), Detroit, Michigan,” Great Lakes Water Authority (GLWA), \$23,680, 11/01/2020-10/31/2022.
- **Co-PI** (PI: D. Deng), “2020 International Conference on Resource Sustainability (icRS 2020); Dublin, Ireland; June 30 – July 2, 2020,” National Science Foundation, \$30,000, 03/01/2020-02/28/2021.
- **Single PI**, “2019 International Conference on Resource Sustainability - Cities (icRS Cities 2019),” National Science Foundation, \$30,000, 06/01/2019-05/31/2020.
- **PI**, “High-resolution urban air pollution mapping using fleet vehicles as mobile monitors,” DiDi Chuxing, \$150,000, 09/01/2018-08/31/2019.
- **Co-PI** (PI: G. Thun), “Belmont Forum Collaborative Research: The moveable nexus: design-led urban food, water, and energy management innovation in new boundary conditions of change,” National Science Foundation, \$250,000, ICER-1832214, 07/15/2018-06/30/2021.
- **Co-PI** (PI: S. Miller), “Changes in energy use and water stress caused by the emergence of the cold chain,” National Science Foundation, \$317,786, CBET-1804287, 7/15/2018-6/30/2021.
- **Co-PI** (PI: G. Keoleian), “Travel behavior changes and sustainability implications of CAV fleet deployment,” Ford Motor Company, \$150,000, 07/01/2018-12/31/2019.
- **PI**, “UNS: U.S.-China: Integrated Systems Modeling of Food-Energy-Water (FEW) Nexus for Urban Sustainability,” National Science Foundation, \$499,990 and \$52,696 (INTERN Supplement), CBET-1605202, 06/01/2016-05/31/2020.
- **Single PI**, “CAREER: Computational Approaches for Life Cycle Inventory Database Development,” National Science Foundation, \$509,800, CBET-1554349, 02/01/2016-01/31/2021.
- **PI**, “Water Scarcity Risk for the Global Trade Network,” National Science Foundation, \$319,200, CBET-1438197, 09/01/2014-08/31/2017.
- **PI**, “Developing a Spatially-Explicit Agent-Based Life Cycle Analysis Framework for Improving the Environmental Sustainability of Bioenergy Systems,” National Science Foundation, \$309,097, CBET-1132581, 09/01/2011-08/31/2015.
- **Co-PI** (PI: D. Assanis; H. Peng), “CERC-CV: U.S.-China Clean Energy Research Center for Clean Vehicles,” Department of Energy, \$12,497,932, DE-PI0000012, 10/01/2010-09/30/2015.
- **Co-PI** (PI: B. Allenby), “The First Symposium on Industrial Ecology for Young Professionals, May 17, 2009 Tempe, AZ,” National Science Foundation, \$37,886, GBET-0903619, 05/01/2009-07/31/2009.

### *Internal*

- **PI**, “US-China Conference on Environmental Sustainability,” Lieberthal and Rogel Center for Chinese Studies, \$50,000, 01/01/2019-12/31/2019.
- **Co-PI** (PI: D. Cooper), “Sector roadmaps for reducing GHG emissions by 70% in the U.S. by 2050,” MCubed, \$60,000, 01/01/2019-05/31/2020.
- **Single PI**, “An interactive website for environmental footprints of products in China,” Lieberthal and Rogel Center for Chinese Studies (Outreach Grant), \$9,050, 05/01/2018-02/28/2019.
- **Single PI**, “Mapping greenhouse gas emissions in China,” Lieberthal and Rogel Center for Chinese Studies, \$10,374, 05/01/2018-04/30/2019.

- **Single PI**, "Impacts of global water scarcity under climate change on China-US bilateral trade," Lieberthal and Rogel Center for Chinese Studies, \$8,000, 01/01/2017-12/31/2017.
- **PI**, "Defining innovative sustainable solutions for film-based packages," MCubed Diamond sponsored by Procter & Gamble, \$60,000, 01/01/2016-06/30/2017.
- **Single PI**, "Impacts of China's water scarcity on the global trade network," Lieberthal and Rogel Center for Chinese Studies, \$6,900, 01/01/2016-12/31/2016.
- **PI**, "Uncovering the food-energy-water nexus for urban sustainability," MCubed, \$60,000, 10/01/2015-04/29/2017.
- **Co-PI** (PI: A. Agrawal), "Transforming Sustainability Education and Case-Based Teaching," Third Century Initiative, \$1,595,749, 01/01/2016-12/31/2019.
- **Single PI**, "Global Drivers of Greenhouse Gas Emissions of Southeast Asia," Center for Southeast Asian Studies, \$500, 07/01/2015-05/31/2016.
- **Single PI**, "Economic Drivers of Historical Labor Force Variations in Japan," Center for Japanese Studies, \$5,000, 05/01/2015-04/30/2016.
- **Single PI**, "Combination of Water Sensitive Urban Design and Ecological Landscape Design in China (SPD)," International Institute, \$10,000, 05/01/2015-06/30/2016.
- **Single PI**, "Decoupling of Economic Growth and Environmental Pressure in China," Center for Chinese Studies, \$9,459, 06/01/2014-05/31/2015.
- **Co-PI** (PI: O. Joliet), "Influence of Global Trade on the Human Health Impacts of Particulate Matter Induced by Consumption," MCubed, \$60,000, 09/01/2013-08/31/2014.
- **Single PI**, "Structure of the Global Trade Network," Rackham Sp/Su Research Grant, 05/01/2013-08/31/2013.
- **Co-PI** (PI: P. Adriaens), "An Agent-Based Modeling Approach to Sustainability Driven Value Creation in the Paper Industry," Erb Institute Faculty Affiliate Grant, \$10,000, 07/01/2012-06/30/2013.
- **PI** (U-M), "Integrated Energy-Economy-Environment (3E) Modeling for Clean Vehicle Development in China," UM-SJTU Collaboration on Renewable Energy Science and Technology, \$200,000, 09/01/2012-08/31/2014.
- **PI**, "Advancing the Science of Infrastructure Ecology by Exploring and Explaining Universal Regularities of Urban Sustainability Indicators," UM SNRE Seed Grant, \$29,138, 01/01/2012-08/31/2013.
- **Co-PI** (PI: J. Kelly), "Advancing livable communities: IA of infrastructure greening within Detroit for improved sustainable transportation, water quality, and health," Graham Institute, \$20,000, 11/30/2011-5/31/2012.
- **Single PI**, "Creative solutions for addressing wastewater in India," International Institute, \$10,000, 03/01/2011-06/30/2012.
- **Co-PI** (PI: J. Newell), "Research Roadmap for Urban Sustainability," UM SNRE Seed Grant, \$19,418, 01/01/2011-12/31/2011.

## PUBLICATIONS

- underlined: student/postdoc/visiting scholar advisees; \*corresponding author
- *it is my philosophy to have advisees as first authors and myself as the corresponding author in all manuscripts where I have a major leading role.*

## Citation profiles

- Google Scholar: <https://scholar.google.com/citations?hl=en&user=V3n7rKMAAAAJ>
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*Editorial/Commentary/Viewpoint/Report (not peer-reviewed)*

- O13. Williams, J.; **Xu, M.**; Choi, H. S.; Chown, W.; Fu, J.-Z.; Hua, N.; Lyu, C.; Yen, M. Report and recommendations on University-sponsored travel analysis. *University of Michigan President's Commission on Carbon Neutrality*, **2020**.
- O12. Taiebat, M.; Xu, M. 5 charts show how your household drives up global greenhouse gas emissions. *The Conversation*, September 10, **2019**, <https://theconversation.com/5-charts-show-how-your-household-drives-up-global-greenhouse-gas-emissions-119968>.
- O11. Taiebat, M.; **Xu, M.** Self-driving vehicles and the environment. *Aspen Global Change Institute Energy Project Quarterly Research Review*, March **2019**, <https://www.agci.org/solutions/quarterly-research/2019-03-CAVs>.
- O10. Wang, H.-D.; Han, H.-G.; Liu, T.-T.; Tian, X.; Xu, M.; Wu, Y.-F.; Gu, Y.-F.; Liu, Y.-R.; Zuo, T.-Y. "Internet +" recyclable resources: a new recycling mode in China. *Resources, Conservation & Recycling* **2018**, 134, 44-47.
- O9. Song, G.-H.; Zhang, H.; Duan, H.-B.; **Xu, M.** Packaging waste from food delivery in China's mega cities. *Resources, Conservation & Recycling* **2018**, 130, 226-227.
- O8. Heard, B. R.; Taiebat, M.; **Xu, M.**; Miller, S. A. Sustainability implications of connected and autonomous vehicles for the food supply chain. *Resources, Conservation & Recycling* **2018**, 128, 22-24.
- O7. Ou, X.-M.; Liu, J.; Yan, X.-Y.; **Xu, M.**; Peng, T.-D.; Wang, Z.-Y. Greater efforts to safeguard CO<sub>2</sub> reduction from EVs in China. *Science*, December 25, 2017 (eLetters), <http://science.sciencemag.org/content/358/6363/569/tab-e-letters>.



- O6. Fan, W.-G.; **Xu, M.**; Dong, X.-B.; Wei, H.-J. Considerable environmental impact of the rapid development of China's express delivery industry. *Resources, Conservation & Recycling* **2017**, 126, 174-176.
- O5. Dijkema, G. P. J.; **Xu, M.**; Derrible, S.; Lifset, R. Complexity in industrial ecology: models, analysis, and actions. *Journal of Industrial Ecology* **2015**, 19 (2), 189-194.
- O4. **Xu, M.** Pollute local: your U.S.-bought laptop pollutes other countries, and what we can do about it. *The Conversation* **2014**, October 2, <http://sustainability.umich.edu/conversation/2014/10/pollute-local-your-u-s-bought-laptop-pollutes-other-countries-and-what-we-can-do-about-it/>
- O3. **Xu, M.**\*; Weissburg, M.; Newell, J. P.; Crittenden, J. C. Developing a science of infrastructure ecology for sustainable urban systems. *Environmental Science & Technology* **2012**, 46 (15), 7928-7929.
- O2. Shi, H.-J.; Liang, S.; Wang, Z.; Zhu, J.-M.; Chen, W.-Q.; **Xu, M.**; Shi, L. Science, systems and sustainability: ISIE 2011 conference review. *Acta Ecologica Sinica* **2011**, 31 (21), 6641-6644. [in Chinese]
- O1. **Xu, M.**\* Comment on "Dealing with electrical and electronic equipment waste in Colombia: the case of TV sets" by L.-A. Rodríguez B., E. Estupiñán E., and F. Boons. *Regional Development Dialogue* **2010**, 31 (2), 122-123.

#### INVITED TALKS

- Can Mining Make the World a Greener Place? INFACT, Natural History Museum, PACIFIC, London, UK, 12/4/2020 (virtual, **keynote** for the panel Prospects on the Circular Economy)
- Shanghai Green Engineering Forum 2020, Shanghai, China, 5/30/2020 (virtual)
- Symposium on Environmental Systems Engineering, Shanghai, China, 1/11/2020 (**keynote**)
- College of Management, Asia University, 12/20/2019
- Department of Refrigeration, Air Conditioning and Energy Engineering, National Chin-Yi University of Technology, 12/19/2019
- Department of Civil and Environmental Engineering, University of Michigan, 12/5/2019
- School of Environmental Science and Engineering, Southern University of Science and Technology, Shenzhen, China, 11/25/2019
- 8<sup>th</sup> International Workshop on Advances in Cleaner Production, Sanya, China, 11/13-11/15, 2019 (**keynote**)
- School of Economics and Management, Nanchang University, 10/15/2019
- School of Environmental and Chemical Engineering, Nanchang Hangkong University, 10/14/2019
- 4<sup>th</sup> Annual Environmental Insurance Forum, Boston, MA, 10/08/2019
- Department of Energy, Environmental & Chemical Engineering, Washington University in St. Louis, 10/04/2019
- Chinese Research Academy of Environmental Sciences, 08/19/2019
- College of Environmental Science and Engineering, Nankai University, 08/17/2019
- School of Resources, Environment, and Materials, Guangxi University, 07/25/2019
- Department of Civil and Environmental Engineering, University of Michigan, 05/31/2019
- Closing the Loop on the Plastic Dilemma: A Chemical Sciences Roundtable Workshop, The National Academies of Sciences, Engineering, and Medicine, Washington DC, 05/09-10, 2019 (**invited**)
- AI for FEW: International Symposium on AI and FEW, New York, NY, Tecent, 04/02/2019 (**invited**)
- School of Material Sciences and Engineering, Beijing University of Technology, 03/04/2019
- School of Environmental and Chemical Engineering, Nanchang Hangkong University, 02/28/2019

- Center for Water Technology and Policy, The University of Hong Kong, 11/30/2018
- Division of Civil Engineering, Pontificia Universidad Católica del Perú, 11/19/2018
- Department of Civil and Environmental Engineering, University of Illinois Urbana-Champaign, 10/27/2018
- South China Institute of Environmental Sciences, PRC Ministry of Ecology and Environment, Guangzhou, 10/12/2018
- Universitas 21 Early Career Researcher Workshop, Shanghai, China, 10/10/2018 (**keynote**)
- School of Civil Engineering, Shenzhen University, Shenzhen, China, 7/14/2018
- School of Economics, Nagoya University, Nagoya, Japan, 7/10/2018
- School of Economics and Management, Beijing Jiao Tong University, Beijing, China, 7/5/2018
- Didi Chuxing, Beijing, China, 06/29/2018
- Ford Motor Company, Dearborn, Michigan, 05/11/2018
- Sino-Nordic Symposium on Sustainable Food Consumption and Management, Shanghai, China, 01/13-14, 2018
- US-China Joint Symposium on the Nexus of Food, Energy, and Water Systems, Nashville, Tennessee, 12/07/2017 (**keynote**)
- Workshop on Urban Infrastructures: Analysis and Modeling for Their Optimal Management and Operation, New York Institute of Technology, New York, 11/30/2017 (**invited**)
- Department of Environmental Science and Engineering, Fudan University, Shanghai, China, 11/09/2017
- Sustainable Agriculture Matrix Workshop, National Socio-Environmental Synthesis Center (SESYNC), Annapolis, Maryland, August 28-31, 2017
- Policy Forum on Climate Adaptation Science (PFOCAS), Chinese Academy of Sciences, Beijing, China, 08/18/2017
- 2017 International Association for Energy Economics Summer School, China University of Geosciences, Beijing, China, 07/11/2017
- College of Environmental Science and Engineering, North China Electric Power University, Beijing, China, 05/27/2017
- School of Resources and Environmental Engineering, Jiangxi University of Science and Technology, Ganzhou, China, 05/23/2017
- Department of Civil and Environmental Engineering, The Hong Kong Polytechnic University, Hong Kong, China, 04/28/2017
- School of Management, China University of Mining and Technology, Xuzhou, China, 04/21/2017
- School of Environment and Architecture, University of Shanghai for Science and Technology, Shanghai, China, 04/20/2017.
- Industrial Ecology and Sustainable Construction Workshop: Smart and Low-carbon Transition of Urban and Industrial Systems, Chongqing University, Chongqing, China, 04/15/2017 (**keynote**)
- Center for Human-Environment System Sustainability, Beijing Normal University, Beijing, China, 03/13/2017
- Institute of Ecology and Biodiversity, Shandong University, Jinan, China, 01/18/2017
- Institute of Applied Ecology, Chinese Academy of Sciences, Shenyang, China, 01/04/2017
- School of Economics and Management, Beijing Jiaotong University, Beijing, China 12/30/2016
- College of Environmental Science and Engineering, Beijing Forestry University, Beijing, China, 12/23/2016
- College of Management, Asia University, Taichung City, Taiwan, China, 12/09/2016

- College of Management, National Chin-Yi University of Technology, Taichung City, Taiwan, China, 12/06/2016
- College of Management, Lunghwa University of Science and Technology, Taoyuan City, Taiwan, China, 12/05/2016
- Interdisciplinary Research Forum, Institute of Urban Environment, Chinese Academy of Sciences, Xiamen, China, 12/03/2016
- School of Economics, Renmin University, Beijing, China, 12/01/2016
- 2016 Shandong International Forum on Industrial Ecology, Institute of Science and Technology for Development of Shandong, Jinan, China, 11/29/2016
- School of Environmental and Safety Engineering, Qingdao University of Science and Technology, Qingdao, China, 11/28/2016
- Chinese Research Academy of Environmental Sciences, Beijing, China, 11/25/2016
- China Association of Circular Economy, Beijing, China, 11/22/2016
- School of Economics, Peking University, Beijing, China, 11/21/2016
- Chinese Academy for Environmental Planning, Beijing, China, 11/17/2016
- Focus on the Future Automotive Research Conferences: Inside China, University of Michigan Transportation Research Institute, Ann Arbor, Michigan, 11/09/2016
- School of Humanity, Economics and Management, China University of Geosciences, Beijing, China, 11/01/2016
- School of Economics and Management, North China Electric Power University, Beijing, China, 10/31/2016
- School of Economics and Management, Beihang University, Beijing, China, 10/28/2016
- School of Environmental Science and Engineering, Southern University of Science and Technology, Shenzhen, China, 10/21/2016
- 2016 International Conference on Sustainable Infrastructure, Shenzhen, China, 10/18/2016 (**keynote**)
- School of Business, Dalian University of Technology, Panjin, China, 9/22/2016
- 4<sup>th</sup> Asia-Oceania Algae Innovation Summit, Wuhan, China, 9/21/2016 (**keynote**)
- College of Geography and Environment Science, Northwest Normal University, Lanzhou, China, 8/25/2016
- College of Earth Environmental Sciences, Lanzhou University, Lanzhou, China, 8/25/2016
- Chinese Research Academy of Environmental Sciences, Beijing, China, 8/22/2016
- Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, Beijing, China, 8/21/2016
- Microalgae Biotech Center, State Development & Investment Corp., Beijing, China, 8/3/2016
- School of Economics and Management, Zhejiang Sci-Tech University, Hangzhou, China, 7/20/2016
- 2016 China Association of Circular Economy Conference, Beijing, China, 6/26/2016
- School of Business, East China University of Science and Technology, Shanghai, China, 6/7/2016
- College of Management, National Chin-Yi University of Technology, Taichung City, Taiwan, China, 6/3/2016
- College of Management, Lunghwa University of Science and Technology, Taoyuan City, Taiwan, China, 6/2/2016
- The 18th International Society for Business Innovation and Technology Management Conference (ISBITM), May 1-3, 2016, Ann Arbor, Michigan (**keynote**)

- Department of Civil and Environmental Engineering, North Carolina State University, Raleigh, North Carolina, 4/14/2016
- University of Michigan Transportation Research Institute, Ann Arbor, Michigan, 3/29/2016
- School of Civil and Environmental Engineering, Georgia Institute of Technology, Atlanta, Georgia, 3/1/2016
- School of Environment, Beijing Normal University, Beijing, China, 8/17/2015-8/19/2015
- School of Environment, Tsinghua University, Beijing, China, 8/18/2015
- School of Environmental Science and Engineering, Peking University, Beijing, China, 7/7/2015
- Chinese Environmental Scholars Forum, Yale University, New Haven, Connecticut, 5/30/2015
- School of Recycling Economy, Beijing University of Technology, Beijing, China, 4/29/2015
- China Date Center, University of Michigan, Ann Arbor, Michigan, 11/7/2014
- Department of Civil and Environmental Engineering, University of Pittsburgh, Pittsburgh, Pennsylvania, 9/19/2014
- Institute of Circular Economy, Beijing University of Technology, Beijing, China, 8/19/2014
- Department of Civil and Environmental Engineering, University of Michigan, Ann Arbor, Michigan, 4/8/2014
- Chinese Research Academy of Environmental Sciences, Beijing, China, 4/2/2014
- Modeling Social, Technical and Natural Systems for Policy, Massachusetts Institute of Technology, Boston, Massachusetts, 9/25-27, 2013
- Workshop on Industrial Ecology & System Thinking (WIEST), University of Ulsan, Ulsan, South Korea, 6/24/2013
- How Green is the Internet? Google, Mountain View, California, 6/6/2013
- Center for Chinese Studies, University of Michigan, Ann Arbor, Michigan, 4/9/2013
- School of Environment, Nanjing University, Nanjing, China, 5/10/2012
- School of Environmental and Safety Engineering, Qingdao University of Science and Technology, Qingdao, China, 5/9/2012
- School of Environment, Tsinghua University, Beijing, China, 5/4/2012
- Shanghai Key Lab for Urban Ecological Processes and Eco-Restoration, East China Normal University, Shanghai, China, 5/2/2012
- Center for Environmental Studies, Brown University, Providence, Rhode Island, 4/6/2012
- College of Architecture and Environment, Sichuan University, Chengdu, China, 12/23/2011
- China Project, Harvard University, Boston, Massachusetts, 12/1/2011
- School of Environmental Science and Engineering, Shanghai Jiao Tong University, Shanghai, China, 9/26/2011
- Global Change Research Institute, Xi'an Jiao Tong University, Xi'an, China, 4/29/2011
- School of Environment, Tsinghua University, Beijing, China, 4/26/2011
- Department of Civil & Environmental Engineering, University of Michigan, Ann Arbor, Michigan, 11/23/2010
- Erb Institute for Global Sustainable Enterprise, University of Michigan, Ann Arbor, Michigan, 11/22/2010
- Department of Civil & Environmental Engineering, Rice University, Houston, Texas, 2/12/2010
- School of Natural Resources and Environment, University of Michigan, Ann Arbor, Michigan, 1/20/2010
- Department of Civil and Environmental Engineering, The Hong Kong University of Science and Technology, Hong Kong, China 11/26/2009

- Brook Byers Institute for Sustainable Systems, Georgia Institute of Technology, Atlanta, Georgia, 4/10/2009