

MING XU, PH.D.

School for Environment and Sustainability
Department of Civil and Environmental Engineering
University of Michigan
440 Church St., Ann Arbor, MI 48109-1041
Tel: 734-763-8644; Fax: 734-936-2195; Email: mingxu@umich.edu
Web: <http://www.mingxugroup.org>

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**
 - 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), 05/2016-present
 - Department of Civil and Environmental Engineering, 05/2016-present
 - Assistant Professor
 - School of Natural Resources and Environment, 09/2010-05/2016
 - Department of Civil and Environmental Engineering, 09/2011-05/2016
 - 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-present
 - Faculty Associate, Program in the Environment, 11/2010-present
 - 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-present
 - 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

- 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)
- Department of Science and Technology (DOST) Engineering Research and Development for Technology (ERDT) Visiting Professor to De La Salle University, Republic of the Philippines, 02/2017
- Visiting Professor, School of Environment, Tsinghua University, 01/2017-05/2017
- 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

- 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 Input-Output Association (IIOA), Member, 2012-present
- International Society for Industrial Ecology (ISIE), Member, 2009-present

EDITORSHIP

- **Editor-in-Chief**, *Resources, Conservation & Recycling* (Elsevier), 06/2015-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-present
- **Associate Editor**, *Resources, Conservation & Recycling* (Elsevier), 01/2013-05/2015

SERVICES

School services

- **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; 09/2017-05/2018
- **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

- **Provost’s Council of International Initiatives**, 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-present

Services to scientific and professional organizations

- **Advisory Board**, Greenometry, 01/2017-present

- **Councilor**, Chines Society for Industrial Ecology, 07/2015-12/2016
- 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):
 - US National Science Foundation
 - US Environmental Protection Agency
 - Israel Science Foundation
 - Canada Social Sciences and Humanities Research Council
 - European Research Council
 - Vienna Science and Technology Fund
 - Book manuscripts:
 - United Nations University Press
 - Oxford University Press
 - Contest:
 - China Food Waste Solution Contest 2017 organized by UNEP, FAO, Swedish Environmental Research Institute
 - Journal manuscripts:

<ul style="list-style-type: none"> ○ Applied Energy ○ Building and Environment ○ Ecological Economics ○ Ecological Modelling ○ Energy Economics ○ Energy Policy ○ Environmental Engineering and Management ○ Environmental Management ○ Environmental Science & Policy ○ Environmental Science & Technology ○ Frontiers of Environmental Science and Engineering ○ IEEE Transactions on Engineering Management ○ International Journal of Sustainable Transportation 	<ul style="list-style-type: none"> ○ Journal of Cleaner Production ○ Journal of Environmental Management ○ Journal of Industrial Ecology ○ Natural Resources ○ Proceedings of the ICE – Engineering Sustainability ○ Regional Development Dialogue ○ Regional Environmental Change ○ Resources, Conservation & Recycling ○ Science of the Total Environment ○ Sustainability ○ Sustainability Science ○ Water ○ Waste Management
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- **Conference Committees**
 - *Program Co-Chair*: 2017 AEESP Research and Education Conference, June 20-22, Ann Arbor, MI
 - *Co-Chair*: The 18th 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 Committees*:
 - 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 4th 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 4th 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 Co-Chair**, The Symposium on Industrial Ecology for Young Professionals (SIEYP)
- **Chair**, Student Chapter, International Society for Industrial Ecology, 2007-2008

TEACHING

- **University of Michigan**
 - NRE 573, Environmental Footprinting and Input-Output Analysis, Winter 2013; Winter 2014; Winter 2015
 - ENVIRON 367, Global Enterprise and Sustainable Development, Fall 2011; Winter 2013; Winter 2015; also offered at the Joint Institute at Shanghai Jiao Tong University in Summer 2013 and Summer 2016;
 - NRE 501.036, Sustainable Systems in Developing Countries, Winter 2011; Winter 2012

STUDENT/POSTDOCTORAL ADVISEES AND VISITING SCHOLARS

- Postdoctoral advisees
 - Shen Qu, Dow Sustainability Fellow, 2015-present
 - Sai Liang, Dow Sustainability Fellow, 2013-2016 (current position: Professor at Beijing Normal University, China)

- Ph.D. students
 - As Committee Chair
 - Morteza Taiebat, Natural Resources and Environment, expected 2020
 - Ping Hou, Natural Resources and Environment, expected 2019
 - Hua Cai, Natural Resources and Environment & Civil and Environmental Engineering, 2015 (immediate placement: Assistant Professor, Purdue University)
 - As Committee Member
 - Katerina Stylianou, Public Health, expected 2018
 - 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
 - Kaihui Song, Natural Resources and Environment, expected 2018
 - 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, John 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: Analyst, China Railway Eryuan Engineering Group)
 - Yu Feng, Natural Resources and Environment, 2014
 - 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
- Undergraduate student researchers
 - 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
 - Megan He, Ann Arbor Huron High School, 2014-2016
- Visiting scholars
 - Rongrong Deng, Associate Professor, University of South China, 09/2017-08/2018
 - Guohua Yang, Associate Professor, Shanxi University of Finance and Economics, 09/2017-08/2018
 - Tiantian Feng, Assistant Professor, China University of Geosciences (Beijing), 09/2017-08/2018

- Jiangxue Zhang, Associate Professor, Beijing Normal University, 09-2017-03/2018
- Lingzhi Chu, Undergraduate student, Tsinghua University, China, 06/2017-08/2017
- Chulong Huang, Professor, Quanzhou Normal University, China, 05/2017-05/2018
- Yuhua Guo, Research Scientist, China Central Iron and Steel Research Institute, China, 05/2017-05/2018
- Chengkang Gao, Associate Professor, Northeastern University, China, 04/2017-04/2018
- Yun Li, Ph.D. Candidate, North China Electric Power University, China, 12/2016-12/2017
- Miaoja Lu, Ph.D. Candidate, Hong Kong Polytechnic University, Hong Kong, 04/2016-10/2016
- Jinchao Li, Associate Professor, North China Electric Power University, China, 03/2016-03/2017
- Wei Zhao, Associate Professor, Liaoning University of Technology, China, 02/2016-02/2017
- Jing Li, Professor, Dongbei University of Finance and Economics, China, 02/2016-02/2017
- Guiyuan Xue, Ph.D. Candidate, North China Electric Power University, China, 11/2015-07/2016
- Xi Tian, Ph.D. Candidate, Beijing University of Technology, China, 09/2015-09/2016
- Tianming Bai, M.S. Candidate, Central University of Finance and Economics, China, 09/2015-09/2016
- Hongxia Wang, Ph.D. Candidate, Beihang University, China, 09/2015-09/2016
- Nana Li, Ph.D. Candidate, North China Electric Power University, China, 09/2015-07/2016
- Ning Liu, Associate Professor, Nanjing University, China, 08/2015-01/2016
- Siyun Yang, Senior Manager, China Datang Overseas Investment Company, China, 05/2015-05/2016
- Yancheng Liu, Associate Professor, Tsinghua University, China, 04/2015-03/2016
- Da Liu, Associate Professor, North China Electric Power University, China, 12/2014-12/2015
- Ru Guo, Associate Professor, College of Environmental Science and Engineering, Tongji University, China, 11/2014-10/2015
- Tiantian Feng, Ph.D. Candidate, North China Electric Power University, China, 11/2014-04/2015
- Rao Rao, Ph.D. Candidate, North China Electric Power University, China, 11/2014-04/2015
- Sen Guo, Ph.D. Candidate, North China Electric Power University, China, 10/2014-10/2015
- Yingjia Liu, Ph.D. Candidate, Chinese Academy of Social Sciences, China, 10/2014-06/2015
- Meng Xu, Ph.D. Candidate, Hong Kong University of Science and Technology, Hong Kong, 08/2014-12/2014
- Narges Shahraki, Ph.D. Candidate, Koç University, Turkey, 07/2014-11/2014
- Ruoxi Kang, Undergraduate Student, Tsinghua University, China, 07/2014-08/2014
- Ying Dong, Associate Professor, Zhejiang University of Science and Technology, China, 03/2014-03/2015
- Yanxia Zhang, Ph.D. Candidate, Nanjing University, China, 10/2013-04/2014
- Ling Ji, Ph.D. Candidate, North China Electric Power University, China, 09/2013-08/2014

- Yinan Tang, Ph.D. Candidate, Karlsruhe Institute of Technology, Germany, 09/2013-12/2013
- Najet Bichraoui, Ph.D. Candidate, University of Technologies of Troyes, France, 01/2013-12/2014
- Hongqing Li, Ph.D. Candidate, China Agricultural University, China, 05/2012-08/2013
- Lin Zeng, Ph.D. Candidate, Tsinghua University, China, 02/2012-05/2012
- Lan Li, Professor, Wuhan University, China, 12/2011-05/2012

STUDENT/POSTDOC ACHIEVEMENTS

- Third Place, Student Poster Competition, 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
- Outstanding Paper Award, 18th International Society for Business Innovation and Technology Management Conference (ISBITM), May 1-3, 2016, Ann Arbor, MI
- Third Place, Student Paper Competition, 2014 International Symposium on Sustainable Systems and Technology, May 18-21, 2014, Oakland, CA
- Third Place, Student Poster Competition, 2013 AEESP 50th Anniversary Conference, July 14-16, 2013, Golden, CO
- Second Place, Poster Competition, 3rd Symposium on Industrial Ecology for Young Professionals, June 29, 2013, Ulsan, Korea
- First Place, Student Poster Competition, 7th International Society for Industrial Ecology Biennial Conference, June 25-28, 2013, Ulsan, Korea

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

MEDIA EXPOSURE

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

GRANTS

External

- **PI**, "UNS: U.S.-China: Integrated Systems Modeling of Food-Energy-Water (FEW) Nexus for Urban Sustainability," National Science Foundation, \$499,990, CBET-1605202, 06/01/2016-05/31/2020. (Xu share: \$409,784)
- **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. (Xu share: \$290,887)

- **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. (Xu share: \$251,890)
- **Co-PI** (PI: D. Assanis; H. Peng), "CERC-CV: U.S.-China Clean Energy Research Center for Clean Vehicles," Department of Energy, \$12,500,000, DE-PI0000012, 10/01/2010-09/30/2015. (Xu share: \$121,217)
- **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

- **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. Jolliet), "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)

Citation profiles

- Google Scholar: <https://scholar.google.com/citations?hl=en&user=V3n7rKMAAAAJ>
- ResearcherID: <http://www.researcherid.com/rid/F-3653-2010>
- Scopus: <http://www.scopus.com/authid/detail.url?authorId=55519747200>

Refereed journals

- J66. Cai, H.; Rao, R.; **Xu, M.** Modeling electric taxis' charging behavior using real-world data. *International Journal of Sustainable Transportation*, in press.
- J65. Liang, S.; Stylianou, K.; Jolliet, O.*; Supekar, S.; Qu, S.; Skerlos, S. J.*; **Xu, M.*** Consumption-based human health impacts of primary PM_{2.5}: the hidden burden of international trade. *Journal of Cleaner Production* **2017**, *167*, 133-139.
- J64. Qu, S.; Liang, S.; **Xu, M.*** CO₂ emissions embodied in interprovincial electricity transmissions in China. *Environmental Science & Technology* **2017**, *51* (18), 10893-10902.
- J63. Chang, J.; Yu, M.; Shen, S.-Q.; **Xu, M.** Location design and relocation of a mixed car-sharing fleet with a CO₂ emission constraint. *Service Science* **2017**, *9* (3), 205-218.
- J62. Gu, Y.-F.; Wu, Y.-F.; **Xu, M.**; Wang, H.-D.; Zuo, T.-Y. To realize better extended producer responsibility: redesign of WEEE fund mode in China. *Journal of Cleaner Production*, **2017**, *164*, 347-356.
- J61. Heard, B. R.; Miller, S. A.; Liang, S.; **Xu, M.** Emerging challenges and opportunities for the food-energy-water nexus in urban systems. *Current Opinion in Chemical Engineering*, **2017**, *17*, 48-53.
- J60. Qu, S.; Wang, H.-X.; Liang, S.; Shapiro, A. M.; Suh, S.; Sheldon, S.; Zik, O.; Fang, H.; **Xu, M.*** A Quasi-Input-Output model to improve the estimation of emission factors for purchased electricity from interconnected grids. *Applied Energy* **2017**, *200*, 249-259.
- J59. Liang, S.; Wang, Y.-F.; Zhang, C.; **Xu, M.**; Yang, Z.-F.; Liu, W.-D.; Liu, H.-G.; Chiu, A. S. F. Final production-based emissions of regions in China. *Economic Systems Research* **2017**, in press.
- J58. Pang, M.-Y.; Zhang, L.-X.; Liang, S.; Liu, G.-Y.; Wang, C.-B.; Hao, Y.; Wang, Y.-F.; **Xu, M.** Trade-off between carbon reduction benefits and ecological costs of biomass-based power plants with carbon capture and storage (CCS) in China. *Journal of Cleaner Production* **2017**, *144*, 279-286.
- J57. Liang, S.; Qu, S.; Zhu, Z.-Q.; Guan, D.-B.; **Xu, M.*** Income-based greenhouse gas emissions of nations. *Environmental Science & Technology* **2017**, *51* (1), 346-355.
- J56. Hui, M.-L.; Wu, Q.-R.; Wang, S.-X.; Liang, S.; Zhang, L.; Wang, F.-Y.; Lenzen, M.; Wang, Y.-F.; Xu, L.-X.; Lin, J.-T.; Yang, H.; Lin, Y.; Larssen, T.; **Xu, M.**; Hao, J.-M. Mercury flows in China and global drivers. *Environmental Science & Technology* **2017**, *51* (1), 222-231.
- J55. Liang, S.; Feng, T.-T.; Qu, S.; Chiu, A. S. F.; Jia, X.-P.; **Xu, M.*** Developing the Chinese Environmentally Extended Input-Output (CEEIO) Database. *Journal of Industrial Ecology* **2017**, *21* (4), 953-965.
- J54. Pandit, A.; Minne, E. A.; Li, F.; Brown, H.; Jeong, H.; James, J.-A. C.; Newell, J. P.; Weissburg, M.; Chang, M. E.; **Xu, M.**; Yang, P.; Wang, R.-S.; Thomas, V. M.; Yu, X.-W.; Lu, Z.-M.; Crittenden, J. C. Infrastructure ecology: an evolving paradigm for sustainable urban development. *Journal of Cleaner Production*, **2017**, *163*, S19-S27.
- J53. Zhang, C.; Zhong, L.-J.; Liang, S.; Sanders, K. T.; Wang, J.; **Xu, M.** Virtual scarce water embodied in inter-provincial electricity transmission in China. *Applied Energy* **2016**, *187*, 438-448.

- J52. Tian, X.; Wu, Y.-F.*; Qu, S.; Liang, S.; **Xu, M.***, Zuo, T.-Y. The disposal and willingness to pay for residents' scrap fluorescent lamps in China: a case study of Beijing. *Resources, Conservation & Recycling* **2016**, *114*, 103-111.
- J51. Ji, L.; Jia, X.-P.; Chiu, A. S. F.; **Xu, M.*** Global electricity trade network: structures and implications. *PLOS ONE* **2016**, *11* (8), e0160869.
- J50. Liang, S.; Wang, H.-X.; Qu, S.; Feng, T.-T.; Guan, D.-B.; Fang, H.; **Xu, M.*** Socioeconomic drivers of greenhouse gas emissions in the United States. *Environmental Science & Technology* **2016**, *50* (14), 7535-7545.
- J49. Liu, D.; **Xu, M.**; Niu, D.-X.; Wang, S.-K.; Liang, S. Forecast modelling via variations in binary image-encoded information exploited by deep learning neural networks. *PLOS ONE* **2016**, *11* (6), e0157028.
- J48. Gu, Y.-F.; Wu, Y.-F.*; **Xu, M.***; Mu, X.-Z.; Zuo, T.-Y. Waste electrical and electronic equipment (WEEE) recycling for a sustainable resource supply in the electronics industry in China. *Journal of Cleaner Production* **2016**, *127*, 331-338.
- J47. Cai, H.*; Zhan, X.-W.; Zhu, J.; Jia, X.-P.; Chiu, A. S. F.; **Xu, M.*** Understanding taxi travel patterns. *Physica A: Statistical Mechanics and Its Applications* **2016**, *457*, 590-597.
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- 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

- Sustainable Agriculture Matrix Workshop, National Socio-Environmental Synthesis Center (SESYNC), Annapolis, MD, August 28-31, 2017
- Policy Forum on Climate Adaptation Science (PFoCAS), Chinese Academy of Sciences, Beijing, August 18, 2017
- 2017 International Association for Energy Economics Summer School, China University of Geosciences, Beijing, July 11, 2017
- College of Environmental Science and Engineering, North China Electric Power University, May 27, 2017
- School of Resources and Environmental Engineering, Jiangxi University of Science and Technology, May 23, 2017
- Department of Civil and Environmental Engineering, The Hong Kong Polytechnic University, April 28, 2017
- School of Management, China University of Mining and Technology, Xuzhou, April 21, 2017
- School of Environment and Architecture, Shanghai University of Science and Technology, April 20, 2017.
- Industrial Ecology and Sustainable Construction Workshop: Smart and Low-carbon Transition of Urban and Industrial Systems, Chongqing University, April 15, 2017
- Center for Human-Environment System Sustainability, Beijing Normal University, March 13, 2017
- Institute of Ecology and Biodiversity, Shandong University, January 18, 2017
- Institute of Applied Ecology, Chinese Academy of Sciences, January 4, 2017
- School of Economics and Management, Beijing Jiaotong University, December 30, 2016
- College of Environmental Science and Engineering, Beijing Forestry University, December 23, 2016
- College of Management, Asia University, December 9, 2016
- College of Management, National Chin-Yi University of Technology, December 6, 2016
- College of Management, Lughwa University of Science and Technology, December 5, 2016
- Interdisciplinary Research Forum, Institute of Urban Environment, Chinese Academy of Sciences, December 3, 2016
- School of Economics, Renmin University, December 1, 2016
- 2016 Shandong International Forum on Industrial Ecology, Institute of Science and Technology for Development of Shandong, November 29, 2016

- School of Environmental and Safety Engineering, Qingdao University of Science and Technology, November 28, 2016
- Chinese Research Academy of Environmental Sciences, November 25, 2016
- China Association of Circular Economy, November 22, 2016
- School of Economics, Peking University, November 21, 2016
- Chinese Academy for Environmental Planning, November 17, 2016
- Focus on the Future Automotive Research Conferences: Inside China, University of Michigan Transportation Research Institute, November 9, 2016
- School of Humanity, Economics and Management, China University of Geosciences, Beijing, November 1, 2016
- School of Economics and Management, North China Electric Power University, October 31, 2016
- School of Economics and Management, Beihang University, October 28, 2016
- School of Environmental Science and Engineering, Southern University of Science and Technology, October 21, 2016
- 2016 International Conference on Sustainable Infrastructure, Shenzhen, October 18, 2016 (keynote)
- School of Business, Dalian University of Technology, Panjin, September 22, 2016
- 4th Asia-Oceania Algae Innovation Summit, Wuhan, China, September 21, 2016
- College of Geography and Environment Science, Northwest Normal University, August 25, 2016
- College of Earth Environmental Sciences, Lanzhou University, August 25, 2016
- Chinese Research Academy of Environmental Sciences, August 22, 2016
- Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, August 21, 2016
- Microalgae Biotech Center, State Development & Investment Corp., August 3, 2016
- School of Economics and Management, Zhejiang Sci-Tech University, July 20, 2016
- 2016 China Association of Circular Economy Conference, Beijing, June 26, 2016
- School of Business, East China University of Science and Technology, June 7, 2016
- College of Management, National Chin-Yi University of Technology, June 3, 2016
- College of Management, Lunghwa University of Science and Technology, June 2, 2016
- The 18th International Society for Business Innovation and Technology Management Conference (ISBITM), May 1-3, 2016, Ann Arbor, MI (keynote)
- Department of Civil and Environmental Engineering, North Carolina State University, 4/14/2016
- University of Michigan Transportation Research Institute, 3/29/2016
- School of Civil and Environmental Engineering, Georgia Institute of Technology, 3/1/2016
- School of Environment, Beijing Normal University, 8/17/2015-8/19/2015
- School of Environment, Tsinghua University, 8/18/2015
- School of Environmental Science and Engineering, Peking University, 07/07/2015
- Chinese Environmental Scholars Forum, Yale University, 05/30/2015
- School of Recycling Economy, Beijing University of Technology, 04/29/2015
- China Date Center, University of Michigan, 11/07/2014
- Department of Civil and Environmental Engineering, University of Pittsburgh, 09/19/2014
- Institute of Circular Economy, Beijing University of Technology, 08/19/2014
- Department of Civil and Environmental Engineering, University of Michigan, 04/08/2014
- Chinese Research Academy of Environmental Sciences, 04/02/2014
- Modeling Social, Technical and Natural Systems for Policy, Massachusetts Institute of Technology, 09/25-27, 2013

- Workshop on Industrial Ecology & System Thinking (WUEST), University of Ulsan, 06/24/2013
- How Green is the Internet? Google, 06/06/2013
- Center for Chinese Studies, University of Michigan, 04/09/2013
- School of Environment, Nanjing University, 05/10/2012
- School of Environmental and Safety Engineering, Qingdao University of Science and Technology, 05/09/2012
- School of Environment, Tsinghua University, 05/04/2012
- Shanghai Key Lab for Urban Ecological Processes and Eco-Restoration, East China Normal University, 05/02/2012
- Center for Environmental Studies, Brown University, 04/06/2012
- College of Architecture and Environment, Sichuan University, 12/23/2011
- China Project, Harvard University, 12/01/2011
- School of Environmental Science and Engineering, Shanghai Jiao Tong University, 09/26/2011
- Global Change Research Institute, Xi'an Jiao Tong University, 04/29/2011
- School of Environment, Tsinghua University, 04/26/2011
- Department of Civil & Environmental Engineering, University of Michigan, 11/23/2010
- Erb Institute for Global Sustainable Enterprise, University of Michigan, 11/22/2010
- Department of Civil & Environmental Engineering, Rice University, 02/12/2010
- School of Natural Resources and Environment, University of Michigan, 01/20/2010
- Department of Civil and Environmental Engineering, The Hong Kong University of Science and Technology, 11/26/2009
- Brook Byers Institute for Sustainable Systems, Georgia Institute of Technology, 04/10/2009