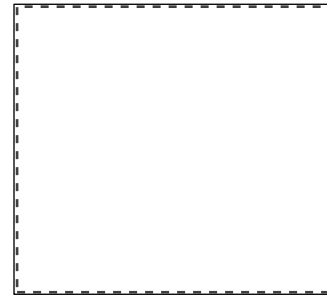




First Name: **Ming**
Title: **Associate Professor**
Institution: **University of Michigan**
Mailing Address: **440 Church St.**

Last Name: **Xu**

City: **Ann Arbor** State: **MI** Zip Code: **48109**
Country: **USA**
Country Code: **1** Phone: **(734) 763-8644**



PLACE HEADSHOT HERE

Email: mingxu@umich.edu

Website: www.mingxugroup.org

Education:

PhD: **Arizona State University**

MS: **Tsinghua University**

BS: **Tsinghua University**

General Areas of Expertise:

sustainable engineering, industrial ecology

Short Bio:

Ming Xu received his BS and MS from Tsinghua University, China in 2003 and 2006, respectively, and PhD from Arizona State University in 2009, all in environmental engineering. He was a postdoctoral fellow in Brook Byers Institute for Sustainable Systems at Georgia Institute of Technology from 2009 to 2010. He joined the faculty of University of Michigan, Ann Arbor in 2010. He is now an Associate Professor and Director of China Programs in School for Environment and Sustainability and an Associate Professor in Department of Civil and Environmental Engineering. He received the NSF CAREER award and the Robert A. Laudise Medal by International Society for Industrial Ecology to recognize "outstanding achievement in industrial ecology by a researcher under the age of 36." He serves as Editor-In-Chief of the journal Resources, Conservation & Recycling since 2015. He was recently elected as the President of Chinese Society for Industrial Ecology for 2018.

Five Representative Publications:

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.
Qu, S.; Liang, S.; Xu, M.* CO2 emissions embodied in interprovincial electricity transmissions in China. *Environmental Science & Technology* 2017, 51 (18), 10893-10902.
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.
Cai, H.; Hu, X.-J.; Xu, M.* Impact of emerging clean vehicle system on water stress. *Applied Energy* 2013, 111, 644-651.
Xu, M.; Zhang, T.-Z. Material flows and economic growth in developing China. *Journal of Industrial Ecology* 2007, 11 (1), 121-140.

FEWSTERN Symposium 2017 Presentation Title and Abstract:

Urban Food-Energy-Water (FEW) Nexus: A Material and Energy Flow Perspective

With 66% of the world's population expected to live in urban areas by 2050, cities around the world will face enormous challenges in sustainable provision of food, energy, and water. These challenges are particularly complex due to the interconnectedness of the food system, energy system, and water system. Policy and technology solutions addressing urban food-energy-water (FEW) challenges need to be evaluated through the lens of FEW nexus to identify co-benefits and avoid unintended consequences. This calls for innovative approaches to model the urban FEW nexus as an integrated whole, instead of examining them individually. In this study an integrated modeling framework for urban FEW nexus will be developed in collaboration with researchers from School of Environment at Beijing Normal University. This framework is based on the characterization of the material and energy flows within an urban area. We also applied this framework to the Detroit Metropolitan Area (DMA) as a preliminary study.