

Curriculum Vitae

Qiance Liu

Master Student

Water and Environment Program (Joint program between Univ. of Copenhagen and UCAS)
Sino-Danish College, University of Chinese Academy of Sciences (UCAS)

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Summary

My research interests are in Dynamic Material Flow Analysis of metal in-use stock and building stock dynamics. I have grasped some relevant research tools including R, ArcGIS and Origin.

Education

- 2016-present** **Master student** (Environmental Science), Sino-Danish College, University of Chinese Academy of Sciences (SDC, UCAS)
Thesis title: *Chinese Building Metabolism by Material Flow Analysis and Its Environmental Impact (in Chinese)*
Supervisors: Prof. Gang Liu & Prof. Shenggong Li
- 2016.09-2018.09** **MSc.** (Water and environment), University of Copenhagen
Thesis title: *The Impact of Construction Bubble and Bust on Employment: A Dynamic Material Flow Analysis Approach*
Supervisors: Prof. Gang Liu & Prof. Shenggong Li
- 2018.03-2018.06** **Guest Master Student**, University of Southern Denmark (SDU)
Supervisors: Prof. Gang Liu
- 2012.09-2016.06** **BSc.** (Ecology), University of Science and Technology Beijing (USTB)
Thesis title: *Estimation Methods of City-Level Iron and Steel Stocks and Case Studies (in Chinese)*
Supervisors: Prof. Gang Liu & Prof. Hao Bai

Research Experiences

- 2015.12-2017.12** **China Geological Survey's Program** - Metal Material Flow Analysis
Contribution: Data collection and processing, drafting two research reports, undergraduate thesis (in Chinese) and a journal article (in Chinese)
- 2017.01-2018.01** **Chinese Academy of Sciences Key Program**-Strategic Research on National Nutrition and Food Security in the New Era
Contribution: Survey on food consumption and waste in rural area of Shandong Province, China and interview villagers face to face.

Academic Conferences

- 2018.12** **Annual Conference of China Society of Natural Resources, Changsha, China**
Oral presentation: Iron In-use Stock Growth and Driving Force Analysis for Beijing, Wuhan and Chengdu, China, 1980-2016 in Central South University
- 2018.06** **International Conference of Resource Sustainability (icRS), Beijing, China**
Oral presentation: Product and Metal Stocks Accumulation and Socio-Economic Drivers of Chinese Megacities: A Dynamic Bottom-up Analysis in Beijing Normal University

Scholarship & Awards

- 2018.06** Merit Student, University of Chinese Academy of Sciences
- 2017.11** Scholarship of visiting Master to University of Southern Denmark by UCAS
- 2016.06** Outstanding Graduate Student of Beijing
- 2014.11** Merit Student, University of Science and Technology Beijing
- 2013.11** Outstanding student leader, University of Science and Technology Beijing (Twice, another in 2014.11)
- 2012.11** Scholarship of University of Science and Technology Beijing (Three times, another two in 2013.11/2014.11)

Journal Publications

- Liu, Q.;** Cao, Z.; Liu, G. Product and Metal Stocks Accumulation of China's Megacities: Patterns, Drivers, and Implications. *Environ. Sci. Technol.* 2019, 53, 4128–4139.
Introduction: This work has applied a multiyear bottom-up accounting method to estimate product and infrastructure stocks and three base metals (i.e., iron, aluminum, and copper) embodied in 10 selected Chinese megacities, and further investigated the socioeconomic drivers behind their development and discussed their implications on sustainable metal resource management and urbanization transformation.
- Liu, Q.;** Liu, L.; Liu, J.; Li, S.; Bai, H.; Liu, G. In-Use Iron and Steel Stock Estimation and Driving Force Analysis in Chongqing. *Resour. Sci.* 2018, 40 (12), 2341–2350.
Introduction: This work has applied a multiyear bottom-up accounting method to estimate iron and steel stock in Chongqing from 1980-2014 and presented sectoral distribution of iron stock, and further explore social-economic drivers of iron stock accumulation and proposed specific strategies and policies of resource management for Chongqing.
- Tang, S.; Zhang, L.; Hao, Y.; **Liu, Q.;** Liu, Y.; Han, J. Dynamic Modeling of Stock and Flow in an Urban Residential Building System: A Case Study of Beijing. *Acta Ecol. Sin.* 2019, 39 (7), 1240–1247.
Introduction: This work has constructed a dynamic simulation model of urban residential building system flow inventory based on Stella modeling platform of and quantitatively simulated the variation range of steel demand and building demolition waste generation under different management scenarios.