

YIXIN GUO

Department of Atmospheric and Oceanic Sciences, School of Physics, Peking University, Beijing, China
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EDUCATION

Postdoctoral Researcher jointed between Peking University (China) and International Institute for Applied Systems Analysis (Austria) *Oct. 2020 - Sep. 2022*

Postgraduate Research Associate at Princeton School of International and Public Affairs, Princeton University *Dec. 2019 - Aug. 2020*

M.A. and Ph.D. in Public Affairs and Environmental Studies at Princeton School of International and Public Affairs, Princeton University *2014 - 2019*

Advisor: Denise L. Mauzerall

Dissertation: Mitigating Environmental and Health Damages: Opportunities From Changes in Agricultural Production and Food Consumption Practices in China

B.S. in Atmospheric and Oceanic Sciences at School of Physics, Peking University *2010 - 2014*

RESEARCH INTEREST

Mitigation of the Air Pollution, Climate and Health Impacts of Agriculture

Agricultural Nitrogen Cycle

Ammonia Emissions and Particulate Matter Air Pollution

Food-related Greenhouse Gas Emissions

Food-Water-Energy Nexus

Agricultural Management Technologies and Consumer Dietary Strategies

Science and Policy Interactions

Political Economy of Environmental Regulation

PUBLICATIONS AND MANUSCRIPTS IN PREPARATION

Guo Y, Chen, Y., Searchinger, T.D. *et al.* Air quality, nitrogen use efficiency and food security in China are improved by cost-effective agricultural nitrogen management. *Nature Food* 1, 648–658 (2020). <https://doi.org/10.1038/s43016-020-00162-z>

Guo Y, Liu J, Mauzerall D L, *et al.* Long-lived Species Enhance Summertime Attribution of North America Ozone to Upwind Sources, *Environmental Science and Technology*, (2017) 51 (9), 5017-5025 DOI: 10.1021/acs.est.6b05664

Guo Y, He P, Springmann M, *et al.* Food Consumption Strategies for Addressing Air Pollution, Climate Change, Water Use, and Public Health in China, (2020), (submitted to *Nature Communications*)

Ma R, Zhang B, **Guo Y**, *et al.* Trade Network Bridges Global Ammonia Emission Reduction, (2019), (under review at *Nature Communications*)

Liu Z, Ying H, Chen M, Bai J, Xue Y, Yin Y, Batchelor W, Du M, **Guo Y**, *et al.* Coupling-optimizing China's maize and soy production for enhanced sustainable productivity, (2020), (submitted to *Nature*)

PRESENTATIONS

Mitigating Reactive Nitrogen Loss and Associated Environmental Damages in China at the 8th Global International N Conference, Berlin, Germany *expected May 2021*

(Invited) *Agricultural Production and Consumption Strategies in China: Benefits for Air Quality, Nitrogen Use Efficiency, Climate and Dietary Health* at Atmospheric and Oceanic Science Seminar series

at Peking University, Beijing, China 2019
Mitigating Reactive Nitrogen Loss and Associated Environmental Damages: Opportunities from Changes in Production and Consumption in China at American Geophysical Union Annual Meeting, San Francisco, CA 2019
Effectiveness of Agricultural Ammonia Control Strategies for Mitigating PM2.5 Pollution in China at Ammonia Workshop hosted by the Environment and Climate Change Agency of the Canadian government, Ottawa, Canada 2018
 (Invited)*Reducing Nitrogen Pollution from Crop Fertilizer Use and Manure Management* at Atmospheric Science Seminar of Cornell University, Ithaca, NY 2017
Long-lived Species Enhance Summertime Attribution of North America Ozone to Upwind Sources at American Geophysical Union Annual Meeting, San Francisco, CA 2016
 Poster at Princeton E-affiliates Partnership second annual Retreat, Princeton, NJ 2015
 Poster at American Geophysical Union Annual Meeting, San Francisco, CA 2014

CONFERENCES ATTENDED

Third Plenary Meeting of International Nitrogen Management System, Edinburgh, Scotland 2018
 High-yield High-efficiency Agriculture Conference, Kunming, China 2017
 Chinese Environmental Scholars Forum, Princeton, NJ 2016
 Community Earth System Model Annual workshop, Breckenridge, CO 2016

PROFESSIONAL EXPERIENCE

Visiting student at Prof. Lin Zhang's group at Peking University, Beijing, China *summer 2018 and winter 2019*
 Visiting student at Prof. Peter Hess's group at Cornell University, Ithaca NY *Nov 2017*
 Short-term consultant for the World Bank on the project of investigating technological and policy solutions to China's low agricultural nitrogen use efficiency, Beijing, China *summer 2017*
 Visiting student at Prof. Fusuo Zhang's group at China Agricultural University, Beijing, China *summer 2017*
 Volunteer for The Nature Conservancy Beijing office in support of the climate change mitigation and agriculture pollution management projects, Beijing, China *2013-2014*

TEACHING

Assistant instructor for *The Environment: Science and Policy (WWS/ENV350)* *Spring 2017 and Spring 2018*

SKILLS

Atmospheric Chemistry Transport Model: *WRF-chem* and *MOZART-4*
 Earth System Model: *NCAR CESM (Community Earth System Model)*
 Scenario and Policy Analysis, Qualitative Research Methods
 Skilled at Linux, Fortran, NCL, Office, Python, C++, *Algorithms and Data Structure*), MATLAB, Gnuplot

HONORS AND AWARDS

PKU (Peking University)- IIASA (International Institute for Applied Systems Analysis) postdoctoral fellowship *2020-2022*
 Princeton University Graduate School Dean's Completion Fellowship *2019-2020*

Princeton Institute for International and Regional Studies Graduate Funding (winter recess cycle)	2018
Princeton University Princeton School Graduate Fellowship	2014-2019
Award for excellent undergraduate research by Bases for Cultivation of Talents of Geophysical Sciences, Peking University	2013
Samsung Scholarship, for top 3% physics-major students, Peking University	2012-2013
Merit Student, Peking University	2012-2013
Meritorious winner for Mathematical Contest in Modeling (MCM)	2013
1st Prize of National Olympiad in Chemistry in Provinces, China Chemistry Federation	2009

REFERENCES

Lin Zhang (zhanglg@pku.edu.cn) (PhD co-advisor and postdoc advisor)
 Department of Atmospheric and Oceanic Sciences at School of Physics, Peking University

Wilfried Winiwarter (winiwart@iiasa.ac.at) (postdoc advisor)
 Air Quality and Greenhouse Gases Program, International Institute for Applied Systems Analysis

Denise L. Mauzerall (mauzeral@princeton.edu) (primary PhD advisor)
 Princeton School of Public and International Affairs and Department of Civil and Environmental Engineering, Princeton University

Timothy D. Searchinger (tsearchi@princeton.edu) (PhD co-advisor)
 Princeton School of Public and International Affairs, Princeton University

Junfeng Liu (jfliu@pku.edu.cn) (undergraduate advisor)
 College of Urban and Environmental Sciences, Peking University