Xiaomeng Jin

Lamont-Doherty Earth Observatory
Department of Earth and Environmental Sciences
Columbia University, New York, NY 10027, USA
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EDUCATION

Columbia University, New York, NY, USA Sept. 2015 – May 2020 (Expected)

Doctor of Philosophy, Earth and Environmental Sciences

Field of study: Atmospheric Chemistry

University of Wisconsin-Madison, Madison, WI, USA Sept. 2013 – May 2015

Master of Science, Environment and Resources

Graduate Certificate, Energy Analysis and Policy

Wuhan University, Wuhan, Hubei, China Sept. 2009 – Jun. 2013

Bachelor of Engineering, Remote Sensing Science and Technology

HONORS AND AWARDS

NASA Earth and Space Science Fellowship May 2018

AGU Fall 2016 Outstanding Student Paper Award Dec. 2016

Dean's Fellowship of Columbia University Sept. 2015

Honored Senior Thesis of Hubei Province Sept. 2013

Wuhan University Merit-based Scholarship Oct. 2009, 2012

RESEARCH EXPERIENCE

Research Assistant, Columbia University Sept. 2015 - present

Advisor: Prof. Arlene Fiore, Lamont-Doherty Earth Observatory

Project I: Diagnosing near-surface ozone sensitivity to precursor NO_x and VOC emissions over East Asia, North America and Europe using satellite observations and the GEOS-Chem.

Project II: Estimating multi-pollutant exposure for New York State over the past decade for evaluating health outcomes of emission reduction programs through a combination of *in situ* measurements, satellite data and models.

Research Assistant, University of Wisconsin-Madison Sept. 2013 – May 2015

Advisor: Prof. Tracey Holloway, Center for Sustainability and the Global Environment (SAGE)

Project I: Decadal trend of surface O_3-NO_x-VOC sensitivity over China observed from the OMI.

Project II: Evaluating the gas-phase chemistry of a global chemistry-climate model (GFDL-AM3) with satellite data using the Wisconsin Horizontal Interpolation Program for Satellites (WHIPS).

Senior Thesis, Wuhan University Aug. 2012 – Jun. 2013

Advisor: Prof. Man-Sing Wong, Hong Kong Polytechnic University

Project I: Deriving precipitable water vapor column from Japanese Geostationary Meteorological satellite (MTSAT) data using a semi-empirical differential absorption algorithm.

TEACHING EXPERIENCE

Teaching Assistant — Spring 2017
EESC 4924 Introduction to Atmospheric Chemistry (Instructor: Arlene Fiore)
Teaching Assistant — Spring 2018
EESC 2100 Climate System (Instructor: Mingfang Ting and Gisela Winckler)

PUBLICATIONS

1. Jin, X., A. M. Fiore, L. T. Murray, L. C. Valin, L. N. Lamsal, B. N. Duncan, K. F. Boersma, I. De Smedt, G. Gonzalez Abad, K. Chance, G. S. Tonnesen (2017). Evaluating a space-based indicator of surface ozone-NO_x-VOC sensitivity over mid-latitude source regions and application to decadal trends, *Journal of Geophysical Research: Atmospheres*, **122**, 10439 – 10461, doi: 10.1002/2017JD026720. (featured by NASA Earth Science, NASA Earth Observatory, LDEO news etc.)
2. Jin, X., T. A. Holloway (2015). Spatial and temporal variability of ozone sensitivity over China observed from the Ozone Monitoring Instrument. *Journal of Geophysical Research Atmosph*eres, **120**(14), 7229–7246, doi: 10.1002/2015JD023250.
3. Wong, M. S.[†], X. Jin[†], Z. Liu, J. Nichol, S. Ye, P. Jiang, P.W. Chan (2015). Geostationary satellite observation of precipitable water vapor using an empirical orthogonal function (EOF) based reconstruction technique over Eastern China. *Remote Sensing*, **7**, 5879-5900, doi: 10.3390/rs70505879. ([†] Authors contribute equally.)
4. Wong, M. S., X. Jin, Z. Liu, J. Nichol, P.W. Chan (2014). Multi-sensors study of precipitable water vapour over mainland China. *Int. J. Climatol.*, 35(10), 3146–3159, doi: 10.1002/joc.4199.

PRESENTATIONS

1. Analyzing uncertainties in a geophysical approach to estimate surface $PM_{2.5}$ from satellite AOD (oral), *NASA HAQAST4 Meeting,* Madison, WI, USA, July 2018.
2. Using satellite data to guide emission control strategies for surface ozone pollution (invited oral), *AGU Fall 2017 Meeting*, New Orleans, LA, USA, December 2017.
3. Mapping PM2.5 exposure over Northeast USA with model, satellite and in-situ data (poster), *AGU Fall 2017 Meeting*, New Orleans, LA, USA, December 2017.
4. Combining satellite data and CMAQ model to map $PM_{2.5}$ exposure over the Northeast USA (oral), *NASA HAQAST3 Meeting*, Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY, USA, November 2017,
5. Diagnosing surface ozone sensitivity to precursor emissions: the view from space (poster), *NASA HAQAST3 Meeting*, November 2017, Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY, USA.
6. Evaluating a space-based indicator of surface ozone sensitivity to emissions of NO_x vs. NMVOC and applications to decadal trends (oral), 8*th GEOS-Chem Meeting*, Harvard University, Cambridge, MA, USA, May 2017.

7. Estimating $PM_{2.5}$ exposure across Northeast US from satellite observations (poster), *NYC Metro Area Energy & Air Quality Data Gaps Workshop*, Lamont-Doherty Earth Observatory, Palisades, NY, US, May 2017.
8. Decadal trend of ozone-NO_x-VOC sensitivity over New York State: the view from space (poster), *NYC Metro Area Energy & Air Quality Data Gaps Workshop*, Lamont-Doherty Earth Observatory, Palisades, NY, USA, May 2017.
9. Evaluating a space-based indicator of surface ozone sensitivity to emissions of NO_x vs. NMVOC over major northern mid-latitude source regions (oral), *2016 American Geophysical Union Fall Meeting*, San Francisco, CA, USA, Dec. 2016. (Outstanding Student Paper Award winner)
10. Decadal trend of surface ozone-NO_x-VOC sensitivity over China: the view from space (oral), *Chinese Environmental Scholars Forum*, Princeton University, Princeton, NJ, USA, June 2016.
11. Analyzing surface O_3 sensitivity to NO_x and VOC emissions: the view from space (oral), Photochemical Modeling Coordination Webinar organized by Maryland Department of the Environment, May, 2016.
12. Space-based indicators for surface ozone production (oral), *First Year Graduate Colloquium*, Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY, USA, Apr. 2016.
13. Evaluating a space-based indicator for surface ozone production (poster), *NASA Air Quality Applied Science Team 10th Semiannual Meeting*, U.S. Environmental Protection Agency, NC, USA, Jan. 2016.
14. Evaluating gas-phase chemistry of a global chemistry-climate model using satellite data (poster), *HTAP2 Global and Regional Model Evaluation Workshop*, National Center for Atmospheric Research, Boulder, CO, USA, May 2015.

PROFESSIONAL ACTIVITIES

Member: American Geophysical Union

Journal Reviewer: *Environmental Science & Technology*, *Atmospheric Chemistry & Physics*

SKILLS AND WORKSHOPS

Professional:

Models: GEOS-Chem, GFDL-AM3, CMAQ, GAINS, HYSPLIT, RETScreen, ICLEI Clear Path.

Statistics: SPSS, R.

Programming:

Proficient: NCL, IDL, Python. Intermediate: Matlab, C, C++. Basic: Java.