

Ping Jing, Ph.D.

Associate Professor

Institute of Environmental Sustainability, Loyola University Chicago
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EDUCATION

Georgia Institute of Technology, College of Sciences – Atlanta, GA, U.S.A.

Ph.D. in Earth and Atmospheric Sciences, May 2004

Chinese Academy of Meteorological Science – Beijing, China

M.S. in Atmospheric Environment, Jun 1999

Nanjing Institute of Meteorology (now Nanjing University of Information Science and Technology) – Nanjing, China

B.S. in Atmospheric Physics, Jun 1996

EXPERIENCE

RESEARCH EXPERIENCE

Loyola University Chicago – Associate Professor (Jul 2019–present)

Study the volatile organic compounds in the Midwest; study the stratosphere-troposphere exchange of ozone and its relationship with the ozone layer recovery.

Loyola University Chicago – Assistant Professor (Aug 2013–Jun 2019)

Investigated the impact of climate change on weather conditions; studied ozone trends in the Midwest in response to emission controls and climate change.

NOAA/NESDIS/STAR/SMCD – Supporting Scientist III (contractor) (Jul 2008–Jul 2009)

Supported the calibration plan for the next-generation weather satellite GOES-R; developed a radiometric reference standard to ensure integrity of climate data records from different satellite observations; provided technical support to the National Weather Service.

Georgia Institute of Technology – Postdoctoral Fellow (May 2004–Jun 2006)

Analyzed satellite observations from the Ozone Monitoring Instrument (OMI) and the Microwave Limb Sounder (MLS) on NASA's Aura mission; interpreted the variations in tropospheric ozone using a regional chemistry and transport model over the United States; assessed the modeling results with ozonesonde data from the World Ozone and Ultraviolet Radiation Data Centre.

Georgia Institute of Technology – Graduate Research Assistant (Aug 1999–May 2004)

Investigated ozone exchange between the extra-tropical lower stratosphere and the subtropical upper troposphere using trajectory models; analyzed the association of the cross-tropopause transport with Rossby wave breaking; analyzed meteorological and chemical data from NASA's Transport and Chemical Evolution over the Pacific (TRACE-P) campaign and the Pacific Exploratory Mission-West (PEM-West) A & B.

TEACHING EXPERIENCE

Loyola University Chicago – Faculty (Aug 2009–present)

Prairie State College – Adjunct Faculty (Aug 2006–May 2009)

Aurora University – Adjunct Faculty (Aug 2006–Jun 2008)

Georgia Institute of Technology – Graduate Teaching Assistant (Fall 2002–May 2004)

GRANTS

- **Jing, P., PI.** Impact of Volatile Organic Compounds on Ozone Pollution in the Midwest. Submitted to the Research Support Grant, Office of Research Services, Loyola University Chicago in January 2019, **requested \$4,925, awarded**, March 2019 – March 2020.
- **Jing, P., PI.** School Indoor Air Quality Assessment and Remediation. Submitted to the American Lung Association of the Upper Midwest, **funded \$1,500**, October 2017–February 2018.

- **Jing, P., PI.** Development of a Rossby wave breaking index as an indicator for the National Climate Assessment, submitted to NASA ROSES 2014 A29 Climate Indicators and Data Products for Future National Climate Assessments (NASA Grant NNH14ZDA001N-INCA) in February 2015, **funded \$171,909**, March 2016–March 2019.
- **Jing, P., PI.** Effect of climate change on air quality through modifying weather patterns in the Midwest, submitted to the 2016 Summer Research Stipends of Loyola University Chicago in October 2015, **requested \$7,000, awarded.**
- **Jing, P., PI.** NO₂ and O₃ Trends in the Chicago Area in Response to Emission Controls, submitted to the 2014 Summer Research Stipend of Loyola University Chicago in October 2013, budget **requested \$7,000, awarded.**

SEMINAR PRESENTATIONS

- Jing, P., The Potential Impact of Climate Change on Ozone in the Midwestern U.S., Department of Earth and Planetary Sciences, Northwestern University, May 11, 2018.
- Jing, P., Climate Change Penalty on Ozone Pollution in the Midwestern U.S., IES Research Seminar, Loyola University Chicago, February 2, 2018.
- Jing, P., Summertime Ground-level Ozone Trend in Chicago 2005–2013, IES Research Seminar, Loyola University Chicago, September 9, 2014.

PUBLICATIONS

JOURNAL ARTICLES

- **Jing, P.,** Banerjee, S., Barrera, M., 2019. Impact of Rossby wave breaking on ozone variation in the upper troposphere and lower stratosphere, 1985–2015. *Atmospheric Environment*, 117112. <https://doi.org/10.1016/j.atmosenv.2019.117122>
- **Jing, P.,** Banerjee, S., 2018. Rossby wave breaking and isentropic stratosphere-troposphere exchange during 1981–2015 in the Northern Hemisphere. *Journal of Geophysical Research*, 123, 9011–9025. <https://doi.org/10.1029/2018JD028997>
- **Jing, P.,** Lu, Z., Steiner, A.L., 2017. The ozone climate penalty in the Midwestern U.S. *Atmospheric Environment*, 170, 130–142. <https://doi.org/10.1016/j.atmosenv.2017.09.038>
- **Jing, P.,** O'Brien, T., Streets, D.G., Patel, M., 2016. Relationship of ground-level ozone with weather patterns in Chicago. *Urban Climate*, 17, 161–175. <https://doi.org/10.1016/j.uclim.2016.08.002>
- **Jing, P.,** Lu, Z., Xing, J., Streets, D.G., Tan, Q., O'Brien, T., Kamberos, J., 2014. Response of the summertime ground-level ozone trend in the Chicago area to emission controls and temperature changes 2005–2013. *Atmospheric Environment*, 99, 630–640. <https://doi.org/10.1016/j.atmosenv.2014.10.035>
- Cao, C., Uprety, S., Xiong, J., Wu, A., **Jing, P.,** and five others, 2010. Establishing the Antarctic Dome C community reference standard site towards consistent measurements from earth observation satellites. *Canadian Journal of Remote Sensing*, 36, 498–513. <https://doi.org/10.5589/m10-075>
- **Jing P.,** Cunnold, D., Choi, Y., and Wang, Y. (2006). Summertime tropospheric ozone columns from Aura OMI/MLS measurements versus regional model results over the United States. *Geophysical Research Letters*, 33, L17817. <https://doi.org/10.1029/2006GL026473>
- Wang, P.-H., Cunnold, D.M., Trepte, C.R., Wang, H.-J., **Jing, P.,** Fishman, J., Brackett, V.G., Zawodney, J.M., Bodeker, G.E., 2006. Ozone variability in the midlatitude upper troposphere and lower stratosphere diagnosed from a monthly SAGE II climatology relative to the tropopause. *Journal of Geophysical Research*, D21304. <https://doi.org/10.1029/2005JD006108>
- **Jing, P.,** Cunnold, D.M., Yang, E.-S., Wang, H.-J., 2005. Influence of isentropic mixing on seasonal ozone variations in the lower stratosphere and upper troposphere. *Journal of Geophysical Research*, 110, D10110. <https://doi.org/10.1029/2004JD005416>
- **Jing, P.,** Cunnold, D.M., Wang, R., Yang, E., 2004. Isentropic cross-tropopause ozone transport in the Northern Hemisphere. *Journal of the Atmospheric Sciences*, 61, 1068–1078. [https://doi.org/10.1175/1520-0469\(2004\)061<1068:ICOTIT>2.0.CO;2](https://doi.org/10.1175/1520-0469(2004)061<1068:ICOTIT>2.0.CO;2)

- Davis, D.D., Chen, G., Crawford, J.H., Liu, S., Tan, D., Sandholm, S.T., **Jing, P.**, and 18 others, 2004. An assessment of western North Pacific ozone photochemistry based on springtime observations from NASA's PEM-West B (1994) and TRACE-P (2001) field studies. *Journal of Geophysical Research*, 108, 8829. <https://doi.org/10.1029/2002JD003232>

CONFERENCE PRESENTATIONS

- Barrera, M., **Jing, P.**, Banerjee, S., Influence of Rossby Wave Breaking on Ozone Variation in the Upper Troposphere and Lower Stratosphere, American Geophysical Union, Fall Meeting, Washington DC, 2018.
- **Jing, P.**, The Ozone Climate Penalty in the Midwestern U.S., NASA Health and Air Quality Applied Sciences Team 4th Meeting (HAQAST4), Madison, Wisconsin, 2018.
- McMahon Ward, M., Barrera, M., Anuchitlertchon, K., Landsem, A., **Jing, P.**, Indoor Air Quality in the Residence Halls on the Lakeshore Campus of Loyola University Chicago, Loyola University Chicago's Annual Climate Change Conference, Chicago, Illinois, 2018.
- Champion, P., **Jing, P.**, Climatology of Extreme Precipitation in the Midwestern U.S., 98th American Meteorological Society Annual Meeting, Austin, Texas, 2018.
- **Jing, P.**, Relationship of Ground-level Ozone with Synoptic Weather Conditions in the Midwestern U.S., American Geophysical Union, Fall Meeting, New Orleans, Louisiana, 2017.
- Champion, P., **Jing, P.**, Changes in precipitation patterns in the Midwest amidst global climate change, Loyola University Chicago's Annual Climate Change Conference, Chicago, Illinois, 2017.
- **Jing, P.**, Patel, M., Rossby wave breaking and its relationship with climate and ozone stratosphere-troposphere exchange, American Geophysical Union, Fall Meeting, San Francisco, California, 2016.
- Patel, M., **Jing, P.**, Effect of climate change on weather and ozone in St. Louis: Implications for climate action plans, Loyola University Chicago's Annual Climate Change Conference, Chicago, Illinois, 2016.
- **Jing, P.**, Response of Ground-level Ozone to Climate Change: Implications for Public Policy, Loyola University Chicago's Annual Climate Change Conference, Chicago, Illinois, 2015.
- **Jing, P.**, Lu, Z., Xing, J., Streets, D. G., Tan, Q., Response of the Summertime Ground-level Ozone Trend in the Chicago Area to Emission Controls and Temperature Changes, 2005–2013, American Geophysical Union, Fall Meeting, San Francisco, California, 2014.
- **Jing, P.**, Selection of vicarious calibration sites for GOES-R ABI solar bands, Calcon Technical Conference, Logan, Utah, 2009.
- **Jing, P.**, Cao, C., Using the Antarctic Dome C site for climate quality calibration, Calcon Technical Conference, Logan, Utah, 2009.
- **Jing, P.**, Cao, C., Dome C calibration experiment, Committee on Earth Observation Satellites/Working Group on Calibration and Validation 29th Meeting, Avignon, France, 2008.
- Cao, C., **Jing, P.**, Guenther, B., Establishing the calibration link between VIIRS on NPP/NPOES and AVHRR on POES using the Antarctic Dome C site and SNO methodology, American Geophysical Union, Fall Meeting, San Francisco, California, 2008.
- **Jing, P.**, Cunnold, D.M., Wang, Y., Choi, Y., Summertime tropospheric ozone residuals derived from OMI/MLS measurements and their comparison with regional air quality forecast (RAQAST) model results over the United States, American Geophysical Union, Fall Meeting, San Francisco, California, 2005.
- **Jing, P.**, Cunnold, D.M., Wang, R., Yang, E.-S., Isentropic ozone transport across the tropopause, 3rd SPARC General Assembly, Victoria, British Columbia, Canada, 2004.
- **Jing, P.**, Cunnold, D.M., Wang, H.-J., Yang, E.-S., Stratosphere-troposphere exchange of ozone calculated using contour advection, 7th Scientific Conference of the International Global Atmospheric Chemistry Project (IGAC), Greece, 2002.
- **Jing, P.**, Cunnold, D.M., Yang, E.-S., Wang, H.-J., Using DAO potential vorticity to estimate cross-tropopause ozone fluxes, American Geophysical Union, Fall Meeting, San Francisco, California, 2002.
- **Jing, P.**, Cunnold, D.M., Isentropic transport of ozone across the tropopause on 345 K, American Geophysical Union, Spring Meeting, Washington DC, 2002.

ONLINE PUBLICATION

- Co-authored the *Healing Earth* environmental science e-textbook, Chapters of Energy and Global Climate Change, <http://healingearth.ijep.net/>, 2015.

SERVICES

Loyola University Chicago

Student Advising

- Research advisor for the First Year Research Experience program (Summer 2019)
- Faculty mentor for the First Year and Transfer Undergraduate Women of Color of the Loyola University Chicago Empowering Sisterhood (LUCES) Mentoring Program (LMP) (Fall 2017–Spring 2018)
- Research advisor for the First Year Research Experience program (Summer 2016)
- Research advisor for McNair Scholar (Spring 2013–Fall 2013)
- Faculty mentor for Ricci Scholar (Fall 2012–Spring 2013)
- Faculty mentor for the Achieving College Excellence program (Fall 2011–Spring 2012)

University and Institute Services

- Associate Editor of *Loyola University Research in Sustainability* (Spring 2019–present)
- Member of the IES Strategic Planning Committee (Summer 2019–present)
- Member of the IES Academic Council: BS degree in Environmental Science (Summer 2013–present)
- Member of the Loyola Climate Change Conference Planning Committee (2014–2015)
- Member of the Academic Committee of The Beijing Center (Fall 2012–Spring 2018)
- Organizer of the 2015/16 IES seminar series (Fall 2015–Spring 2016)
- Member of the committee for the development of Loyola University Chicago's Climate Action Plan (Fall 2014 and Spring 2015)
- Chair of the Atmospheric Chemistry committee of IES curriculum development (Fall 2016)
- Interviewer for the Ignatian Scholarship competition (Spring 2013, 2015, and 2016)
- Evaluator for the Loyola Undergraduate Research and Engagement Symposium (2014 and 2018)
- Faculty representative for the Loyola Weekend events (Spring 2014)

Georgia Tech

- Instructor for two online courses *Practical Meteorology* and *Science and Young Children* to middle-grade teachers in support of Georgia Tech–Gwinnett County Schools Math Science Partnership (Fall 2005 – Spring 2006)
- Instructor for Saturday science classes in support of Georgia Tech's K-12 outreach program, KIDS Club (Fall 2005)

PROFESSIONAL SERVICE

- Reviewer for *Atmospheric Environment*, *Environmental Pollution*, and *Atmosphere*
- Judge for the Outstanding Student Paper Awards at the AGU Fall Meeting, New Orleans, 2017
- Reviewer for the Climate Literacy and Energy Awareness Network (CLEAN)

AWARDS

- The Provost's Award for Excellence in Teaching Freshmen, Loyola University Chicago (2013)
- Research Excellence Award from the School of Earth and Atmospheric Sciences, Georgia Institute of Technology (2003)

PROFESSIONAL AFFILIATIONS

- Member, American Geophysical Union (1999–present)
- Member, American Meteorological Society (2016–present)