

MEIYUN LIN

Princeton University Forrestal Campus, 201 Forrestal Rd., Princeton, NJ 08542-0308

Email: meiyunl@princeton.edu

Phone: (609) 452-6551

<http://www.gfdl.noaa.gov/meiyun-lin-homepage>

EDUCATION

- Ph.D. in Civil Engineering, University of Tokyo, September 2007
- M.E. in Environmental Science & Engineering, Dalian University of Technology, July 2004
- B.E. in Environmental Science & Engineering, Sichuan University, July 2001

EMPLOYMENT HISTORY

- **Princeton University, Atmospheric & Oceanic Sciences** (June 2010-present)
Research Scientist: Linkages of ozone air quality, climate, and public policy
Member of Atmospheric Physics and Chemistry group at NOAA GFDL
- **University of Wisconsin-Madison, Center for Sustainability and the Global Environment** (Mar.2008-May 2010)
Postdoctoral Scientist: Global-to-regional scale air pollution transport
- **University of Tokyo, Center for Climate System Research** (Sep. 2007-Feb.2008)
Postdoctoral researcher: Study the direct and indirect effects of aerosols on radiative forcing and the hydrological cycle over East Asia
- **University of Tokyo, Institute of Industrial Science** (Aug.2004-Sep.2007)
Graduate Researcher, affiliated with Department of Civil Engineering
Japan International Cooperation Agency (JICA) Long-Term Trainee

PROFESSIONAL EXPERIENCE

Co-Investigator, NASA Air Quality Applied Science Team, May 2011-present

Co-PI, Investigation of Global Modeling and Lightning NO_x Emissions as Sources of Regional Background Ozone in Texas, Funded by University of Texas-Austin (c/o Chris Emery) (10/1/12 – 9/30/13)

Co-Organizer, Task Force on Hemispheric Transport of Air Pollution, Regional Model Experiments for western N. America inflow processes, Feb 2012 –present

Contributor, U.S. EPA Integrated Science Assessment for Ozone and Related Photochemical Oxidants, 2011-2012

Section co-Chair, Impacts of baseline ozone and particulate matter on surface air quality, AGU Fall Meeting 2011

Contributing Author, Global and regional modeling chapter, UN Task Force on Hemispheric Transport of Air Pollution (TF HTAP) 2010 Report, 2009-2010

Participant in the Model Intercomparison Study for Asia (MICS-Asia), 2008-present

Reviewer for Atmospheric Chemistry and Physics, Journal of Geophysical Research-Atmospheres, Atmospheric Environment, Science of the Total Environment, Journal of Atmospheric Research, Water, Air, & Soil Pollution, Atmospheric Research, 2008-present

PUBLICATIONS

Lin M., A. M. Fiore , O. R. Cooper , L. W. Horowitz , A. O. Langford , Hiram Levy II , B. J. Johnson , V. Naik , S. J. Oltmans , C. Senff (2012): *Springtime high surface ozone*

events over the western United States: Quantifying the role of stratospheric intrusions, J. of Geophys. Res., 117, D00V22, doi:10.1029/2012JD018151

Lin, M., A. M. Fiore, L. W. Horowitz, O. R. R. Cooper, V. Naik, J. S. Holloway, B. J. J. Johnson, A. M. Middlebrook, S. J. J. Oltmans, I. B. Pollack, T. B. Ryerson, J. Warner, C. Wiedinmyer, J. Wilson, and B. Wyman (2012), *Transport of Asian ozone pollution into surface air over the western United States in spring*, J. Geophys. Res., 117, D00V07, doi:10.1029/2011JD016961 (**AGU Editors' Highlight, Featured in Science Magazine, Nature News, NY Times and other public media**).

Lin, M., T. Holloway, G. R. Carmichael and A. M. Fiore: *Quantifying pollution inflow and outflow over East Asia in spring with regional and global models*. Atmos. Chem. Phys., 10, 4221-4239, 2010

Lin, M., T. Holloway, T. Oki, D.G. Streets, and A. Richter (2009). *Multi-scale model analysis of boundary layer ozone over East Asia*. Atmos. Chem. and Phys., 9, 3277-3301.

Lin, M., T. Oki, T. Holloway, D.G. Streets, M. Bengtsson, S. Kanae. *Long-range transport of acidifying substances in East Asia Part I: Model evaluation and sensitivity studies*. Atmospheric Environment 42 (24), 5939-5955, 2008, doi:10.1016/j.atmosenv.2008.04.008

Lin, M., T. Oki, M. Bengtsson, S. Kanae, T. Holloway, D.G. Streets. *Long-range transport of acidifying substances in East Asia Part II: Source-receptor relationships*. Atmospheric Environment 42 (24), 5956-5967, 2008, doi:10.1016/j.atmosenv.2008.03.039

Lin M., T. Oki, and M. Bengtsson. *Long-range transport and transformations of acidifying substances over East Asia in springtime*. Annual Journal of Hydraulic Engineering, JSCE, Vol.51, 91-96, 2007

Lin M., S. Zhang, and Y. Chen. *Distance-to-target weighting in life cycle impact assessment based on Chinese environmental policy for the period 1995-2005*. International Journal of Life Cycle Assessment 10 (6), 393-398, 2005

Lin M., S. Zhang, and Y. Chen. *Life Cycle Assessment of Environmental Impact of Air Conditioning Cold and Heat Source*. Heating, Ventilating & Air Conditioning. Vol.34 No.7, 93-96, 2004 (In Chinese with English abstract)

INVITED TALKS AND PRESENTATIONS

Western States Air Resources Council, Western Ozone Transport Workshop, Reno, Nevada (Oct 2012)

Daily to decadal variability in sources of springtime surface ozone events over the western United States: stratospheric intrusions, Asian pollution, and wildfires (**Invited**)

NASA Aura Science Team Meeting, Pasadena, California (Oct 2012)

Identifying and forecasting deep stratospheric ozone intrusions over the western United States from space (**Invited**)

NASA Air Quality Applied Science Team (AQAST) Meeting, Wisconsin (June 2012)

Strong stratospheric influence on springtime surface high-O₃ events over the western United States in spring: Not-so-rare events?

NASA AQAST Meeting, EPA Research Triangle Park, NC (Nov. 2011)

1. *Model Intercomparison of background ozone to inform NAAQS setting and implementation*

2. *Estimating background ozone and its specific components over the United States to support NAAQS-setting, implementation, and attainment planning*

California's South Coast Air Quality Management District Seminar, Ontario, CA (May 2012)

*Global sources of local ozone pollution in Southern California **(Invited)***

NOAA ESRL Chemical Science Division Seminar, Boulder, CO (May 2012)

*Background ozone over the United States in 1980-2010: origin, extremes, and long-term changes **(Invited)***

UN HTAP Task Force: 2011-2015 Work Plan Meeting, Pasadena, CA (Feb. 2012)

Transport of Asian ozone pollution into surface air over the western United States in spring

AGU Fall Meeting 2011, San Francisco, CA (Dec. 2011)

Variability and changes in tropospheric ozone over the western United States (1980-2010): Exploring the roles of stratosphere-to-troposphere transport and El Nino-Southern Oscillation

NOAA GFDL Science Symposium, Princeton, NJ (Oct. 2011)

Stratospheric impacts on ground-level ozone air quality over the western United States

NOAA Senior Research Council, Princeton, NJ (Jul. 2011)

*Asian and stratospheric impacts on tropospheric ozone over western North America: mean, extremes and the role of ENSO **(Invited)***

2nd Tropospheric Ozone Changes Workshop, Toulouse, France (Apr. 2011)

Trends and variability of tropospheric ozone at northern mid-latitudes in 1980-2010: Exploring the role of emissions, ENSO and STE

AGU Fall Meeting 2010, San Francisco, CA (Dec. 2010)

Impacts of Asian emissions on ozone air quality over the western United States

NOAA Geophysical Fluid Dynamics Laboratory (Nov. 2009)

Multi-scale mechanisms affecting hemispheric transport and chemistry

Institute of Industrial Science, University of Tokyo, Japan (Oct. 2009)

Connections between air pollution and the hydrological cycle"

Hong Kong Polytechnic University, Hong Kong, China (Oct. 2009)

Hosted by Professor Tao Wang's research group

Talk title: Multi-scale model analysis of air pollution in Asia

Regional Scientific Workshop on Acid Deposition 2009, Japan (Oct. 2009)

Hosted by the Acid Deposition Monitoring Network in East Asia (EANET)

Talk title: Multi-scale model analysis of EANET Data

Take Force on Hemispheric Transport of Air Pollution, Paris, France (June 2009)

Workshop on Linkages between Regional and Global Modeling, Air Quality and Climate Change

Talk title: "Quantifying pollution inflow and outflow over East Asia through coupling regional and global models"

International Institute for Applied Systems Analysis, Laxenburg, Austria (Feb.2009)

11th workshop for Model Inter-comparison Study for Asia

Talk title: "Inter-comparison of two regional atmospheric chemistry models (WRF-Chem and CMAQ) for East Asia"

International Institute for Applied Systems Analysis, Austria (Feb. 2008)

10th workshop for Model Inter-comparison Study for Asia

Talk title: "Evaluating gaseous pollutants and source-receptor relationships for reactive nitrogen deposition in East Asia"

University of Wisconsin-Madison (Nov. 2008)

Climate, People, and Environment Program Seminar, Center for Climate Research

Talk title: "What controls the seasonality of boundary layer ozone in Asia?"

Task Force on Hemispheric Transport of Air Pollution, Hanoi, Vietnam (Oct. 2008)

Talk title: "Regional impacts of hemispheric air pollution transport"

CONFERENCE PRESENTATIONS & WORKSHOPS

- **AGU Fall Meeting 2011**, San Francisco, CA (Dec 2011)
Poster presentation: Springtime high surface ozone events over the western United States: Quantifying the role of stratospheric intrusions
- **IGAC 2010**, Halifax, Canada (July 2010)
Poster presentation: Improving process understanding of trans-Pacific pollution transport: Insights from high-resolution models and observations
- **Institute of Atmospheric Physics, Chinese Academy of Sciences**, Beijing, China (Oct. 2009)
Hosted by Professor Zifa Wang's research group
Talk title: "Multi-scale model analysis of air pollution in Asia"
- **National Center for Atmospheric Research**, Boulder, Colorado (July 2009)
2009 NCAR Workshop on Climate and Health
Talk title: "Challenges in evaluating health impacts from large-scale climate and air pollution in Asia"
- **National Center for Atmospheric Research**, Boulder, Colorado (July 2009)
2009 NCAR Workshop on Climate and Health
Talk title: "Challenges in evaluating health impacts from large-scale climate and air pollution in Asia"
- **University of Wisconsin-Madison** (Apr. 2009)
Sustainability and the Global Environment Seminar
Talk title: "East China Plains: A plain of air pollution"
- **American Geophysical Union**, Fall Meeting, San Francisco, California (Dec. 2008)
Poster presentation: "Why do models overpredict summertime ground-level ozone over Central Eastern China?"
- **University of Wisconsin-Madison** (Oct. 2008)
Sustainability and the Global Environment Seminar
Talk title: "Air quality in Asia".
- **University of Toronto**, Toronto, Canada (Sep. 2008)
Dr. Dylan Jones Research Group, Department of Atmospheric Physics
Talk title: "Regional atmospheric chemistry in Asia"
- **National Center for Atmospheric Research**, Boulder, Colorado (Jul. 2008)
Talk title: "Connecting CAM-Chem with WRF-Chem: Learning from CMAQ & MOZART analysis for East Asia"
- **Workshop of Atmospheric Chemistry, Climate, and Trans-boundary Air Pollution**, Washington DC (June 2008)
Poster presentation: "Impacts of hemispheric transport of air pollution on Asia"
- **University of Tokyo**, Center for Climate System Research, Japan (Dec. 2007)

- Talk title: “Long-range transport and source-receptor relationships of acidifying substances in East Asia”
- **University of Tokyo**, Kondo Lab, Research Center for Advanced Science and Technology Japan (Feb. 2007)
Talk title: “Long-range transport of acidifying substances in East Asia: A simulation of source-receptor relationships”
 - **Japan Society of Civil Engineering**, Tokyo, Japan (Mar. 2007)
51st Conference on Hydraulic Engineering
Talk title: “Long-range transport of acidifying substances over East Asia in springtime”
 - **Society of Environmental Toxicology and Chemistry**, SETAC-Europe 16th Annual Meeting, the Hague, Netherlands (May 2006)
Talk title: “Site-dependent characterization modeling of acidification in life cycle impact assessment in Asia”

TEACHING & MENTORING EXPERIENCE

- Guest Lecture, University of Wisconsin-Madison (4/10)
AOS 535, Atmospheric Dispersion & Air Pollution
- Work with five graduate students, University of Wisconsin-Madison (3/08-5/10)
Help with technical modeling and analysis issues, and discussing recent literature
- Mentor to an undergraduate student, University of Wisconsin-Madison (7/08-9/08)
Taught visualizing and interpreting model output data using graphic tools
- Mentor to a graduate student, Dalian University of Technology (9/03-7/04)
Advised Life Cycle Assessment methodology and database design
- Mentor to an undergraduate student, Dalian University of Technology (9/02-7/03)
Advised data collecting and reviewed bachelor thesis entitled “Environmental Life Cycle Assessment of Green Hotels”

HONORS & AWARDS

- **Travel Grant from United States Environmental Protection Agency** (6/09)
Presenting at the task force workshop on hemispheric transport of air pollution held in Paris, France
- **Travel Grant from Acid Deposition and Oxidant Research Center (ADORC)**, Japan (2/09, 2/08)
Presenting at 10th and 11th workshop on Model Inter-comparison Study for Asia held in Laxenburg, Austria
- **Travel Grant from European Commission** (10/08)
Presenting at the Task Force Workshop on Hemispheric Transport of Air Pollution held in Hanoi, Vietnam
- **Travel Grant from National Science Foundation** (7/08)
Participating the Cutting Edge Workshop – Preparing for an Academic Career in the Geosciences, Oklahoma, USA
- **Doctoral Scholarship from Japan International Cooperation Agency** (8/04-9/07)
Nominated by Ministry of Science and Technology of China
- **Award for Excellent Master’s Dissertation**, Dalian University of Technology, China (7/04)

- **The Procter & Gamble Scholarship**, Sichuan University, China (9/99-7/00)
- **Student Academic Performance Scholarship**, Third Prize, Sichuan University, China (9/98-7/99)
- **Student Academic Performance Scholarship**, Third Prize, Sichuan University, China (9/97-7/98)

PROFESSIONAL SKILLS

- Integrated analysis of observational data from satellite remote sensing, aircraft measurements and surface networks with models to inform public policy
- Global and regional-scale modeling of atmospheric chemistry, weather and climate (GFDL AM3, WRF-Chem, CMAQ, MM5)
- Graphic tools: NCL (NCAR command language), IDL, GMT (General Mapping Tool), and GrADs (The Grid Analysis and Display System), RIP, PAVE
- Computer: UNIX/Linux, advanced FORTRAN 77/90 programming, and scripting (shell, awk, perl, python)

PROFESSIONAL SOCIETY MEMBERSHIPS

- American Geophysical Union, 2008-present
- Earth Science Women's Network, 2009-present