HUIYAN YANG

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EDUCATION

Princeton University, Princeton, New Jersey

2005 Ph.D. in Atmospheric and Oceanic Sciences

2005 Graduate Certificate in Science, Technology and Environmental Policy (STEP) in the Woodrow Wilson School of Public and International Affairs

Peking University, Beijing, China

1999 M.S. in Atmospheric Physics

1996 B.S. in Atmospheric Science

PROFESSIONAL EXPERIENCE

The University of Texas at El Paso (UTEP), El Paso, Texas

2011- *Visiting Assistant Professor*: Department of Physics.

Northeast States for Coordinated Air Use Management (NESCAUM), Boston, Massachusetts

2008-2011 *Environmental Analyst*: Leading the NESCAUM efforts in simulating 2007 onraod transportation emissions by using the latest EPA Motor Vehicle Emission Simulator (MOVES) for the MANE VU region (Mid-Atlantic and Northeast); In charge of the emission inventory development and processing for criteria and hazardous air pollutants.

Maricopa Association of Governments, Phoenix, Arizona

2007-2008 *Air Quality Engineer II*: In charge of ozone simulation for the Maricopa nonattainment area by using the EPA Models-3/Community Multiscale Air Quality Modeling System (CMAQ); Leading meteorological simulation by using the NCAR Weather Research and Forecasting model (WRF);

Rutgers, the State University of New Jersey

2005-2007 *Postdoctoral Research Associate*: Quantification of the uncertainty in dust entrainment in global dust modeling and the impacts on dust loading and deposition to the ocean; Investigation of the iron (Fe) mobilization in the atmosphere and the air-to-sea flux of soluble Fe.

HONORS AND PROFESSIONAL MEMBERSHIP

- 2002-2004 Princeton Environment Institute - STEP environmental policy fellowship, Princeton University, New Jersey
- 2005- American Geophysical Union, member

TEACHING AND ADVISING

The University of Texas at El Paso (UTEP), El Paso, Texas

- Visiting Assistant Professor in the Department of Physics, 2011 – 2015, taught Fluid Dynamics, Acoustics, Thermal and Fluid Physics, Electromagnetism, Modern Physics, Vibrations and Waves, and Physical Science.

Princeton University, Princeton, New Jersey

- Guest lecturer of "Atmospheric Chemistry", spring 2005, taught by Dr. Hiram Levy II and Dr. Larry, Horowitz. The topic of my lecture was on solar irradiance and photodissociation rate.
- Teaching Assistants for "Oceanography: an Introduction to the World's Oceans", spring 2005, taught by Professor Jorge Sarmiento.
- Chairman of the AOS Graduate Student Organization, fall 2003 to spring 2004. Organized the first AOS student-faculty meeting to discuss graduate courses, qualification (general) examination, and the length of the program.
- Graduate assistant in instruction for "Weather and Climate", fall 2003, taught by Professor Gorge Philander.

Peking University, Beijing, China

- Graduate assistant in advising two senior theses with Professor Jiayi Chen, 1998. Helped the students to use the wind diagnostics model and scientific software; provided assistance in data analysis and dissertation writing.

SELECTED PUBLICATIONS

- Yang, H., González-Ayala, S., et al, (2012), Development of MOVES-Mexico, Stage I: Ciudad Juárez, Chihuahua and the Quantification of Uncertainties, presentation and conference paper at the 2012 U.S. EPA International Emission Inventory Conference, Tampa, Florida.
- Yang, H. (2012), Development of MANE-VU Onroad Mobile Source Emissions for 2007 and 2020 using MOVES, Final Technical Report to NESCAUM.
- Yang, H. (2011), Application of SMOKE-MOVES Integration Tool to Regional Air Quality Modeling, invited presentation at the 1st EPA MOVES Workshop, The Office of Transportation and Air Quality of the U.S. EPA, Ann Arbor, Michigan.
- Yang, H., T. Shin, I. Jung, and C. Arthur (2008), Simulation of ozone for the Maricopa nonattainment area by using CMAQ and comparison with the results of CAMx, Attachment III of the Modeling Protocol of Maricopa Eight-Hour Ozone Maintenance Plan, Phoenix, Arizona.
- Yang, H., L. W. Horowitz and H. Levy II (2005), The transformation of black carbon aerosol from hydrophobic to hydrophilic and the global distribution, presentation and poster at AMS Atmospheric Sciences and Air Quality Conferences (ASAAQ), San Francisco, CA.
- Yang, H. and H. Levy II (2004), Sensitivity of photodissociation rate coefficients and O_3 photochemical tendencies to aerosols and clouds, J. Geophys. Res., 109, D24301, doi:10.1029/2004JD005032.
- Larson, E. and H. Yang (2004), Dimethyl ether from coal as a household cooking fuel in China, Energy for Sustainable Development, 8, 115-126.

FUNDED PROJECTS

- Co-Principle Investigator, campus Principle Investigator, "Development and Testing of a Dust Indicator for Climate Assessment in the Western United States." George Mason University, flown down from NASA, 08/2013 – 07/2015, $188,622.

  Project Objectives

  (1) Create a climate-quality indicator of local wind-blown dust storms originated within the U.S. boundaries from a carefully designed analysis of ground observation datasets;
  (2) Rigorously validate the dust records using satellite retrievals and model prediction;
  (3) Assessment of decadal-scale variability and long-term trends in dust indicator at local, regional and national levels;
  (4) Better understanding of uncertainties in the dust-related climate assessment.

- Co-Principle Investigator, "El Paso MPO Rider 8 Ozone Reduction Program at El Paso, Texas." El Paso Metropolitan Planning Organization (MPO), 06/11 - 12/12, $404,000.

  Project Objectives
  Complete all tasks for the El Paso Metropolitan Planning Organization (MPO) in support of the Texas State Implementation Plan (SIP). The UTEP project tasks include: (1) Prepare a conceptual model; (2) Conduct ambient air monitoring of ozone; (3) Improve emission inventory; (4) Perform air quality modeling and planning; (5) Develop local control strategies; (6) Provide administrative support.

- Principle Investigator, "SMOKE/MOVES Modeling." NESCAUM, flown down from EPA, 06/11 - 12/11, $30,250.

  Project Objectives
  (1) Create onroad mobile source emissions using MOVES for 10 states in the Ozone Transport Region that are suitable for state regulatory air quality modeling. (2) Conduct Air quality modeling and monitoring data analysis for the project of New Jersey air toxics. (Note: This project is a continuation of Dr. Yang's work on the simulation of onroad mobile source emissions using MOVES and on the study of New Jersey air toxics at NESCAUM. Dr. Yang transferred from NESCAUM to UTEP in the summer of 2011.)