

# Ying Zhou, Sc.D.

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## EDUCATION

**Harvard School of Public Health** Boston, MA  
**Doctor of Science** in Environmental Sciences and Risk Management 2002  
Dissertation: Evaluating Power Plant Emissions in China: Human Exposure and Valuation

**Tsinghua University** Beijing, China  
**Bachelor of Science** with dual major in Environmental Engineering and Science and Computer Science 1997  
Thesis: Evaluation of Health Risks Posed by Hazardous Wastes in Beijing, China

## RESEARCH EXPERIENCE

**Harvard School of Public Health** Boston, MA  
**Postdoctoral Research Fellow** 07/2005 – present  
Current project:

- Evaluates the exposure and health risk implications of aviation-related emissions.
- To understand spatial heterogeneity in airport emissions.
- To determine whether prioritization base on maximum individual risk would correspond with prioritization based on total population risk.

Previous projects:

- Estimated personal exposure from traffic air pollution using air dispersion model applicable in street canyon settings.
- Studied the dispersion of air pollution in built-up urban downtown areas through analyzing meteorological observations from dispersion experiments in New York City and Oklahoma City to evaluate fundamental science models.

**Harvard Center for Risk Analysis** Boston, MA  
**Harvard University Center for the Environment** Cambridge, MA  
**Doctoral Researcher** 09/1998–07/2002

Thesis Research:

- Applied survey based methods to estimate the monetary value Chinese citizens assign to reducing risks of adverse health effects, including fatality, chronic bronchitis, and minor respiratory illness.
- Conducted surveys in Beijing, Anqing City, and rural areas.
- Tested different statistical models to study their impact on estimated willingness to pay (WTP) as well as the relationship between WTP and individual characteristics.

- Quantified human exposure to airborne fine particulate matter resulting from coal-fired power plants in China.
- Applied a combination of mesoscale meteorology model MM5, long-range atmospheric fate and transport model CALPUFF, geographical information system ArcGIS, and predictive statistical models.

**Tsinghua University**

Beijing, China

**Research Assistant**

09/1996–07/1997

- Evaluated health risks in a multimedia environment posed by hazardous wastes in Beijing.
- Collected health effect information and fate and transport parameters for toxic substances.
- Developed an interactive computer program to calculate health risks.
- Provided results to Beijing Environmental Protection Bureau to support its effort in developing the priority list for regulating hazardous wastes.

**TEACHING EXPERIENCE**

**Co-Instructor (Harvard School of Public Health)**

09/2007 – 12/2007

- Fundamentals of Human Environmental Exposure Assessment

Lectured to a class of 20 on exposure assessment, uncertainty analysis, and intake fraction.

**Teaching Assistant (Harvard School of Public Health)**

09/1999 – 01/2002

- Risk Assessment
- Properties of Environmental Contaminants and Environmental Modeling

Helped write problem sets and exams. Developed homework solutions. Graded exams and problem sets. Conducted review sections. Supervised and instructed students in computer workshops. Addressed individual students' questions and needs.

**Instructor (Harvard School of Public Health)**

06/1999 – 08/1999

Trained a team of 50 interviewers recruited by Beijing Medical University to conduct contingent valuation survey in various locations in China. Supervised onsite interviews and performed quality control.

**GRANTS AND AWARDS**

Environmental Defense Fellow (Harvard School of Public Health)	2005 – 2007
Energy Foundation Grant (Harvard School of Public Health)	2000 – 2002
Fogarty Fellowship (Harvard School of Public Health)	1998 – 2000
P&G Fellowship (Tsinghua University)	1995 – 1996
Yu Chai Fellowship (Tsinghua University)	1994 – 1995

**AFFILIATION AND SERVICE**

<b>Member</b>	International Society of Exposure Analysis (ISEA)
<b>Reviewer</b>	Atmospheric Environment
	Journal of Environmental Management
	Environmental Fluid Mechanics
	Journal of Hazardous Materials

## WORK EXPERIENCE

<b>Citicorp Credit Services</b> High Risk Account Modeling Assistant Vice President	Maryland, USA 06/2004 – 07/2005
<b>MAMSI Health Plans</b> Strategic Policy and Analysis Senior Analyst	Maryland, USA 07/2002 – 05/2004
<b>Environmental Resources Management (ERM) Group</b> Associate Consultant	Beijing, China 07/1997 – 07/1998

## PEER-REVIEWED PUBLICATIONS

1. **Zhou, Y.**, Levy, J. I., Spatial Heterogeneity in Airport Emissions of Air toxics Required to Exceed Individual Cancer Risk Thresholds, 2008. In preparation.
2. Hanna, S. R. and **Zhou, Y.**, 2008. Analysis of Sonic Anemometer Observations at Street Level and Rooftops in Manhattan. *Boundary-Layer Meteorology*. Submitted.
3. **Zhou, Y.** and Levy, J. I., 2008. The Impact of Urban Street Canyons on Population Exposure to Traffic-Related Primary Pollutants. *Atmospheric Environment*. DOI: 10.1016/j.atmosenv.2007.12.037.
4. **Zhou, Y.** and Levy, J. I., 2007. Factors influencing the spatial extent of mobile source air pollution impacts: a meta-analysis. *BMC Public Health* 7: 89.
5. **Zhou, Y.** and Hanna, S. R., 2007. Along-Wind Dispersion of Puffs Released in a Built-Up Urban Area. *Boundary-Layer Meteorology*. 125 (3), 469-486.
6. Hanna, S. R., White, J. and **Zhou, Y.**, 2007. Observed winds, turbulence, and dispersion in built-up downtown areas in Oklahoma city and Manhattan. *Boundary-Layer Meteorology*. 125 (3), 441-468.
7. Hammitt, J. and **Zhou, Y.**, 2006. The Economic Value of Air-Pollution-Related Health Risks in China: A Contingent Valuation Study. *Environmental and Resource Economics* 33, 399-423.
8. **Zhou, Y.**, Levy, J. I., Evans, J. S. and Hammitt, J. K., 2006. The influence of geographic location on population exposure to emissions from power plants throughout China. *Environment International* 32, 365-373.
9. **Zhou, Y.**, Levy, J. I., Hammitt, J. K. and Evans, J. S., 2003. Estimating population exposure to power plant emissions using CALPUFF: a case study in Beijing, China. *Atmospheric Environment* 37, 815-826.

## OTHER PUBLICATIONS

1. **Zhou, Y.**, Levy, J. I., Evans, J. S. and Hammitt, J. K., Chapter 7 and 8 in Ho, Mun S., and Chris P. Nielsen (eds.). 2007. *Clearing the Air: The Health and Economic Damages of Air Pollution in China*. Cambridge, MA: MIT Press.
2. **Zhou, Y.**, Levy, J. I., Evans, J. S. and Hammitt, J. K., 2007. Air Pollution Risks in China. *Risk in Perspective*, Newsletter by Harvard Center for Risk Analysis. Volume 15, Issue 1.

## PRESENTATIONS

1. The Impact of Urban Street Canyons on Population Exposure to Traffic-Related Primary Pollutants. Oral presentation at the ISEA Conference October 14-18, 2007. Durham, North Carolina.
2. Evaluating Power Plant Emissions in China: Human Exposure and Valuation. Invited oral presentation at Tsinghua University and Beijing Normal University. January 8 – 9, 2007. Beijing, China.
3. Modeling Traffic Pollution in Street Canyons. Oral presentation at HSPH/Environmental Defense Symposium. November 28, 2006. New York City, NY.
4. The Spatial Extent of Mobile Source Air Pollution Impacts: A Review and the Influence of Geographic Location on Population Exposure to Emissions from Power Plants throughout China. Poster presentations at the ISEE/ISEA Conference. September 2 – 6, 2006. Paris, France.
5. Along-Wind Dispersion of Puffs Released in a Built-Up Urban Area. Oral presentation at the 10th Annual Conference on Atmospheric Turbulence and Dispersion. August 1-3, 2006. George Mason University, Fairfax, VA.
6. Estimating Population Exposure to Power Plant Emissions Using CALPUFF: a Case Study in Beijing, China. Oral presentation at China Environment Talk organized by Harvard University Center for the Environment. February 2002. Cambridge, MA.
7. Estimating Energy-Related Human Health Damage from Air Pollution in China. Oral presentation at Harvard Center for Risk Analysis Advisory Committee Meeting. June 2001. Boston, MA.