

# KAI ZHANG, PH.D.

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## EDUCATION

UNIVERSITY OF MICHIGAN, ANN ARBOR

**Ph.D., Department of Environmental Health Sciences** 2010

**M.A., Department of Statistics** 2009

TSINGHUA UNIVERSITY, Beijing, China

**M.S., Department of Environmental Science and Engineering** 2002

SOUTHEAST UNIVERSITY, Nanjing, China

**B.S. with honors, Department of Environmental Engineering; minor in Accounting** 1998

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## RESEARCH INTEREST

Exposure Assessment; Risk Assessment; Epidemiology; Climate Change; Weather Extremes; Air Quality; Transportation and Environment; and Sustainability.

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## PROFESSIONAL EXPERIENCE

UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT HOUSTON 2012 – present

**Assistant Professor (tenure-track), Epidemiology, Human Genetics and Environmental Sciences**

**Assistant Professor (secondary appointment), Biostatistics**

THE CENTER FOR HEALTH PROMOTION AND PREVENTION RESEARCH (CHPPR) 2016 – present

**Investigator**

THE SOUTHWEST CENTER FOR OCCUPATIONAL AND ENVIRONMENTAL HEALTH (SWCOEH) 2014 – present

**Affiliate**

SOUTHERN CLIMATE IMPACTS PLANNING PROGRAM (SCIPP) 2013 – present

**Affiliate**

UNIVERSITY OF MICHIGAN, ANN ARBOR

**Research Fellow, Departments of Environmental Health Sciences and Epidemiology** 2010 – 2012

UNIVERSITY OF MICHIGAN FORMATIVE CHILDREN'S ENVIRONMENTAL HEALTH AND DISEASE PREVENTION CENTER, Ann Arbor, MI 2011 – 2012

**Quality Assurance Manager**

NATIONAL CENTER FOR ATMOSPHERIC RESEARCH'S (NCAR) 2011

INSTITUTE FOR MATHEMATICS APPLIED TO GEOSCIENCES (IMAGE), Boulder, CO

**Visiting Scientist**

UNIVERSITY OF MICHIGAN, ANN ARBOR

**Research Assistant, Department of Environmental Health Sciences,** 2005 – 2010

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## HONORS AND AWARDS

- 2015 PRIME Award for New Investigators, School of Public Health, University of Texas Health Science Center at Houston (2015)
- Best Student Poster Award (1<sup>st</sup> place) received by Dr. Kai Zhang's PhD student Tsun-Hsuan Chen at the 25<sup>th</sup> Annual International Society of Exposure Science Conference for the poster entitled "Impacts of cold weather on mortality in Texas, 1990-2011" (2015)
- Environmental Health Sciences 2012 Science Communication Fellowship (2012)
- Early career researcher travel award for participation in the researcher colloquium on "Statistical Assessment of Extreme Weather Phenomena under Climate Change" sponsored by the Advanced Study Program (ASP) at the National Center for Atmospheric Research (NCAR) (2011)
- Statistical and Applied Mathematical Sciences Institute (SAMSI) Travel Award (2010 and 2011)
- University of Michigan Rackham Dissertation Fellowship (2010)
- University of Michigan Risk Science Fellowship (2009)
- International Society of Exposure Science Travel Award (2007 and 2009)
- University of Michigan Rackham Travel Grant (2007, 2008, and 2009)
- University of Michigan Rackham Graduate Student Research Grant (2008)
- The Japanese Government (Monbukagakusho, Ministry of Education) Scholarship (2005; Declined)
- Southeast University Distinguished Graduate Award (Top 2% among 2,000 students) (1998)
- Southeast University Distinguished Student Scholarship (1995, 1996, and 1997)

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## RESEARCH SUPPORT

### **Active Research Support**

Title: Developing Land Use Regression Models for Fine Particulate Matter in Greater Houston

Funding sources: Environmental Defense Fund

Role: Principal Investigator

Duration: 2018 - 2019

Title: Assessing Heat-Related Morbidity among Migrant and Seasonal Farmworkers (R03OH011195)

Funding sources: The National Institute for Occupational Safety and Health (NIOSH)

Role: Principal Investigator

Duration: 2016 - 2018

### **Completed Research Support**

Title: Heat and Health: Developing Vulnerability Indicators for Agricultural Workers along Texas-Mexico Border

Funding sources: NIOSH-Southwest Center for Agricultural Health, Injury Prevention and Education

Role: Principal Investigator

Duration: 2015 - 2016

Title: Impact of the 2011 Heat Wave on Health Care Costs in Greater Houston

Funding sources: UTSPH PRIME Award

Role: Principal Investigator

Duration: 2015 - 2016

Title: Assessing Exposures due to Traffic-related Pollutants in the Port Houston Area

Funding sources: Environmental Defense Fund

Role: Principal Investigator

Duration: 2015 - 2015

Title: Buffer Zones/Infill Development – Environmental and Public Health Effects of Traffic Congestion and Increased Vehicle Emissions Triggered by Infill Development

Funding sources: Texas Department of Transportation

Role: Principal Investigator

Multiple PI: Fengxiang Qiao/Kai Zhang

Title: Climate change, heat and health: Developing vulnerability indicators for farmworkers in California as a prototype for Texas

Funding sources: Southwest Center for Occupational and Environmental Health (SWCOEH)

Role: Principal Investigator

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### PROFESSIONAL SOCIETY MEMBERSHIPS

- International Society of Exposure Science
- American Heart Association

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### EDITORIAL BOARD

- 2018 - present Editorial Board Member: ***Environment Research (Impact factor: 4.732)***
- 2017 - present Associate Editor: ***BMC Public Health (Impact factor: 3.039)***
- 2017 - present Editorial Board Member: ***Journal of Exposure Science and Environmental Epidemiology (Impact factor: 2.927)***
- 2016 - present Editorial Board Member: ***Environment International (Impact factor: 7.297)***

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### REVIEWER FOR

- Environmental Health Perspective
- Environmental Science and Technology
- Environmental Research
- Environmental Pollution
- Journal of Exposure Science and Environmental Epidemiology
- Science of the Total Environment
- Journal of the Air and Waste Management Association
- Geocarto International
- Plos One
- Geoinformatics & Geostatistics: An Overview
- International Journal of Environmental Research and Public Health
- Annals of the New York Academy of Sciences
- Earth-Science Reviews
- Journal of the American Statistical Association
- Journal of Environmental and Public Health
- Natural Hazards
- Air Quality, Atmosphere and Health
- Environment International
- International Society of Exposure Science & International Society of Environmental Epidemiology Joint Annual Conference (2008, and 2013)
- Journal of Environmental Monitoring
- Disasters
- International Journal of Biometeorology
- Indoor Air
- Environmental Health
- Journal of Cleaner Production
- Archives of Environmental and Occupational Health
- Weather, Climate and Society
- Atmosphere
- Journal of Public Health

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### SERVICE

- 2018 Invited Participant to NSF Coastlines and People Scoping Workshop, September 2018, in Chicago
- 2018 Program Committee Member and Session Chair of 4th International Conference on Big Data and Information Analytics
- 2018 Geomedicine Course (The Fundamentals of Health and Place) sponsored by UTHealth Southwest Center for Occupational & Environmental Health, BCM Environmental Health Service and BCM Center for Precision Environmental Health (Co-Instructor)
- 2018 Reviewer for The 2018 Infectious Disease Mapping Challenge
- 2018 Travel Award and Abstract Reviewer for the Joint Conference of the International Society of Exposure Science and the International Society for Environmental Epidemiology (ISES-ISEE 2018)
- 2018 Technical Organizing Committee of the Joint Conference of the International Society of Exposure Science and the International Society for Environmental Epidemiology (ISES-ISEE 2018)
- 2017 Session Chair of the 27th Annual International Society of Exposure Science Conference
- 2016 - present Advisory Council Members of Air Alliance Houston
- 2016 - present EOHS Program Admission Committee
- 2016 Ad-Hoc Proposal reviewer for National Institute of Health (NIH)
- 2016 Ad-Hoc Proposal reviewer for Health Canada's Clean Air Regulatory Agenda (CARA) Program
- 2015 and 2016 Technical Organizing Committee of International Society of Exposure Science Annual

Conference

- 2014 - present The University of Texas Health Science Center Chemical Safety Committee
- 2013 - present EOHS Program Curriculum Committee

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**PEER-REVIEWED PUBLICATIONS** (\*, corresponding author; \_\_, mentored students)

38. Chen TH, Du X, Chan WY, **Zhang K\***. *Impacts of cold weather on emergency hospital admission in Texas, 2004-2013*. Accepted by Environmental Research.
37. Zhang X, Zhao H, Chow WH, Durand C, Markham C, **Zhang K\***. *Associations between the built environment and body mass index in the Mexican American Mano A Mano cohort*. Accepted by Science of the Total Environment.
36. Tong W, Li L, Zhou X, Hamilton A, **Zhang K**. *Deep learning PM<sub>2.5</sub> concentrations with bidirectional long short-term memory recurrent neural network*. Accepted by Air Quality, Atmosphere & Health.
35. Nnoli NC, Linder S, Smith MA, Gretchen G, **Zhang K**. 2018. *The combined effect of ambient ozone exposure and toxic air releases on hospitalization for asthma among children in Harris County, Texas*. International Journal of Environmental Health Research, 28(4): 358-378.
34. Zhang X, Chu Y, Wang Y, **Zhang K\***. 2018. *Predicting daily PM<sub>2.5</sub> concentrations in Texas using high-resolution satellite aerosol optical depth*. Science of the Total Environment 631: 904-911.
33. Acharya P, Boggess B, **Zhang K\***. 2018. *Assessing heat stress and health among construction workers in a changing climate: A review*. International Journal of Environmental Research and Public Health. 15(2): 247.
32. Durand CP, **Zhang K**, Salvo D. 2017. *Weather is not significantly correlated with destination-specific transport-related physical activity among adults: A large-scale temporally matched analysis*. Preventive Medicine 101:133-136.
31. Zhang X, Craft E, **Zhang K\***. 2017 *Characterizing Spatial Variability of Air Pollution from Vehicle Traffic around the Houston Ship Channel Area*. Atmospheric Environment 161: 167–175.
30. Chen TH, Li X, Zhao J, **Zhang K\***. 2017. *Impacts of cold weather on all-cause and cause-specific mortality in Texas, 1990-2011*. Environmental Pollution 225: 244-251.
29. Luong C, **Zhang K\***. 2017. *An Assessment of Emissions Events Trends within the Greater Houston Area during 2003-2013*. Air Quality, Atmosphere & Health 10(5): 543–554.
28. Danysh HE, Mitchell LE, **Zhang K**, Scheurer ME, Lupo PJ. 2017. *Differences in environmental exposure assignment due to residential mobility among children with a central nervous system tumor: Texas, 1995-2009*. Journal of Exposure Science And Environmental Epidemiology 27: 41–46.
27. Liu S, Ganduglia CM, Li X, Delclos GL, Franzini L, **Zhang K\***. 2016. *Short-term Associations of Fine Particulate Matter Components and Emergency Hospital Admissions among a Privately Insured Population in Greater Houston*. Atmospheric Environment 147: 369-375
26. Hou L\*\*, **Zhang K\*\***, Luthin MA, Baccarelli AA\*\*. 2016. *Public Health Impact and Economic Costs of Volkswagen's Lack of Compliance with the United States' Emission Standards*. International Journal of Environmental Research and Public Health 13(9): 891 (\*\* equal contribution).
25. Liu S, Ganduglia CM, Li X, Delclos GL, Franzini L, **Zhang K\***. 2016. *Fine Particulate Matter Components and Emergency Department Visits among a Privately Insured Population in Greater Houston*. Science of the Total Environment 566–567:521–527.
24. Liu Z, **Zhang K**, Du X. 2016. *Risks of Developing Breast and Colorectal Cancer in Association with Incomes and Geographic Locations in Texas*. BMC Cancer. 16(1):294.
23. Chien LC, Guo Y, **Zhang K\***. 2016. *Spatiotemporal analysis of heat and heat wave effects on elderly mortality in Texas, 2006-2011*. Science of the Total Environment 562:845-851.
22. **Zhang K\***, Arauz R, Chen TH, Cooper SP. 2016. *Heat effects among migrant and seasonal farmworkers: A case study in Colorado*. Occupational and Environmental Medicine, 73(5):324-328.
21. Danysh HE, **Zhang K**, Mitchell LE, Scheurer ME, Lupo PJ. 2016. *Maternal residential proximity to major roadways at delivery and Childhood central nervous system tumors*. Environment Research 146:315-322
20. Xie Y, Wang Y, **Zhang K**, Dong W, Lv B, Bai Y. 2015. *Daily estimation of ground-level PM<sub>2.5</sub> concentrations over Beijing using 3 km resolution MODIS AOD*, Environmental Science & Technology, 49(20): 12280-12288.

19. Liu S, **Zhang K\***. 2015. *Fine particulate matter components and mortality in Greater Houston: Did the risk reduce from 2000 to 2011?* Science of the Total Environment 538:162-168.
18. Yan F, Chu Y, **Zhang K**, Zhang F, Bhandari N, Ruan G, Dai Z, Liu Y, Zhang Z, Kan AT, Tomson MB. 2015. *Determination of adsorption isotherm parameters with correlated errors by measurement error models.* Chemical Engineering Journal 281: 921-930.
17. Rivera-González L, Zhang Z, Sánchez B, **Zhang K**, Brines S, Brown D, Rojas-Bracho L, Osornio-Vargas A, Vadillo-Ortega F, O'Neill M. 2015. *An Assessment of air pollutant exposure methods for perinatal epidemiology in Mexico City, Mexico.* Journal of the Air & Waste Management Association 65(5): 581-591.
16. Danysh HE, Mitchell LE, **Zhang K**, Scheurer ME, Lupo PJ. 2015. *Traffic-related air pollution and the incidence of childhood central nervous system tumors: Texas, 2001-2009.* Pediatric Blood & Cancer 62(9):1572-8
15. **Zhang K\***, Chen TH, Begley CE. 2015. *Impact of the 2011 heat wave on mortality and emergency department visits in Houston, Texas,* Environmental Health 14:11.
14. Zhou W, Ji S, Chen TH, Hou Y, **Zhang K\***. 2014. *The 2011 heat wave in Greater Houston: Effects of land use on temperature,* Environmental Research 135: 81–87.
13. **Zhang K\***, Li Y, Schwartz J, O'Neill M. 2014. *What weather parameters are important in predicting heat-related mortality? A new application of statistical learning methods,* Environmental Research 132: 350-359.
12. **Zhang K\***, Chen YH, Schwartz J, Rood R, O'Neill M. 2014. *Using forecast and observed weather data to assess performance of forecast products in identifying heat waves and estimating heat wave effects on mortality,* Environ Health Perspect 122(9): 912-918.
11. **Zhang K\***, Larson T, Gasset A, Szpiro A, Daviglius M, Burke G, Kaufman J, Adar S. 2014. *Characterizing spatial patterns of airborne coarse particulate (PM<sub>10-2.5</sub>) mass and chemical components in three cities: The Multi-Ethnic Study of Atherosclerosis,* Environ Health Perspect 122(8): 823-830.
10. White-Newsome J, Brines S, Brown D, Dvonch JT, Gronlund C, **Zhang K**, Oswald E, O'Neill M. 2013. *Validating satellite-derived land surface temperature with in-situ measurements: a public health perspective,* Environ Health Perspect 121(8):925-31.
9. **Zhang K**, Batterman S. 2013. *Air pollution and health risks due to traffic and congestion,* Science of the Total Environment. 450-451: 307-316.
8. **Zhang K\***, Rood R, Michailidis G, Oswald E, Schwartz J, Zanobetti A, Ebi K, O'Neill M. 2012. *Comparing exposure metrics for classifying 'dangerous heat' in heat wave and health warning systems,* Environment International, 46(1): 23-29.
7. Oswald E, Rood R, **Zhang K**, Gronlund C, O'Neill M, White-Newsome J, Brines S, Brown D. 2012. *An investigation into the spatial variability of near-surface air temperatures in the Detroit, MI metropolitan region,* Journal of Applied Meteorology and Climatology, 51(7): 1290-1304.
6. **Zhang K\***, Oswald E, Brown D, Brines S, Gronlund C, White-Newsome J, Rood R, O'Neill M. 2011. *Geostatistical exploration of spatial variation of summertime temperatures in the Detroit metropolitan region,* Environmental Research, 111(8): 1046-1053.
5. **Zhang K**, Batterman S, Dion F. 2011. *Vehicle emissions in congestion: comparison of work zone, rush hour and free-flow conditions,* Atmospheric Environment, 45(11):1929-1939.
4. Batterman S, **Zhang K**, Kononowech R. 2010. *Prediction and analysis of near-road concentrations using a reduced-form emission/dispersion model,* Environmental Health, 9-29.
3. **Zhang K**, Batterman S. 2010. *Near-road air pollutant concentrations of CO and PM<sub>2.5</sub>: A comparison of MOBILE6.2/CALINE4 and generalized additive models.* Atmospheric Environment, 44:1740-1748.
2. **Zhang K**, Batterman S. 2009. *Time allocation shifts and pollutant exposure due to traffic congestion: An analysis using the national human activity pattern survey,* Science of The Total Environment, 407:5493-5500.
1. Stevanovic A, Stevanovic J, **Zhang K**, Batterman S. 2009. *Optimizing traffic control to reduce fuel consumption and vehicular emissions: An integrated approach of VISSIM, CMEM, and VISGAOST,* Transportation Research Record, 2128:105-113.

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## PAPERS UNDER REVIEW

7. Zhang X, Zhao H, Chow WH, Durand C, Markham C, **Zhang K\***. *Population-based study of traffic-related air pollution and obesity in the Mexican American Mano a Mano cohort*. Under review.
5. Yang Y, Murphy J, **Zhang K**, Li S, Li Z, Ahn S. *The associations between daily smartphone use, daily transport, physical activity, and health: evidence from 2017 NHTS*. Under review.
4. Xiao Z, Zhang Y, Lu M, **Zhang K**, Fung CH, Ma Y, Feng D, Boulton ML, Zhang M, Li S. *The epidemiology of rubella in Henan province, China from 2005 to 2016*. Under review.
3. Liu S, Zhu C, Tian H, Wang Y, **Zhang K**. *Spatiotemporal variations of ambient concentrations of trace elements in a highly polluted region of China*. Under review.
2. Liu H, **Zhang K**, Liu S, Cheng K, Yin S, Liu Y, Liu X, Wu Y, Liu W, Bai X, Wang Y, Shao P, Luo L, Lin S, Tian H. *Temporal-spatial characteristics, formation mechanisms and potential sources of PM<sub>2.5</sub> in two typical cities in the Central Plains Urban Agglomeration, China*. Under review.
1. Chido-Amajuoyi OG, **Zhang K**. *School proximity and census tract correlates of electronic cigarette specialty retail outlets in Austin, Texas*. Under review.

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## PEER-REVIEWED CONFERENCE PUBLICATIONS

5. Mantravadi S, **Zhang K**. 2017. *Using Geographic Information Systems to Capture Spatial Patterns in Nursing Home Quality in the Southwestern United States*. The Association of Business Information Systems's 2017 conference, March 8-11, 2017 in Little Rock, Arkansas.
4. Qiao F, **Zhang K**, Li Q, You B, Yu L. 2016. *Effects and Framework to Estimate Environmental and Public Health Impacts of Infill Development for Urban Planning*. The 2016 International Conference on Transportation and Development, June 26-29, 2016 in Houston, Texas.
3. **Zhang K**, Batterman S. 2009. *In-cabin Measurements of Traffic Related Air Pollutants in Ann Arbor, Michigan*. The Air & Waste Management Association's 102nd Annual Conference, June 16-19, 2009, in Detroit, MI.
2. **Zhang K**, Gronlund C, White-Newsome J, Brines S, Oswald E, O'Neill M, Rood R, Brown D, Parker E. 2009. *Exploring the Spatial Variability of Temperature in Wayne County, Michigan*. The Air & Waste Management Association's 102nd Annual Conference, June 16-19, 2009, in Detroit, MI.
1. Stevanovic A, Stevanovic J, **Zhang K**, Batterman S. 2009. *Optimizing Traffic Control to Reduce Fuel Consumption and Vehicular Emissions: An Integrated Approach of VISSIM, CMEM, and VISGAOST*. The Transportation Research Board 2009 Annual conference, January 11-15, 2009, in Washington, DC.

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## CONFERENCE PRESENTATIONS / POSTERS (\_\_, metored students)

35. **Zhang K\***, Yu X, Li Y, Cooper S. 2018. *Accessing Heat Effects among Migrant and Seasonal Farmworkers: A Multi-state Study*. The Joint Conference of the International Society of Exposure Science and the International Society for Environmental Epidemiology, August in Ottawa, Canada.
34. Zhang X, Zhao H, Chow WH, Craft E, **Zhang K\***. 2017. *Characterizing spatial variability of air pollution from vehicle traffic around the Houston Ship Channel area and potential associations with obesity in a Mexican-American Cohort*. The 16th Annual CMAS Conference, October at UNC-Chapel Hill, 2017.
33. **Zhang K\***, Arauz R, Chen TH, Cooper S. 2017. *Accessing heat effects among migrant and seasonal farmworkers*. The 27th Annual Conference International Society of Exposure Science, October in Durham, North Carolina.
32. Zhang X, Chu Y, **Zhang K\***. 2017. *Estimating Daily Ambient PM<sub>2.5</sub> Concentrations in Texas Using High Resolution Satellite Product*. The 27th Annual Conference International Society of Exposure Science, October in Durham, North Carolina.
31. Chen TH, **Zhang K\***. 2017. *Impacts of cold weather on emergency hospital admission in Texas*. The 27th Annual Conference International Society of Exposure Science, October in Durham, North Carolina.
30. Zhang X, Chu Y, **Zhang K\***. *Estimating Daily Ambient PM<sub>2.5</sub> Concentrations in Texas Using High Resolution Satellite Product*. The 15th Annual CMAS Conference, October at UNC-Chapel Hill, 2016.

29. Xie Y, Wang Y, Zhang K, Dong W, Lv B, Bai Y. 2015. Daily estimation of ground-level PM<sub>2.5</sub> concentrations over Beijing using 3 km resolution MODIS AOD. The AOGS 13th Annual Meeting, August in Beijing, 2016
28. Ramírez-Rubio O, **Zhang K**, Li X, Laws RL, Mcclean MD, Scammell MK, Amador JJ, Brooks DR, 2015. Weather trends at a sugar mill in Northwest Nicaragua, 1973-2013. The 2015 meeting of Consortium for the Epidemic of Nephropathy in Central America and Mexico. November in San Jose, Costa Rica.
27. Zhang X, Craft E, **Zhang K**, 2015. Characterizing spatial variability of fine particulate matter due to traffic goods movement in the Houston port area. The 25th Annual Conference International Society of Exposure Science, October in Henderson, Nevada.
26. Chen TH, Li X, Acharya P, **Zhang K**, 2015. Impacts of cold weather on mortality in Texas, 1990-2011. The 25th Annual Conference International Society of Exposure Science, October in Henderson, Nevada.
25. Danysh HE, **Zhang K**, Mitchell LE, Scheurer ME, Lupo PJ. 2015. *Maternal residential proximity to roadways during pregnancy and childhood central nervous system tumors: A population-based assessment in Texas, 2003-2009*. International Society of Paediatric Oncology 2015 Annual Congress, October in Cape Town.
24. Greene TJ, **Zhang K**. 2015. *A two-state Markov mixture model for renal colic emergency room admission counts during the summer months in Houston, Texas*, Joint Statistical Meetings. August in Seattle.
23. **Zhang K**, 2015. *Climate Change, Extreme Weather Events, Air pollution and Health*. Texas Air Quality Workshop, April at UT Austin.
22. Danysh HE, Mitchell LE, **Zhang K**, Scheurer ME, Lupo PJ. 2014. *A statewide assessment of childhood central nervous system tumors and traffic-related air pollution*. International Society of Paediatric Oncology 2014 Annual Congress, October in Toronto.
21. **Zhang K**, Chen TH, Begley CE. 2014. *Impact of the 2011 heat wave on mortality and emergency department visits in Houston, Texas*. The 24<sup>th</sup> Annual Conference International Society of Exposure Science, October in Cincinnati.
20. Adar S, D'Souza JC, Larson T, **Zhang K**, Hoffman E, Vedal S, Sheppard L, Kaufman J, Barr RG. 2013. Long-term exposures to ambient coarse particulate matter (PM<sub>10-2.5</sub>) and lung function and structure: The Multi-Ethnic Study of Atherosclerosis and Airborne Coarse Particulate Matter (MESA Coarse). American Thoracic Society 2013 International Conference. May 17-22 in Philadelphia.
19. **Zhang K**, Chen YH, Schwartz J, Rood R, O'Neill M. 2013. *Comparing forecast and observed weather data products' performance in assessing heat-mortality associations*. The 93<sup>rd</sup> Annual Meeting of American Meteorological Society, January 6 – 10 in Austin.
18. **Zhang K**, Gasset A, Larson T, Szpiro A, Jacobs D, Daviglius M, Burke G, Kaufman J, Adar S. 2012. *Predicting the spatial variability of chemical components of coarse particulate matter (PM<sub>10-2.5</sub>) in three cities: The Multi-Ethnic Study of Atherosclerosis and Coarse Particles (MESA Coarse)*. The 22<sup>nd</sup> Annual Conference International Society of Exposure Science, October 28 – November 1, in Seattle.
17. **Zhang K**, Li Y, Schwartz J, O'Neill M, 2012. *Identifying the most important weather parameters in predicting mortality related to heat using statistical learning methods*. The 24th Annual Conference of the International Society for Environmental Epidemiology, August 26 -30, Columbia, South Carolina. ,
16. **Zhang K**, Gasset A, Larson T, Szpiro A, Jacobs D, Daviglius M, Burke G, Kaufman J, Adar S. 2011. *Predicting ambient coarse particulate matter (PM<sub>10-2.5</sub>) in three cities using land use regression and universal kriging: The Multi-Ethnic Study of Atherosclerosis (MESA)*. The 21st Annual Conference of International Society of Exposure Science, October 23 - 27, in Baltimore.
15. **Zhang K**, Rood R, Michailidis G, Oswald E, O'Neill M, Schwartz J, Zanobetti A, Ebi K. 2011. Comparing methods for classifying 'dangerous heat' in heat health warning systems. The 23rd Annual Conference of the International Society for Environmental Epidemiology, September 13-16, in Barcelona, Spain.
14. Adar S, **Zhang K**, Klein R, Klein B, Szpiro A, Cotch M, Wong T, Shrager S, Siscovick D, Daviglius M, Jacobs D, O'Neill M, Kaufman J, Larson T. 2011. Coarse and traffic-related particulate matter and the human microvasculature *in vivo* assessed via retinal imaging: The Multi-Ethnic Study of Atherosclerosis. The 23rd Annual Conference of the International Society for Environmental Epidemiology, September 13-16, in Barcelona, Spain.
13. Rivera-González L, Sánchez B, **Zhang K**, Zhang Z, Brines S, Brown D, Rojas-Bracho L, Osornio-Vargas A, Vadillo-Ortega F, O'Neill M. 2011. Comparing particulate matter and ozone exposure metrics for perinatal epidemiology in Mexico City. The 23rd Annual Conference of the International Society for Environmental

Epidemiology, September 13-16, in Barcelona, Spain.

12. White-Newsome J, O'Neill, Brines S, Oswald E, Gronlund C, Brown D, Rood R, **Zhang K**. Heat vulnerability mapping using satellite imagery, census data and mortality data: Case study in Wayne County, MI. The 138th APHA Annual Meeting, November 6-10, 2010, in Denver, CO.
11. Oswald E, **Zhang K**, Brines S, Brown D, Gronlund C, O'Neill M, Rood R, and White-Newsome J. 2010. *The structure of the urban heat island of Detroit, Michigan*. American Meteorological Society 2010 Annual Meeting. January 17-21, in Atlanta, GA.
10. Rood R, O'Neill M, Brines S, Brown D, Gronlund C, Oswald E, Parker E, White-Newsome J and **Zhang K**. 2010. *Heat and human health: an integrated approach*. Accepted by American Meteorological Society 2010 Annual Meeting. January 17-21, in Atlanta, GA.
9. **Zhang K**, Batterman S. 2009. *Vehicle Emissions in Congestion: Comparison of Work Zone, Rush Hour and Free-flow Conditions*. The ISES 2009 Annual Conference, November 1-5, 2009, in Minneapolis, MN.
8. **Zhang K**, Gronlund C, White-Newsome J, Brines S, Oswald E, O'Neill M, Rood R, Brown D, Parker E. 2009. *Enhancing Heat Wave Health Warning Systems to Address Within-City Vulnerabilities: A Pilot Study in Detroit, Michigan. Exploring the Spatial Variability of Temperature in Wayne County, Michigan* The International Society of Environmental Epidemiology 2009 Annual Conference, August 25-29, 2009, in Dublin, Ireland.
7. **Zhang K**, Batterman S. 2009. *In-cabin Measurements of Traffic Related Air Pollutants in Ann Arbor, Michigan*. The Air & Waste Management Association's 102nd Annual Conference, June 16-19, 2009, in Detroit, MI.
6. **Zhang K**, Gronlund C, White-Newsome J, Brines S, Oswald E, O'Neill M, Rood R, Brown D, Parker E. 2009. *Exploring the Spatial Variability of Temperature in Wayne County, Michigan*. The Air & Waste Management Association's 102nd Annual Conference, June 16-19, 2009, in Detroit, MI.
5. **Zhang K**, Batterman S. 2008. *Estimating On-road and Near-road Exposures due to Traffic Congestion*, International Society of Exposure Analysis 2008 Annual Conference, Pasadena, CA.
4. **Zhang K**, 2008. Integrated Air Quality Modeling for Estimating Exposures and Health Risks Due to Traffic Congestion. "Materials Use: Science, Engineering, and Society" (MUSES) Workshop, March 12, 2008, University of Michigan.
3. **Zhang K**, Batterman S. 2007. *Estimating Time Allocation Shifts due to Congestion Using the National Human Activity Pattern Survey*, International Society of Exposure Analysis 2007 Annual Conference, Durham, NC.
2. **Zhang K**, 2007. Predicting Air Pollutant Concentration by Using Generalized Additive Model. "Materials Use: Science, Engineering, and Society" (MUSES) workshop, March 12, 2007, University of Michigan.
1. **Zhang K**, 2006. Estimating Air Pollution Exposure due to Traffic Congestion. "Materials Use: Science, Engineering, and Society" (MUSES) workshop, October 18, 2006, University of Michigan.