

MENG WANG

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EDUCATION

Utrecht University, Utrecht, Netherlands

December 2013

Institute for Risk Assessment sciences

Ph.D, Environmental health

Peking University, Peking, China

July 2009

Department of environmental sciences and engineering

M.Sc, Atmospheric Science

Tianjin University, Tianjin, China

July 2006

School of chemical engineering and technology

B.S, pharmaceutical engineering

RESEARCH EXPERIENCE

Senior Fellow

June 2014 – present

University of Washington, School of Public Health

Department of Occupational and Health Sciences

Mentors: Prof. Joel Kaufman, Prof. Sverre Vedal

Research Project: MESA air, MESA lung, Clean Air

Keywords: Tempo-spatial model, air pollution,

COPD, Lung function, Emphysema, Intima-media

Thickness, Coronary Artery Calcification

Postdoctoral researcher

December 2014 – June 2014

Utrecht University Institute for Risk Assessment Sciences

Mentors: Prof. Bert Brunekreef, Dr. Gerard Hoek

Research Project: ESCAPE, TRANSPHORM, PIAMA

Keywords: Air pollution, Children health, Lung

Function, LUR modeling, GIS,

Graduate Research Assistant

December 2009 – December 2013

Utrecht University Institute for Risk Assessment Sciences

Mentors: Prof. Bert Brunekreef, Dr. Gerard Hoek

Research Projects: ESCAPE, TRANSPHORM

Thesis: "Modeling exposure to air pollution and cardiovascular mortality, the ESCAPE study".

Major fields: exposure assessment, epidemiology

Minor field: biostatistics

Graduate Research Assistant

September 2006 – July 2009

Peking University School of Environmental Sciences

Mentor: Prof. Tong Zhu

Research Projects: CAREBeijing, HEART, PRIDE-PRD

Thesis: "Temporal and spatial characterizations of air Pollutants in Beijing using a mobile laboratory".

HONORS AND AWARDS

Outstanding reviewer of Atmospheric Environment Journal	2015
IRAS foundation scholarship	2014
Chinese national scholarship	2009
Honored Contributor to Beijing Olympics from Beijing EPA	2008
Award for Best students in Tianjin University	2004

PROFESSIONAL ACTIVITIES*Professional membership*

International Society of Environmental Epidemiology

International Society of Exposure Science

American Thoracic Society

Reviewer

Atmospheric Environment, Environmental Health Perspectives, Epidemiology, Environmental International, Environmental Sciences & Technology, Environmental Pollution, Environmental Research, Atmosphere, Sustainability, Chemosphere

Editorial Board

Austin Journal of Tropical Medicine and Hygiene

SKILLS

- Programming: SAS(advanced certificate), R, Python, Matlab, VBA, C
- Statistics: R, SAS(primary uses), Stata, SPSS
- Geographical analysis: ArcGIS with Python script
- Professional graphing: R, Origin, Sigmaplot, Matlab
- Instruments: Ogawa, Harvard impactor, SMPS, TEOM, PTR-MS and more
- Language: Chinese, English

PEER REVIEWED PUBLICATIONS

- 1) **Wang, M.**; Sampson, P.D.; Hu, J.L.; Kleeman, M.; [···]; Szpiro, A.A.; Vedal, S.; Kaufman, J.D.; Combining Land-Use Regression and Chemical Transport Modeling in a Spatio-temporal Geostatistical Model for Ozone and PM_{2.5}. Environ Sci Tech. 2016. 50(10), 5111-5118.
- 2) **Wang, M.**; Keller, J.P.; Olives, C.; [···]; Lindstrom, J.; Vedal, S.; Kaufman, J.D.; Development of Long-term Spatiotemporal Models for Ambient Ozone in Six Metropolitan regions of the United States: The MESA Air Study. Atmos Environ. 2015. 123, 79-87.
- 3) **Wang, M.**; Brunekreef, B.; Gehring, U.; Szpiro, A.; Hoek, G.; Beelen, R.; A new technique for evaluating land use regression models and their impact on health effect estimates. Epidemiology. 2015. In press. doi: 10.1097/EDE.0000000000000404
- 4) Tsai, MY.; Hoek, G.; Beregszaszi, T.; [···]; Udvardy, O.; **Wang, M.**; Brunekreef, B.; Spatial

- variation of PM elemental composition between and within 20 European study areas- Results of the ESCAPE project. *Environ Int.* 2015. 84, 181-192.
- 5) Bilenko, N., Brunekreef, B., Beelen, R., [···], **Wang, M.**, van Rossem, L., Gehring, U.; Associations between particulate matter composition and childhood blood pressure - The PIAMA study. *Environ Int.* 2015. 84, 1-6.
 - 6) Hampel, R.; Peters, A.; Beelen, R.; [···]; **Wang, M.**; Wolf, K.; Lanki, T.; Long-term effects of particulate matter components on inflammatory blood markers in European cohorts. *Environ Int.* 2015. 82, 76-84.
 - 7) Pedersen, M.; Gehring, U.; Beelen, R.; [···**Wang, M.**···]; Brunekreef, B.; Manolis, K.; Remy, S.; Elemental Constituents of Particulate Matter and Newborn's Size in Eight European Cohorts. *Environ Health Perspect.* [Epub ahead of print]. DOI:10.1289/ehp.1409546.
 - 8) Wolf, K.; Stafoggia, M.; Cesaroni, G.; [···**Wang, M.**···]; Brunekreef, B.; Peters, A.; Forastiere, F.; Long-term exposure to particulate matter constituents and the incidence of coronary events in eleven European cohorts. *Epidemiology.* 2015. 26(4), 565-574.
 - 9) Montagne, D.; Hoek, G.; Klompmaker, J.O.; **Wang, M.**; Meliefste, K.; Brunekreef, B.; Land Use Regression Models for Ultrafine Particles and Black Carbon based on mobile monitoring predict past spatial variation. *Environ. Sci. Technol.* 2015. 49(14), 8712-8720.
 - 10) Kerckhoffs, J.; **Wang, M.**; Meliefste, K.; Janssen, N.A.H.; Beelen, R.; Hoek, G.; A national fine spatial scale land-use regression model for ozone. *Environ Res.* 2015. 140, 440-448.
 - 11) **Wang, M.**; Gehring, U.; Hoek, G.; [···]; Eeftens, M.; Postma, D.S.; Brunekreef, B.; Air Pollution and Lung Function in Dutch Children: A Comparison of Exposure Estimates and Associations Based on Land Use Regression and Dispersion Exposure Modeling Approaches. *Environ Health Perspect.* 2015. 123(8), 847-851.
 - 12) Yang, A.; **Wang, M.**; Eeftens, M.; [···]; Cassee, F.R.; Janssen, N.A.H.; Hoek, G.; Spatial variation and land use regression modeling of oxidative potential of fine particles. *Environ Health Perspect.* 2015. [Epub ahead of print] DOI:10.1289/ehp.1408916.
 - 13) Beelen, R.; Hoek, G.; Raaschou-Nielsen, O.; [···**Wang, M.**···]; Sokhi, R.S.; Vineis, P.; Brunekreef, B. Long-Term Exposure to Particle Components and Natural Cause Mortality: An analysis of 19 European Cohorts within the Multi-Center ESCAPE Project. *Environ Health Perspect.* 2015. 123(6), 525-533.
 - 14) Gehring, U.; Beelen, R.; Eeftens, M.; [···]; **Wang, M.**; Henriette, A.S.; Brunekreef, B.; Particulate matter composition and respiratory health-The PIAMA birth cohort study. *Epidemiology.* 2015. 26(3):300-309.
 - 15) Jedynska, A.; Hoek, G.; **Wang, M.**; [···]; de Hoogh, K.; Brunekreef, B.; Kooter, I.M.; Spatial variation of levoglucosan in four European study areas. *Sci Total Environ.* 2014. 505:1072-1081.
 - 16) Jedynska, A.; Hoek, G.; **Wang, M.**; [···]; Raaschou-Nielsen, O.; Brunekreef, B.; Kooter, I.M. Development of Land Use Regression Models for elemental, organic carbon, PAH and hopanes/steranes in 10 ESCAPE/TRANSPHORM European study areas. *Environ Sci Tech.* 2014. 48(24), 14435-14444.
 - 17) **Wang, M.**; Beelen, R.; Stafoggia, M.; [···]; Katsouysanni, K.; Hoek, G.; Brunekreef, B.; Long-term exposure to elemental constituents of particulate matter and cardiovascular mortality in 19 European cohorts: results from the ESCAPE and TRANSPHORM projects. *Environ Int.* 2014. 66, 97-106.
 - 18) **Wang, M.**; Beelen, R.; Bellander, T.; [···]; Tli-Tuomi, T.; Hoek, G.; Brunekreef, B.; Performance of multi-cities land use regression models for NO₂ and fine particles. *Environ Health Perspect.* 2014. 122 (8), 843-849.

- 19) Eeftens, M.; Hoek, G.; Gruzieva, O.; [···**Wang, M.**···]; Wolf, K.; Pershagen, G.; Gehring, U.; Elemental Composition of Particulate Matter and the Association with Lung Function. *Epidemiology*. 2014. 25, 648-657.
- 20) Fuertes, E.; MacIntyre, E.; Agius, R.; [···]; Sunyer, J.; **Wang, M.**; Heinrich, J.; Associations between particulate matter elements and early-life pneumonia in seven birth cohorts: Results from the ESCAPE and TRANSPHORM projects. *Int J Hyg Environ Health*. 2014. 217, 819-829.
- 21) Dimakopoulou, K.; Samoli, E.; Beelen, R.; [···**Wang, M.**···]; Trichopoulou, A.; Brunekreef, B.; Katsouyanni, K.; Air pollution and non a malignant respiratory mortality in 16 cohorts within the ESCAPE project. *Am J Respir Crit Care Med*. 2014. 189, 684-696.
- 22) Montagne, D.; Hoek, H.; Nieuwenhuijsen, M.; [···**Wang, M.**···]; Yli-Tuomi, T.; Cirach, M.; Brunekreef, B.; The association of LUR modeled PM2.5 elemental composition with personal exposure. *Sci Total Environ*. 2014. 493, 298-306.
- 23) Beelen, R.; Stafoggia, M.; Raaschou-Nielsen, O.; [···**Wang, M.**···]; Trichopoulou, A.; Vineis, P.; Hoek, G.; Long-term exposure to air pollution and cardiovascular mortality: an analysis of 22 European cohorts within the ESCAPE project. *Epidemiology*. 2014. 25, 368-378.
- 24) Beelen, R.; Raaschou-Nielsen, O.; Stafoggia, M.; [···**Wang, M.**···]; Trichopoulou, A.; Brunekreef, B.; Hoek, G.; Effects of long-term exposure to air pollution on natural cause mortality: an analysis of 22 European cohorts within the multi-center ESCAPE project. *The Lancet*. 2014. 383, 785-795.
- 25) Raaschou-Nielsen, O.; Andersen, Z. J.; Beelen, R.; [···**Wang, M.**···]; Bamia, C.; Vineis, P.; Hoek, G.; Air pollution and lung cancer incidence in 17 European cohorts: prospective analyses from the European Study of Cohorts for Air Pollution Effects (ESCAPE). *The Lancet-oncology*, 2013, 14 (9), 813-822.
- 26) de Hoogh, K.; **Wang, M.**; Adam, M.; [···]; Weinmayr, G.; Brunekreef, B.; Hoek, G.; Development of land use regression models for particle composition in 20 study areas in Europe. *Environ. Sci. Technol*. 2013, 47 (11), 5778-5786.
- 27) **Wang, M.**; Beelen, R.; Basagana, X.; [···]; Yli-Tuomi, T.; Hoek, G.; Brunekreef, B. Evaluation of land use regression models for NO2 and particulate matter in 20 European study areas: the ESCAPE project. *Environ. Sci. Technol*. 2013, 47 (9), 4357-4364.
- 28) Boogaard, H.; Fisher, P.H.; [···]; **Wang, M.**; Brunekreef, B.; Hoek, G.; Respiratory effects of a reduction in outdoor air pollution concentration. *Epidemiology*, 2013, 24 (5), 753-761.
- 29) Beelen, R.; Hoek, G.; Vienneau, D.; [···]; **Wang, M.**; Brunekreef, B.; de Hoogh, K.; Development of NO2 and NOx land use regression models for estimating air pollution exposure in 36 study areas in Europe – the ESCAPE project, *Atmos Environ* 2013, 72, 10-23, doi 10.1016/j.atmosenv.2013.02. 037.
- 30) Eeftens, M.; Beekhuizen, J.; Beelen, R.; **Wang, M.**; Vermeulen, R.; Brunekreef, B.; Huss, A.; Hoek, G.; Quantifying urban street configuration for improvements in air pollution models. *Atmos Environ* 2013, 72, 1-9, 10.1016/j.atmosenv.2013.02.007.
- 31) **Wang, M.**; Beelen, R.; Eeftens, M.; Meliefste, K.; Hoek, G.; Brunekreef, B.; A systematic validation of land use regression models for NO2. *Environ. Sci. Technol*. 2012, 46, 4481-4489.
- 32) Cyrus, J.; Eeftens, M.; Heinrich, J.; [···]; **Wang, M.**; Brunekreef, B.; Hoek, G.; Variation of NO2 and NOx concentrations between and within 36+ European study areas: results from the ESCAPE study. *Atmos Environ* 2012, 62, 374 - 390.
- 33) Boogaard, H.; Janssen, N.A.; Fischer, P.H.; [···]; **Wang, M.**; Brunekreef, B.; Hoek, G.; Impact of low emission zones and local traffic policies on ambient air pollution concentrations. *Sci Total Environ*, 2012, 435, 132-140.

- 34) **Wang, M.**; Zhu, T., Zhang, J.P.; Zhang, Q.H.; Lin, W.W.; Li, Y.; Wang, Z.F.; Using a mobile laboratory to characterize the distribution and transport of sulfur dioxide in and around Beijing, *Atmos. Chem. Phys.*, 2011, 11, 11631–11645, doi:10.5194/acp-11-11631-2011.
- 35) **Wang, M.**; Zhu, T.; Zheng, J.; Zhang, R.Y.; Zhang, S.Q.; Xie, X.X.; Han, Y.Q.; Li, Y.; Use of a mobile laboratory to evaluate changes in on-road air pollutants during the Beijing 2008 Summer Olympics, *Atmos. Chem. Phys.*, 2009, 9, 8247–8263, doi:10.5194/acp-9-8247-2009

PUBLICATIONS IN PREPARATION

- 1) **Wang, M.**; Barr, G.R.; Hoffman, E.A.; [···]; Sampson, P.D.; Vedal, S.; Kaufman, J.D.; Long-Term Exposure to Ozone and Progression of Percent Emphysema and Decline in Lung Function in the MESA Air and Lung Studies.
- 2) **Wang, M.**; Sampson, P.D.; Stein, J.H.; Vedal, S.; Kaufman, J.D.; Long-term exposure to ambient ozone and progression of subclinical atherosclerosis using intima-media thickness, carotid plaque and coronary calcium scores: The MESA Air Study.
- 3) **Wang, M.**; Zheng, M.; Zhang, RY.; Han, YQ.; Li, Y.; Zhu, T.; Spatiotemporal variation of air pollution and source apportionment in Beijing using a mobile laboratory.

ORAL PRESENTATION AND POSTERS

- 1) **Wang, M.** et al. Long-Term Exposure to Ozone and Acceleration of Percent Emphysema and Decline in Lung Function: the MESA Air and Lung Studies, 2016, San Francisco, CA, USA.
- 2) **Wang, M.** et al. Hybrid Spatiotemporal Model Combining Land Use Regression and Chemical Transport Modeling in a Geo-statistical Framework for O₃ and PM_{2.5} in Los Angeles, California. 2015, Las Vegas, CA, USA.
- 3) **Wang, M.** et al. PhD thesis talk. 2014. Seattle, WA, USA.
- 4) **Wang, M.** et al. Impact of Exposure Modeling Approaches on Associations between Air Pollution and Lung Function in Children. 2014. Seattle, WA, USA.
- 5) **Wang, M.** et al. Introduction of geostatistical models for air pollution predictions. 2013. Beijing, China.
- 6) **Wang, M.** et al. Performance of multi-cities land use regression models for NO₂ and fine particles. 2013. Basel, Switzerland.
- 7) **Wang, M.** et al. Developing land use regression models with combined study areas. 2013. Utrecht, the Netherlands.
- 8) **Wang, M.** et al. Long-term exposure to elemental constituents of particulate matter and cardiovascular mortality in 19 European cohorts: results from the ESCAPE and TRANSPHORM projects. 2013. Utrecht, the Netherlands.
- 9) **Wang, M.** et al. A systematic validation of land use regression models for NO₂. 2012. Columbia, SC, USA.
- 10) **Wang, M.** et al. Using a mobile laboratory to characterize the distribution and transport of sulfur dioxide in and around Beijing. 2009. Beijing, China.
- 11) **Wang, M.** et al. Use of a mobile laboratory to evaluate changes in on-road air pollutants during the Beijing 2008 Summer Olympics. 2008. Jinan, China.

Personal Website

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