

Haofei Yu, Ph.D.

Department of Civil, Environmental and Construction Engineering, University of Central Florida
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EDUCATION

- Ph.D. in Environmental Health** **08/2013**
Department of Environmental and Occupational Health, University of South Florida, Tampa, FL
Major Advisor: [Amy L. Stuart](#)
Dissertation Title: A Modeling Investigation of Human Exposure to Select Traffic-Related Air Pollutants in the Tampa Area: Spatiotemporal Distributions of Concentrations, Social Distributions of Exposures, and Impacts of Urban Design on Both. ([Link](#))
- M.S. in Environmental Engineering** **07/2008**
School of Environment and Architecture, University of Shanghai for Science and Technology, Shanghai, China
Major Advisor: Wenquan Wu
- B.S. in Environmental Engineering** **07/2005**
College of Materials and Environmental Engineering, Hangzhou Dianzi University, Hangzhou, China
Major Advisor: Weihong Wu

POSITIONS

- Assistant Professor** **08/2017 – present**
Department of Civil, Environmental, and Construction Engineering, University of Central Florida, Orlando, FL
- Adjunct Instructor** **05/2017 – 08/2017**
- Postdoctoral Fellow** **09/2015 – 08/2017**
Supervisor: [Armistead G. Russell](#)
School of Civil and Environmental Engineering, Georgia Institute of Technology, Atlanta, GA
- Post Doctorate Research Associate** **07/2014 – 09/2015**
Supervisor: [Alex B. Guenther](#)
Atmospheric Sciences & Global Change, Pacific Northwest National Laboratory, Richland, WA
- Adjunct Instructor & Research Associate** **08/2013 – 07/2014**
- Graduate Research Assistant** **08/2008 – 08/2013**
Supervisor: [Amy L. Stuart](#)
Department of Environmental & Occupational Health, University of South Florida, Tampa, FL
- Chief Translator** **06/2006 – 02/2008**
- Translator** **04/2006 – 06/2006**
Shanghai QianDeng Co., Ltd., Shanghai, China
- Graduate Research Assistant** **09/2005 – 02/2008**
Supervisor: Dr. Wenquan Wu
Department of Environmental Engineering, University of Shanghai for Science and Technology, Shanghai, China
- Undergraduate Research Assistant** **06/2004 – 03/2005**
Supervisor: Dr. Weihong Wu
Department of Environmental Engineering, Hangzhou Dianzi University, Hangzhou, China

HONORS AND AWARDS

Outstanding Performance Award. Pacific Northwest National Laboratory	2014
Sam Bell Endowed Scholarship. University of South Florida	2012
Student Poster Competition Award. AWMA 2011 Annual Conference	2011
Axel Hendrickson Scholarship. Air & Waste Management Association Florida Section	2011
Sustainability Research Scholarship. Air and Waste Management Association	2011
USF Health Research Day Outstanding Poster Award (First Place)	2011
Public Health Doctoral Fellowship. University of South Florida	2008 – 2009
University Graduate Fellowship. University of South Florida	2008
Outstanding Thesis Award. Hangzhou Dianzi University	2005
First Prize Scholarship. Hangzhou Dianzi University	2005

PUBLICATIONS AND PRESENTATIONS

BOOK

G. Gao, Y. Hua, **H. Yu**. (2008). VOA Standard English – Society. Dalian University of Technology Press, Dalian, China. ([Link](#))

- “VOA Standard English” is a book series. The first book of this book series was used as teaching textbook of listening English for graduate students at University of Shanghai for Science and Technology.

MANUSCRIPTS UNDER REVIEW

1. X. Yu, A. L. Stuart, Y. Liu, C. Ivey, A. Russell, H. Kan, L. Henneman, S. E. Sarnat, S. Hasan, A. Sadmani, X. Yang & **H. Yu**. On the Accuracy and Potential of Google Maps Location History Data to Characterize Individual Mobility for Air Pollution Health Studies. *Submitted to Environmental Pollution* (IF = 5.099)
2. G. Shi, J. Xu, X. Shi, B. Liu, X. Bi, Z. Xiao, K. Chen, J. Wen, S. Dong, Y. Tian, Y. Feng, **H. Yu**, S. Song & A. Russell. Aerosol pH dynamics during intense haze periods in China: Use of detailed, hourly, speciated observations to study the role of ammonia availability and secondary aerosol formation. *Submitted to Environmental Science & Technology* (IF = 6.198)

PEER-REVIEWED JOURNAL MANUSCRIPTS

1. M. Qin, **H. Yu**, Y. Hu, A. Russell, K. Doty, A. Pour-Biazar, R. McNider & E. Knipping. Improving Ozone Simulations in the Great Lakes Region: the Role of Emissions, Chemistry and Dry Deposition. *In Press at Atmospheric Environment* (IF = 3.708)
2. L. Luo, Y. Zhang, B. Pearson, Z. Ling, H. Yu, & X. Fu. (2018). On the Security and Data Integrity of Low-Cost Sensor Networks for Air Quality Monitoring. *Sensors*, 18(12), 4451. doi: 10.3390/s18124451 ([Link](#)) (IF = 2.475)
3. Y. Niu, J. Cai, Y. Xia, **H. Yu**, R. Chen, Z. Lin, C. Liu, C. Chen, W. Wang, L. Peng, X. Xia, Q. Fu, H. Kan. (2018). Estimation of Personal Ozone Exposure using Ambient Concentrations and Influencing Factors. *Environment International*. 117: 237-242. doi: 10.1016/j.envint.2018.05.017 ([Link](#)) (IF = 7.088)
4. **H. Yu**, A. Russell, J. Mullholland, T. Odman, Y. Hu, H. Chang. (2018). Cross-Comparison and Evaluation of Air Pollution Field Estimation Methods. *Atmospheric Environment*. 179: 49-60. doi: 10.1016/j.atmosenv.2018.01.045 ([Link](#)) (IF = 3.629)
5. H. Shen, Y. Chen, AG. Russell, Y. Hu, G. Shen, **H. Yu**, L. Henneman, M. Ru, Y. Huang, Q. Zhong, Y. Chen, Y. Li, Y. Zou, EY. Zeng, R. Fan, S. Tao. (2018). Impacts of Rural Worker Migration on Air Quality and Health in

- China: From the Perspective of Upgrading Residential Energy Consumption. *Environmental International*. 113:290-299. doi: 10.1016/j.envint.2017.11.033 ([Link](#)) (IF = 7.088)
6. **H. Yu**, A. Russell, J. Mullholland, Z. Huang. (2018). Using Cell Phone Location to Assess Misclassification Errors in Air Pollution Exposure Estimation. *Environmental Pollution*. 233: 261-266. doi: 10.1016/j.envpol.2017.10.077 ([Link](#)) (IF = 5.099)
 7. Y. Tian, J. Liu, S. Han, X. Shi, G. Shi, H. Xu, **H. Yu**, Y. Zhang, Y. Feng, A. Russell. (2018). Spatial, Seasonal and Diurnal Patterns in Physicochemical Characteristics and Sources of PM_{2.5} in Both Inland and Coastal Regions within a Megacity in China. *Journal of Hazardous Materials*. 342:139-149. doi: 10.1016/j.jhazmat.2017.08.015 ([Link](#)) (IF = 6.065)
 8. D. Gu, A.B. Guenther, J. Shilling, **H. Yu**, M. Huang, C. Zhao, Q. Yang, S. Martin, P. Artaxo, S. Kim, R. Seco, T. Stavrou, K. Longo, J. Tota, R. Souza, O. Vega, Y. Liu, M. Shrivastava, E. Alves, F. Santos, G. Leng and Z. Hu. (2017). Airborne Observations Reveal Elevational Gradient in Tropical Forest Isoprene Emissions. *Nature Communications*. 8:15541. doi: 10.1038/ncomms15541 ([Link](#)) (IF = 13.092)
 9. **H. Yu**, A. Guenther, D. Gu, C. Warneke, C. Geron, A. Goldstein, T. Karl, L. Kaser, P. Misztal, and B. Yuan. (2017). Airborne Measurements of Isoprene and Monoterpene Emissions from Southeastern U.S. Forests. *Science of the Total Environment*. 595:149-158. doi: 10.1016/j.scitotenv.2017.03.262 ([Link](#)) (IF = 4.900)
 10. G. Shi, J. Xu, X. Peng, Z. Xiao, K. Chen, Y. Tian, X. Guan, Y. Feng, **H. Yu**, A. Nenes and A. G. Russell. (2017). pH of Aerosols in a Polluted Atmosphere: Source Contributions to Highly Acidic Aerosol. *Environmental Science & Technology*. 51(8):4289-4296. doi:10.1021/acs.est.6b05736 ([Link](#)) (IF = 6.198)
 11. **H. Yu**, A. L. Stuart. (2016). Impacts of Compact Growth and Electric Vehicles on Future Air Quality and Urban Exposures May be Mixed. *Science of the Total Environment*. 576: 148-158. doi: 10.1016/j.scitotenv.2016.10.079 ([Link](#)) (IF = 4.900)
 12. G. Shi, X. Peng, J. Liu, Y. Tian, D. Song, **H. Yu**, Y. Feng and A.G. Russell. (2016). Quantification of Long-term Primary and Secondary Source Contributions to Size-segregated Carbonaceous Aerosols. *Environmental Pollution*. 219: 897-905. doi: 10.1016/j.envpol.2016.09.009 ([Link](#)) (IF = 5.099)
 13. J. P. Tanner, J. L. Salemi, **H. Yu**, M. M. Jordan, C. DuClos, P. Cavicchia, J. A. Correia, S. M. Watkins, R. S. Kirby, A. L. Stuart. (2016). Uncertainty in Maternal Exposures to Ambient PM_{2.5} and Benzene during Pregnancy: Sensitivity to Exposure Estimation Decisions. *Spatial and Spatio-temporal Epidemiology*. 17:117-129 ([Link](#)) (IF = 1.098)
 14. G. Shi, H. Chen, Y. Tian, D. Song, L. Zhou, F. Chen, **H. Yu**, Y. Feng. (2016). Effect of Uncertainty on Source Contributions from the Positive Matrix Factorization Model for a Source Apportionment Study. *Aerosol and Air Quality Research*. 16(7): 1665–1674. DOI: 10.4209/aaqr.2015.12.0678 ([Link](#)) (IF = 2.606)
 15. **H. Yu**, A. L. Stuart. (2016). Exposure and Inequality for Select Urban Air Pollutants in the Tampa Bay Area. *Science of the Total Environment*. 551-552: 474-483. DOI: 10.1016/j.scitotenv.2016.01.157 ([Link](#)) (IF = 4.900)
 16. J. P. Tanner, J. L. Salemi, A. L. Stuart, **H. Yu**, M. M. Jordan, C. DuClos, P. Cavicchia, J. A. Correia, S. M. Watkins, R. S. Kirby. (2015). Associations between Exposure to Ambient Benzene and PM_{2.5} during Pregnancy and the Risk of Selected Birth Defects in Offspring. *Environmental Research*. 142: 345-353. DOI: 10.1016/j.envres.2015.07.006 ([Link](#)) (IF = 3.835)
 17. **H. Yu**, A. L. Stuart. (2013). Spatiotemporal Distributions of Ambient Oxides of Nitrogen, with Implications for Exposure Disparities and Urban Design. *Journal of the Air & Waste Management Association*. DOI: 10.1080/10962247.2013.800168. ([Link](#)) (IF = 1.570)
 18. Y. Palida, **H. Yu**, W.Q. Wu. (2009). Wind Tunnel Experiment & Numerical Simulation on Over-Head Road Pollution around a Building: Diffusion & Dispersion. *Journal of Engineering Thermophysics*. 30(9): 1485-1488. ([Link](#))
 19. **H. Yu**, Y. Palida, W.Q. Wu. (2009). Remolding Design of DF8CJ Centrifugal Fan. *Energy Research and Information*. 25(2): 103-108. ([Link](#))

20. Y. Palida, **H. Yu**, W.Q. Wu. (2008). Passive Sampling and Analysis of Low Concentration Volatile Organic Compounds BTEX in Atmosphere. Journal of University of Shanghai for Science and Technology. 30(5): 507-510. ([Link](#))
21. W.Q. Wu, T. Liu, **H. Yu**. (2007). Numerical Simulation for Unstable Massively Separated Flow under Continuously Varied Inlet Condition. Journal of Engineering Thermophysics. 28(4): 129-132. ([Link](#))
22. W. Wu, Z. Xie, **H. Yu**. (2006) A Preliminary Study on Production of Eco-Cement using Sludge and its Risk of Heavy Metals Release. Journal of Hangzhou Dianzi University. 26(6): 62-65. ([Link](#))

INVITED TALKS

1. **H. Yu**. Impacts of Urban Design and Electric Vehicles on Future Air Quality and Exposures. Foundations for Engineering Education for Distributed Energy Resources seminar series. University of Central Florida. February, 2018
2. **H. Yu**. Comparison and Evaluation of Alternative Methods for Air Pollution Exposure Estimation. University of South Florida. September, 2017
3. **H. Yu**. Urbanization, Air Pollution and Volatile Organic Compounds from Plants. Environmental Engineering Seminar Series. Washington State University. November, 2014
4. **H. Yu**. Investigating the Impacts of Urban Form on Air Quality, Vehicular Emissions and Human Exposure. Environmental Research Interdisciplinary Colloquium Seminar. University of South Florida. March, 2013
5. **H. Yu**. Air Quality Assessment of a High Occupancy Toll Lane Project in Miami Dade County. Air and Waste Management Association Tampa Chapter September meeting. Tampa, FL. September, 2012
6. **H. Yu**. Mobile Source Emissions Estimation and Dispersion Modeling toward High Spatial Resolution Distributions of Nitrogen Oxides and Select Urban Air Toxics. Environmental & Water Resources Engineering Graduate Seminar. University of South Florida. March, 2010

REPORTS

1. **H Yu**, A. Russell, J Mullholland, T Odman, Y Hu and H Chang. (2016). Assessing Air Quality Fields Developed Using Alternative Methods for Exposure and Epidemiologic Studies. For the Electric Power Research Institute. September 2016.
2. **H. Yu**, A. Guenther, C. Warneke, J. de Gouw, S. Kembell-Cook, J. Jung, J. Johnson, Z. Liu and G. Yarwood. Improved Land Cover and Emission Factor Inputs for Estimating Biogenic Isoprene and Monoterpene Emissions for Texas Air Quality Simulations. For the Texas Commission on Environmental Quality. June, 2015.
3. A. L. Stuart, P. S Lin, C. Lee, **H. Yu**, H. Chen. Assessing Air Quality Impacts of Managed Lanes. For the Florida Department of Transportation. October, 2010.
4. W. Wu, **H. Yu**. Remodeling Design of DF8CJ Centrifugal Fan. For the China South Locomotive & Rolling Stock (Qishuyan) CO., Ltd. March, 2006

CONFERENCE ABSTRACTS AND POSTERS (SELECTED)

1. **H. Yu**, A. Russell, J Mulholland. Characterizing Air Pollution Exposure Misclassification Errors using Detailed Cell Phone Location Data. 2017 American Geophysical Union Fall Meeting. New Orleans, LA. December 11-15, 2017
2. **H. Yu**, J Mulholland, H Chang, R Huang, S Ivey, T Russell. (2016). Inter-comparison and Evaluation of Spatiotemporal Air Quality Exposure Fields Developed using Ten Methods. 2016 International Society of Exposure Science. Utrecht, the Netherlands. October 9-13. 2016

3. **H. Yu**, J Mulholland, H Chang, R Huang, S Ivey, T Russell. (2016). Air Quality Model-based Methods for Estimating Human Exposures: A Review and Comparison. 35th International Technical Meeting on Air Pollution Modelling and its Application. Chania, Crete, Greece. October 3-7 2016.
4. D. Gu, A.B. Guenther, **H. Yu**, J.E. Shilling, K. Longo, Q. Yang, M. Huang, C. Zhao, S.T. Martin, P. Artaxo, S. Kim, R. Seco, T. Stavrakou, J. Tota, R.A. Ferreira de Souza, J.O. Vega Bustillos, E.G. Alves, Y. Liu, M.K. Baban Shrivastava, G. Leng, Z. Hu, F. dos Santos. (2015). Improved Tropical Forest Biogenic VOC Emission Factors Based on GOAMAZON 2014/5 Airborne Observations. American Geophysical Union (AGU) Fall Meeting. San Francisco, CA. December 17, 2015.
5. M. Wen, S.N. Pressley, D. Gu, **H. Yu**, A.B. Guenther, T.M. VanReken. (2015). Observed and Modeled Isoprene Fluxes at a Remote Michigan Forest Site. American Geophysical Union (AGU) Fall Meeting. San Francisco, CA. December 17, 2015.
6. J. P. Tanner, J. L. Salemi, **H. Yu**, M. M. Jordan, C. Duclos, P. Cavicchia, J. Correia, S. M. Watkins, R. S. Kirby, A. L. Stuart. (2015). Sensitivity of Air Pollution Exposure Estimates to Exposure Assessment Decisions: Maternal Exposures to Ambient PM_{2.5} and Benzene. Birth Defects Research Part A - Clinical and Molecular Teratology. 103(5): 426-426.
7. **H. Yu**, A. L. Stuart. (2014). Impact of Urban Growth Form and Fleet Electrification on Emissions, Concentrations, and Exposures for Nitrogen Oxides and Select Toxic Volatile Organic Compounds. The 33rd Annual Conference of American Association for Aerosol Research (AAAR). Orlando, FL. October 21, 2014
8. D. L. Mendoza, A. L. Stuart, G. Dagne, **H. Yu**. (2013). Effect of Emissions Uncertainty and Variability on High-Resolution Concentrations of Carbon Monoxide, Fine Particle Black Carbon, and Nitrogen Oxides in Fort Collins, Colorado: Development of a Bayesian Uncertainty Modeling and Evaluation Framework. 2013 American Geophysical Union (AGU) Fall Meeting. San Francisco, CA. December 10, 2013.
9. **H. Yu**, A.L. Stuart. (2013). Impact of Urban Growth Patterns on Air Pollution Emissions and Human Exposures. The 2013 Association of Environmental Engineering and Science Professors (AEESP) 50th Anniversary Conference. Golden, CO. July 15, 2013.
10. **H. Yu**, A.L. Stuart. (2012). Combining CALPUFF with CMAQ model output to resolve neighborhood scale formaldehyde concentration distribution in the Tampa, FL area. 2012 Air & Waste Management Associations Conference & Exposition. San Antonio, Texas. June 19, 2012
11. S. Mehra, **H. Yu**, T. J. Mason, A. L. Stuart, D. Santiago, A. Mullen. (2012). Local Health Impact Assessment Method for Formaldehyde. 22nd Annual USF Health Research Day. University of South Florida. February 24, 2012.
12. **H. Yu**, A.L. Stuart. (2011). Impacts of the Miami-Broward I-95 HOT Lane Project on Air Quality: Emission Estimation and Dispersion Modeling Using Traffic Micro-Simulation Data. 2011 Association of Environmental Engineering and Science Professors Education and Research Conference. Tampa, FL. July 10, 2011
13. **H. Yu**, A.L. Stuart. (2011). The Spatial Distribution of Nitrogen Oxides in Hillsborough County, FL with Implications for the Social Distribution of Exposures. 2011 Air & Waste Management Associations Conference & Exposition. Orlando, FL. June 21, 2011
14. **H. Yu**, A. L. Stuart. (2011). Modeling of residential exposures to nitrogen oxides among different population groups in Hillsborough County. 21st Annual USF Health Research Day. University of South Florida. February 25, 2010.
15. **H. Yu**, A. L. Stuart. (2010). Mobile Source Emissions Estimation and Dispersion Modeling toward High Spatial Resolution Distributions of Nitrogen Oxides and Select Urban Air Toxics. Air Pollution and Health: Bridging the Gap from Sources to Health Outcomes, an International Specialty Conference of AAAR, San Diego, California. March 2010.
16. A.L. Stuart, M.A. Zeager, **H. Yu**, A. Evans. (2010). An Investigation of Intra-urban Patterns of Urban Air Pollution, with Implications for Environmental Exposure Equity and Urban Design. Air Pollution and Health:

Bridging the Gap from Sources to Health Outcomes, an International Specialty Conference of AAAR, San Diego, California. March 2010.

17. **H. Yu, A. L. Stuart.** (2009). Benzene Air Pollution and Environmental Equity in the Tampa Area. 46th Annual Florida Air and Waste Management Association Conference. October 2009.
18. **H. Yu, A.L. Stuart.** (2009). Modeling and Equity Analysis for NO_x Air Pollution in the Tampa Area. Florida Public Health Association 2009 Annual Educational Conference. August 2009.

GRANTS

PENDING

1. **PI.** Environmental Injustice of source-specific air pollution exposure in the U.S. and Fifty Largest Metropolitan Areas: Decadal Trend and Accountability. *NIH*. Amount: \$143,177
2. **PI.** Feasibility and Effectiveness of mHealth Intervention to Manage Air Pollution Exposure and Promote Physical Wellness of Asthmatic Children in Shanghai, China. *NIH*. Amount: \$354,438
3. **Co-PI.** CICI: SSC: Secure Scientific Cyberinfrastructure with Emerging IoT Applications. *NSF*. PI: Dr. Xinwen Fu (UCF). Amount: \$960,254

FUNDED

1. **PI.** Developing Air Pollution Concentration Fields using Alternative Methods for Epidemiological Studies. *Electric Power Research Institute*. 07/01/2018-06/31/2020
Amount: \$196,562
2. **PI.** Exploring Tampa Bay's Greener Future: Estimating Air Pollution Emissions from Transportation Networks in Two Urban Planning Scenarios. *University of South Florida Graduate School* 2012
Amount: \$5,000
3. **Co-PI.** Formaldehyde in the Tampa Area: Predicting Health Impacts on a Local Level. *University of South Florida Graduate School* 2011
Amount: \$5000.

TEACHING EXPERIENCES

ENV 4120. Air Pollution and Hazardous Waste Control (Undergraduate) **Fall 2017**

ENV 6106. Air Pollution Modeling (Graduate) **Spring 2018**

Department of Civil, Environmental, and Construction Engineering, University of Central Florida, Orlando, FL

CEE 2300. Environmental Engineering Principles (Undergraduate) **Summer 2017**

School of Civil and Environmental Engineering, Georgia Institute of Technology

PHC 6303. Community Air Pollution (Graduate) **Fall 2013, Spring 2014**

Department of Environmental and Occupational Health, College of Public Health, University of South Florida

ENV 6105. Air Pollution: Fundamentals (Graduate) **Fall 2013**

Department of Civil and Environmental Engineering, College of Engineering, University of South Florida

Guest Lecturer for multiple courses including:

CEE 6314. Environmental Modeling (*Georgia Institute of Technology*)

PHC 7369. Aerosol Technology in Industrial Hygiene (*University of South Florida*)

PHC 6303. Community Air Pollution (*University of South Florida*)

PHC 6357. Environmental and Occupational Health. (*University of South Florida*)

PEER REVIEW ACTIVITIES

Environment International; Environmental Science & Technology; Environmental Pollution; Atmospheric Environment; Science of the Total Environment; Journal of Exposure Science & Environmental Epidemiology; International Journal of Environmental Research and Public Health; IEEE Systems; Atmosphere; Sustainable Cities and Society

PROFESSIONAL AFFILIATIONS

Air and Waste Management Association; American Association for Aerosol Research; Association of Environmental Engineering and Science Professors; American Geophysical Union

LEADERSHIP

Board member, Tri-Cities Chinese American Association. Richland, WA	2015 – 2016
President and founder of the official student chapter, Air and Waste Management Association, USF	2012 – 2013
Co-founder. Joint Environmental Engineering Society (JEES) at USF	2012 – 2013