

Liuhua Shi, Sc.D.

Gangarosa Department of Environmental Health
Rollins School of Public Health, Emory University

Email: liuhua.shi@emory.edu

Research website: liuhuashi.com

EMPLOYMENT

10/2021- Present	Assistant Professor (tenure-track), Emory University
12/2019-09/2021	Assistant Professor (research-track), Emory University
02/2019-09/2019	Postdoctoral Research Fellow, Harvard University
09/2016-01/2019	Consultant, Environmental Consultant Company

EDUCATION

2012 – 2016	Sc.D., Environmental Health, Harvard Chan School of Public Health, US (Advisor: Dr. Joel Schwartz)
2009 – 2012	M.S., Geography, Beijing Normal University, China
2005 – 2009	B.S., Geography, Beijing Normal University, China

PUBLICATIONS**Selected Publications (*corresponding author; underlined are current/former students):**

- 1) **Shi, L.***; Rosenberg, A.; Liu, P.; Danesh-Yazdi, M.; Réquia, W.; Steenland, K.; Chang, H.; Sarnat, J.; Liu, Y.; Wang, W.; Zhang, K.; Zhao, J.; Schwartz, J., Low-concentration air pollution and mortality in American older adults: A national cohort analysis (2001-2017). In review.
- 2) **Shi, L.***; Steenland, K.; Li, H.; Liu, P.; Zhang, Y.; Lyles, R.; Requia, W.; Ilango, S.; Chang, H.; Wingo, T.; Weber, R.; Schwartz, J., Long-term air pollution exposure and incident dementia in American elderly population: a national cohort study (2000-2018). In review.
- 3) **Shi, L.***, Blowing hot and cold over asthma hospitalizations (Invited editorial). *Thorax* 2021.
- 4) **Shi, L.**; Wu, X.; Danesh-Yazdi, M.; Braun, D.; Awad, Y.A.; Wei, Y.; Liu, P.; Di, Q.; Wang, Y.; Schwartz, J.; Dominici, F.; Kioumourtzoglou, M.A.; Zanobetti, A., Long-term Effects of PM_{2.5} on Neurological Disorders in the American Medicare Population: a longitudinal cohort study. *The Lancet Planetary Health* 2020, 4(12), e557-e565.
- 5) **Shi, L.**; Kloog, I.; Zanobetti, A.; Liu, P.; Schwartz, J., Impacts of temperature and its variability on mortality in New England. *Nature Climate Change* 2015, 5, 988-991.
- 6) **Shi, L.***; Zanobetti, A.; Kloog, I.; Coull, B.; Koutrakis, P.; Melly, S.; Schwartz, J., Low-concentration PM_{2.5} and mortality: estimating acute and chronic effects in a population-based study. *Environmental Health Perspectives* 2016, 124, 46-52.
* Selected as one of the papers in [EHP's 2018 Journal Impact Factor Collection](#).

- 7) **Shi, L.***; Liu, P.; Kloog, I.; Lee, M.; Kosheleva, A.; Schwartz, J., Estimating daily air temperature across the Southeastern United States using high-resolution satellite data: a statistical modeling study. *Environmental Research* 2016, 146, 51-58.
- 8) **Shi, L.***; Liu, P.; Wang, Y.; Zanobetti, A.; Kosheleva, A.; Koutrakis, P.; Schwartz, J., Chronic effects of temperature on mortality in the Southeastern USA using satellite-based exposure metrics. *Scientific Reports* 2016, 6, 30161.
- 9) Liang, D.[#]; **Shi, L.[#]**; Zhao, J.; Liu, P.; Sarnat, J.; Gao, S.; Schwartz, J.; Liu, Y.; Scovronick, N.; Ebel, S.; Scovronick, N.; Chang, H.H., 2020. Urban Air Pollution May Enhance COVID-19 Case Fatality and Mortality Rates in the United States, *The Innovation*. ([#]co-first authors)
- 10) **Huang, S.**; Li, H.; Wang, M.; Qian, Y.; Steenland, K.; Caudle, W., Liu, Y.; Sarnat, J.; Papatheodorou, S.; **Shi, L.***, 2021. Long-term Exposure to Nitrogen Dioxide and Mortality: A Systematic Review and Meta-Analysis. *Science of the Total Environment*.
- 11) Zhang, Y.; **Shi, L.**; Chang, H.; Schwartz, J.; Di, Q.; Goldberg, J.; Vaccarino, V., 2021. Co-Twin control study of fine particulate matter and the prevalence of metabolic syndrome risk factors. *Environmental Research*.
- 12) Wang, M.; Li, H.; Huang, S.; Qian, Y.; Steenland, K.; Xie, Y.; Papatheodorou, S.; **Shi, L.***, 2021. Short-term Exposure to Nitrogen Dioxide and Mortality: a systematic review and meta-analysis. *Environmental Research*.
- 13) Li, H.; Deng, W.; Small, R.; Schwartz, J.; Liu, J.; **Shi, L.***, 2021. Health Effects of Air Pollutant Mixtures on Overall Mortality Among the Elderly Population Using Bayesian Kernel Machine Regression (BKMR). *Chemosphere*.
- 14) Qian, Y.; Li, H.; Rosenberg, A.; Li, Q.; Sarnat, J.; Papatheodorou, S.; Schwartz, J.; Liang, D.; Liu, Y.; Liu, P.; **Shi, L.***, Long-term exposure to low-level NO₂ and mortality among the elderly population in the southeastern US. *Environmental Health Perspectives* (Accepted).

Other Peer-Reviewed Publications:

- 15) Danesh-Yazdi, M.; Wang, Y.; Di, Q.; Wei, Y.; Requia, W.; **Shi, L.**; Sabbath, B.; Dominici, F.; Coull, B.; Koutrakis, P.; Evans, J.; Schwartz, J., 2021. Long-term Effect of Air Pollution on Hospital Admissions Among Medicare Participants Using a Doubly Robust Additive Model (DRAM). *Circulation*.
- 16) Danesh-Yazdi, M.; Wang, Y.; Di, Q.; Requia, W.; Wei, Y.; **Shi, L.**; Sabbath, B.; Dominici, F.; Coull, B.; Evans, J.; Koutrakis, P.; Schwartz, J., 2021. Long-term Effect of Exposure to Lower Concentrations of Air Pollution on Mortality among US Medicare Participants and Vulnerable Subgroups: a Doubly-Robust Approach. *The Lancet Planetary Health*.
- 17) Watts et al. (including **Shi, L.**), The 2021 Report of The Lancet Countdown on Health and Climate Change. *The Lancet*.

- 18) Gunthe, S.; Liu, P.; Panda, U.; Raj, S.; Sharma, A.; Derbyshire, E.; Reyes-Villegas, E.; Allan, J.; Chen, Y.; Wang, X.; Song, S.; Pöhker, M.; **Shi, L.**; Wang, Y.; Kommula, S.; Ravikrishna, R.; McFiggans, G.; Mickley, L.; Martin, S.; Pöschl, U.; Coe, H., 2021. Enhanced Aerosol Particle Growth Sustained by High Continental Chlorine Emission in India. *Nature Geoscience*.
- 19) Li, J.; Garshick, E.; Hart, J.; Li, L.; **Shi, L.**; Al-Hamoud, A.; Huang, S.; Koutrakis, P., 2021. Estimation of particulate matter exposures in Iraq and Kuwait 2001-2018 during military deployment. *Environmental International*.
- 20) Cheng, S.; Zhang, H.; Wang, P.; Zou, K.; Duan, X.; Wang, S.; Yang, Y.; **Shi, L.**; Wang, W., 2021. Benchmark dose analysis for PAHs hydroxyl metabolites in urine based on mitochondrial damage of peripheral blood leucocytes in coke oven workers in China. *Environmental Toxicology and Pharmacology*.
- 21) Watts et al. (including **Shi, L.**), 2020, The 2020 Report of The Lancet Countdown on Health and Climate Change: responding to converging crises. *The Lancet*.
- 22) Yu, W.; Guo, Y.; **Shi, L.**; Li, S., 2020. The association between long-term exposure to low-level PM2.5 and mortality in the state of Queensland, Australia: A modelling study with the difference-in-differences approach. *PLoS Medicine* 17(6): e1003141.
- 23) Wei, Y.; Wang Y.; Wu X.; Di, Q.; **Shi, L.**; Koutrakis, P.; Zanobetti, A.; Dominici, F.; Schwartz, J, Causal effects of air pollution on mortality in Massachusetts. *American Journal of Epidemiology*, kwaa098.
- 24) Qiu, X.; Fong, K.; **Shi, L.**; Papatheodorou, S.; Di, Q.; Just, A.; Kosheleva, A.; Messerlian, C.; Schwartz, J., 2020. Prenatal exposure to particulate air pollution and gestational age at delivery in Massachusetts neonates 2001–2015: A perspective of causal modeling and health disparities. *Environmental Epidemiology*, 4(5), p.e113.
- 25) Requia, W.; Di, Q.; Silvern, R.; Kelly, J.; Koutrakis, P.; Mickley, L.; Sulprizio, M.; Amini, H.; **Shi, L.**; Schwartz, J, 2020. An ensemble learning approach for estimating ground-level ozone in the contiguous United States at high spatiotemporal resolution. *Environmental Science & Technology*.
- 26) Lou, H.; Wang, P.; Yang, S.; Hao, F.; Ren, X.; Wang, Y.; **Shi, L.**; Wang, J.; Gong, T. Combining and Comparing an Unmanned Aerial Vehicle and Multiple Remote Sensing Satellites to Calculate Long-Term River Discharge in an Ungauged Water Source Region on the Tibetan Plateau. *Remote Sensing*. 2020, 12, 2155.
- 27) Zou, K.; Wang, P.; Duan, X.; Yang, Y.; Zhang, H.; Wang, S.; **Shi, L.**; Wang, Y.; Yao, W.; Wang, W., 2020. Benchmark dose estimation for coke oven emissions based on oxidative damage in Chinese exposed workers. *Ecotoxicology and Environmental Safety*, 202, p.110889.
- 28) Zou, K.; Zhou, X.; Wang, W.; **Shi, L.**; Fu, X., 2020. The Association between Polymorphisms in miRNA and the Cholinesterase Activity of Workers in an Omethoate-exposed Environment. *International Journal of Environmental*

Health Research.

- 29) Di, Q.; Amini, H.; **Shi, L.**; Kelly, J.; Mickley, L.; Amini, H.; Kloog, I.; Silvern, R.; Sabath, B.; Choirat, C.; Koutrakis, P.; Lyapustin, A.; Wang, Y.; Schwartz, J., Assessing NO₂ Concentration with High Spatiotemporal Resolution across the Contiguous United States Using Ensemble Model Averaging. *Environmental Science & Technology* 2019.
- 30) Di, Q.; Amini, H.; **Shi, L.**; Kloog, I.; Silvern, R.; Kelly, J.; Sabath, B.; Choirat, C.; Koutrakis, P.; Lyapustin, A.; Wang, Y.; Mickley, L.; Schwartz, J., An Ensemble-based Model of PM_{2.5} Concentration across the Contiguous United States with High Spatiotemporal Resolution. *Environmental International* 2019, 130.
- 31) Wei, Y.; Wang, Y.; Lin, C.; Yin, K.; Yang, J.; **Shi, L.**; Zanobetti, A.; Schwartz, J., Associations between seasonal temperature and dementia-associated hospitalizations in New England. *Environmental International* 2019, 126, 228-233.
- 32) Zu, K.; **Shi, L.**; Prueitt, R.; Liu, X.; Goodman, J., Critical review of long-term ozone exposure and asthma development. *Inhalation toxicology* 2018, 30, 99-113.
- 33) Lou, H.; Zhao, C.; Yang, S.; **Shi, L.**; Wang, Y.; Ren, X.; Bai, J., Quantitative evaluation of legacy phosphorus and its spatial distribution. *Journal of environmental management* 2018, 211, 296-305.
- 34) Zu, K.; Liu, X.; **Shi, L.**; Tao, G.; Loftus, C.; Lange, S.; Goodman, J., Concentration-response of short-term ozone exposure and hospital admissions for asthma in Texas. *Environment International* 2017, 104, 139-145.
- 35) Prueitt, R.; Lynch, H.; Zu, K.; **Shi, L.**; Goodman, J., Dermal exposure to toluene diisocyanate and respiratory cancer risk. *Environment International* 2017, 109, 181-192.
- 36) Wang, Y.; **Shi, L.**; Lee, M.; Liu, P.; Di, Q.; Zanobetti, A.; Schwartz, J., Long-term exposure to PM_{2.5} and mortality among older adults in the southeastern US. *Epidemiology* (Cambridge, Mass.) 2017, 28, 207-214.
- 37) Wang, Y.; Lee, M.; Liu, P.; **Shi, L.**; Yu, Z.; Awad, Y.; Zanobetti, A.; Schwartz, J., Doubly robust additive hazards models to estimate effects of a continuous exposure on survival. *Epidemiology* 2017, 28, 771-779.
- 38) Lou, H.; Yang, S.; Zhao, C.; Wang, Z.; **Shi, L.**; Wu, L.; Dong, G.; Cai, M.; Hao, F.; and Sun, Y., Using a nitrogen-phosphorus ratio to identify phosphorus risk factors and their spatial heterogeneity in an intensive agricultural area. *Catena* 2017, 149, 426-436.
- 39) Lou, H.; Yang, S.; Zhao, C.; Wang, Z.; Liu, X.; **Shi, L.**; Wu, L.; Hao, F.; Cai, M., Combining multi-source data to explore a mechanism for the effects of micrometeorological elements on nutrient variations in paddy land water. *Paddy and Water Environment* 2017, 15, 513-524.
- 40) Cox, L.; Liu, X.; **Shi, L.**; Zu, K.; and Goodman, J., 2017. Applying Nonparametric

- Methods to Analyses of Short-Term Fine Particulate Matter Exposure and Hospital Admissions for Cardiovascular Diseases among Older Adults. *Int. J. Environ. Res. Public Health*, 14, p.1051.
- 41) Wang, Y.; **Shi, L.**; Zanobetti, A.; Schwartz, J., Estimating and projecting the effect of cold waves on mortality in 209 US cities. *Environment International* 2016, 94, 141-149.
 - 42) Lee, M.; **Shi, L.**; Zanobetti, A.; Schwartz, J., Study on the association between ambient temperature and mortality using spatially resolved exposure data. *Environmental Research* 2016, 151, 610-617.
 - 43) Akintoye, E.; **Shi, L.**; Obaitan, I.; Olusunmade, M.; Wang, Y.; Newman, J.; Dodson, J., Association between fine particulate matter exposure and subclinical atherosclerosis: A meta-analysis. *European Journal of Preventive Cardiology* 2016, 23, 602-612.
 - 44) Lou, H.; Yang, S.; Zhao, C.; **Shi, L.**; Wu, L.; Wang, Y.; Wang, Z., Detecting and analyzing soil phosphorus loss associated with critical source areas using a remote sensing approach. *Science of The Total Environment* 2016, 573, 397-408.
 - 45) Chang, C.; Barr, D.; Zhang, Q.; Dunlop, A.; Smarr, M.; Kannan, K.; Panuwet, P.; Tangpricha, V.; **Shi, L.**; Liang, D.; Corwin, E.; Ryan, B., 2021. Associations of Single and Multiple Per- and Polyfluoroalkyl Substance (PFAS) Exposure with Vitamin D Biomarkers in African American Women during Pregnancy. *Environmental Research*.
 - 46) Lou, H.; Scovronick, N.; Ren, X.; **Shi, L.**; Fu, Y.; Cai, M.; Luo, Y., Spatial distances balance vegetation recovery and human activities in a subtropical forest over the last 30 years. (Accepted).

Articles submitted/In review:

- 47) Napoli et al. (including **Shi, L.**), Tracking the impacts of climate change on human health via indicators: a guidance from the Lancet Countdown. (In review).
- 48) Wang, Y.; Xiao, S.; Zhang, Y.; Chang, H.; Martin, R.; Van Donkelaar, A.; Liu, Y.; Liu, P.; **Shi, L.***, Long-term exposure to PM_{2.5} major components and mortality in the southeastern US. (In review).
- 49) Li, J.; Wang, Y.; Steenland, K.; Liu, P.; Donkelaar, A.; Martin, R.; Chang, H.; Caudle, M.; Schwarts, J.; Koutrakis, P.; **Shi, L.**, Long-term exposure to PM_{2.5} major components and incident dementia. (In review).
- 50) Zhang, B.; Shen, H.; Yun, X.; Zhong, Q.; Henderson, B.; Wang, X.; **Shi, L.**; Gunthe, S.; Huey, L.; Tao, S.; Russell, A.; Liu, P., Global Emissions of Hydrogen Chloride and Particulate Chloride from Continental Sources. (In review).
- 51) Healy, J.; Danesh-Yazdi, M.; Wei, Y.; Dominici, F.; **Shi, L.**; Schwartz, J, Temperature variability and mortality across the United States. (Submitted).
- 52) Gao, Q.; Zang, E.; Liu, M.; Bi, J.; Dubrow, R.; Lowe, S.; Chen, H.; Zeng, Y.; **Shi, L.**; Chen, K., Long-term Ozone Exposure and Cognitive Impairment among

- Chinese Older Adults: A Cohort Study. (Submitted).
- 53) Yitshak Sade, M.; **Shi, L.**; Colicino, E.; Amini, H.; Schwartz, J.; Di, Q.; Wright, R., Air pollution exposure and diabetes occurrence. (Submitted).
- 54) Qiu, X.; Wei, Y.; Weisskopf, M.; Spiro, A.; **Shi, L.**; Castro, E.; Coull, B.; Koutrakis, P.; Schwartz, J., Long Term Exposure to Air Pollution, Climate Conditions and General Population Psychiatric Hospitalization – A Multi-State Analysis. (Submitted).
- 55) Danesh-Yazdi, M.; Wei, Y.; Di, Q.; Requia, W.; **Shi, L.**; Sabbath, B.; Dominici, F.; Schwartz, J., Long-term Exposure to Air Pollution and Temperature and Hospital Admissions with Cardiovascular and Respiratory Disease in the United States: a Difference in Differences Analysis. (Submitted).

Published datasets:

- 56) Di, Q.; Wei, Y.; Shtein, A.; Hultquist, C.; Xing, X.; Amini, H.; **Shi, L.**; Kloog, I.; Silvern, R.; Kelly, J.; Sabath, M. B.; Choirat, C.; Koutrakis, P.; Lyapustin, A.; Wang, Y.; Mickley, L. J.; Schwartz, J., 2021. Daily and Annual PM_{2.5} Concentrations for the Contiguous United States, 1-km Grids, v1 (2000 - 2016). Palisades, NY: *NASA Socioeconomic Data and Applications Center (SEDAC)*.

RESEARCH FUNDING

Grant Support - Current

1R01AG074357-01 (Shi) 09/2021 – 05/2026

NIH/NIA

Air Pollution and Alzheimer's Disease and Related Dementias: A National Study

Role: PI

1R21ES032606-01A1 (Shi) 03/2021 – 02/2023

NIH/NIEHS

Climate Penalty: Climate-driven Increases in Ozone and PM_{2.5} Levels and Mortality

Role: PI

Internal Grant (Shi) 09/2021 – 08/2022

Dean's Pilot and Innovation Grants – 3rd Round

PM_{2.5} components and overall and cause-specific mortality

Role: PI

Internal Grant (Shi) 04/2020 – 03/2022

The HERCULES Exposome Research Center

A Big Data Approach to PM_{2.5} and Its Components and Alzheimer's Disease

Role: PI

- Internal Grant (Shi)** 05/2020 – 04/2022
Goizueta Alzheimer's Disease Research Center
PM_{2.5} Components, Sources, and Alzheimer's Disease
Role: PI
- Internal Grant (Shi)** 08/2021 – 08/2022
Emory Climate and Health Research Incubator (ECHRI)
Wildfire Smoke Exposure and Incident Stroke Among the Older Adults
Role: PI
- 80NSSC21K0507 (Liu)** 02/2021 – 01/2025
NASA
Using Earth Observations to Support National and Global Environmental Health
Research and Surveillance
Role: Co-I
- 3R01ES027892-05S1 (Chang)** 07/2021 – 01/2022
NIH/NIEHS
Data Integration Methods for Environmental Exposures with Applications to Air
Pollution and Asthma Morbidity
Role: co-I
- 5R01ES027892 (Chang)** 12/2019 – 01/2022
NIH/NIEHS
Data Integration Methods for Environmental Exposures with Applications to Air
Pollution and Asthma Morbidity
Role: co-I
- P30ES019776 (Marsit)** 12/2019 – 03/2022
NIH/NIEHS
HERCULES: Health and Exposome Research Center at Emory
Role: Co-I
- NNX16AQ28G (Liu)** 12/2019 – 8/2021
NASA 2.4 cal. months
Using Earth Observations to Support Regional and National Environmental Health
Surveillance
Role: Co-I
- Internal Grant (P. Liu)** 09/2021 – 08/2022

The energy transition and public health
Assess climate-induced air pollution deterioration and its health risks in the
southeastern United States

Role: Co-I

INVITED TALKS AND PRESENTATIONS

- 2021 "Climate Change, Air Pollution, and Senior's Health." Invited talk, Peking University. (Virtual)
- 2021 "The application of remote sensing in environmental health." Invited talk, Beijing Normal University. (Virtual)
- 2021 "Long-term Effects of Fine Particulate Matter on Neurological Disorders in the US Medicare Population." China Health Policy and Management Society Annual Symposium 2021, Virtual. (Oral presentation)
- 2021 "Long-term air pollution exposure and incident dementia in an American elderly population: a national cohort study (2000-2018)." China Health Policy and Management Society Annual Symposium 2021, Virtual. (Oral presentation)
- 2021 "The application of remote sensing in Public Health." Invited talk, GeoInsider. (Virtual)
- 2021 "Air quality and neurological disorders." Invited talk, University of Copenhagen. (Virtual)
- 2021 "Air pollution and seniors' health." Invited talk, Yale University. (Virtual)
- 2021 "Urban air pollution may enhance COVID-19 case-fatality rate and mortality rate in US." Emory University. (Oral presentation)
- 2020 "Health effects of air pollution in the elderly population." Invited talk, Southern University of Science and Technology. (Virtual)
- 2020 "The application of remote sensing in environmental health studies." Invited talk, Beijing Normal University. (Virtual)
- 2020 "Long-term Effects of Fine Particulate Matter on Neurological Disorders in the US Medicare Population: a nationwide analysis." The 32nd Annual Conference of the ISEE, Virtual. (Oral presentation)
- 2019 "Climate Penalty: Climate-driven increases in ozone and PM_{2.5} levels and mortality." The 31st Conference of the ISEE, Utrecht, The Netherlands. (Poster)
- 2016 "Chronic Effects of Temperature on Mortality in South Eastern United States." The 10th International Conference on Air Quality, Milan, Italy. (Oral presentation)
- 2015 "Long Term Impacts of Temperature and Temperature Variability on Mortality in New England: Implications for Public Health Risk of Future Climate Change." The 27th Conference of the ISEE, Sao Paulo, Brazil. (Poster)

SERVICE TO PROFESSION

- Ad hoc reviewer:

The New England Journal of Medicine; The Lancet Public Health; Nature Communications; American Journal of Respiratory And Critical Care Medicine; Thorax; Environmental Health Perspectives; Environmental Science & Technology; Environmental International; Environmental Research; Environmental Pollution; Environmental Science and Pollution Research; Science of the Total Environment; Scientific Reports; The Innovation; Climatic Change; International Journal of Climatology; Journal of Environmental Management; Air Quality, Atmosphere & Health

- Guest editor, International Journal of Environmental Research and Public Health, special issue on The Exposome: Health Impacts of Environmental Exposures (2020-)
- Member, International Society of Environmental Epidemiology (2020-)
- Member, China Health Policy and Management Society (2020-)
- Member, American Heart Association (2021-)

SERVICE TO EMORY UNIVERSITY

- Member, RSPH Environmental Health Faculty Search Committee (2020-)
- Member, RSPH Computation and Data Science Advisory Group (2020-)
- Member, RSPH Environmental Health Master's Admissions Committee (2021)
- Member, RSPH Environmental Health Excellence Award Judge Panel (2021)

HONORS AND AWARDS

2021	Registration award of the 33 rd Annual Conference of the ISEE
2021	Runner-up for the 2020 CHPAMS Rising Scholar Best Paper Award
2020	Registration award of the 32 nd Annual Conference of the ISEE
2018	One of the papers in Environmental Health Perspectives' (EHP) 2018 Journal Impact Factor Collection
2016	Chinese Government Award for Outstanding Student Abroad
2012 – 2013	Harvard University Graduate Student Fellowship
2008	National Endeavor Scholarship

TEACHING EXPERIENCE

2020-	EH515 Air Quality in the Urban Environment (Emory, Co-instructor)
2020	EH587 Introduction to Satellite Remote Sensing (Emory, Co-instructor)
2020-	EH593R Data Analysis in Environmental Health (Emory, Co-instructor)
2021	EH590R R-based Quantitative Data Analysis (Emory, Co-instructor)
2020	EHS747 Advanced Environmental Epidemiology (Emory, Guest lecture)
2021	SMKK09001U Environmental Epidemiology (University of Copenhagen, Guest lecture)
2016	EH297 Atmospheric Environmental Seminars (Harvard, Teaching Assistant)
2016	EPI204 Analysis of Case-Control, Cohort, and Other Epidemiologic Data (Harvard, Lab Instructor)

MASTER THESIS ADVISEES

2021	Yaoyao Qian (EH, 2021 Charles C. Shepard Award Finalists); Shiwen Huang (EH); Mingrui Wang (EH); Andrew Rosenberg (EH); Sabrina
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Bogovic (EH); Yuhan Zhang (EPI); Haomin Li (EPI)
2022 Siyao Xiao (EH); Xianzhi Ye (EH)

DOCTORAL DISSERTATION ADVISEES

Active Tszshan Ma (EH), committee member
Qingyang Zhu (EH), committee member
Wenhao Wang (EH), committee member
Brigitte Pfluger (Nutrition), committee member

MENTORSHIP OF GRADUATE STUDENT

2021 – Yifan Wang (RAship); Haisu Zhang (RAship); Haomin Li (RAship)
2020 – 2022 Ayana Cunningham (EH); Keyanna Ralph (EH)

VISTING PHD STUDENTS

2019 – 2021 Kuo Zhang (EH), Tsinghua University, China

POSTDOC FELLOWS

2021 – Qiao Zhu

MENTORSHIP OF FACULTY

2020 – Maayan Yitshak-Sade, Icahn School of Medicine at Mount Sinai

SELECTED MEDIA COVERAGE

- November 3, 2020 “Air pollution linked to risk of hospital admission with dementia”
<https://www.medicalnewstoday.com/articles/air-pollution-linked-to-risk-of-hospital-admission-with-dementia>
- October 27, 2020 “Air pollution tied to neurological disorders in seniors”
<https://consumer.healthday.com/10-27-air-pollution-tied-to-neurological-disorders-in-seniors-2648521554.html>
- October 26, 2020 “Study finds significant link between PM2.5 pollution and neurological disorders in US”
<https://www.greencarcongress.com/2020/10/20201026-pm25.html>
- October 23, 2020 “Parkinson’s disease, Alzheimer’s, other neurological risks linked to air pollution study”
<https://www.aboutlawsuits.com/air-pollution-dementia-study-2-177226/>
- October 20, 2020 “Air pollution tied to higher hospitalization risk for PD, other neurological disorders”

- <https://www.ajmc.com/view/air-pollution-tied-to-higher-hospitalization-risk-for-pd-other-neurological-disorders>
- October 20, 2020 “Study finds significant link between air pollution and neurological disorders”
<https://www.publichealth.columbia.edu/public-health-now/news/study-finds-significant-link-between-air-pollution-and-neurological-disorders>
 - October 20, 2020 “Air pollution may increase risk of neurological deterioration”
<https://www.neuro-central.com/air-pollution-may-increase-risk-of-neurological-deterioration/>
 - October 19, 2020 “Significant link found between air pollution and neurological disorders”
<https://www.hsph.harvard.edu/news/press-releases/significant-link-found-between-air-pollution-and-neurological-disorders/>
 - October 23, 2020 “Covid-19 and air pollution, dangerously intertwined”
<https://www.ibsafoundation.org/covid-19-and-air-pollution-dangerously-intertwined/>
 - October 8, 2020 “Log-term exposure to urban air pollutants linked to COVID-19 mortality”
<https://www.azocleantech.com/news.aspx?newsID=28151>
 - October 7, 2020 “Urban air pollution may make COVID-19 more severe for some”
https://www.eurekaalert.org/pub_releases/2020-10/cp-uap100720.php
 - September 23, 2020 “Study links urban air pollution to COVID-19 deaths”
<https://sph.emory.edu/news/news-release/2020/09/air-pollution-covid-deaths.html>
 - 2018 Journal Impact Factor Collection
<https://ehp.niehs.nih.gov/curated-collections/2018-JIF>
 - June 5, 2015 “Even Low-Level Air Pollution May Cause Harm.”
http://well.blogs.nytimes.com/2015/06/05/even-low-level-air-pollution-may-cause-harm/?_r=0
 - June 4, 2015 “Air Pollution below EPA standards linked with higher death rates.”
<https://www.sciencedaily.com/releases/2015/06/150604100801.htm>
 - July 13, 2015 “How Climate Change Might Kill People”
<https://www.nbcnews.com/health/health-news/heres-how-climate-change-might-kill-people-n391226>
 - July 14, 2015 “Study: Climate change may be costing lives in U.S.”

- <https://www.cbsnews.com/news/climate-change-deaths-in-us-study/>
- July 30, 2015 “No Evidence of a Safe Threshold of Air Pollution.”
<http://www.worldhealth.net/news/no-evidence-safe-threshold-air-pollution/>
 - July 15, 2015 “Unpredictable Temperature Swings Boost Death Rates in the U.S.”
<http://www.iflscience.com/health-and-medicine/unpredictable-temperature-swings-boost-death-rates-us>
 - July 14, 2015 “Global Warming, Exercise, and Age: Effects Felt.”
<http://www.natureworldnews.com/articles/15645/20150714/global-warming-exercise-age-effects-felt.htm>
 - July 14, 2015 “Climate Change Could Up Death Rate In Seniors, Study Says.”
<http://www.techtimes.com/articles/68853/20150714/climate-change-could-up-death-rate-in-seniors-study-says.htm>
 - July 14, 2015 “Climate Change Could Be Affecting Mortality Rates Now.”
<http://www.hcplive.com/medical-news/climate-change-could-be-affecting-mortality-rates-now>
 - July 14, 2015 “Harvard: Climate Change Already Affecting Human Longevity.”
<http://www.modernreaders.com/is-climate-change-already-killing-us-harvard-study-suggests-perhaps/28482/ed-jones>
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