Yuzhou Wang

DLEB 410C, College Station, TX 77843, USA
Email: yuzhouw@tamu.edu | Phone: 979-845-9709 | Website: https://www.yuzhouwang.net/
Linkedin: https://www.linkedin.com/in/yuzhouwang | ORCiD: 0000-0003-3266-1367

CURRENT POSITION

Texas A&M University College Station, TX, USA
Assistant Professor, Zachry Department of Civil and Environmental Engineering Aug 2025 – Present

- Core Research Area: Air Quality Modeling; Air Pollution Exposure; Machine Learning; Large Language Model; Environmental Policy; Environmental Health

EDUCATION

University of California, Berkeley Berkeley, CA, USA
Postdoc Jul 2023 – Jul 2025

- Research Area: Air Quality Modeling; Air Pollution Exposure; Environmental Policy; Machine Learning
- Advisor: Joshua S. Apte

University of Washington Seattle, WA, USA
Ph.D. in Environmental Engineering Sep 2017 – Jun 2023

- Dissertation: *Understanding and addressing ambient air pollution exposure inequality*
- Advisor: Julian D. Marshall
- Other Committee Members: Timothy V. Larson, Lianne Sheppard, Alex Turner

Tsinghua University Beijing, China
B.E. in Environmental Engineering Aug 2013 – Jun 2017
B.A. in Business Administration Aug 2014 – Jun 2017

PUBLICATIONS (*corresponding author; student mentored underlined)

Peer-reviewed papers

1. Alan Gonzalez, Heewon Yim, Kyle McCary, Xiangxinyue Meng, Ajith Thenoor Chandran, Yue Zhang, **Yuzhou Wang***. "Modeling decadal organosulfates to improve estimations of aerosol hygroscopicity in the United States." *Environmental Science & Technology*. Accepted. 2026.
2. Neeldip Barman, Lucas Mendoza, **Yuzhou Wang**, Zainab Arub, Shivam Saxena, Piyush Bhardwaj, Joshua Apte, Julian Marshall, Srinidhi Balasubramanian, Chandra Venkataraman*. "Mitigation strategies for critically polluted PM2.5 regions using spatially targeted airsheds: Application to the Indo-Gangetic Plain, India." *npj Clean Air*, Accepted. 2026.
3. Azar Abadi, Kyle Brumfield, Moiz Usmani, Gemma Jiang, TC Chakraborty, **Yuzhou Wang**, Zhijie Zhou, Cenlin He, Minghao Qiu, Jennifer Stowell, Douglas Fritz, Sunil Kumar, Qiang Guo, Ying Xiong, Georgia Destouni, Qian Xiao, Xindi Hu, Kelvin Fong, Yun Hang, John Nielsen-Gammon, Rima Habre, Jennifer Bratburd, Christopher Tessum, Antarpreet Jutla, Rita Colwell, Gabriel Filippelli, Thanh Nguyen*. "Developing Scenario-Based Strategies for Health, Climate, and Environmental Preparedness: The One Health, One Earth Approach." *GeoHealth*, 10(4), e2025GH001674. DOI: 10.1029/2025GH001674. 2026. [Link]
4. **Yuzhou Wang**, Julian Marshall, Joshua Apte*. "US ambient air monitoring network has inadequate coverage under new $PM_{2.5}$ standard." *Environmental Science & Technology Letters*, 11(11), 1220–1226. DOI: 10.1021/acs.estlett.4c00605. 2024. [Link]

   Highlighted in ACS Press; C&EN; EOS; Inside Climate News; Berkeley Science Review

5. Siyu Zhu, Zhi Li, Mengye Chen, Yixin Wen, Zhong Liu, George Huffman, Theresa Tsoodle, Sebastian Ferraro, **Yuzhou Wang**, Yang Hong*. "Evaluation of IMERG climate trends over land in the TRMM and GPM eras." *Environmental Research Letters*, 20, 014064. DOI: 10.1088/1748-9326/ad984e. 2024. [Link]

6. **Yuzhou Wang**, Joshua Apte, Jason Hill, Cesunica Ivey, Dana Johnson, Esther Min, Rachel Morello-Frosch, Regan Patterson, Allen Robinson, Christopher Tessum, Julian. Marshall*. "Air quality policy should quantify effects on disparities." *Science*, 381, 6655. DOI: 10.1126/science.adg9931. 2023. [Link]

   Highlighted in The New York Times; The Associated Press; The Washington Post; National Public Radio

7. **Yuzhou Wang**, Joshua Apte, Jason Hill, Cesunica Ivey, Regan Patterson, Christopher Tessum, Julian Marshall*. "Location-specific strategies for eliminating US national racial-ethnic $PM_{2.5}$ exposure inequality." *Proceedings of the National Academy of Sciences*, 119 (4), e2205548119. DOI: 10.1073/pnas.2205548119. 2022. [Link]

   Highlighted in Popular Science; UW News

8. **Yuzhou Wang**, Yafeng Wang, Hao Xu, Yaohui Zhao, Julian Marshall*. "Ambient air pollution and socioeconomic status in China." *Environmental Health Perspectives*, 130 (6), 067001. DOI:10.1289/EHP9872. 2022. [Link]

   Highlighted in UW News

9. **Yuzhou Wang**, Matthew Bechle, Sun-Young Kim, Peter Adams, Spyros Pandis, Arden Pope, Allen Robinson, Lianne Sheppard, Adam Szpiro, and Julian Marshall*. "Spatial decomposition analysis of NO_2 and $PM_{2.5}$ air pollution in the United States." *Atmospheric Environment*, 241, 117470. DOI: 10.1016/j.atmosenv.2020.117470. 2020. [Link]

10. Jacob Lefler, Joshua Higbee, Richard Burnett, Majid Ezzati, Nathan Coleman, Dalton Mann, Julian Marshall, Matthew Bechle, **Yuzhou Wang**, Allen Robinson, Arden Pope*. "Air pollution and mortality in a large, representative US cohort: multiple-pollutant analyses, and spatial and temporal decompositions." *Environmental Health* 18(101), 1-11. DOI: 10.1186/s12940-019-0544-9. 2019. [Link]

Submitted papers

11. Srinidhi Balasubramanian, Lucas Rojas Mendoza, Neeldip Barman, **Yuzhou Wang**, Zainab Arub, Shivam Saxena, Bujin Bekbulat, Piyush Bhardwaj, Julian D. Marshall, Joshua S. Apte*, Chandra Venkataraman*. "Meeting India's clean air goals needs a spatially differentiated multi-scale, multi-sector mitigation approach." *Environmental Science & Technology*. Under Review.

12. Heewon Yim, Alan Gonzalez, Alana Dodero, Sahir Gagan, Kyle McCary, Sining Niu, Jie Zhang, Yue Zhang*, **Yuzhou Wang***. "Quantifying personal care product emissions, temporal profiles, and air-quality impacts using measurement-constrained Chemical Transport Modeling." *Environmental Science & Technology*. Revise & Resubmitted.

13. Ajith Thenoor Chandran, Xiangxinyue Meng, Kyle McCary, Alan Gonzalez, Heewon Yim, Qi Ying, **Yuzhou Wang**, Maria Zawadowicz, Yue Zhang*. "New particle formation and organic-driven growth enhance cloud condensation nuclei and cloud droplet number concentrations in a subtropical forest." *npj Climate & Atmospheric Science*. Under Review.

14. Lucas Mendoza, Neeldip Barman, **Yuzhou Wang**, Joshua Apte, Srinidhi Balasubramanian, Julian Marshall, Chandra Venkataraman. "Evaluating multi-scale heterogeneity in $PM_{2.5}$ exposures for India using an annualized reduced complexity model." *Environmental Science & Technology*. Under Review.

Working papers

15. Alan Gonzalez, **Yuzhou Wang***. **"**Population Exposure to Future Concentrations of Criteria Air Pollutants in Texas"

16. **Yuzhou Wang**, Cassidy Barrientos, Ling Jin, Libby Koolik, Julian Marshall, Lucas Rojas Mendoza, Alper Unal, Chandra Venkataraman, Yuhan Wang, Joshua Apte*. "Advancing state-level air quality management with new source-receptor tools." [Preprint Link]

17. **Yuzhou Wang**, et al. “An air quality AI assistant for risk communication”
18. Lucas Mendoza, **Yuzhou Wang**, Libby Koolik, Joshua Apte. “Analyzing sources and spatial scales of air pollution disparities for California air basins.”
19. Cassidy Barrientos, **Yuzhou Wang**, Ling Jin, Libby Koolik, Lucas Rojas Mendoza, Alper Unal, Joshua Apte “Cross comparison of air quality tools and datasets and impacts on disparity estimates.”
20. Cassidy Barrientos, **Yuzhou Wang**, Ling Jin, Libby Koolik, Lucas Rojas Mendoza, Alper Unal, Joshua Apte "Co-benefit of air quality and climate from controlling industrial facilities in California.”
21. Cassidy Barrientos, **Yuzhou Wang**, Yejia Liao, Ling Jin, Joshua Apte “Fine scale air quality modeling for ambient NOx.”

AWARDED GRANTS

2026 **PI.** National Academies of Sciences, Engineering, and Medicine (NASEM). “Gulf Research Program Early Career Fellowship - Community Track” $76,000 (Total)

2026 **PI.** Texas A&M University Center for Environmental Health Research (TiCER). “Mobility-Informed Air Pollution Exposure and Hospital Admissions in Texas” $50,000 (Total)

2026 **PI.** Texas A&M University Targeted Proposal Teams. “Multi-Source Integration of New Satellites, Low-Cost Sensors, and Human Mobility for Precision Air Pollution Exposure Assessment” $50,000 (Total)

2026 **Co-Investigator**. U.S. Department of Housing and Urban Development. Community Development Block Grant Mitigation. PI: Jaimie Masterson. $501,813 (Total); $41,406 (Wang’s portion)

2026 **Contributor.** The National Institute of Environmental Health Sciences (NIEHS). “Effects of an Intervention on Shipping-Related Air Pollution and Health” PI: Eun-Sug Park. $1,586,605 (Total); $24,717 (Wang’s portion)

PRESENTATIONS

Conference presentations

2025 “New Source-Receptor Tools for State-Level Air Quality Management” In AGU Fall Meeting (Talk)

2025 (Invited) “Leveraging Machine Learning and Large Language Models for Air Quality Modeling and Communication.” In EnviBayes Workshop on Complex Environmental Data 2025 (Talk)

2024 “Gaps and disparities in U.S. ambient air monitoring network under new $PM_{2.5}$ standard” In AGU Fall Meeting (Poster)

2024 “Addressing gaps and disparities in ambient air quality monitoring in the US.” In ISEE Annual Conference (Talk)

2023 “How would emission reductions in federally-defined disadvantaged communities reduce national air pollution exposure disparities?” In AGU Fall Meeting (Poster)

2023 “How would emission reductions in federally-defined disadvantaged communities reduce national air pollution exposure disparities?” ISEE Annual Conference (Talk)

2022 “Addressing U.S. racial-ethnic inequality in air pollution exposure.” ISEE Annual Conference (Talk)

2021 “Ambient air pollution and socioeconomic status in China.” ISEE Annual Conference (Talk)

2020 “Spatial decomposition analysis of NO_2 and $PM_{2.5}$ air pollution in the United States.” ISEE Annual Conference (Talk)

2019 “National disparities of air pollution exposure level by socioeconomic status in China.” ISEE Annual Conference (Poster Discussion)

Other invited talks & seminars

2026 “Tackling Air Pollution: New Models, Methods, and Policies” In the University of Texas San Antonio - Department of Civil and Environmental Engineering

2025 “Leveraging Machine Learning and Large Language Models for Air Quality Modeling and Communication”, EnviBayes Workshop on Complex Environmental Data 2025

2025 “Tackling Air Pollution: New Models, Methods, and Policies” In the University of Wisconsin-Madison - Department of Civil and Environmental Engineering

2025 “Tackling Air Pollution: New Models, Methods, and Policies” In the Texas A&M University - Zachry Department of Civil and Environmental Engineering

2025 “Tackling Air Pollution: New Models, Methods, and Policies” In Stanford University - Atmospheric Composition and Climate Lab

2024 “How to Address Disparities in Exposure to Ambient Air Pollution?” In the University of California, Berkeley - SHE/EQUIS Lab

2023 “Location-specific strategies for eliminating US national racial-ethnic PM2.5 exposure inequality.” In Environmental Defense Fund - Air Pollution Inequity Research Seminar

2023 “Introduction and application of reduced-form air quality models” Indian Institute of Technology Bombay

2023 “InMAP application: Location-specific strategies for eliminating racial-ethnic PM2.5 exposure inequality.” In the Center for Study of Science, Technology, and Policy

2023 “Addressing racial-ethnic inequality in air pollution.” In the University of Washington - DEI Town Hall

2022 “Addressing racial-ethnic inequality in exposure to PM2.5.” In the University of California, Berkeley - Civil and Environmental Engineering

2022 “Addressing U.S. racial-ethnic inequality in ambient air pollution exposure.” Inthe University of Washington - Atmospheric Physics & Chemistry Seminar

2018 “Spatial decomposition analysis of NO_2 and $PM_{2.5}$ air pollution in the United States.” Center for Air, Climate, & Energy Solutions Science Meeting

AWARDS AND HONORS

2026 Gulf Research Program Early-Career Research Fellowship, National Academies of Sciences, Engineering, and Medicine
2025 OneEarth OneHealth RCN Retreat Travel Awards
2017 Research Excellence Award, Tsinghua University
2016 Academic Progress Award, Tsinghua University
2016 Summer Research Abroad Fellowship, Tsinghua University
2016 Study Aboard Fellowship, Tsinghua University
2014 Volunteer Award, Tsinghua University
2013 First Prize, National Physics Olympiad (<0.01%)
2013 Second Prize, National Mathematical Olympiad
2013 Third Prize, National Chemistry Olympiad

TEACHING EXPERIENCE

Texas A&M University

- Instructor. Fundamentals of Air Quality (EVEN412, Upper-Level Undergraduate). Fall 2025; Fall 2026
- Instructor. Engineering Aspects of Air Pollution (CVEN 607, Graguate). Spring 2026

University of Washington/University of California, Berkeley

- Instructor. Air Quality Modeling Workshop. Feb 2023, Oct 2023, and Dec 2023

MENTORING EXPERIENCE AT TEXAS A&M UNIVERSITY

Current Doctoral Students

- Heewon Yim (Civil and Environmental Engineering)
- Alan Gonzalez (Civil and Environmental Engineering)

Current MS Students

- Reyna Burns (Civil and Environmental Engineering)
- Malvika Koushik (Computer Science and Engineering)
- Yeshu Lokesh (Computer Science and Engineering)

Current Undergraduate Students

- Kielinski, Mason (Civil and Environmental Engineering)

PhD Committee

- Aaron Brown (Statistics)
- Amitesh Sabut (Civil and Environmental Engineering)
- Ziqi Zhou (Geography)

OTHER MENTORING EXPERIENCE

Graduate students

- Lucas Mendoza (Jul 2023 - Jul 2025, University of California, Berkeley): "*Air pollution management and intervention tool for India*" and "*Sources and spatial scales of air pollution exposure disparities in California*"
- Cassidy Barrientos (Dec 2023 - Jul 2025, University of California, Berkeley): "*A reduced-form air quality model and source receptor matrix in California*"

Undergraduate students

- Kathryn McLaughlin, Darin Avila, and Julia Kashimura (Summer 2021, Princeton University): "*A Python package for calculating concentration changes from emission interventions*"

OTHER PROFESSIONAL EXPERIENCE

Postdoctoral Scholar — Berkeley, CA, USA
Department of Civil and Environmental Engineering, University of California, Berkeley — July 2023 – present

Graduate Research Assistant — Seattle, WA, USA
Department of Civil and Environmental Engineering, University of Washington — August 2017 –June 2023

Research Assistant — Los Angeles, CA, USA
Center for Neighborhood Knowledge, University of California, Los Angeles — July 2016 – September 2016

Research Assistant — Beijing, China
Center for Earth System Science, Tsinghua University — October 2015 – June 2017

Research Assistant — Beijing, China
Policy Research Center for Environment and Economy, Ministry of Environmental Protection — June 2015 – August 2015

PROFESSIONAL ASSOCIATIONS

Member of the International Society for Environmental Epidemiology, 2023-present

Member of the American Geophysical Union, 2023-present

ACADEMIC & COMMUNITY SERVICE

Proposal Reviewer:

- National Science Foundation (NSF), Computer and Information Science and Engineering (CISE), 2026

Department Service:

- Member, AREN Faculty Search Committee, 2026
- Reviewer, EVEN 400 Capstone Design Course, 2025

Journal Reviewer:

- *Nature Sustainability*; *Nature Cities*; *Nature Mental Health; Nature Communications*; *Environmental Science & Technology*; *Environmental Science & Technology Air; One Earth*; *Earth's Future; Environmental Pollution*; *GeoHealth*; *Environmental Research Letters*; *Journal of Transport Geography*; *BMC Public Health*; *Scientific Reports*; *Environmental Geochemistry and Health*; *Population and Environment*; *International Journal of Data Science and Analytics*

Professional Organization Committee:

- Member, AGU GeoHealth Early Career Committee
- Member, AGU GeoHealth Meetings Committee

Conference Paper & Presentation Reviewer:

- Transportation Research Board Annual Meeting - 2024
- American Geophysical Union Fall Meeting - 2023; 2024; 2025

Conference Convener & Chair:

- 2025 AGU Annual Meeting, oral and poster session "Computational Methods and Tools for Air Quality Exposure Assessments and Solutions"
- 2024 AGU Annual Meeting, oral and poster session "Innovative Models and Tools to Precisely Quantify and Identify Solutions for Air Pollution Exposure Inequality"

Public Comment:

- Written comment on "Science Advisory Board Project Proposal: SAB Advice on Advancing Environmental Justice Science in Rulemaking", with Julian Marshall and Joshua Apte. September 2023.
- Written comment on "Reconsideration of the National Ambient Air Quality Standards for Particulate Matter", on behalf of the North American Chapter of the International Society for Environmental Epidemiology. March 2023.