# Curriculum Vitae

**Yuan Yao, Ph.D.**
Department of Environmental Health Sciences, Fielding School of Public Health
University of California Los Angeles (UCLA)
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## PROFESSIONAL EXPERIENCE

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|---|---|
| Oct 2022-Present | Postdoctoral Scholar, Environmental Health Sciences, UCLA |
| Jul 2022-Sep 2022 | Research Associate, Environmental Health, Peking University |
| Jul 2021-Jun 2022 | Lab Manger, Peking University |

## EDUCATION

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|---|---|---|
| Sep 2017-Jun 2022 | Ph.D. | Environmental Health, Peking University |
| Sep 2013-Jun 2017 | B.Eng. | Environmental Engineering, Dalian University of Technology |

## SKILLS

1. **Exposure assessment**: mobile monitoring and field sampling of air pollutants ($PM_{2.5}$, black carbon, ultrafine particles, metals, VOCs)
2. **Health measurement**: extensive experience conducting environmental epidemiological studies in Beijing, Tibet, and Los Angeles
3. **Molecular biology**: RNA isolation and sequencing, biomarker analysis (cytokines, enzymes, neuroendocrine stress hormones)
4. **Biostatistics**: extensive experience with programming in R, GIS, and statistical modeling
5. **Community outreach:** community meetings, indoor and outdoor visits, and study report-backs across California—especially during disaster situations (e.g., the 2025 Los Angeles wildfires and the Aliso Canyon natural gas leak).

## RESEARCH INTERESTS

1. Environmental exposure assessments
2. Biological mechanisms underlying pollution-related health issues
3. Disparity and environmental justice in energy transitions
4. Nexus of air pollution, climate change, and human health

## HONORS AND AWARDS

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|---|---|
| Jun 2022 | Excellent Graduate, Peking University |
| Apr 2022 | Tang Xiaoyan Environmental Science and Innovation Scholarship, Peking University |
| Sep 2021 | President Scholarship, Peking University |
| 2017-2021 | Merit Student, Peking University |
| May 2019 | Special Prize of the National Graduate Student's Environment Forum, China |
| Oct 2019 | Future Scientist Award of the National Environmental Conference for Doctoral |

Students, China

Sep 2014 National Scholarship by Ministry of Education of China

## GRANTS

1. Title: Assessing Exposure and Developing Mitigation Strategies for Indoor Air Pollution Following the Los Angeles Urban Wildfires
   Project Period: 4/1/2025 – 6/31/2026
   Funding Source: R&S Kayne Foundation
   Total Award Amount: $550,000
   PI: Dr. Yifang Zhu, UCLA
   Served as Co-I: Wrote the proposal, led field team to recruit households within and near burn zones of the 2025 LA wildfires, conducted indoor/outdoor air toxics sampling, established real-time air sensor networks, and prepared community air quality reports.
   *Highlighted in Los Angeles Times; LA Fire Study Consortium*

2. Outdoor and Indoor Environmental Exposures from the 2025 Los Angeles Wildfires
   Project Period: 4/1/2025 – 3/31/2026
   Funding Source: California Air Resources Board (24RD019)
   Total Award Amount: $70,000
   PI: Dr. Michael Jerrett and Dr. Yifang Zhu, UCLA
   Served as Co-I: Wrote the proposal, led the data analysis of indoor and outdoor air samples, and wrote quarterly progress reports to the California Air Resources Board.

3. Title: Aliso Canyon Disaster Health Research Study
   Project Period: 12/1/2022 – 10/31/2027
   Funding Source: Los Angeles County Department of Public Health (PH-005030)
   Total Award Amount: $21,000,000
   PI: Dr. Michael Jerrett, UCLA
   Served as Co-I: Led the field team to recruit 40 households near gas leak sites and control locations in Los Angeles County, conducted two rounds of indoor and outdoor air toxics sampling, and prepared air quality reports for the community.

4. Title: Air Pollution, Climate Change, and Public Health Training Program
   Project Period: 07/15/2023 – 7/14/2024
   Funding Source: Energy Foundation
   Total Award Amount: $150,000
   PI: Dr. Yifang Zhu, UCLA
   Served as Co-I: Wrote the proposal and designed training sessions and study materials for Chinese officials from the Ministry of Ecology and Environment to learn about air quality control measures and regulations implemented by the California Air Resources Board, South Coast Air Quality Management District, and the U.S. Environmental Protection Agency.

5. Title: Susceptibility of Individuals with Chronic Obstructive Pulmonary Disease to Air Pollution Exposure in Beijing, China

Project Period: 01/01/2015 – 8/31/2019
Funding Source: Ministry of Science and Technology of China (2015CB553401)
Total Award Amount: CNY 5,180,000
PI: Dr. Tong Zhu, Peking University
Served as Co-I: Designed the human study protocol, recruited COPD patients and controls, conducted personal exposure assessments and health measurements, and wrote the final report.

## PUBLICATIONS

**ORCiD**: https://orcid.org/0000-0001-5981-2060
**Google Scholar**: https://scholar.google.com/citations?user=Bdy_YBoAAAAJ&hl=en

### Articles Submitted

1. **Yao Y**, Garcia-Gonzales D, Li J, Niu M, Jerrett M*, Zhu Y*. Indoor and outdoor volatile organic compound levels during and after the 2025 Los Angeles wildfires. *Preprint*, doi: 10.21203/rs.3.rs-4535756/v1. *Environmental Science & Technology Letters*, under review.
2. Li J, Bot M, Liu X, **Yao Y**, Ophoff R, Zhu Y*. Detection of SARS-CoV-2 RNA on air purifier filters in university spaces without known positive cases. *Aerosol Science & Technology*, major revision.
3. Chen X, **Yao Y** (co-first), Wang T, Chen W, Qiu X, Zhu T*. Multimode impact of temperature on disease-related transcriptome in the elderly in Beijing, China.
4. Li H, Chen X, Xu Y, Wang T, **Yao Y**, Chen W, Gong J, Qiu X, Zhu T*. Association between ambient temperature and thrombosis-related signaling lipids: Implications for early cardiovascular risk.
5. Qiao R, Hua Q, Li J, Shi Y, Chen W, Chai Q, Fan Y, Li A, Li H, Meng X, Sheng M, Xu R, Xu Y, **Yao Y**, Zhang Y, Zhang Y, Danzeng D, Zhuo G, Weschler CJ, Zhang J, Shang J, Qiu X, Zhu T*, Gong J*, Liu Y*. Dormitory ozone-derived carbonyls exposure associated with maladaptive elevation of red blood cell indices among healthy college students in Lhasa, Tibet.

### Articles Published

**First author:**

6. **Yao Y**, Niu M, Chen H, Yu Q, Wu Q, Li Y, Zhang Y, Ozcan A, Jerrett M, Zhu Y*. 2025. Fine particulate matter emissions from electric vehicle fast charging stations. *Environment International*, 201:109581. *Impact Factor: 9.7*

   *Highlighted in U.S. News & World Report; Bloomberg; Science Blog; UCLA News; UCLA FSPH News*

7. **Yao Y**, Jerrett M, Zhu T, Kelly F, Zhu Y*. 2025. Equitable energy transitions for a healthy future: Combating air pollution and climate change. *British Medical Journal (The BMJ)*, 388: e084352. *Impact Factor: 93.7*

   *Highlighted in The BMJ Editor's Choice; The BMJ Letters; PKU Environmental Health News*

8. Niu M, **Yao Y** (co-first), Chen H, Villanueva L, Zhu Y*. 2025. Fine and ultrafine particle concentrations in a cannabis consumption lounge. *Environmental Science & Technology Letters*, 12:183–188. *Impact Factor: 8.8*

*Highlighted in Cannabis Law Report; American Nonsmokers' Rights Foundation*

9. **Yao Y**, Chen X, Chen W, Gao K, Zhang H, Zhang L, Han Y, Xue T, Wang Q, Wang T, Xu Y, Wang J, Qiu X, Que C, Zheng M, Zhu T*. 2022. Transcriptional pathways of elevated fasting blood glucose associated with short-term exposure to ultrafine particles: A panel study in Beijing, China. *Journal of Hazardous Materials*, 430:128486. *Impact Factor: 11.3*

   *Highlighted in PKU News; PKU CESE News*

10. **Yao Y**, Chen X, Yang M, Han Y, Xue T, Zhang H, Wang T, Chen W, Qiu X, Que C, Zheng M, Zhu T*. 2022. Neuroendocrine stress hormones associated with short-term exposure to nitrogen dioxide and fine particulate matter in individuals with and without chronic obstructive pulmonary disease: A panel study in Beijing, China. *Environmental Pollution*, 309:119822. *Impact Factor: 7.3*

    *Highlighted in Cell Review*

11. **Yao Y**, Chen X, Chen W, Han Y, Xue T, Wang J, Qiu X, Que C, Zheng M, Zhu T*. 2021. Differences in transcriptome response to air pollution exposure between adult residents with and without chronic obstructive pulmonary disease in Beijing: A panel study. *Journal of Hazardous Materials*, 416:125790. *Impact Factor: 11.3*

    *Highlighted in PKU Environmental Health News*

12. **Yao Y**, Chen X, Chen W, Wang Q, Fan Y, Han Y, Wang T, Wang J, Qiu X, Zheng M, Que C, Zhu T*. 2020. Susceptibility of individuals with chronic obstructive pulmonary disease to respiratory inflammation associated with short-term exposure to ambient air pollution: A panel study in Beijing. *Science of the Total Environment*, 766:142639. *Impact Factor: 8.0*

13. **Yao Y**, Chen W, Chen X, Han Y, Zhu T*. 2019. Long-term storage of whole blood samples and RNA isolation in environmental epidemiological studies. *Acta Scientiae Circumstantiae*, 39(12), 4301–4308.

**Co-author:**

14. Yu Q, Que T, Cushing L, Shen K, Kejriwal M, **Yao Y**, Zhu Y*. 2025. Equity and reliability of public electric vehicle charging stations in the United States. *Nature Communications*, 16:5291. *Impact Factor: 15.7*

15. Hua Q, Meng X, Chen W, Xu Y, Xu R, Shi Y, Li J, Meng X, Li A, Chai Q, Sheng M, **Yao Y**, Fan Y, Qiao R, Zhang Y, Wang T, Zhang Y, Cui X, Yu Y, Li H, Tang R, Yan M, Bu D, Dangzeng D, Zhuo G, Hou L, Xue T, Liu Y, Shang J, Chen Q, Qiu X, Ye C, Gong J*, Zhu T*. 2025. Associations of short-term ozone exposure with hypoxia and arterial stiffness: Insights from a panel study. *Journal of the American College of Cardiology*, 85(6): 606–621. *Impact Factor: 22.3*

16. Wang T, Chen X, **Yao Y**, Chen W, Li H, Xu Y, Guan T, Gong J, Qiu X, Zhu T*. 2025. Pro-thrombotic changes in response to ambient ozone exposure exacerbated by temperatures. *Environmental Science & Technology*, 59(17): 8391–8401. *Impact Factor: 11.3*

17. Zhang Y, Chen X, Luan M, **Yao Y**, Xu Y, Chen W, Li X, Liu X, Zheng M, Zhu T*. 2025. Characteristics of personal exposure to metals in $PM_{2.5}$ and their implications for epidemiological studies: Insights from a panel study of the elderly in Beijing. *Environmental Research*, 285: 122697. *Impact Factor: 7.7*

18. Qiao R, Chen W, Shi Y, Chai Q, Fan Y, Hua Q, Li A, Li H, Li J, Meng X, Sheng M, Xu R, Xu Y, **Yao Y**, Zhang Y, Danzeng D, Zhuo G, Zhu T, Gong JC*, Liu YJ*. 2024. A comparative analysis on

indoor and outdoor $PM_{2.5}$ and their hourly associations with acute respiratory inflammation among college students in Lhasa. *Environmental Science & Technology*, 58(51): 22668–22677. *Impact Factor: 11.3*

19. Meng X, Hua Q, Xu R, Shi Y, Zhang Y, Yan M, Chen W, Xu Y, Fan Y, **Yao Y**, Wang T, Zhang Y, Li H, Yu Y, Cui X, Chai Q, Li A, Sheng M, Tang R, Qiao R, Bu D, Danzeng D, Zhuo G, Hou L, Xue T, Liu Y, Shang J, Chen Q, Qiu X, Ye C, Zhu T, Gong J*. 2024. A prospective study on the cardiorespiratory effects of air pollution on residents on the Tibetan Plateau. *Hygiene and Environmental Health Advances*, 12: 100115. *Impact Factor: 2.7*
20. Chen W, Han Y, Xu Y, Wang T, Wang Y, Chen X, Qiu X, Li W, Li H, Fan Y, **Yao Y**, Zhu T*. 2024. Potential mediation of systemic inflammation by bioactive lipids in response to fine particulate matter exposure in adult Beijing residents: a panel study. *Science of the Total Environment*, 931: 172993. *Impact Factor: 8.0*
21. Chen X, Zhu T*, Wang Q, Wang T, Chen W, **Yao Y**, Xu Y, Qiu X. 2023. Higher temperature and humidity exacerbate pollutant-associated lung dysfunction in the elderly. *Environmental Research*, 245: 118039. *Impact Factor: 7.7*
22. Zhang Y, Xu Y, Peng B, Chen W, Cui X, Zhang T, Chen X, **Yao Y**, Wang M, Liu J, Zheng M, Zhu T*. 2023. Quantification of the metallic components of $PM_{2.5}$ on quartz fiber filters using micro-synchrotron radiation X-ray fluorescence. *Atmospheric Environment*, 318:120205. *Impact Factor: 3.7*
23. Chen X, Luan M, Liu J, **Yao Y**, Li X, Wang T, Zhang H, Han Y, Lu X, Chen W, Hu X, Zheng M, Qiu X, Zhu T*. 2022. Risk factors in air pollution exposome contributing to higher levels of TNF alpha in COPD patients. *Environment International*, 159:107034. *Impact Factor: 9.7*
24. Wang T, Chen X, Li H, Chen W, Xu Y, **Yao Y**, Zhang H, Han Y, Gong J, Zhang L, Que C, Qiu X, Zhu T*. 2022. Platelet activation associated with ambient ultrafine particles in patients with chronic obstructive pulmonary disease: Roles of lipid peroxidation and inflammation. *Particle and Fibre Toxicology*, 19(1):65. *Impact Factor: 8.2*
25. Gao K, Chen X, Zhang L, **Yao Y**, Chen W, Zhang H, Han Y, Xue T, Wang J, Lu L, Zheng M, Qiu X, Zhu T*. 2022. Associations between differences in anemia-related blood cell parameters and short-term exposure to ambient particle pollutants in middle-aged and elderly residents in Beijing, China. *Science of the Total Environment*, 816: 151520. *Impact Factor: 8.0*
26. Xu Y, Chen X, Han Y, Chen W, Wang T, Gong J, Fan Y, Zhang H, Zhang L, Li H, Wang Q, **Yao Y**, Xue T, Wang J, Qiu X, Que C, Zheng M, Zhu T*. 2022. Ceramide metabolism mediates the impaired glucose homeostasis following short-term black carbon exposure: A targeted lipidomic analysis. *Science of the Total Environment*, 829:154657. *Impact Factor: 8.0*
27. Chen X, Que C, **Yao Y**, Han Y, Zhang H, Li X, Lu X, Chen W, Hu X, Wu Y, Wang T, Zhang L, Zheng M, Qiu X, Zhu T*. 2021. Susceptibility of individuals with lung dysfunction to systemic inflammation associated with ambient fine particle exposure: A panel study in Beijing. *Science of the Total Environment*, 788:147760. *Impact Factor: 8.0*
28. Gao K, Chen X, Li X, Zhang H, Luan M, **Yao Y**, Xu Y, Wang T, Han Y, Xue T, Wang J, Zheng M, Qiu X, Zhu T*. 2021. Susceptibility of patients with chronic obstructive pulmonary disease to heart rate difference associated with the short-term exposure to metals in ambient fine particles: A panel study in Beijing, China. *Science China: Life Sciences*, 65(2):387-397. *Impact Factor: 9.5*

29. Chen W, Han Y, Wang Y, Chen X, Qiu X, Li W, **Yao Y**, Zhu T*. 2020. Associations between changes in adipokines and exposure to fine and ultrafine particulate matter in ambient air in Beijing residents with and without pre-diabetes. *BMJ Open Diabetes Research & Care*, 8(2):e001215. *Impact Factor: 4.1*
30. Fan Y, Han Y, Liu Y, Wang Y, Chen X, Chen W, Liang P, Fang Y, Wang J, Xue T, **Yao Y**, Li W, Qiu X, Zhu T*. 2020. Biases arising from the use of ambient measurements to represent personal exposure in evaluating inflammatory responses to fine particulate matter: Evidence from a panel study in Beijing, China. *Environmental Science & Technology Letters*, 7(10):746-752. *Impact Factor: 8.8*

**Articles in preparation**

31. **Yao Y**, Chen X, Chen W, Luan M, Wang T, Qiu X, Zheng M, Zhu T*. Air pollution exposome and whole-blood transcriptome: A short-term, omics-based panel study in Beijing, China.
32. **Yao Y**, Li J, Nie Q, Niu M, Yu Q, Garcia-Gonzales D, Chen H, Jerrett M*, Zhu Y*. Indoor and outdoor fine particulate matter, black carbon, and metals during and after the 2025 Los Angeles wildfires.
33. **Yao Y**, Niu M, Park D, Marley S, Monte-Sano S, Batteate C, Yu Q, Aliso Exposure Core, Jerrett M*, Zhu Y*. Current levels of toxic air contaminants in communities affected by the 2015-2016 Aliso Canyon gas blowout.
34. **Yao Y,** Lee E, Ma Y, Lin Z, Hu S, Huai T, Paulson SE, Zhu Y*. Metal composition and oxidative potential of brake particulate matter emissions from light-duty and heavy-duty vehicles.
35. Niu M, **Yao Y**, Lin Z, Tang X, Paulson SE, Zhu Y*. Secondhand cannabis exposures, chemical constituents, and oxidative potential in a cannabis consumption lounge: A multi-zone assessment of exposure risks due to indoor cannabis use.

## PATENTS

1. Zhu T, **Yao Y**, Chen W. Long-term storage of whole blood samples and RNA isolation. Beijing: CN109554363A, 04/02/2019.

## CONFERENCE PRESENTATIONS

1. **Yao Y**, September 2025. From air pollution to action: using case-based guest lectures to promote real-world application in environmental health courses. *UCLA 52nd TA & Postdoc Teaching Conference*, **Oral**, Los Angeles. (Invited by UCLA Teaching and Learning Center)
2. **Yao Y** et al., August 2025. Elevated fine particulate matter levels at electric vehicle fast charging stations. *Joint Annual Meeting of the International Society of Exposure Science (ISES) and the International Society for Environmental Epidemiology (ISEE)*, **Poster**, Atlanta.
3. **Yao Y** et al., May 2025. Chemical composition of fine particulate matter emitted from electric vehicle fast charging stations. *Health Effects Institute (HEI) Annual Conference*, **Poster**, Austin.
4. **Yao Y** et al., October 2024. Fine particulate matter emissions from electric vehicle fast charging stations. *American Association for Aerosol Research (AAAR) Annual Conference*, **Oral**, Albuquerque.
5. **Yao Y** et al., April 2024. Air pollutant emissions from electric vehicle fast charging stations. *HEI Annual Conference*, **Poster**, Philadelphia.

6. **Yao Y** et al., October 2021. Association between short-term exposure to air pollution and neuroendocrine stress responses. *China Conference on Environment and Health*, **Poster**, Chengdu.
7. **Yao Y** et al., August 2021. Transcriptomics reveals the mechanisms of population susceptibility to blood glucose associated with short-term exposure to ambient fine and ultrafine particles. *Annual Conference of the ISEE*, **Oral**, New York.
8. **Yao Y** et al., August 2020. Inflammatory responses and gene expression levels to air pollution exposure. *Annual Conference of the ISEE*, **Poster**, Washington.
9. **Yao Y** et al., August 2019. Short-term exposure to ultrafine particles and whole blood transcriptome analysis. *Annual Conference of the ISEE*, **Oral**, Utrecht.
10. **Yao Y** et al., August 2018. Association between air pollution exposure and inflammation in chronic obstructive pulmonary disease patients. *Joint Annual Meeting of the ISES and the ISEE*, **Oral**, Ottawa.

## GUEST LECTURES

1. **Yao Y**, will be on December 3, 2025. Indoor and outdoor air pollutant levels during and after the 2025 Los Angeles wildfires. *UCLA Fielding School of Public Health*, EHS 411: Environmental Health Sciences Seminar Series, Los Angeles.
2. **Yao Y**, will be in November 2025. Health impacts of air pollution exposure. *UCLA Fielding School of Public Health*, EHS 225: Atmospheric Transport and Transformations of Airborne Chemicals, Los Angeles.
3. **Yao Y**, November 21, 2024. Air pollution, health effects, and vulnerable populations. *UCLA Fielding School of Public Health*, EHS 225: Atmospheric Transport and Transformations of Airborne Chemicals, Los Angeles.
4. **Yao Y**, March 16, 2024. Health effects of non-exhaust emissions. *Peking University College of Environmental Sciences and Engineering*, Seminar on the Panel Studies, Beijing.
5. **Yao Y**, March 13, 2024. Electric vehicles and their implications for environmental health. *UCLA Fielding School of Public Health*, ENV HLT100: Introduction to Environmental Health, Los Angeles.
6. **Yao Y**, November 25, 2023. Postdoctoral applications and research experience sharing. *Peking University College of Environmental Sciences and Engineering*, Beijing.
7. **Yao Y**, November 15, 2023. Health effects and population vulnerability to air pollution exposure. *UCLA Fielding School of Public Health*, EHS 411: Environmental Health Sciences Seminar Series, Los Angeles.
8. **Yao Y**, July 16, 2021. The impacts of air pollution on human health. *Peking University International Summer Institute*, Beijing.

## TEACHING EXPERIENCE

2018-2021 Teaching Assistant: Environmental Science, Peking University
2019-2020 Teaching Assistant: Methods and Applications of Biostatistics, Peking University
2018-2019 Teaching Assistant: Environmental Epidemiology, Peking University

## MENTORING EXPERIENCE

David Park (Research data analyst, UCLA, Oct 2023-Sep 2024)
Sienna Marley (MPH student, UCLA, Nov 2023-Jun 2025)
Bella Chen (Master/PhD student, UCLA, Nov 2023-Present)
Luke Villanueva (Undergraduate, UCLA, Jan 2024-Jun 2024)
Logan Umaguing (Undergraduate, UCLA, Jun 2025-Present)

## MEMBERSHIP

International Society for Environmental Epidemiology (ISEE)
International Society of Exposure Science (ISES)
American Geophysics Union (AGU)

## PEER REVIEWER

*Environmental Science & Technology *1*
*Journal of Advanced Research *1*
*Neuroscience & Biobehavioral Reviews *2*
*Environmental Research *6*
*Science of the Total Environment *2*
*Atmospheric Pollution Research *1*
*Computers, Environment and Urban Systems *1*
*Open Research Europe *1*
*Transportation Research Board (TRB) Annual Meeting *1*
*ISES-ISEE Annual Meeting *3*

## REFEREE LIST

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