

Qindan Zhu

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EDUCATION

University of California, Berkeley <i>Ph.D., Earth and Planetary Science</i>	Berkeley, CA <i>May 2022</i>
Peking University <i>B.S., Environmental Science & B.S., Mathematics and Applied Mathematics</i>	Beijing, China <i>Jul 2017</i>

HONORS & AWARDS

Atmospheric Chemistry Colloquium for Emerging Senior Scientists (ACCESS XVII) <i>Brookhaven National Laboratory</i>	2023
Civil and Environmental Engineering Rising Stars <i>Carnegie Mellon University</i>	2022
NOAA Climate & Global Change Postdoctoral Fellowship <i>University Corporation for Atmospheric Research</i>	2022-2024
Houghton Postdoctoral Fellowship <i>Massachusetts Institute of Technology</i>	Extended to 2025
AGU Outstanding Student Presentation Award <i>American Geophysical Union</i>	2021
Peking University Outstanding Student Award <i>Peking University</i>	2013-2017

PROFESSIONAL EXPERIENCE

NOAA Climate & Global Change Postdoctoral Fellow (Host: Arlene Fiore) <i>Massachusetts Institute of Technology</i>	Aug, 2022 – Now
CIRES Temporary Researcher on Model Development <i>Cooperative Institute for Research in Environmental Sciences at the University of Colorado Boulder</i>	Jan – Aug, 2022
Graduate Student Researcher (Advisor: Ron Cohen) <i>University of California, Berkeley</i>	Aug 2017 – Dec 2021
Summer Research Intern (Advisor: Rod Jones) <i>University of Cambridge</i>	Jun – Sep 2016
Undergraduate Researcher (Advisor: Keding Lu & Qi Chen) <i>Peking University</i>	Sep 2014 – Jul 2017

TEACHING EXPERIENCE

Summer Research Program, MIT <i>Mentor for a summer intern on an independent research project</i>	June - July, 2023
EPS 50 Planet Earth, UC Berkeley <i>Graduate student instructor for a first-year undergraduate lab class</i>	Jan - May, 2020
Atmospheric Chemistry Elite Scholars (ACES) Program, Berkeley <i>Mentor undergrad students conducting research using atmospheric data collected in the field.</i>	Jul - Aug, 2021
Bay Area Scientists in Schools (BASIS) <i>Teaching sciences lessons with elementary students in Bay Area.</i>	Oct 2017 - May 2022
Academic Writing in English, Peking University <i>Teacher Assistant for a graduate-level writing class.</i>	Jan - May 2017

PUBLICATIONS

First-authored publications:

1. **Zhu, Q.**, Place, B., Pfannerstill, E., Goldstein, A. C., Cohen, R. C. (2023). Direct observations of NO_x emissions over San Joaquin Valley using airborne flux measurements during RECAP-CA 2021 field campaign. *Atmospheric Chemistry and Physics*, 23, 9669–9683.
2. **Zhu, Q.**, Laughner, J. L., Cohen, R. C. (2022). Estimate of OH trends over one decade in North American cities. *Proceedings of the National Academy of Sciences*, 119(16), e2117399119.
3. **Zhu, Q.**, Laughner, J. L., Cohen, R. C. (2022). Combining Machine Learning and Satellite Observations to Predict Spatial and Temporal Variation of near Surface OH in North American Cities. *Environmental Science Technology*, 56(11), 7362-7371.
4. **Zhu, Q.**, Laughner, J. L., Cohen, R. C. (2019). Lightning NO₂ simulation over the contiguous US and its effects on satellite NO₂ retrievals. *Atmospheric Chemistry and Physics*. 19. 13067-13078.

Co-authored publications:

5. Fiore, A.; Loretta, M.; **Zhu, Q.**; Baublitz, C. (2023); Climate and Tropospheric Oxidizing Capacity, *Annual Reviews of Earth Planetary Sciences*, accepted.
6. Pfannerstill, E.; Arata, C.; **Zhu, Q.**; Schulze, B.; Woods, R.; Harkins, C.; Schwantes, R.; McDonald, B.; Seinfeld, J.; Bucholtz, A.; Cohen, R.; Goldstein, A. H. (2023), Comparison between spatially resolved airborne flux measurements and emission inventories of volatile organic compounds in Los Angeles, *Environmental Science & Technology*, accepted.
7. Pfannerstill, E. Y., Arata, C., **Zhu, Q.**, Schulze, B. C., Woods, R., Seinfeld, J. H., ... Goldstein, A. H. (2023). Volatile organic compound fluxes in the San Joaquin Valley—spatial distribution, source attribution, and inventory comparison. *EGUsphere*, 2023, 1-42.
8. Nussbaumer, C. M., Place, B. K., **Zhu, Q.**, Pfannerstill, E. Y., Wooldridge, P., Schulze, B. C., ... Cohen, R. C. (2023). Measurement report: Airborne measurements of NO_x fluxes over Los Angeles during the RECAP-CA 2021 campaign. *EGUsphere*, 2023, 1-20.
9. Roms, D. M., Latimer, K., **Zhu, Q.**, Jurkat-Witschas, T., Mahnke, C., Prabhakaran, T., ... Wendisch, M. (2023). Air pollution unable to intensify storms via warm-phase invigoration. *Geophysical Research Letters*, e2022GL100409.
10. Li, C., **Zhu, Q.**, Jin, X., Cohen, R. C. (2022). Elucidating Contributions of Anthropogenic Volatile Organic Compounds and Particulate Matter to Ozone Trends over China. *Environmental Science and Technology*, 56(18), 12906-12916.
11. Li, C., Xu, X., Liu, X., Wang, J., Sun, K., van Geffen, J., **Zhu, Q.**, Cohen, R. C. (2022). Direct Retrieval of NO₂ Vertical Columns from UV-Vis (390-495 nm) Spectral Radiances Using a Neural Network. *Journal of Remote Sensing*.
12. Jin, X., **Zhu, Q.**, Cohen, R. C. (2021). Direct estimates of biomass burning NO_x emissions and lifetimes using daily observations from TROPOMI. *Atmospheric Chemistry and Physics*, 21(20), 15569-15587.
13. Delaria, E. R., Place, B. K., Turner, A. J., **Zhu, Q.**, Jin, X., Cohen, R. C. (2021). Development of a Solar-Induced Fluorescence Canopy Conductance Model and Its Application to Stomatal Reactive Nitrogen Deposition. *ACS Earth and Space Chemistry*.
14. Laughner, J. L., **Zhu, Q.**, Cohen, R. C. (2019). Evaluation of version 3.0B of the BEHR OMI NO₂ product. *Atmospheric Measurement Techniques*, 12(1), 129-146.
15. Laughner, J. L., **Zhu, Q.**, Cohen, R. C. (2018). The Berkeley High Resolution Tropospheric NO₂ product. *Earth System Science Data*, 10(4), 2069-2095.
16. Wang, H., Lu, K., Chen, X., **Zhu, Q.**, Wu, Z., Wu, Y., Sun, K. (2018). Fast particulate nitrate formation via N₂O₅ uptake aloft in winter in Beijing. *Atmospheric Chemistry and Physics*, 18(14), 10483-10495.
17. Guan, T., Hu, S., Han, Y., Wang, R., **Zhu, Q.**, Hu, Y., ... Zhu, T. (2018). The effects of facemasks on airway inflammation and endothelial dysfunction in healthy young adults: a double-blind, randomized, controlled crossover study. *Particle and fibre toxicology*, 15(1), 1-12.
18. Mak, H. W. L., Laughner, J. L., Fung, J. C. H., **Zhu, Q.**, Cohen, R. C. (2018). Improved satellite retrieval of tropospheric NO₂ column density via updating of air mass factor (AMF): case study of Southern China. *Remote Sensing*, 10(11), 1789.
19. Wang, H., Lu, K., Chen, X., **Zhu, Q.**, Chen, Q., Guo, S., ... Zhang, Y. (2017). High N₂O₅ concentrations observed in urban Beijing: Implications of a large nitrate formation pathway. *Environmental Science Technology Letters*, 4(10), 416-420.

PRESENTATIONS (SELECTED)

- 2023 The 10th Conference on Air Benefit and Cost and Attainment Assessment, *Oral*
 2023 Nanjing University *Invited Talk*

2023 Peking University *Invited Talk*
 2023 Meteorology and Climate - Modeling for Air Quality Conference, *Oral*
 2023 ACCESS XVII, *Invited Talk*
 2023 NOAA CSL, *Invited Talk*
 2023 Composition Air quality Climate inTeractions Initiative (CACTI) Workshop, *Oral*
 2023 2023 SENSE.nano Symposium, *Invited Talk*
 2023 CESM Atmosphere / Whole Atmosphere / Chemistry-Climate working group meeting, *Oral*
 2022 Statistical Learning in Atmospheric Chemistry, *Invited Talk*
 2022 RECAP-SUNVEX field campaign workshop, *Invited Talk*
 2022 Atmospheric Mechanisms Conference, *Invited Talk*
 2022 Civil and Environmental Engineering Rising Stars, *Invited Talk*
 2022 NASA Goddard Space Flight Center, *Invited Talk*
 2022 AGU Fall Meeting, *Invited Talk*
 2022 TEMPO Annual Meeting, *Invited Talk*
 2022 AMS Annual Meeting, *Oral*
 2021 NASA Goddard Space Flight Center, *Invited Talk*
 2021 TEMPO Science Team Meeting, *Poster*
 2021 AMS Annual Meeting , *Oral*
 2020 AGU Fall Meeting, *Oral*
 2019 AGU Fall Meeting, *Poster*
 2018 AGU Fall Meeting, *Poster*

PROFESSIONAL ACTIVITIES

Session Co-Convener: A086. Sources and Fate of Volatile Organic Compounds (VOCs) and NO_x in Human-Made Environments, AGU 2022; A098. Multi-scale Air Quality Modelling: Development and Application, AGU 2023

Co-organizer: Statistical Learning in Atmospheric Chemistry (SLAC) group; MIT PAOC Colloquium

Reviewer: ACS Earth and Space Chemistry; Atmospheric Chemistry & Physics; Atmospheric Environment; Atmospheric Measurement Techniques; Environmental Science & Technology; Environmental Research Letters; Environmental Research; Environmental Pollution; Geophysical Research Letters; Journal of Geophysical Research: Atmospheres; Remote Sensing of Environment