Chuanyang Shen

Postdoctoral Researcher,
Riverside, California
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Postdoctoral Researcher at University of California, Riverside with extensive knowledge of Atmospheric Sciences and Atmospheric Environment. Strong data analytical ability. Organized with research and presentations educating students, peers and superiors on research analysis. Published research findings through peer-reviewed articles.

Education & Awards

Ph.D.: Atmospheric Physics and Atmospheric Environment Peking University 2016-2021

- Awarded Merit Student, President's Scholarship Recipient, Academic Scholarship Recipient
- Relevant Coursework: Atmospheric Physics and Atmospheric Environment, Environmental Modeling, Atmospheric Chemistry

Exchange Ph.D. student Massachusetts Institute of Technology 2018-2019

- CSC Scholarships recipient

Bachelor of Science: Atmospheric Sciences Peking University 2012-2016

- Awarded Excellent Thesis for Undergraduate Student, Awarded National Second Prize in the 2014 Contemporary Undergraduate Mathematical Contest in Modeling (CUMCM), Freshmen Scholarship Recipient
- Relevant Coursework: Data Structures and Algorithms, Advanced Mathematics, Linear Algebra, Mathematical Methods in Physics

Professional Experience

Postdoctoral Researcher at University of California, Riverside, CA 2021 to Present

- Authored 2 scientific papers and co-wrote 1 grant proposal.
- Designed and performed laboratory experiments to investigate chemical and physical processes during the aerosol oxidation processes.
- Performed environmental modelling for chamber experiments and field measurements.
- Presented research findings at conferences

Research Assistant at Peking University, Beijing, China 2016-2021

- Co-authored more than 10 research papers and presented at 3 international conferences based on academic findings.
- Took part in 3 field campaigns and was responsible for scientific instrument setup and maintenances
- Analyzed and interpreted lab and field measurement data.
- Mentored undergraduate students in the research project.

Research Assistant at Massachusetts Institute of Technology, Boston, MA 2018-2019

- Co-authored 3 peer-reviewed papers.
- Collaborated with a team of researchers in developing new instrument, conducting field measurements and writing research papers.
- Performed statistical, qualitative, and quantitative analysis of experimental and field measurement data to create representative graphs and charts for presentations.

Technical Skills

- Programming Language: PYTHON and MATLAB.
- Proficient with Data Analysis and Data Visualization.
- Good at Scientific Writing and Presentations.
- Experience with Environmental Modeling.
- Experience with Various Scientific Instruments, Field Measurements, Lab Experiments

Conference Presentations

Oral Presentation at AAAR 2023 **October 2023**
Title: Observation-Constrained Molecular Understanding of Isoprene SOA Formation in the Atmosphere.
Oral Presentation at AAAR 2022 **October 2022**
Title: Phase State and Relative Humidity Regulate the Heterogeneous Oxidation Kinetics and Pathways of Organic-Inorganic Mixed Aerosols.
Poster Presentation at AMS 2021 **August 2021**
Title: Effects of Multi-Charge on Aerosol Hygroscopicity Measurement by HTDMA.
Oral Presentation at AGU 2017 **December 2017**
Title: A novel method to estimate supersaturation ratio in the ambient activation process using aerosol and droplet measurement data.

Selected Publications

1. **Shen, C.**, Yang, X., Thornton, J., Shilling, J., Bi, C., Isaacman-VanWertz, G., and Zhang, H.: Observation-Constrained Kinetic Modelling of Isoprene SOA Formation in the Atmosphere, EGUsphere [preprint], https://doi.org/10.5194/egusphere-2024-97, 2024.
2. **Shen, C.**, Zhang, W., Choczynski, J., Davies, J. F., & Zhang, H. (2022). Phase State and Relative Humidity Regulate the Heterogeneous Oxidation Kinetics and Pathways of Organic-Inorganic Mixed Aerosols. Environmental Science & Technology, 56(22), 15398-15407.
3. **Shen, C.**, Zhao, C., Ma, N., Tao, J., Zhao, G., Yu, Y., & Kuang, Y. (2018). Method to Estimate Water Vapor Supersaturation in the Ambient Activation Process Using Aerosol and Droplet Measurement Data. Journal of Geophysical Research: Atmospheres, 123(18). doi:10.1029/2018jd028315
4. **Shen, C.**, Zhao, G., Zhao, W., Tian, P., & Zhao, C. (2021). Measurement report: aerosol hygroscopic properties extended to 600 nm in the urban environment. Atmos. Chem. Phys., 21(3), 1375-1388. doi:10.5194/acp-21-1375-2021
5. **Shen, C.**, Zhao, G., & Zhao, C. (2021). Effects of multi-charge on aerosol hygroscopicity measurement by a HTDMA. Atmos. Meas. Tech., 14(2), 1293-1301. doi:10.5194/amt-14-1293-2021
6. Zhang, W., Zhao, Z., **Shen, C.**, Zhang, H.* Unexpectedly efficient aging of organic aerosols mediated by autoxidation, Environ. Sci. Technol., 2023, 57, 6965 – 6974. DOI: 10.1021/acs.est.2c09773.
7. Koolik, L., Roesch, M., Dameto de Espana, C., Rapp, C. N., Franco Deloya, L. J., **Shen, C.**, ... & Cziczo, D. J. (2022). A phase separation inlet for droplets, ice residuals, and interstitial aerosol particles. Atmospheric Measurement Techniques, 15(10), 3213-3222.
8. Zhao, G., **Shen, C.**, & Zhao, C. (2020). Technical note: Mismeasurement of the core-shell structure of black carbon-containing ambient aerosols by SP2 measurements. Atmospheric Environment, 243, 117885. doi:https://doi.org/10.1016/j.atmosenv.2020.117885.
9. Wolf, M. J., Goodell, M., Dong, E., Dove, L. A., Zhang, C., Franco, L. J., **Shen, C.**, ... & Cziczo, D. J. (2020). A link between the ice nucleation activity and the biogeochemistry of seawater. Atmospheric Chemistry and Physics, 20(23), 15341-15356.
10. Su, T., Li, Z., Li, C., Li, J., Han, W., **Shen, C.**, Tan, W., Wei, J., Guo, J. (2020) The significant impact of aerosol vertical structure on lower atmosphere stability and its critical role in aerosol–planetary boundary layer (PBL) interactions. Atmos. Chem. Phys., 20(6), 3713-3724. doi:10.5194/acp-20-3713-2020.
11. Zhao, G., Tao, J., Kuang, Y., **Shen, C.**, Yu, Y., & Zhao, C. (2019). Role of black carbon mass size distribution in the direct aerosol radiative forcing. Atmospheric Chemistry and Physics, 19(20), 13175-13188. doi:10.5194/acp-19-13175-2019.
12. Su, T., Li, J., Li, C., Lau, A. K. H., Yang, D., **Shen, C.** (2017). An intercomparison of AOD-converted PM2.5 concentrations using different approaches for estimating aerosol vertical distribution. Atmospheric Environment, 166, 531-542.