Ruijun Dang

John A. Paulson School of Engineering and Applied Sciences, Harvard University
29 Oxford St., Cambridge, MA 02138 U.S.A.
Webpage: https://www.ruijundang.pro/ Email: rjdang@g.harvard.edu

EDUCATION

Institute of Atmospheric Physics, Chinese Academy of Sciences, Beijing, China 2015 – 2020
Ph. D., Atmospheric Physics and Atmospheric Environment

Nanjing University, Nanjing, Jiangsu, China 2011 – 2015
B.S., Atmospheric Sciences

PROFESSIONAL EXPERIENCE

Research Associate, Harvard University 2024 – Present
Advisor: Daniel J. Jacob

Postdoctoral Researcher, Harvard University 2021 – 2024
Advisor: Daniel J. Jacob

Research Assistant, Institute of Atmospheric Physics 2020 – 2021
Advisor: Hong Liao

Graduate Research Assistant, Institute of Atmospheric Physics 2015 – 2020
Advisor: Hong Liao

Undergraduate Research Assistant, Nanjing University 2014 – 2015
Advisor: Jane Liu

Undergraduate Research Assistant, Nanjing University 2013 – 2014
Advisor: Tijian Wang

PUBLICATIONS

In review / in preparation:

18. **Dang, R.**, Jacob, D. J., Oak, Y. J., Yang, L. H., Wang, H., Nowlan, C. R., and Chong, H., High-resolution cloud-sliced free tropospheric NO2 observations from the TEMPO geostationary satellite instrument, (in prep).
17. Oak, Y. J., Jacob, D. J., Pendergrass, D. C., **Dang, R.**, Chong, H., Lee, S., Kuk, S., and Kim, J. Air quality trends and perspectives in South Korea inferred from 2015-2023 surface and satellite observations, (in prep).
16. Yang, L.H., Jacob, D. J., Lin, H., **Dang, R.**, Bates, K.H., East, J.D., Travis, K.R., Pendergrass, D.C., and Murray, L.T.: Model underestimates of OH reactivity cause overestimate of hydrogen's climate impact, *Nature Sustainability*, (submitted).
15. **Dang, R**., Jacob, D. J., Zhai, S., Yang, L. H., Pendergrass D. C., Coheur, P., Clarisse, L., Van Damme, M., Choi, J., Park, J., Liu, Z., Xie, P., and Liao, H.: A satellite-based indicator for diagnosing particulate nitrate sensitivity to precursor emissions: application to East Asia, Europe, and North America, *Environmental Science & Technology*, (in review).

First-authored publications:

14. **Dang, R.**, Jacob, D. J., Zhai, S., Coheur, P., Clarisse, L., Van Damme, M., Pendergrass, D. C., Choi, J.-s., Park, J.-s., Liu, Z., and Liao, H. (2023). Diagnosing the Sensitivity of Particulate Nitrate to Precursor Emissions Using Satellite Observations of Ammonia and Nitrogen Dioxide, ***Geophysical Research Letters**, 50, e2023GL105761, https://doi.org/10.1029/2023GL105761*.
13. **Dang, R.**, Jacob, D. J., Shah, V., Eastham, S. D., Fritz, T. M., Mickley, L. J., Liu, T., Wang, Y., and Wang, J. (2023). Background nitrogen dioxide (NO2) over the United States and its implications for satellite observations and trends: effects of nitrate photolysis, aircraft, and open fires, ***Atmospheric Chemistry and Physics**, 23, 6271-6284, 10.5194/acp-23-6271-2023*.
12. **Dang, R.**, Liao, H., and Fu, Y. (2021). Quantifying the anthropogenic and meteorological influences on summertime surface ozone in China over 2012-2017, ***Science of the Total Environment**, 754, 142394-142394, 10.1016/j.scitotenv.2020.142394*.
11. **Dang, R.**, and Liao, H. (2019). Radiative forcing and health impact of aerosols and ozone in China as the consequence of clean air actions over 2012-2017, ***Geophysical Research Letters**, 46, 12511-12519, 10.1029/2019gl084605*.
10. **Dang R.**, and Liao, H. (2019). Severe winter haze days in the Beijing-Tianjin-Hebei region from 1985-2017 and the roles of anthropogenic emissions and meteorology, ***Atmospheric Chemistry and Physics**, 19, 10801-10816, 10.5194/acp-19-10801-2019*.

Co-authored publications:

9. Lin, H., Emmons, L. K., Lundgren, E. W., Yang, L. H., Feng, X., **Dang, R.**, Zhai, S., Tang, Y., Kelp, M. M., Colombi, N. K., Eastham, S. D., Fritz, T. M., and Jacob, D. J.: Intercomparison of GEOS-Chem and CAM-chem tropospheric oxidant chemistry within the Community Earth System Model version 2 (CESM2), ***Atmospheric Chemistry and Physics**, 24, 8607-8624, 10.5194/acp-24-8607-2024*.
8. Yang, L. H., Jacob, D. J., **Dang, R.**, Oak, Y. J., Lin, H., Kim, J., Zhai, S., Colombi, N. K., Pendergrass, D. C., Beaudry, E., Shah, V., Feng, X., Yantosca, R. M., Chong, H., Park, J., Lee, H., Lee, W. J., Kim, S., Kim, E., Travis, K. R., Crawford, J. H., and Liao, H. (2023). Interpreting GEMS geostationary satellite observations of the diurnal variation of nitrogen dioxide (NO2) over East Asia, ***Atmospheric Chemistry and Physics**, 24, 7027-7039, 10.5194/acp-24-7027-2024*.
7. Zhai, S., Jacob, D. J., Franco, B., Clarisse, L., Coheur, P., Shah, V., Bates, K. H., Lin, H., **Dang, R.**, Sulprizio, M. P., Huey, L. G., Moore, F. L., Jaffe, D. A., and Liao, H.: Transpacific transport of Asian peroxyacetyl nitrate (PAN) observed from satellite: implications for ozone, ***Environmental Science & Technology***, 10.1021/acs.est.4c01980, 2024.
6. Shah, V., Jacob, D. J., **Dang, R.**, Lamsal, L. N., Strode, S. A., Steenrod, S. D., Boersma, K. F., Eastham, S. D., Fritz, T. M., Thompson, C., Peischl, J., Bourgeois, I., Pollack, I. B., Nault, B. A., Cohen, R. C., Campuzano-Jost, P., Jimenez, J. L., Andersen, S. T., Carpenter, L. J., Sherwen, T., and Evans, M. J. (2023). Nitrogen oxides in the free troposphere: implications for tropospheric oxidants and the interpretation of satellite NO2 measurements, ***Atmospheric Chemistry and Physics**, 23, 1227-1257, 10.5194/acp-23-1227-2023*.
5. Li, J., Hao, X., Liao, H., Dai, H., Li, N., Gu, Y., **Dang, R.**, Li, B., and Wei, Y. (2023). Air pollution mitigation in North China through flexible heating policies, ***Environmental Research Letter**, 18, 024026, 10.1088/1748-9326/acb3e2*.
4. Wang, P., Yang, Y., Li, H., Chen, L., **Dang, R.**, Xue, D., Li, B., Tang, J., Leung, L. R., and Liao, H. (2022). North China Plain as a hot spot of ozone pollution exacerbated by extreme high temperatures, ***Atmospheric Chemistry and Physics**, 22, 4705-4719, 10.5194/acp-22-4705-2022*.

3. Hao, X., Li, J., Wang, H., Liao, H., Yin, Z., Hu, J., Wei, Y., and **Dang, R.** (2021). Long-term health impact of PM2.5 under whole-year COVID-19 lockdown in China, ***Environmental Pollution****, 290, 118118, https://doi.org/10.1016/j.envpol.2021.118118*.
2. Gong, C., Liao, H., Zhang, L., Yue, X., **Dang, R.**, and Yang, Y. (2020). Persistent ozone pollution episodes in North China exacerbated by regional transport, ***Environmental Pollution****, 265, 115056, 10.1016/j.envpol.2020.115056*.
1. Zhu, J., Chen, L., Liao, H., and **Dang, R.** (2019). Correlations between PM2.5 and Ozone over China and Associated Underlying Reasons**,** ***Atmosphere****, 10, 15, 10.3390/atmos10070352*.

PRESENTATIONS

2024. The TEMPO/GEMS Joint Science Team Workshop, Kailua-Kona, HA (Talk)

2024. The 11th International GEOS-Chem Meeting, St. Louis, MO (Talk)

2023. AGU Fall Meeting, San Francisco, CA (Poster)

2023. Joint Science Meeting for TEMPO, GeoXO ACX, & TOLNet, Huntsville, AL (Poster)

2023. AMS Annual Meeting, Denver, CO (Talk)

2022. AGU Fall Meeting, Chicago, IL (Poster)

2022. The 10th International GEOS-Chem Meeting, St. Louis, MO (Talk)

2021. Peking University Seminar, virtual (Invited talk)

2020. The 26th Atmospheric Environment Meeting, Chinese Society for Environmental Sciences (Talk)

2019. AGU Fall Meeting, San Francisco, CA (Talk)

2019. The 25th Atmospheric Environment Meeting, Chinese Society for Environmental Sciences, Chengdu, Sichuan China (Talk)

2019. The 9th International GEOS-Chem Meeting, Cambridge, MA (Poster)

2018. AGU Fall Meeting, Washington D. C. (Talk)

2018. The 24th Atmospheric Environment Meeting, Chinese Society for Environmental Sciences, Qingdao, Shandong China (Talk)

2018. The 1st Regional GEOS-Chem Asia Meeting, Nanjing, Jiangsu China (Talk)

2017. The 8th International GEOS-Chem Meeting, Cambridge, MA (Poster)

SELECTED AWARDS & HONORS

Outstanding Student Presentation Award, *Chinese Society for Environmental Sciences*	2018
Outstanding Student Award, *Chinese Academy of Sciences*	2016
Outstanding Graduate Award, *Nanjing University*	2015
National Scholarship, *Nanjing University*	2014
Outstanding Student Award, *Nanjing University*	2012 – 2015
People's Scholarship, *Nanjing University*	2012 – 2013

TEACHING & MENTORING EXPERIENCE

Teaching Assistant 2018 – 2019

Aerosols and Climate Change, University of Chinese Academy of Sciences

Mentor 2024

Jaden Southern (undergraduate student, Stanford University)

Project: Evaluating TEMPO satellite HCHO and NO_2 products

Mentor 2024

Yunxiao Tang (graduate student, Harvard University)

Project: CHEEREIO inversion of TEMPO NO_2 to infer NO_x emissions

PROFESSIONAL ACTIVITIES

Member of American Geophysical Union, American Meteorological Society

OSPA Judge at 2023 AGU Fall Meeting

Co-leader of Air Quality & Chemistry subgroup, Harvard ACMG (2022 – present)

Organizer of Harvard Atmospheric & Environmental Chemistry Seminars (2022 – 2023)

Peer Reviewer for Environmental Science and Technology Air, Environmental Science and Technology Letters, Atmospheric Chemistry and Physics, Geophysical Research Letters, Geoscientific Model Development, Environmental Research Letters, Journal of Geophysical Research – Atmospheres, Earth's Future, Environmental International, Atmospheric and Oceanic Science Letters