

Jian Guan

Department of Earth, Atmospheric, and Planetary Sciences, Massachusetts Institute of Technology
77 Massachusetts Ave, 54-1711, Cambridge, MA 02139
Email: jianguan@mit.edu | Website: jian-guan.github.io

Education

Massachusetts Institute of Technology, Cambridge, MA	Sep 2022 – May 2027
Ph.D. candidate in Climate Science	(expected)
Advisor: Susan Solomon	
Renmin University of China, Beijing, China	Sep 2018 – May 2022
B.S. in Environmental Engineering	

Publications

Under revision & submitted

2. Qindan Zhu, Arlene M Fiore, Robert Pincus, **Jian Guan**, Clare E. Singer, Brian Medeiros, and Paolo Giani. (2026). Weak OH Response to Idealized ENSO. (*In Revision following peer review*)
1. **Jian Guan**, Benjamin D. Santer, Peidong Wang, Qiang Fu, Rolando R. Garcia, Yaowei Li, Kane Stone, Douglas Kinnison, Jun Zhang, Gabriel Chiodo, Jean-Francois Lamarque, and Susan Solomon. (2026). Human Influence on the Ozone Layer Detectable by the 1960s. (*In Revision following peer review*)

Peer-reviewed

8. Qindan Zhu, Nicole Neumann, Arlene M. Fiore, Robert Pincus, **Jian Guan**, George Milly, Clare Singer, Brian Medeiros, and Paolo Giani. (2026). Uncertain Natural Emissions Modulate the Response of Hydroxyl Radical (OH) to Idealized Surface Warming. *Journal of Advances in Modeling Earth Systems*. (*In press*)
7. **Jian Guan**, Susan Solomon, Daniel M. Murphy, Kane Stone, Pengfei Yu, Douglas Kinnison, Gregory P. Schill, Simone Tilmes, and Michael J. Lawler. (2025). Limited Long-Term Photolysis of Stratospheric Organic Aerosols With Implications for CESM Modeling. *Journal of Advances in Modeling Earth Systems*, 17(11), e2025MS005084. [Link]
6. Kane Stone, Susan Solomon, Pengfei Yu, Daniel M. Murphy, Douglas Kinnison, and **Jian Guan**. (2025). Two-years of stratospheric chemistry perturbations from the 2019/2020 Australian wildfire smoke. *Atmospheric Chemistry and Physics*, 25(14), 7683–7697. [Link]
5. Jun Zhang, Peidong Wang, Douglas Kinnison, Susan Solomon, **Jian Guan**, Kane Stone, and Yunqian Zhu. (2024). Stratospheric chlorine processing after the unprecedented Hunga Tonga eruption. *Geophysical Research Letters*, 51(17), e2024GL108649. [Link]
4. **Jian Guan**, Susan Solomon, Sasha Madronich, and Douglas Kinnison. (2023). Inferring the photolysis rate of NO₂ in the stratosphere based on satellite observations. *Atmospheric Chemistry and Physics*, 23(18), 10413–10422. [Link]

3. Lei Wang, **Jian Guan** (co-first author), Hao Han, Mingyue Yao, Jian Kang, Meng Peng, Desheng Wang, Jiayu Xu, and Jiming Hao. (2022). Enhanced photocatalytic removal of ozone by a new chlorine-radical-mediated strategy. *Applied Catalysis B: Environmental*, 306, 121130. [Link]
2. **Jian Guan**, Zeqing Long, Qiangang Li, Jinchi Han, Hongbiao Du, Pengfei Wang, and Guangming Zhang. (2021). Citric acid modulated preparation of CdS photocatalyst for efficient removal of Cr (VI) and methyl orange. *Optical Materials*, 121, 111604. [Link]
1. **Jian Guan**, Bohan Jin, Yizhe Ding, Wen Wang, Guoxiang Li, and Pubu Ciren. (2021). Global surface HCHO distribution derived from satellite observations with neural networks technique. *Remote Sensing*, 13(20), 4055. [Link]

Presentations and Conferences

8. Congress of China Geodesy and Geophysics, Shanghai. 2026.
7. American Geophysical Union Fall Meeting, New Orleans, Louisiana. 2025.
6. NDACC Symposium, Virginia Beach, Virginia. 2025.
5. Quadrennial Ozone Symposium, Boulder, Colorado. 2024.
4. American Meteorological Society Conference on Middle Atmosphere, Burlington, Vermont. 2024.
3. Cloud Feedback Model Intercomparison Project, Boston, Massachusetts. 2024.
2. American Geophysical Union Fall Meeting, San Francisco, California. 2023.
1. American Geophysical Union Fall Meeting, Chicago, Illinois. 2022.

Selected Honors and Awards

Praecis Presidential Fellow, MIT	2022 – 2023
Jule Charney Prize, MIT	2022

Journal Review

Atmospheric Chemistry and Physics; Eco-Environment & Health