



Xin Zhang

Department of Atmospheric Physics
Nanjing University of Information Science & Technology (NUIST)
Nanjing, Jiangsu, 210044, China

☎ (+86) 15895938361 | ✉ xinzhang1215@gmail.com |
🏠 December 15th, 1995 | 🏠 dreambooker.site | 📷 zxdawn

EDUCATION

Nanjing University of Information Science & Technology (NUIST) 2017 - present

M.S. & Ph.D. in Atmospheric Physics & Environment

Advisor: Yan Yin

- Dissertation: "The Impacts of Convective Transport and Lightning on the Vertical Distribution of Trace Gases"

Royal Netherlands Meteorological Institute (KNMI) 2021 - 2022

Joint Ph.D. in Satellite Observations

Advisor: Ronald van der A

- Field of study: "Emission Estimates from Satellite Data"

Nanjing University of Information Science & Technology (NUIST) 2013 - 2017

B.S. in Environmental Science

Advisor: Yan Yin

- Dissertation: "The Impacts of Deep Convection on the Vertical Distribution of Ozone"

RESEARCH EXPERIENCE

NUIST 2017 - present

Graduate Researcher

- Developing the OMI lightning NO_x retrieval algorithm based on a high-resolution chemical model (WRF-Chem).
- Diagnosing the upper tropospheric O_3 and NO_x budgets through a combination of field campaigns, satellite data, and models.
- Analyzing the relationship between lightning activity and cloud top height using geostationary satellite observations (GOES-16 ABI & GLM).

KNMI 2021 - 2022

Intern

- Estimating the lifetime and emissions of lightning NO_2 using satellite observations (TROPOMI, VIIRS) and ground lightning datasets.

NUIST 2016 - 2017

Undergraduate Researcher

- Evaluating the effects of deep convection on O_3 profiles using satellite observations (MLS, FY-2).

HONORS & AWARDS

2021 **Open Science Award**, EO Dashboard Hackathon *ESA, JAXA, NASA*

2021 **National Scholarship for Studying Abroad**, China
Scholarship Council *CSC, China*

2020 **Certificate**, the International AI Training Program for Chinese Universities *NCEPU, China*

2018	Scholarship of the Postgraduate Research & Practice Innovation Program , Grant no. KYCX20_0922	<i>Jiangsu, China</i>
2017	Merit-based Scholarship , University	<i>NUIST, China</i>

PRESENTATIONS

2022	Spaceborne observations of lightning NO ₂ in the Arctic, <i>CTR Wilson Meeting for Atmospheric Electricity</i> , online, Nov 2022. (oral)
2022	Processing EO satellite data with Pytroll, <i>Lunch Talk</i> , KNMI, De Bilt, the Netherlands, July 2022. (invited oral)
2022	Arctic lightning and anthropogenic NO _x emissions estimated from TROPOMI observations, <i>EGU General Assembly 2022</i> , Vienna, Austria, May 2022. (oral)
2021	Python for meteorology, <i>Atmospheric Physics & Environment Workshop</i> , NUIST, Nanjing, China, October 2021. (invited oral)
2021	Influence of convection on the upper-tropospheric O ₃ and NO _x budget in southeastern China, <i>Aerosols, Clouds, Precipitation and Climate (ACPC) Workshop</i> , online, May 2021. (oral)
2020	Estimates of lightning NO _x production based on high-resolution OMI NO ₂ retrievals over the continental United States, <i>100th American Meteorological Society Annual Meeting</i> , Boston, MA., USA, January 2020. (oral)
2019	Estimates of lightning NO _x production based on high-resolution OMI NO ₂ retrievals over the continental United States, <i>EGU General Assembly 2019</i> , Vienna, Austria, April 2019. (poster)

Extracurricular Activity

Pytroll (Python framework for processing earth observation satellite data)

GitHub

Maintainer

2018 – present

- Contributed several data readers (FY-4A, TROPOMI, ENTLN, etc.).
- Applied Pytroll to a hacking competition (EO Dashboard) and won the open science award.

HPC (School of Atmospheric Physics, NUIST)

NUIST

Administrator

2017 – 2021

- Installed and fixed libraries/models for teachers and students.
- Set up a website for teaching and collecting user applications automatically (<https://hpc-nuist-ap.github.io/>).

SKILLS

Journal Reviewer	Environmental Research Letters, Remote Sensing
Programming	Python, Fortran, MATLAB, C, \LaTeX
Models	WRF-Chem, CMAQ, HYSPLIT
Writing	Personal blog for academic notes and poetry
Front-end	Hugo, HTML5
Languages	Chinese, English

PUBLICATIONS

- 2022 **Zhang, X.**, van der A, R., Ding, J., Eskes, H., van Geffen, J., Yin, Y., Anema, J., Vagasky, C., Lapierre, J.L. (2022). *Spaceborne observations of lightning NO₂ in the Arctic*. submitted to *Environmental Science & Technology*.
- 2022 **Zhang, X.**, Yin, Y., van der A, R., Eskes, H., van Geffen, J., Li, Y., Kuang, X., Lapierre, J.L., Chen, K., Zhen, Z., Hu, J. (2022). *Influence of convection on the upper-tropospheric O₃ and NO_x budget in southeastern China*. *Atmospheric Chemistry and Physics*. 22(9), 5925-5942, doi: [10.5194/acp-22-5925-2022](https://doi.org/10.5194/acp-22-5925-2022).
- 2021 **Zhang, X.**, Yin, Y., Kukulies, J., Li, Y., Kuang, X., He, C., Lapierre, J.L., Jiang, D., Chen, J. (2022). *Revisiting Lightning Activity and Parameterization Using Geostationary Satellite Observations*. *Remote Sensing*, 13(19), 3866, doi: [10.3390/rs13193866](https://doi.org/10.3390/rs13193866).
- 2021 Zhen, Z., Yin, Y., Chen, K., Zhen, X., **Zhang, X.**, Jiang, H., Wang, H., Kuang, X., Cui, Y., Dai, M., He, C. (2021). *Concentration and atmospheric transport of PM_{2.5}-bound polycyclic aromatic hydrocarbons at Mount Tai, China*. *Science of The Total Environment*, 786, 147513, doi: [10.1016/j.scitotenv.2021.147513](https://doi.org/10.1016/j.scitotenv.2021.147513).
- 2020 **Zhang, X.**, Yin, Y., van der A, R., Lapierre, J.L., Chen, Q., Kuang, X., Yan, S., Chen, J., He, C., Shi, R. (2020). *Estimates of lightning NO_x production based on high-resolution OMI NO₂ retrievals over the continental US*. *Atmospheric Measurement Techniques*, 13(4), 1709-1734, doi: [10.5194/amt-13-1709-2020](https://doi.org/10.5194/amt-13-1709-2020).
- 2020 Cui, Y., Yin, Y., Chen, K., **Zhang, X.**, Kuang, X., Jiang, H., Wang, H., Zhen, Z., He, C. (2020). *Characteristics and sources of WSI in North China Plain: A simultaneous measurement at the summit and foot of Mount Tai*. *Journal of Environmental Sciences*, 92, 264-267, doi: [10.5194/amt-13-1709-2020](https://doi.org/10.5194/amt-13-1709-2020).
- 2019 Zhen, Z., Yin, Y., Chen, K., **Zhang, X.**, Kuang, X., Jiang, H., Wang, H., Cui, Y., He, C., Ezekiel, A.O. (2019). *Phthalate esters in atmospheric PM_{2.5} at Mount Tai, north China plain: Concentrations and sources in the background and urban area*. *Atmospheric Environment*, 213, 505-514., doi: [10.1016/j.jes.2020.02.017](https://doi.org/10.1016/j.jes.2020.02.017).
- 2016 **Zhang, X.**, Wang, Z., Wang, S., Fang, H., Zhang, F., Wang, D.G. (2017). *Impacts of dissolved organic matter on aqueous behavior of nano/micron-titanium nitride and their induced enzymatic/non-enzymatic antioxidant activities in *Scenedesmus obliquus**. *Journal of Environmental Science and Health, Part A*, 52(1), 23-29, doi: [10.1080/10934529.2016.1221219](https://doi.org/10.1080/10934529.2016.1221219).