Jianghanyang Li

Assistant Professor
University of Colorado Boulder
Jianghanyang.li@colorado.edu

Professional Preparation

Purdue University, West Lafayette	Atmospheric Chemistry	Ph.D., 2021
University of Alberta, Edmonton	Geochemistry	M.Sc., 2016
University of Sci. and Tech. of China, Hefei	Geochemistry	B.Sc., 2013

Appointments

Assistant Professor, University of Colorado Boulder	2023.8-
Post-Doctoral Associate, National Oceanic & Atmospheric Administration	2021.8-2023.8
Graduate teaching/research assistant, Purdue University	2016.8-2021.5
Advanced Study Program graduate student visitor, National Center for Atmospheric Research	2018

Publications

1. Wang, X., Randel, W., Zhu, Y., Tilmes, S., Starr, J., Yu, W., ... & Li, J. (2023). Stratospheric Climate Anomalies and Ozone Loss Caused by the Hunga Tonga-Hunga Ha'apai Volcanic Eruption. Journal of Geophysical Research: Atmospheres, 128(22), e2023JD039480.
2. Li, J., Baier, B. C., Moore, F., Newberger, T., Wolter, S., Higgs, J., Dutton, G., Hintsa, E., Hall, B., and Sweeney, C. (2023): A novel, cost-effective analytical method for measuring high-resolution vertical profiles of stratospheric trace gases using a GC-ECD, *Atmospheric Measurement Techniques,* 16(11), 2851-2863
3. Fan, M. Y., Zhang, W., Zhang, Y. L., **Li, J.,** Fang, H., Cao, F., Yan, M., Hong, Y., Guo, H., and Michalski, G. (2023). Formation mechanisms and source apportionments of nitrate aerosols in a megacity of eastern China based on multiple isotope observations. *Journal of Geophysical Research: Atmospheres*, 128(6), e2022JD038129.
4. Michalski, G., E. Larrea Valdivia, A., Olson, E., Welp, L., Fang, H., Magara-Gomez, K., Morales Paredes, L., Reyes Larico, J. and **Li, J.** (2022). Identifying NO_x Sources in Arequipa, Peru Using Nitrogen Isotopes in Particulate Nitrate. *Frontiers in Environmental Science*, 10, 916738.
5. Zhang, Y.L., Zhang, W., Fan, M.Y., **Li, J.,** Fang, H., Cao, F., Lin, Y.C., Wilkins, B.P., Liu, X., Bao, M. and Hong, Y. (2022). A diurnal story of $\Delta^{17}O$ (NO_3^-) in urban Nanjing and its implication for nitrate aerosol formation. *npj Climate and Atmospheric Science*, 5(1), p.50.
6. Olson, E., Michalski, G., Welp, L., Valdivia, A.E.L., Larico, J.R., Peña, J.S., Fang, H., Magara, K.G. and **Li, J.** (2021): Mineral dust and fossil fuel combustion dominate sources of aerosol sulfate in urban Peru identified by sulfur stable isotopes and water-soluble ions. *Atmospheric Environment*, p.118482.
7. **Li, J.,** Michalski, G., Olson, E.J., Welp, L.R., Larrea Valdivia, A.E., Larico, J.R., Zapata, F.A. and Paredes, L.M. (2021): Geochemical Characterization and Heavy Metal Sources in PM10 in Arequipa, Peru. *Atmosphere*, 12(5), p.641.
8. **Li, J.,** Davy, P., Harvey, M., Katzman, T., Mitchell, T., & Michalski, G. (2021): Nitrogen isotopic fractionations of atmospheric reactive nitrogen at Baring Head: implications for nitrogen isotopes of aerosol nitrate in pristine environment. *Atmospheric Environment,* 245, 118028

9. Fan, M.Y., Zhang, Y.L., Lin, Y.C., **Li, J.,** Cheng, H., An, N., Sun, Y., Qiu, Y., Cao, F. and Fu, P. (2020): Roles of Sulfur Oxidation Pathways in the Variability in Stable Sulfur Isotopic Composition of Sulfate Aerosols at an Urban Site in Beijing, China. *Environmental Science & Technology Letters*, 7(12), pp.883-888.
10. Diaz, M., **Li, J.**, Michalski, G., Darrah, T., Adams, B., Wall, D., Hogg, I., Fierer, N., Welch, S., Gardner, C., Lyons, B. (2020), Stable isotopes of nitrate and sulfate in soils from the Transantarctic Mountains, Antarctica: a record of atmospheric deposition and chemical weathering. *Frontiers Earth Science,* 8:341.
11. **Li, J.,** Zhang, X., Orlando, J., Tyndall, G., & Michalski, G. (2020): Quantifying the nitrogen isotope effects during photochemical equilibrium between NO and NO_2: implications for $\delta^{15}N$ in tropospheric reactive nitrogen, *Atmospheric Chemistry and Physics,* 20(16), 9805–9819
12. Yang, C., Smith, A., Li, T., Kinnison, D., **Li, J.**, Dou, X. (2020), Can the Madden-Julian oscillation affect the Antarctic total column ozone? *Geophysical Research Letter,* 47(15), e2020GL088886
13. Abbasi1, A., Salazar, A., Oh, Y., Reinsch, S., Uribe, M., **Li, J.,** Rashid, I., Dukes, J. (2020), Soil responses to manipulated precipitation changes: A synthesis of meta-analyses, *Biogeosciences,* 17, 3859–3873
14. **Li, J.,** Zhang, Y. L., Cao, F., Zhang, W., Fan, M., Lee, X., & Michalski, G. (2020): Sulfur isotopes revealed a major role of transition-metal-ion catalyzed SO_2 oxidation in haze episodes. *Environmental Science & Technology,* 2020, 54, 5, 2626-2634
15. Qi, Y., Cheng, W., Nan, X., Yang F., **Li, J.,** Li, D., Lundstrom, C., Yu, H., Zhang, G., Huang, F. (2020), Fe stable isotopes in bulk soil and sequential extracted fractions trace iron redox cycling in paddy soils. *Journal of Agricultural and Food Chemistry,* 2020, 68, 31, 8143–8150
16. **Li, J.,** Wang, F., Michalski, G., & Wilkins, B. (2019): The atmospheric deposition during 2010-2011 across the Atacama Desert, Chile: compositions, sources, and interannual variabilities. *Chemical Geology,* 525 (2019): 435-446.
17. Xia, X., Li, S., Wang, F., Zhang, S., Fang, Y., **Li, J**., Michalski, G., & Zhang, L. (2019). Triple oxygen isotopic evidence for atmospheric nitrate and its application in source identification for river systems in the Qinghai-Tibetan Plateau. *Science of the Total Environment,* 688 (2019): 270-280
18. **Li, J.,** Michalski, G. M., Davy, P., Harvey, M., Wilkins, B. P., & Katzman, T. L. (2018): Geochemical, Sulfur Isotopic Characteristics and Source Contributions of Size-Aggregated Aerosols Collected in Baring Head, New Zealand. *Geophysical Research Letter,* 45(8), 3717-3727.
19. **Li, J.,** Zhang, Z., Stern, R. A., Hannah, J. L., Stein, H. J., Yang, G., & Li, L. (2017): Primary multiple sulfur isotopic compositions of pyrite in 2.7 Ga shales from the Joy Lake sequence (Superior Province) show felsic volcanic array-like signature. *Geochimica et Cosmochimica Acta*, 202, 310-340.
20. Li, L., Zheng, Y. F., Cartigny, P., & **Li, J**. (2014). Anomalous nitrogen isotopes in ultrahigh-pressure metamorphic rocks from the Sulu orogenic belt: Effect of abiotic nitrogen reduction during fluid–rock interaction. *Earth and Planetary Science Letters*, 403, 67-78

Teaching experiences

Instructor, University of Colorado Boulder 2023-
Courses taught: ATOC/CHEM 5151: Atmospheric Chemistry

Teaching Assistant, Purdue University 2016-2019

Courses taught: EAPS 100: Planet Earth; EAPS 105: Planets; EAPS 109: Dynamic Earth; EAPS 320: Physics of Climate; EAPS 327: Climate, Science and Society
Guest lectures: EAPS 521: Atmospheric chemistry (Purdue University)
EAPS 327: Climate, Science and Society (Purdue University)
ESS 100: Environmental Chemistry (University of California Merced)

Teaching Assistant, University of Alberta 2013-2015
Courses taught: EAS 100: Planet Earth; EAS 320: Geochemistry.

Grants

Monitoring and evaluating stratospheric composition and dynamical change using a small balloon observing system, NOAA Earth's Radiation Budget Program, Co-I

Fellowships and awards

Chinese government award for outstanding self-finance students abroad	2021
Outstanding Graduate Student Award, Purdue University	2020
College of Science Cagiantas Fellowship, Purdue University	2019
Advanced Study Program Graduate Student Fellowship, NCAR	2018
Outstanding Student Presentation Award, American Geophysical Union	2018
A. H. Ismail Doctoral Research Award, Purdue University	2018
Atmospheric Science Graduate Student Award, Purdue University	2018, 2020
June L. and Tan Sun Chen Research Scholarship, Purdue University	2018
Graduate School Summer Research Grant, Purdue University	2018
Purdue Climate Change Research Center Travel Grant, Purdue University	2017, 2018, 2019
Purdue Graduate Student Government Travel Grant, Purdue University	2017, 2018

Synergistic activities

1. Educational outreach activities: worked as volunteer worker or coordinator for K-12 environmental education programs hosted by Indiana State Museum, Wabash River Enhancement Corporation, Tippecanoe County Government and Purdue University
2. Undergraduate student mentoring: mentored 8 undergraduate students as research advisor and collaborator on 8 undergraduate research projects, help students acquired 3 research grants
3. Journal reviewer: *Atmospheric Environment, Atmospheric Research, Scientific Reports, Geophysical Research Letters, Atmospheric Chemistry and Physics*