

NADIA K. COLOMBI

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EDUCATION

Harvard University, Department of Earth and Planetary Sciences

PhD candidate under advisor Daniel Jacob

Thesis: Understanding drivers of air pollution in Asia

Projected graduation May 2024

University of California, Los Angeles, Bachelor of Science, Magna Cum Laude

Major: Environmental Science

Minor: Atmospheric and Oceanic Science

June 2019

RESEARCH EXPERIENCE

Graduate Research Assistant, Harvard University

Advisor: Daniel Jacob

September 2019-present

Year-Round Student Intern, NASA Jet Propulsion Laboratory

Advisor: Kevin Bowman

March 2019-August 2019

Undergraduate Researcher, Natural Resources Defense Council

Advisor: Karen McKinnon, UCLA Institute of Environment and Sustainability

October 2018-June 2019

Hollings Scholar, NOAA Earth Systems Research Lab

Advisor: Jessie Creamean

June 2018-August 2018

Year-Round Student Intern, NASA Jet Propulsion Laboratory

Advisors: Riley Duren, Andrew Thorpe

October 2017-June 2018

Summer Leadership Alliance Fellow, Brown University

Advisors: Meredith Hastings, Wendell Walters

June 2017-August 2017

Undergraduate Researcher, UCLA Department of Geography

Advisors: Dennis Lettenmaier, Miriam Marlier, Ruth Engel

September 2016-June 2019

HONORS AND AWARDS

NSF Graduate Research Fellowship (GRFP)

2019-2024

NOAA Hollings Scholarship

2017-2019

American Meteorological Society Outstanding Student Presentation

2018

PEER-REVIEWED PUBLICATIONS

h-index: 5, citations: 341

[9] **Nadia K Colombi**, Daniel J Jacob, Viral Shah, Shixian Zhai, Robert M Yantosca, Melissa Sulprizo, Laura Hyesung Yang, Ke Li, Hong Liao. Understanding drivers of high and increasing background ozone over East Asia. In prep.

[8] Shixian Zhai, Daniel J Jacob, Drew C Pendergrass, **Nadia K Colombi**, Viral Shah, Laura Hyesung Yang, Qiang Zhang, Shuxiao Wang, Hwajin Kim, Yele Sun, Jin-Soo Choi, Jin-Soo Park, Gan Luo, Fangqun Yu, Jung-Hun Woo, Younha Kim, Jack E Dibb, Taehyoung Lee, Jin-Seok Han, Bruce E Anderson, Ke Li, Hong Liao (**2023**). Coarse particulate matter air quality in East Asia: implications for fine particulate nitrate. *Atmospheric Chemistry and Physics*, 23, 4271-4281. <https://doi.org/10.5194/acp-23-4271-2023>.

[7] **Nadia K Colombi**, Daniel J Jacob, Laura Hyesung Yang, Shixian Zhai, Viral Shah, Stuart K Grange, Robert M Yantosca, Soontae Kim, Hong Liao (**2023**). Why is ozone in South Korea and the Seoul metropolitan area so high and increasing? *Atmospheric Chemistry and Physics*, 23, 4031-4044. <http://doi.org/10.5194/acp-23-4031-2023>.

- [5] Laura Hyesung Yang, Daniel J. Jacob, **Nadia K. Colombi**, Shixian Zhai, Kelvin H. Bates, Viral Shah, Ellie Beaudry, Robert M. Yantosca, Haipeng Lin, Jared F. Brewer, Heesung Chong, Katherine R. Travis, James H. Crawford, Lok N. Lamsal, Ja-Ho Koo, and Jhoon Kim (2023). Tropospheric NO₂ vertical profiles over South Korea and their relation to oxidant chemistry: implications for geostationary satellite retrievals and the observation of NO₂ diurnal variation from space. *Atmospheric Chemistry and Physics*, 23, 2465-2481. <https://doi.org/10.5194/acp-23-2465-2023>.
- [4] **Nadia Colombi**, Kazuyuki Miyazaki, Kevin W. Bowman, Jessica L. Neu, Daniel J. Jacob (2021). A new methodology for inferring surface ozone from multispectral satellite measurements. *Environmental Research Letters*, 16, 105005. [10.1088/1748-9326/ac243d](https://doi.org/10.1088/1748-9326/ac243d).
- [3] Wendell W Walters, Linlin Song, Jiajue Chai, Yunting Fang, Nadia Colombi, Meredith G Hastings (2020). Characterizing the spatiotemporal nitrogen stable isotopic composition of ammonia in vehicle plumes. *Atmospheric Chemistry and Physics*, 20, 11551-11567. <https://doi.org/10.5194/acp-20-11551-2020>.
- [2] Riley M Duren, Andrew K Thorpe, Kelsey T Foster, Talha Rafiq, Francesca M Hopkins, Vineet Yadav, Brian D Bue, David R Thompson, Stephen Conley, **Nadia K Colombi**, Christian Frankenberg, Ian B McCubbin, Michael L Eastwood, Matthias Falk, Jorn D Herner, Bart E Croes, Robert O Green, Charles E Miller (2019). California's methane super-emitters. *Nature*, 575, 180-184. <https://doi.org/10.1038/s41586-019-1720-3>.
- [1] JM Creamean, Jessica N Cross, R Pickart, L McRaven, P Lin, A Pacini, R Hanlon, DG Schmale, J Cenicerros, T Aydeell, **Colombi**, E Bolger, PJ DeMott (2019). Ice nucleating particles carried from below a phytoplankton bloom to the Arctic atmosphere, *Geophysical Research Letters*, 46, 8572-858. <https://doi.org/10.1029/2019GL083039>.

CONFERENCE PRESENTATIONS

- 104th Annual AMS meeting, Baltimore MD, January 2024 (upcoming)
- 14th GEMS Workshop, Jeju Island, South Korea, September 2023 (talk)
- Second Regional GEOS-Chem Europe User's Meeting at University College, London August 2023 (talk)
- AGU Fall Meeting, Chicago, IL, December 2022 (poster)
- 13th GEMS Workshop, Seoul, South Korea, November 2022 (poster)
- 10th International GEOS-Chem User's Conference, Washington University, St. Louis, June 2022 (talk)
- AGU Fall Meeting, San Francisco, CA, December 2023, (poster)
- 98th Annual AMS Meeting, Phoenix, AZ, 2018 (talk)
- AGU Fall Meeting, Washington, D.C., 2018 (poster)
- Hollings Education Symposium, NOAA Headquarters in Silver Spring, MD, July 2018 (talk)
- AGU Fall Meeting, New Orleans, LA, December 2017 (talk)
- Leadership Alliance National Symposium, Hartford, CT, July 2017 (talk)

INVITED TALKS AND SEMINARS

- Tropospheric Composition Group Meeting at NASA JPL, virtual, September 2021 (talk)

PROFESSIONAL SERVICE AND AFFILIATIONS

- **Peer reviewer** for *Nature Communications*
- **Moderator and judge** at the Leadership Alliance National Symposium, Hartford, CT (July 2023)
- **Judge**, Harvard National Collegiate Research Conference, Cambridge, MA (Fall 2019)
- **Member** of American Geophysical Union (2017-Present) and American Meteorological Society (2018-Present)

MENTORING

Tina Chen, Harvard University, Summer 2021.

- Harvard College Research Program: "Impacts of ozone pollution on crop yields in South Korea"

Eleftheria Lambropoulos, September 2020-May 2021

- Harvard College Research Program: "Understanding drivers of ozone pollution in East Asia via chemical transport modeling"

Eric Reyes-Munoz and Eleftheria Lambropoulos, Summer 2020

- Harvard EPS Short-Term Summer Student Program: "Exploring Global Air Quality with GEOS-Chem"

TEACHING EXPERIENCE

Teaching Fellow at Harvard University for EPSCI-133: Introduction to Atmospheric Chemistry
Spring 2020, Spring 2021, Spring 2022

- Taught weekly sections and office hours, including material preparation.
- Created and graded homework assignments.
- Received the Bok Center Certificate of Distinction in Teaching for Spring 2020, Spring 2021, and Spring 2022

LEADERSHIP AND OUTREACH

Activities

Co-leader of the Graduate Student and Post-Doc Seminar for Harvard EPS (2023-Present)

Lead organizer, Harvard EPS Day (May 2023)

Co-leader of the Diversity, Inclusion, and Belonging Subgroup, Harvard Atmospheric Chemistry Modeling Group (2022-Present)

Co-organizer of the Graduate Student Forum, Harvard Atmospheric Chemistry Modeling Group (2022-Present)

Co-organizer of the Atmospheric and Environmental Chemistry and Society Seminar at Harvard (2021-Present)

Outreach Chair, Harvard EPS (Fall 2019-Fall 2021)

Volunteer, Science Club for Girls (Spring 2020, Fall 2021, Spring 2021, Fall 2022)

Volunteer, Citizen Schools (Spring 2020, Spring 2021)

Participant, Science-A-Thon (Fall 2019)

National Science Foundation Outreach Program (2017)

Mentor, Environmental Student Network (2017)

Articles

Colombi, N. "United Nations Report Highlights Opportunities to Improve Global Air Quality." Science in the News, Harvard University. September 21, 2022.