

AMY LIU

amyxliu@uw.edu

Atmospheric Sciences-Geophysics Building
Seattle, WA 98105-1640

EDUCATION

University of Washington, Seattle; College of Environment 2021 – *Present*
PhD Program in Atmospheric and Climate Science 2024 – *Present*
M.S. Atmospheric Sciences 2021 – 2024
Master's Committee: Abigail L.S. Swann (chair), Alex J. Turner, David Battisti

University of California, Berkeley; College of Chemistry 2016 – 2020
B.S. Chemistry, *Advisor:* Ronald C. Cohen

RESEARCH EXPERIENCE

Graduate Research Assistant, University of Washington, Seattle 2021 – *Present*
Stomatal Slope Parameter Perturbation Experiments, funded by DOE
Advisor: Abigail L.S. Swann

Undergraduate Research Assistant, University of California, Berkeley 2017 – 2020
Biosphere-Atmosphere Foliar Exchange of NO_x
Mentor: Erin Delaria
Impacts of COVID-19 Mobility on Air Quality
Independent Project

Small Molecule Analytical Chemistry Intern, Genentech, SSF, CA May 2019
Chromatographic Method Development for Separation of Halogenated Anilines
Mentor: Jane Li
Investigating the Relationship between Ionizable Analytes and their Cathode Array Detector Response
Mentor: Brandon Scott

TECHNICAL EXPERIENCE

Business Insights and Analytics, Genentech, SSF, CA 2020 – 2021

TEACHING EXPERIENCE

University of Washington, Seattle Autumn 2022
Teaching Assistant: ATM S 111: Global Warming
Instructor: Kat Huybers

AWARDS

Graduate Student Distinguished Service Award, Seattle, WA 2023, 2024
National Science Foundation Graduate Research Fellowship 2023
UW Program on Climate Change Graduate Fellow, Seattle, WA 2021

UW Department of Atmospheric Sciences Top Scholar, Seattle, WA

2021

PUBLICATIONS

Peer-reviewed Papers

Liu, A. X., C. M. Zarakas, B. G. Buchovecky, L. R. Hawkins, A. S. Cordak, A. E. Cornish, M. Haagsma, G. J. Kooperman, C. J. Still, C. D. Koven, A. J. Turner, D. S. Battisti, J. T. Randerson, and F. M. Hoffman, A. L.S. Swann, “Photosynthetic responses to intrinsic water-use efficiency depend on atmospheric feedbacks and modify the magnitude of response to elevated CO₂”, *submitted* ([preprint](#)).

Zarakas, C. M., D. Kennedy, K. Dagon, D. Lawrence, **A. Liu**, G. Bonan., C. Koven., D. Lombardozzi, A. Swann, “Land Processes Can Substantially Impact the Mean Climate State,” *Geophysical Research Letters*, 51, e2024GL108372, <https://doi.org/10.1029/2024GL108372>, 2024.

Delaria, E. R., B. K. Place, **A. X. Liu**, and R. C. Cohen, “Laboratory measurements of stomatal NO₂ deposition to native California trees and the role of forests in the NO_x cycle,” *Atmos. Chem. Phys.*, 20, 14023–14041, <https://doi.org/10.5194/acp-20-14023-2020>, 2020.

Place, B. K., E. R. Delaria, **A. X. Liu**, and R. C. Cohen, “Leaf stomatal control over acyl peroxyxynitrate dry deposition to trees,” *ACS Earth Space Chem.*, 4, 11, 2162–2170, <https://doi.org/10.1021/acsearthspacechem.0c00152>, 2020.

PRESENTATIONS (PRESENTING AUTHOR)

Talks

Liu, A. X., C. M. Zarakas, A. L.S. Swann, A. Cordak, A. Cornish, L. Hawkins, G. Kooperman, C. Still, J. Randerson, C. Koven, and F. Hoffman, “Understanding Plant Carbon-Water Tradeoffs in a Coupled Earth System,” CESM Land & BCG Working Group, Virtual at Mesa Lab, Boulder, CO (February 27, 2024).

Liu, A. X., C. M. Zarakas, A. L.S. Swann, G. Kooperman, A. Cordak, A. Cornish, C. Still, L. Hawkins, J. Randerson, C. Koven, and F. Hoffman, “The Influence of Plant Stomatal Behavior on Climate and in Comparison to that of Different Climate Configurations,” Annual CESM Workshop, Boulder, CO (June 14, 2023).

Liu, A. X., C. M. Zarakas, A. L.S. Swann, G. Kooperman, A. Cordak, A. Cornish, C. Still, L. Hawkins, J. Randerson, C. Koven, and F. Hoffman, “Quantifying the Influence of Plant Stomatal Behavior on Photosynthesis in the Amazon,” CESM Land & BCG Working Group, Mesa Lab, Boulder, CO (February 8, 2023).

Posters

Liu, A. X., C. M. Zarakas, B. G. Buchovecky, L. R. Hawkins, A. S. Cordak, A. E. Cornish, M. Haagsma, G. J. Kooperman, C. J. Still, C. D. Koven, A. J. Turner, D. S. Battisti, J. T. Randerson, and F. M. Hoffman, A. L.S. Swann, “Photosynthetic responses to intrinsic water-use efficiency depend on atmospheric feedbacks and modify the magnitude of response

to elevated CO₂”, Graduate Climate Conference (GCC), Pack Forest Conference Center, WA (November 3, 2024).

Liu, A. X., C. M. Zarakas, B. G. Buchovecky, L. R. Hawkins, A. S. Cordak, A. E. Cornish, M. Haagsma, G. J. Kooperman, C. J. Still, C. D. Koven, A. J. Turner, D. S. Battisti, J. T. Randerson, and F. M. Hoffman, A. L.S. Swann, “Photosynthetic responses to intrinsic water-use efficiency depend on atmospheric feedbacks and modify the magnitude of response to elevated CO₂”, DOE EESM PI Meeting, Rockville, MD (August 8, 2024)

Liu, A. X., C. M. Zarakas, A. L.S. Swann, G. Kooperman, A. Cordak, A. Cornish, C. Still, L. Hawkins, J. Randerson, C. Koven, and F. Hoffman, “Quantifying the Influence of Plant Stomatal Behavior on Photosynthesis in a Coupled Earth System,” American Geophysical Union (AGU) Fall Meeting, San Francisco, CA (December 14, 2023).

Liu, A. X., C. M. Zarakas, A. L.S. Swann, “Quantifying the Influence of Plant Stomatal Behavior on Photosynthesis in a Coupled Earth System,” Graduate Climate Conference (GCC), Woods Hole, MA (November 3, 2023).

Liu, A. X., C. M. Zarakas, and A. L.S. Swann, “Quantifying the Influence of the Stomatal Conductance on the Hydrologic Cycle using CESM2,” Graduate Climate Conference (GCC), Pack Forest Conference Center, WA (October 29, 2022).

Liu, A. X., E. R. Delaria, B. K. Place, and R. C. Cohen, “Understanding the Impact of Drought on NO_x Foliar Uptake through Study of *Pinus ponderosa* and *Calocedrus decurrens*,” American Geophysical Union (AGU) Fall Meeting, San Francisco, CA (December 11, 2019).

Liu, A. X. and J. Li, “High Performance Liquid Chromatography Method Development for Separation and Quantitation of Halogenated Anilines,” Genentech Poster Symposium, South San Francisco, CA (August 7, 2019).

CONFERENCES AND WORKSHOPS ATTENDED

Graduate Climate Conference Pack Forest Conference Center, WA	2024
DOE (Department of Energy) annual PI Meeting Rockville, MD	2024
<i>Program: Earth and Environmental Systems Modeling (EESM)</i>	
UW Program on Climate Change Summer Institute Friday Harbor, WA	2024
<i>Theme: Science and Ethics of Climate Intervention Approaches</i>	
CESM Land Model and Biogeochemistry Working Group Virtual	2024
American Geophysical Union (AGU) Fall Meeting San Francisco, CA	2023
Graduate Climate Conference Woods Hole, MA	2023
UW Program on Climate Change Summer Institute Friday Harbor, WA	2023
<i>Theme: Climate Change at the Poles</i>	
HPLC 51st International Symposium Düsseldorf, Germany	2023
Annual CESM Workshop Boulder, CO	2023
Pittcon Philadelphia, PA	2023
CESM Land and Biogeochemistry Working Group Boulder, CO	2023
Graduate Climate Conference Pack Forest Conference Center, WA	2022

Updated 2024.12. This is a short cv. Please contact me if you want my full cv.

UW Program on Climate Change Summer Institute Friday Harbor, WA	2022
<i>Theme: Pathways to Net Zero</i>	
CESM Land Model and Biogeochemistry Working Group Virtual	2022
Annual CESM Workshop Virtual	2022
Community Terrestrial Systems Model (CTSM) Tutorial Virtual	2022
American Geophysical Union (AGU) Fall Meeting San Francisco, CA	2019
Genentech Poster Symposium South San Francisco, CA	2019
BASC Symposium Berkeley, CA	2019

ACTIVITIES AND LEADERSHIP

Department of Atmospheric Sciences , Seattle, WA	2021 – <i>Present</i>
<i>Outreach Committee</i>	2024 – <i>Present</i>
<i>Graduate-Undergraduate Mentorship Program Mentor</i>	2021 – <i>Present</i>
<i>Graduate Student Representative</i>	2022 – 2024
<i>WelCOM (Welcome Committee)</i>	2022 – 2024
<i>Swag Committee</i>	2021 – 2024
 Program on Climate Change , Seattle, WA	 2021 – <i>Present</i>
<i>Member; 2021 Fellow</i>	
 Graduate Climate Conference , Multiple Locations	 2021 – 2024
<i>Executive Planning Committee</i>	2021 – 2024
<i>Relations Chair; Social</i>	2023 – 2024
<i>Communications & Advertising co-Chair; Social</i>	2022 – 2023
<i>Fundraising, Swag, Social</i>	2021 – 2022
 Gene Academy , Genentech, SSF, CA	 2020 – 2021
<i>Mentor</i>	