

Christopher Lawrence

PHD CANDIDATE

Atmospheric Sciences Research Center (ASRC), University of Albany, Albany, NY

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Education

University at Albany

PHD CANDIDATE: ATMOSPHERIC SCIENCE

- Thesis: Aqueous Chemistry at Whiteface Mountain: A New Chemical Regime Under Changing Emissions
- Advisor: Dr. Sara Lance

Albany, NY

2018-Present

College of Environmental Science and Forestry

B.S.: ENVIRONMENTAL SCIENCE

- Minor: Chemistry
- Minor: Mathematics
- Magna Cum Laude

Syracuse, NY

2014-2018

Research and Teaching Interests

ATMOSPHERIC CHEMISTRY

- Aqueous processing of organic carbon
- Aqueous chemistry impacts on secondary organic aerosol
- Organic/inorganic interactions in the condensed phase

ATMOSPHERIC BIOGEOCHEMISTRY

- Organic Carbon and nitrogen cycles

WET DEPOSITION

- Organic carbon and nitrogen deposition

Professional Experience

Graduate Research Assistant

UNIVERSITY AT ALBANY

Albany, NY

Summer 2018-Present

Chair of Wage and Benefits Committee of the Graduate Student Association

UNIVERSITY OF ALBANY

Albany, NY

2020-2021

Vice President of Registered Graduate Student Organization

UNIVERSITY OF ALBANY

Albany, NY

2020-2021

Undergraduate Research Project with Huiting Mao Research Group

COLLEGE OF ENVIRONMENTAL SCIENCE AND FORESTRY

Syracuse, NY

2017-2019

Awards

Atmospheric Chemistry and Physics Paul Crutzen Publication Award

TITLE: LONG-TERM MONITORING OF CLOUD WATER CHEMISTRY AT WHITEFACE MOUNTAIN: THE EMERGENCE OF A NEW CHEMICAL REGIME

2023

National Atmospheric Deposition Program Best Student Presentation Award

TITLE: THE EMERGING ROLE OF ORGANIC CARBON IN ATMOSPHERIC CHEMISTRY AT WHITEFACE MOUNTAIN

November 2022

National Aeronautics & Space Administration (NASA) Future Investigators in NASA Earth and Space Science and Technology (FINESST) Award

TITLE: EMERGENCE OF A NEW CHEMICAL REGIME: ORGANIC CARBON AND BASE CATIONS IN WHITEFACE MOUNTAIN CLOUD WATER, AWARD NUMBER: 20-EARTH20-0298

September 2021- August 2024

National Center for Atmospheric Research Advanced Studies Program Graduate Vistor Program Award

ADVISOR: DR. MARY BARTH

Fall 2021

Publications

1. Lawrence, C., Barth, M., Orlando, J., Casson, P., Brandt, R., Kelting, D., Yerger, E., & Lance, S. (2024). Process Analysis of Elevated Concentrations of Organic Acids at Whiteface Mountain, New York. *EGUsphere*, 1–30. <https://doi.org/10.5194/egusphere-2024-715>
2. Lawrence, C. E., Casson, P., Brandt, R., Schwab, J. J., Dukett, J. E., Snyder, P., Yerger, E., Kelting, D., VandenBoer, T. C., & Lance, S. (2023). Long-term monitoring of cloud water chemistry at Whiteface Mountain: The emergence of a new chemical regime. *Atmospheric Chemistry and Physics*, 23(2), 1619–1639. <https://doi.org/10.5194/acp-23-1619-2023>
3. Lawrence, C., & Mao, H. (2019). Anthropogenic and Natural Factors Affecting Trends in Atmospheric Methane in Barrow, Alaska. *Atmosphere*, 10(4), 187. <https://doi.org/10.3390/atmos10040187>

Presentations

National Atmospheric Deposition Program's Annual Meeting

Madison, WI

IMPACTS OF TRANSPORTED WILDFIRE SMOKE ON THE WHITEFACE MOUNTAIN AQUEOUS CHEMICAL SYSTEM

2023

- Oral Presentation

International Conference on Fog, Fog Collection and Dew

Fort Collin, CO

ORGANIC CARBON IN CLOUD WATER: THE NEW CHEMICAL REGIME AT WHITEFACE MOUNTAIN

2023

- Oral Presentation

American Meteorological Society's Annual Meeting

Denver, CO

INVESTIGATING THE CONTRIBUTION OF CLOUD WATER CHEMISTRY TO ORGANIC ACIDS AT WHITEFACE MOUNTAIN

2023

- Oral Presentation

National Atmospheric Depositions Program's Annual Meeting

Knoxville, TN

THE EMERGING ROLE OF ORGANIC CARBON IN ATMOSPHERIC CHEMISTRY AT WHITEFACE MOUNTAIN

2022

- Oral Presentation

American Meteorological Society's Annual Meeting

Virtual

INVESTIGATING THE CHEMISTRY OF WATER SOLUBLE ORGANIC GASES IN UPSTATE NEW YORK USING WRF-CHEM AND CHEMICAL BOX MODELING

2022

- Oral Presentation

National Atmospheric Deposition Program

Virtual

CHANGES IN ATMOSPHERIC AQUEOUS CHEMISTRY AT WHITEFACE MOUNTAIN: SHIFTING FOCUS FROM ACID RAIN

2021

- Oral Presentation

American Meteorological Society's Annual Meeting

Virtual

INVESTIGATING CHARACTERISTIC AIR MASSES AFFECTING ORGANIC AND INORGANIC CLOUD WATER COMPOSITION AT WHITEFACE MOUNTAIN USING HYSPLIT AND CLUSTER ANALYSIS

2021

- Oral Presentation

American Meteorological Society's Annual Meeting

Boston, MA

EMERGENCE OF NEW CHEMICAL REGIME: GROWING ABUNDANCE OF WATER SOLUBLE ORGANIC CARBON ASSOCIATED WITH A GROWING ION IMBALANCE

2020

- Oral Presentation

American Association for Aerosol Research

Portland, OR

EMERGENCE OF A NEW CHEMICAL REGIME: GROWING ABUNDANCE OF WATER SOLUBLE ORGANICS IN CLOUD WATER LINKED WITH A GROWING ION IMBALANCE

2019

- Poster

American Meteorological Society's Annual Meeting

Phoenix, AZ

MONITORING CLOUD WATER CHEMISTRY (INCLUDING ORGANICS) AT WHITEFACE MOUNTAIN, NY

2019

- Poster

National Atmospheric Deposition Program's Annual Meeting

Albany, NY

MONITORING CLOUD WATER CHEMISTRY (INCLUDING ORGANICS) AT WHITEFACE MOUNTAIN, NY

2018

- Poster