

Nell Schafer
nellbschafer@gmail.com
(510) 343-4834

EDUCATION

Carleton College Northfield, MN

- Chemistry Major
- Magna Cum Laude; G.P.A. 3.9

RESEARCH EXPERIENCE

National Oceanic and Atmospheric Administration (NOAA) Chemical Sciences Laboratory (CSL), Boulder, CO Associate Scientist with the Cooperative Institute for Research in Environmental Sciences (CIRES) with Dr. Jeff Peischl June 2023 - Present

- Completed over 15 flights aboard the NASA DC-8 aircraft during the Atmospheric Emissions and Reactions Observed from Megacities to Marine Areas (AEROMMA) field campaign, running a suite of instruments to measure various greenhouse gasses.
- Took on preliminary lead for processing ethane data collected on-board the aircraft.
- Was responsible for a majority of final data reduction for all greenhouse measurements from AEROMMA, including running calibrations and water correction experiments.
- Learned how to code in Igor for data processing, visualization and analysis.
- Analyzing data from the AEROMMA field campaign as well as past field campaigns to complete an in-depth study on the changes in methane emissions in the LA Basin over time.
- Compiled the analysis for presentation at the American Geophysical (AGU) fall 2023 meeting, and working towards future publication.

National Aeronautics and Space Administration (NASA), Irvine, CA Research Intern with the NASA Student Airborne Research Program (SARP) with Dr. Daniel Sousa June - August 2022

- Completed a flight on the NASA DC-8 aircraft as part of an airborne scientific campaign to measure air quality over California and launched 4 ozone sondes.
- Accomplished an in-depth individual research project using python and ENVI imaging processing software, on remote sensing analysis of airborne hyperspectral imagery, including fieldwork to collect spectra.
- Selected as one of 4 out of 28 students to present work fully funded at the AGU fall 2022 conference.

Carleton College Department of Chemistry, Northfield, MN Research Scientist for an Ongoing Research Project with Dr. Deborah Gross and Dr. Tsegaye Nega September 2022 - June 2023

- Developed an individual research project on clean cookstoves and indoor air quality in Ethiopia.
- Collected hands-on data in Addis Ababa and Welkite, Ethiopia of the injera baking process on four different stoves; collecting PM2.5, temperature, and qualitative data.
- Analyzed the data using IgorPro to compile a formal report for future development of improved injera cookstoves.
- Designed and assembled a prototype for an improved pellet-powered injera cookstove, using Fusion360 for design along with information gathered from the aforementioned research project.

Carleton College Department of Chemistry, Northfield, MN Senior Integrative Project with Dr. Deborah Gross and Dr. Daniela Kohen November 2022 - May 2023

- Performed an in-depth analysis of the work of Dr. Joseph Francisco.
- Worked with a group of 7 other senior Chemistry majors, and critically analyzed a series of Dr. Francisco's work to compile into a final presentation that told a clear and concise story of Dr. Francisco's research on ammonia chemistry at the air-water interface.
- Met with Dr. Francisco for a long, in-depth conversation about his work that we had studied carefully for the previous several months.

Formation Environmental Consulting Firm, Sacramento, CA

Intern on a Specialized Project for a Client

November - December 2021

- Analyzed field data from drains into the Salton Sea, CA on selenium and water quality parameters.
- Synthesised project into a write-up for an ongoing project.

University of Kentucky Department of Biology, Lexington, KY

Research Intern with Dr. David Westneat

November - December 2020

- Collected and analyzed data using R for an ongoing research project on parental care among Sparrows.

LEADERSHIP/ TEACHING EXPERIENCE

Carleton College Department of Biology, Northfield, MN

Teacher Assistant (TA)

September - November 2020

- Laboratory TA for Energy Flow Biology Systems laboratory.
- Assisted in preparation and execution of the laboratory section.
- Hosted office hours and graded laboratory assignments.

Carleton College Physical Education, Athletics, and Recreation Department, Northfield, MN

Head Team Leader

September 2020 - June 2023

- Selected as head coordinator of 6 team leaders.
- Organized events, communicated with all the building monitor workers, and led training days.

Carleton College Varsity Cross Country and Track, Northfield, MN

Captain

September 2022 - June 2023

- Elected by teammates and coaches.
- Organized and executed team bonding activities.
- Lead captain practices for the entire team.
- Provided important communication between the athletes and coaching staff.

Community Education Partnerships, Oakland, CA

Assistant Teacher of Academic Summer Camp at Oakland Family Homeless Shelter

June 2020 - August 2021

- Provided direct student support at the non-profit's shelter learning center.
- Led academic and enrichment programs for Pre-K through 12th-grade students.

Oakland Technical High School Peer Tutoring Program, Oakland, CA

Mentor at Emerson Elementary School

September 2017 - May 2019

- Volunteer teacher assistant in 1st grade classroom at local Elementary School.
- Taught reading curriculum to 2-3 higher needs students for 1 hour each day.

HONORS/ AWARDS

Carleton College Magna Cum Laude, Northfield, MN

2023

- Awarded magna cum laude for outstanding performance in course work throughout my time at Carleton College.

Carleton Sophomore Writing Portfolio Exemplary Distinction, Northfield, MN

2021

- Awarded exemplary distinction for my writing portfolio.
- This award put my writing in the top 7% of Carleton College students.

Chinese Acacia Club/ SF Scottish Rite Scholarship Award, San Francisco, CA

2019

- Received \$1,000 college scholarship for leadership and community service.

Oakland Section CIF Female Scholar-Athlete of the Year, Sacramento, CA

2019

- Awarded scholarship in recognition of accomplishments in athletics, education, and leadership.
- Selected from over 800,000 high school student-athletes in California.

First Place, Alameda County Fair Engineering Competition, Alameda, CA

2018

- Awarded 1st place of all Descriptive Geometry projects.

PRESENTATIONS

Schafer, N.B., Boyce, S., Caballero, N., Chang-Stucki, W., Hoang, A., Shapiro, L., Stapanski, W., Watson, E. "A Molecular Perspective on Ammonia Chemistry in Atmospheric Water Droplets" Oral presentation delivered to Carleton Chemistry department as part of senior thesis, May, 2023.

Schafer, N.B., Sousa, D., and Allen J. "Mapping Drought-Induced Eucalyptus Mortality Using Hyperspectral Imagery in Ellwood Mesa, Santa Barbara." Oral presentation delivered at NASA SARP final presentation, August, 2022; poster presentation delivered at AGU Fall Meeting, December, 2022.

Schafer, N.B., Peischl, J., Blake, D., Diskin, G.S., Francoeur, C., Gilman, J., Lamplugh, A., Selby, M., Selimovic, V., Treadaway, V. "Trends in Methane Emission Sources in the Los Angeles Basin, California." Presentation delivered at AGU Fall Meeting, December, 2023; Publication in progress.