Leona Neftaliem

leonan@stanford.edu | Stanford, CA, USA | Personal Website | LinkedIn | GitHub

Education

Stanford University, Stanford, CA, USA
- Ph.D. Candidate in Environment and Resources — Fall 2022 - Present
- Ongoing research:
  - *Towards a North American Urban Tree Spatial Dataset*
  - *Community-Engaged Air Quality Monitoring of South Baltimore, Maryland*
- Committee: Drs. Chris Field (Lead Advisor), Rob Jackson (Lead Advisor), and Nicole Ardoin

Oxford University, Oxford, England — Feb. 2024 - May 2024
- Course: Data Analysis in Ecology: Statistics for Ecologists & Field Biologists

George Washington University, Washington, D.C., USA
- B.S. Biology with honors; Minor: Sustainability — Fall 2020
- Honors thesis: "How to Get Away with Decomposition: Sunlight driven decomposition of lignin in simulated wood" (Advisor: Dr. Amy Zanne)

Pertinent Experience

Biological Science Technician, Smithsonian Environmental Research Center — Jan. 2021 - July 2022
- Built and programmed remote sensor loggers to measure CO_2 data for GENX at the Global Change Research Wetland
- Supported several ongoing climate change experiments by building sensor and heating infrastructure, and managing data (projects here)
- Co-advised a George Washington University undergraduate researcher, Rose Cheney

Undergraduate Research, Dr. Amy Zanne's Lab, George Washington University — Jan. 2018 - Dec. 2020
- Completed three independent research projects on the impact of solar radiation on wood decomposition and an undergraduate honors thesis

Teaching Assistantships

Graduate Teaching Assistant, Stanford University — Jan. 2024 - March 2024
- Course: Designing Environmental Research
- Taught causal inference methods for environmental research to first-year PhD students

Undergraduate Teaching Assistant, George Washington University — Aug. 2018 - June 2020
- Courses: Introductory Biology: Cells and Molecules lab and Introductory Biology 1112: The Biology of Organisms
- Taught cellular, molecular, ecological, and evolutionary concepts and fundamental lab skills to undergraduates
- Supported additional classroom activities through ensuring lab protocols were met, grading assignments, proctoring and reviewing exams, creating lesson plans and lecturing, and holding weekly office hours

Fellowships and Awards

Stanford Woods Institute Environmental Ventures Project ($60,000) — 2025 - Present
SPIRE Stanford Student Impact Fund Grant ($6,000) — 2025 - Present
Smithsonian 'Life on a Sustainable Planet' Research Award (Co-PI; $75,000) — 2025 - Present
Stanford Community Impact Award — 2024
Smithsonian 'Life on a Sustainable Planet' Research Award (Co-PI; $49,188) — 2023 - 2024
Knight-Hennessy Scholar ($306,000) — 2023 - Present
National Science Foundation Graduate Research Fellowship ($138,000) — 2022 - Present
Stanford Doerr School of Sustainability Dean's Graduate Scholar ($100,000) — 2022 - Present
Stanford EDGE Fellowship ($12,800) — 2022 - Present
GW Undergraduate Research Fellowship ($5,000) — 2020
GW Sigelman Undergraduate Research Enhancement Award ($500) — 2020
Harlan Undergraduate Summer Fellowship ($5,000) — 2019

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Posters and Presentations

Neftaliem, L., Rich, R. L., Brown, D., LaGorga, L., Rosa-Rivera, C., Hedinger, A., Jackson, R. B, Cawood, A. Community-Engaged Air Quality Monitoring of South Baltimore, Maryland. American Geophysical Union, Washington, D.C., December 2024.

LaGorga, L., Smith, T., **Neftaliem, L.**, Noyce, G. L., Rich, R. L. Comparison and Assessment of Low-Cost, DIY Arduino-Based CO_2 Measurement System with Instrument-Measured CO_2 Flux from Automated Chambers over Three Years in a Coastal Wetland. American Geophysical Union, Washington, D.C., December 2024.

Neftaliem, L., Field, C. B., Jackson, R. B. Towards a North American Urban Tree Spatial Dataset: Leveraging Urban Tree Inventories from 30 Cities in North America. American Geophysical Union, San Francisco, CA, December 2023.

Neftaliem, L., Rich, R. L., Noyce, G. L. Can a DIY Arduino-based system accurately measure CO_2 flux from automated chambers? American Geophysical Union, Chicago, IL, December 2022.

Neftaliem, L., Rich, R. L., Noyce, G. L. Finer Temperature Measurements and GenX Sensors. Global Research Wetland Symposium, Smithsonian Environmental Research Center, Edgewater, MD, March 2021.

Rosenfield, M. V., **Neftaliem, L.**, Rich, R. L., Zanne, A. E. Carbon in the Capital: DC Metro carbon dioxide monitoring in the COVID-19 era. American Geophysical Union, Remote, December 2020.

Neftaliem, L., Rosenfield, M. V., Zanne, A. E. How to Get Away with Decomposition: Light driven decomposition on lignin in simulated wood. Honors Thesis Seminar, Remote, December 2020.

Neftaliem, L., Rosenfield, M. V., Zanne, A. E. Simulated Wood: Lignin Photodegradation. Harlan Poster Session, Washington, D.C., August 2019.

Invited Speaking Engagements

Neftaliem, L., Rich, R. L., Brown, D., LaGorga, L., Rosa-Rivera, C., Hedinger, A., Jackson, R. B, Cawood, A. Breathe Baltimore: Community-Engaged Air Quality Monitoring of South Baltimore, Maryland. D.C. Air Research Consortium, Department of Energy and Environment, Remote, February 7, 2025.

Neftaliem, L., Rich, R. L., Brown, D., LaGorga, L., Rosa-Rivera, C., Hedinger, A., Jackson, R. B, Cawood, A. Breathe Baltimore: Community-Engaged Air Quality Monitoring of South Baltimore, Maryland. Baltimore Office of Sustainability, Remote, January 10, 2025.

Rosenfield, M. V., **Neftaliem, L.**, Rich, R. L., Zanne, A. E. The Techno-Ecosphere: Using novel technologies to understand carbon emissions and ecosystem function. Smithsonian Gardens, *Let's Talk Gardens* Webinar, Remote, June 24, 2021.

Rosenfield, M. V., **Neftaliem, L.**, Rich, R. L., Zanne, A. E. Carbon in the Capital: DC Metro carbon dioxide monitoring in the COVID-19 era. Smithsonian Gardens, Remote, October 30, 2020.

Rosenfield, M. V., **Neftaliem, L.**, Rich, R. L., Zanne, A. E. Carbon in the Capital: DC Metro carbon dioxide monitoring in the COVID-19 era. Co-lecture in COVID-19 and the Environment (Walsh School of Foreign Service), Georgetown University, Remote, October 28, 2020.

Publications

Neftaliem, L. (2024, October 23). *Breathing life into ghost towns: Harnessing the promise of €1 homes*. Knight-Hennessy Scholar Insights. Link.

David J. Hayes, Stephen Ferruolo, David Haines, Katelyn McEvoy, **Leona Neftaliem**, Lisa Roberds, Siddharth Sachdeva, Celina Scott-Buechler, Angela Tsao, Katie Vogelheim, Brad Ward, Callie

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Walker, Benjamin Zehr, Measuring the Carbon (and Other) Benefits of Climate-Smart Forestry Practices *(Policy Lab: Harvesting Climate Benefits from Agriculture and Forestry Practices (808Y); Teaching/Supervising Team: David J. Hayes)*. Link.

Leadership, Volunteer, and Internship Experience

Stanford Doerr School of Sustainability, Recruitment Ambassador — Feb. 2025 - Present
The Building Africa's Cities Summit, Coordinating Committee Member — Jan. 2025 - Present
United Nations Special Rapporteur, Consultant — April 2025
OMG-YA Science Fiction Novel, Researcher — Jan. 2024 - Present
Featured in: Knight-Hennessy Scholars KHeystone Projects, August 2024
Knight-Hennessy Scholars, Admission Ambassador — Sept. 2024 - Present
Stanford Doerr School of Sustainability Leadership, Peer Wellness Liaison — July 2023 - Present
Earthtones Environmental Justice Art Festival, Committee Member — Jan. 2023 - April 2023
R Data Carpentries Workshop, Helper — June 2022
Eritrean Refugee Centre, Mentor — Dec. 2020 - April 2021
Ethio-Bridge, Mentor — Dec. 2020 - April 2021
Planned Parenthood of Metropolitan, Washington, D.C., Engagement Intern — June 2018 - Aug. 2018
George Washington University Hospital, Volunteer — Jan. 2018 - May 2018

Skills

Computer: R; Python; Arduino; Bash programming; CRBasic; Google Earth Engine; Jupyter Notebook; ArcGIS Pro; GitHub; EAGLE; LoggerNet; Microsoft Office
Languages: English (native), Tigrinya (native)

Research Interests

Urban ecosystem ecology; Ecosystem services; Environmental justice; Sense of place