

ALEXIS M. WILSON

SOIL BIOGEOCHEMIST

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SUMMARY OF QUALIFICATIONS

- Nine years of experience as an interdisciplinary scientist focused on soil biogeochemistry and environmental justice.
- Experience with leading large-scale climate and educational initiatives, building long-term community partnerships, and leading research projects.
- Effective interpersonal and digital communication skills, specializing in environmental and diversity & inclusion topics.

EDUCATION

PhD Earth System Science
Stanford University

Expected: Jun 2024

M.S. Earth System Science
Stanford University

Graduated: Jun 2022

B.S. Environmental and Sustainability Sciences
Cornell University

Graduated: May 2019

Climate Change: The Politics of Food, Water, and Energy: May 2018
SIT World Learning: International Honors Study Abroad Program | Vietnam, Morocco, and Bolivia

RESEARCH AND PROJECT MANAGEMENT EXPERIENCE

Doctoral Student Researcher

Stanford University

Sep 2019 - Present

- Independently conducted a research project quantifying heavy metal concentrations in urban school garden soils then remediated contamination.
- Built a successful, long-term community partnership with the Oakland Unified School District. Proposed 8 strategies and a novel framework for successful implementation of community engaged research in the Earth and Environmental sciences.
- Effectively communicated results to the community through a comprehensive soil testing report and community meetings for families, staff, and school district leaders.

Doctoral Student Researcher

Stanford University

Sep 2019 - Present

- Designed a research study assessing urban gardener's knowledge and concern of soil contamination using a novel mixed method approach.
- Recruited participants then conducted 30+ semi-structured interviews and analyzed results using thematic coding through NVivo Software
- Collected 300+ soil samples and measured toxic heavy metal concentrations in garden soils using X-ray Fluorescence Spectrometry

Graduate Fellow for Regional Engagement on Climate Change

Partnerships for Climate Justice in the Bay Area | Haas Center for Public Service at Stanford University

Oct 2020 - Jun 2022

- Lead a new five-year initiative which seeks to enhance student engagement in accelerating solutions to climate change impacts in the Bay Area, with a strong environmental justice and community engagement focus.
- Wrote and implemented a 5-year strategic plan and budget for the initiative, including designing new student engagement programs, course offerings, research projects, and community outreach events.
- Managed existing and created new long-term community partnerships with 10+ local, regional, and state organizations.

Environmental Policy Fellow

Rising Environmental Leaders Program (RELP)

Jan 2023 - May 2023

- Hone leadership and communications skills to maximize the impact of research in public policy. Participants are extended professional development and networking opportunities including introductions to global leaders from government, NGOs, think tanks and business.
- Lead immersive policy experiences in Washington, DC and Sacramento, CA with environmental policy leaders

Undergraduate Researcher

Cornell University

Jan 2016 - May 2019

Senior Honors Thesis, Department of Natural Resources, Fahey-Yavitt Lab: Designed and conducted an independent research project on the effect of drought on forest systems. Senior thesis focused on the effect of drought on litter decomposition. Lab work focused on understanding the biodiversity and biogeochemical processes in forest and wetland systems.

Undergraduate Summer Researcher

Vanderbilt University

Jun 2018 - Aug 2018

Advised by Dr. Steven L. Goodbred, Department of Earth and Environmental Science, Leadership Alliance Summer Research-Early Identification Program: Researched the relationship between sediment grain size and toxic Arsenic levels in the Ganges-Brahmaputra delta in Bangladesh. Traveled to Bangladesh to study the Sundarbans and the delta, which included taking sediment and water samples.

Undergraduate Summer Researcher

Stanford University

Jun 2017 - Aug 2017

Advised by Dr. Robert B. Jackson, Department of Earth System Science. Summer Undergraduate Research in Geoscience and Engineering Program (SURGE): Examined the relationship between edaphic variables and root systems of *Abies Concolor*. This research project included field research in the Sierra-Nevada Mountains, collecting soil and root samples through extensive coring.

LEADERSHIP EXPERIENCE

Mentorship Roles

Stanford University

Sep 2019-Present

- Graduate Level Peer Mentorship through three programs: EDGE Scholars program, RAISE Scholars program, Earth System Science Department Mentorship Program
- Undergraduate Level Mentorship through two summer internship programs: SURGE program and SESUR program

Diversity, Equity, and Inclusion Work

Stanford University

Sep 2019-present

- Actively work to improve the diversity of Stanford's academic community and the broader Geosciences Field, and improving the inclusion of historically underrepresented groups through various formal and informal roles such as:
- DEI liaison for the Department of Earth System Science
- DEI Advisory Council Member for the Stanford School of EARTH
- Graduate Recruitment Officer for the Stanford School of EARTH
- Black Graduate Student Association Executive Board Member (September 2020-2022)

Teaching Team Member

Intergroup Dialogue Project @ Cornell University

Aug 2018 - May 2019

- Mentored multiple undergraduate co-facilitator pairs on specific aspects of their identity development and facilitation skills.
- Fostered IDP facilitators' learning through the planning and instruction of EDUC 4826, the Practicum in Intergroup Relations.
- Mentored student project teams completing the Collaborative Learning Project (CLP).

TEACHING EXPERIENCE

Teaching Assistant

Stanford University

Sep 2022 - Sep 2023

- I served as a Teaching Assistant for the course "Science of Soils" taught by Dr. Scott Fendorf for two academic quarters (Fall 2022 and Fall 2023)
- Lead laboratory sections, hosted weekly office hours to support student learning, facilitated discussions, mentored student project teams through their community-based research projects, and graded assignments.

Intergroup Dialogue Facilitator

Intergroup Dialogue Project @ Cornell University

Jan 2016 - May 2018

- As a trained Intergroup Dialogue Facilitator, I lead weekly classroom sessions with a group of ~20 students. I facilitated for four semesters with courses focusing on Race, Gender, and Socioeconomic Status.
- Created weekly lesson plans, lead students in critical dialogue, and graded assignments.
- Facilitated workshops for student organizations, professional staff, and faculty to teach communication and dialogue skills that are applicable to their personal and professional lives.

SKILLS

Data Collection and Analysis:

Species Identification, Soil Characterization, Soil and Plant Sampling, X-ray Fluorescence Spectroscopy, Light Microscope, Elemental Analyzer, Particle Size Analyzer, ICP-MS, Qualitative Interviews, Discrete Analyzer

Technological Skills:

Microsoft Word, Microsoft Excel, Microsoft PowerPoint, WinRhizo, ESRI ArcGIS software, R Computer Programming, QGIS, Canva, Nvivo

Communication Skills:

Marketing and Advertising, Environmental Communication, Oral Presentations, Written Documentation, Social Media Management, Public Speaking, Event Planning

PUBLICATIONS

Litter quality and decomposition responses to drought in a northeastern US deciduous forest

Oecologia

Sept. 2022

<https://link.springer.com/article/10.1007/s00442-022-05263-z>

A conversation on the effects of the COVID-19 pandemic on academic careers with junior researchers

Nature Communications

Apr. 2021

<https://www.nature.com/articles/s41467-021-22039-w>

CONFERENCE PRESENTATIONS

- **SURGE Final Research Symposium, Stanford University, August 2017**

Oral and Poster Presentation: "Examining the Relationship between Edaphic Variables and the Root System of *Abies concolor* in the Southern Sierra Nevada"

- **Ivy League Undergraduate Research Symposium, University of Pennsylvania, November 2017**

Poster Presentation: "Examining the Relationship between Edaphic Variables and the Root System of *Abies concolor* in the Southern Sierra Nevada"

- **American Geophysical Union Fall Meeting, New Orleans, LA, December 2017**

Poster Presentation: "Examining the Relationship between Edaphic Variables and the Root System of *Abies concolor* in the Southern Sierra Nevada"

- **Vanderbilt Summer Science Academy Research Symposium, Vanderbilt University, August 2018**

Poster Presentation: "Examining the Relationship Between Sediment Grain Size and Toxic Arsenic Levels in the Ganges-Brahmaputra Delta in Bangladesh"

- **Leadership Alliance National Symposium, Hartford, CT, August 2018**

Oral Presentation: "Examining the Relationship Between Sediment Grain Size and Toxic Arsenic Levels in the Ganges-Brahmaputra Delta in Bangladesh"

- **American Geophysical Union Fall Meeting, Washington D.C., December 2018**

Poster Presentation: "The Effect of Drought on Leaf Litter Decomposition in the Northeastern United States"

- **Soil Science Society of America International Meeting, Baltimore, MD October 2022**

Poster Presentation: "Toxic Soil: Assessing Heavy Metal Contamination in Urban Gardens across the San Francisco Bay Area- Using Soil Biogeochemistry to Combat Environmental Injustice"

- **American Geophysical Union Fall Meeting, Chicago, IL, December 2022**

Poster Presentation: "Toxic Soil: Assessing Heavy Metal Contamination in Urban Gardens across the San Francisco Bay Area- Using Soil Biogeochemistry to Combat Environmental Injustice"

- **Soil Science Society of America International Meeting, St. Louis, MI October 2023**

Oral Presentation: "Soil Lead Contamination in Urban School Gardens: Using Soil Biogeochemistry to Promote Environmental Justice"

HONORS & AWARDS

Excellence in Community Engaged Research

Department of Earth System Science- Stanford University

2023

Community Impact Award

Stanford Alumni Association

2023

Honorable Mention Graduate Research Fellowship Program National Science Foundation (NSF)	2021
Graduate Public Service Fellowship Haas Center for Public Service-Stanford University	2020
Advancing Diversity in Graduate Education (EDGE) Doctoral Fellow Vice Provost of Graduate Education- Stanford University	2019
B.S. with Distinction in Research Cornell College of Agriculture and Life Sciences Honors Research Program	2019
8x Dean's List Scholar Cornell College of Agriculture and Life Sciences	2019

MEDIA APPEARANCES AND SCIENCE COMMUNICATION

Guest Lecture: Urban Agroecology Course, Stanford University (Spring 2022 and 2023)
Podcast Guest: Fresh From the Hill (2023): <http://tinyurl.com/3c7ppcbt>
Guest Lecture: Bowdoin College Brunswick, ME: Perspectives in Environmental Science Course (2021)
Official Partner & Interview: ThermoFisher Scientific (2021): <http://tinyurl.com/3es3kf8r>
Podcast Guest: SustainaBold Podcast (2021): <https://tinyurl.com/2d5n2s6e>
Guest Speaker: Oak Park River Forest High School Chicago, IL: STEM course (2020)
Panelist: Black in Geoscience Week, BlackInTheMud Roundtable (2020): <https://tinyurl.com/vjmucr7d>
Interview: 46 Questions (2020): <https://tinyurl.com/m6jeacxr>
Interview: Black Science Hall of Fame (2019): <https://tinyurl.com/2in9umxd>
Interview: American Geophysical Union, Women's Equality Day (2019): <https://tinyurl.com/y6de56te> **Featured Scientist:**
European Geophysical Union (2020) :<https://tinyurl.com/29me3dks>

PROFESSIONAL AFFILIATIONS

Soil Society of America (Current Member)
American Geophysical Union (Current Member)
Ronald E. McNair Post-Baccalaureate Achievement Program (Inducted 2017)
Chi Alpha Epsilon Honor Society at Cornell University (Inducted 2017)
Rawlings Cornell Presidential Research Scholars (Inducted 2015)

RELEVANT COURSEWORK

Graduate: Environmental Communication; Environmental Justice: Race, Class, & Place; Soil & Water Chemistry; Data Analysis for Quantitative Research; Qualitative Interviewing; Ecosystem Ecology and Biogeochemistry, Biosphere-Atmosphere Interactions| **Undergraduate:** General, Organic Chemistry, and Environmental Chemistry; Climate and Global Warming; GIS and Resource Inventory Analysis; Biological Statistics; Biology; Sustainability Science