

Nibia Vallerie Becerra Santillan

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EDUCATION

Macalester College

Major: Statistics and Biology Major | Interests: Data Science and Environmental justice

Relevant Coursework: Machine Learning (R), Causal Inference, Projects in Data Science, Ecology and the Environment, Global Change Biology, Statistics155 (R), Chemistry I & II, Linear Algebra (R), Probability, Calculus I & II

Class of 2025

GPA: 3.72

SKILLS

Research: Scientific literature review, Ecological sampling, Scientific method, Analytics algorithms and Data visualizations

Technical: Python, R, Microsoft Office, Google Tools, Canva, Wordpress, Qualtrics

Languages: Fluent in English, and Spanish

RELEVANT EXPERIENCE

US Forest Service - Tropical Response Alternate Climate Experiment

Luquillo, Puerto Rico

CSR Fellow - Biogeochemistry Undergraduate Research Fellow

May 2024 - August 2024

- Led a collaborative project with a local Puerto Rican scientist to assess the effects of temperature and moisture on CO₂ and CH₄ emissions from tropical soils, informing climate change models.
- Conducted an extensive literature review in English and Spanish, focusing on methanogenesis and soil microbial communities, to design experiments addressing forest resilience under climate stress.
- Customized equipment with LICOR specialists for precise CO₂ and CH₄ flux measurements, ensuring data accuracy in challenging field conditions.
- Processing gas flux data using R, performing data wrangling and visualizations for a paper planned for publication in Fall 2025.

Davis Projects for Peace: Prosperidad Partners

Multiple locations, United States

Project Manager

Apr 2024- Sept 2024

- Co-led a \$10,000 grant-funded initiative with three other Latin American women, focusing on financial literacy and its impact on healthy relationships within the Latinx community across the US and Latin America
- Partnered with Latinx speakers and NGOs to create culturally relevant content, equipping participants with tools to recognize and manage financial abuse, prevent financial violence, and strengthen their financial literacy to foster healthier relationships
- Developed and facilitated a comprehensive workshop series, providing stipends to all participants to ensure accessibility and allow them to focus on learning rather than work or study obligations
 - Conducted 10 remote sessions in English for US-based Latinx participants
 - Led 5 extended remote sessions in Spanish for Latinx individuals in both the US and Latin America
 - Collaborated with a Brazilian organization to deliver in-person workshops for low-income women

US Forest Service - Tropical Response Alternate Climate Experiment

Luquillo, Puerto Rico

CSR Fellow - Independent Researcher and Ecosystem Ecology Intern

June 2023 - August 2023

- Conducted an independent field experiment measuring greenhouse gas emissions from disturbed and undisturbed tropical soils using LICOR smart chambers and SoilFlux Pro. Presented research findings at two major conferences, including the Ecological Society of America (ESA).
- Utilized LICOR analyzer and smart chamber for high-precision data collection in carbon flux studies, achieving advanced proficiency in gas flux measurement techniques and Soil Flux Pro app, critical for tracking CO₂ and CH₄ emissions.
- Designed a rainfall manipulation study, collecting over 400 data points at multiple time intervals to assess soil responses to extreme rainfall events.
- Analyzed data on plant growth, soil carbon storage, and nutrient availability using R-Studio and a variety of statistical tests, contributing insights into ecosystem resilience and carbon cycling.
- Developed practical skills in tropical ecology research, such as seedling and tree censuses, gas flux measurement, and root sorting, enhancing field-based environmental knowledge.

International Student Programs

Minneapolis, United States

Program Assistant

Aug 2021 - Present

- Produce, maintain, and update website content on the department website. Re-imagining and managing the office instagram for better outreach, growing the account ~4 times in size in 3 years
- Certified by the IRS (2021, 2022, 2023) to guide +300 international students to prepare taxes and perform quality reviews of returns for foreign residents in the US. Assist alumni and students with questions related to nonresident taxes, institutional policy, government regulations, and logistical matters
- Build a strong collaborative community with department directors, coworkers, and other international students through meaningful events that facilitate active discussion on transnationalism and multiculturalism on campus. Advocated for the International Student body in a wide range of campus committees
- Mentorship program, leading + 20 new mentors in their support to first year students and directly mentor 5 students per year. Scheduled, developed and supervised the Pre Orientation for International Students programming

PROJECTS

- ❖ **Live IT Fund - Aulas Abiertas** \$1 500 grant from Macalester College to address accessibility to higher ed for low income students from Callao, Peru