

# EARTH GRANT

## D I G I T A L Z I N E



ILLIANA'S EXPERIENCE

# FINDING MY ROOTS THROUGH RESEARCH



# Finding My Roots Through Research

## I found my "roots" interning in Dr. Ramírez-Andreotta's lab.

Through Earth Grant, a program run by the Arizona Institute for Resilience (AIR), I received the opportunity to work as a community-engaged research assistant in Dr. Mónica Ramírez-Andreotta's Integrated Environmental Science and Health Risk Laboratory. I have learned and gained so much during my time working here! However, before I describe what working in this lab has done for me, it is important to acknowledge this lab's mission and what they have done and are doing for others.

Dr. Ramírez's lab investigates areas in environmental health and science using interdisciplinary and community-centered approaches. Their projects utilize frameworks and methodologies from the physical and social sciences, humanities, and arts. Currently, the lab is working on several projects focused on environmental justice communities across Arizona, the country, and the world. The lab aims to increase environmental health literacy among impacted communities, advance fate and transport and exposure science research, and create accessible environmental monitoring equipment and data visualization methods so people from all walks of life can better understand and communicate concerns about their environments. If you would like to learn more about the lab's specific projects, I highly encourage you to explore the "Projects" tab of the Ramírez lab website!



Background photo of Superior AZ credit: Dave Dilli, 2019  
<https://fineartamerica.com/featured/superior-arizona-springtime-dave-dilli.html>



## I developed my skills through a various projects in the lab.

This internship was the first time I ever worked in a lab. The Ramírez lab's mix of wet lab and community outreach work allowed me to develop new skills and hone existing ones.

All the projects I have worked on center on the communities in the Copper Corridor, a collection of rural towns in south-central Arizona named after their histories of copper mining. As a part of their STEAM in Action project, I develop and support hands-on environmental science and health education for youth and adult community members from this area. I created promotional materials, learned about lesson planning, and attended several science outreach trips in Superior, Hayden, and Globe. I have also helped process vegetation for a One Health post-wildfire dust generation study done with soil and vegetation from the Tonto National Park.

I came into this internship with administrative work experience and some background in early education and outreach, which I built on immensely while working on the STEAM in Action project. Working in a wet lab and learning lab protocol and good practice for working with chemicals and equipment was an entirely new environment and skillset for me, though. The Ramírez lab was a great place to learn and practice these skills, which helped me feel more confident at work and conducting my lab-based university coursework for my major.

# Finding My Roots Through Research

## Working here supported my studies and helped me learn about my home and history.



A picture of me giving a lightning talk about my life and Earth Grant internship at AIR's 2024 "Perspectives on Resilience" Event. This photo was posted to the Earth Grant Instagram account.

This lab's work with environmental justice communities has touched my life and encouraged me to reflect on my family's history here. My father's family has lived in south and central Tucson for at least four generations. My mother was born in Cananea, Sonora, and grew up in Hermosillo. I live in southeast Tucson in a single-parent, low-income immigrant home. We live a few minutes from the Tucson International Airport, a Superfund site situated near a mostly Latino, underserved part of town. I used to dread doing assignments about where I am from and family trees. I felt uncomfortable asking about these topics at home and thinking about my environment and heritage. My mom was always busy working and raising my brother and me alone. We seldom traveled, and I felt that questions about these things were awkward and potentially painful.

That started to change once I started working here. This lab has conducted research with my community here in Tucson, and in the lab's student room, I walk past plant samples taken from Cananea. When I started talking about work at home, my mom told me that her dad used to be a copper miner in the Buenavista mine and that I have family members from this community who have gotten lung cancer despite never smoking. After going to Hayden, Arizona on a science outreach trip, my mom told me: "Tu tío Marcelo trabajaba en la fundición de Hayden," one of my uncles used to work for the Hayden smelter. This year, I learned that my paternal grandfather also worked as a miner in Arizona. My paternal great-grandfather and many relatives on my dad's side were born in Hayden, too. I did not know any of this until working here. Working in Dr. Ramirez's lab sparked dialogue at home and helped me better appreciate where and who I am from.

Today, I am proud of having such an extensive family history here in the Sonoran Desert and descending from people who worked, defended, exploited, and cared for this desert on both sides of the border. Working in this lab has reaffirmed my dreams of working as an environmental policy analyst or health specialist. I want to protect this place and its people, and I have learned so much about both while working here. Thanks again to Dr. Ramirez, our lab manager, and all the graduate and undergraduate students for teaching me so much! I want to extend another special thanks to AIR and the Earth GRANT staff for supporting me and making all this possible. It's been a pleasure.

-*Altiana*

I am a sophomore double-majoring in Environmental Science and Spanish. My time here has given me practical and more in-depth experience with concepts from my Environmental Science classes and a chance to use my Spanish in different cultural and professional contexts. But, I think it has been extra special to do this work at home, with a research approach that centers places and communities like mine.

A flier I made to promote the STEAM in Action youth trainings.

### Sources:

University of Arizona. (n.d.). Earth grant program. Earth Grant Program | Arizona Institute for Resilience. <https://air.arizona.edu/earthgrant>

University of Arizona. (n.d.). Home. Ramirez-andreotta.arizona. <https://ramirez-andreotta.arizona.edu/> <https://air.arizona.edu/earthgrant>



**Ramirez-Andreotta**  
Integrated Environmental Science  
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