ESSA Scholar 2023 presentations

Luke Ramsey-Wiegmann
A Portrait of Urban Salt River Wetlands: Integrating Art, Restoration, and Ecology

The Salt River has shaped, and been shaped by, human communities for over two thousand years, helping sustain cities and agriculture in the sunbaked Sonoran Desert. But since the early 1900's it has rarely flowed through its historical channel, dammed and diverted into golf courses, fields, and kitchen sinks, leaving the riverbed a dry, gravelly ditch. But in a few urban reaches of the river's bed, water flows year-round, sometimes as a part of restoration efforts, and sometimes as an accidental result of infrastructure. I study how plant and animal communities change over time in these areas as they face pressures associated with urbanization, management, and climate change. While monitoring these ecosystems, I also work to promote more empathetic connections with the plants that live there by integrating art as a mode of data analysis and outreach. I use hand printmaking techniques to visualize ecological data on paper I make by hand using plants removed from the sites as a part of restoration efforts. This tactile and visual interaction helps create more direct relationships between me and the plants I study, share this research with broader audiences, and explore potential positive uses for common, frequently villainized, plants.

Xavier Nokes
Of Place: Place As Material

What is in a place? For many, a place simply acts as a function, an environment wherein we assume a role or fulfill a task. For others, it serves as an interstice, an environment wherein we produce, learn, develop, bask, heal, and more. Through the lens of Indigeneity we find that all spaces might be like this, afforded the functions needed for the communities they serve; naturally forming or hand built, Of Place is a system developed to create abstract representations of some of these interstices, while also capturing the words and experience of Indigenous people who have benefited from them. It aims to speak to the potential of place-based knowledge and knowing, the particularity of the environment in which we learn and that we learn from emphasized through the abstractions create from them.

ESSA Scholar 2023 presentations

Valeria Angel and Priscilla Frankson
Navigating Privilege, Place-Based Diets, and Cultural Convergence

Our presentation concept emerged from the dietary contrast between Valeria, who follows a vegetarian diet, and Priscilla, who primarily consumes animal proteins. While on Coast Miwok land in Northern California, we uncovered the complexity of cultural lifestyles and their connections with food choices. Through our deliverable—a set of two tri-fold pamphlets and a poster—we aim to educate both Native and non-Native communities about the convergence of two distinct cultural lifestyles; all while acknowledging the role of privilege, place-based diets and cultural convergence in shaping these decisions. Our work shows real life encounters and the importance of bridging gaps and promoting inclusivity in discussions surrounding native foods and food sovereignty. We recognize the multifaceted nature of food preferences and the critical need for respectful dialogue. By doing so, we illustrate their pivotal role in fostering food justice, and in turn, contribute to broader environmental and social justice initiatives.

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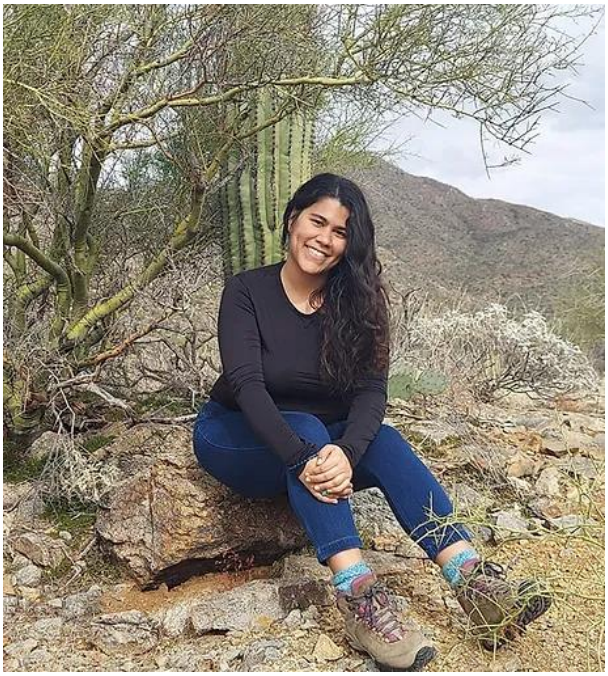
ESSA Scholar 2023 presentations



Edauri Navarro-Pérez

Roots as my teachers of success, failures, and intersectionality in graduate school

Art, like science, is a system of knowledge where we use our lived experiences to inform us and make future decisions. Besides scientific presentations and writing research papers, scientist can use other methods to approach diverse masses and appeal to other senses while informing the public. In my case, I used poetry to reach different communities and to communicate my science and graduate school journey. Based on these experiences and intersectional justice, I want to present some of my poems that show how my dissertation results can be interpreted and felt in multiple ways. Like my dissertation, most of these poems use roots as the protagonists and how they interact with topics like soil composition and land restoration. Unlike my dissertation, I also explore how these interact with topics like relationality, Indigenous knowledge, BIPOC experiences, and more. This exposition fits with the core values of ESSA and with the goals of this conference: justice, diversity, and different systems of knowledge and experiences. Also, I believe the ESSA public will appreciate another perspective to experience their graduate journey and make science more accessible.

ESSA Scholar 2023 presentations


Arshonne Cazares and Zoe Gentry
Living Lands: a boardgame about the ‘Onk Akimel

Our driving question is “How can we cultivate more diverse and culturally significant relations with the Salt River to promote community care, engagement, and understanding for our local waterways?” We aimed to answer this question by developing a free and accessible board game that encourages Indigenous youth to navigate environmental relationships with the Salt River. Living Lands promotes diversity in ways of knowing and legitimizes different knowledge systems by utilizing gameplay and storytelling as educational tools. We are currently in the process of developing a new iteration of Living Lands with a four-member cultural advisory board. With this iteration, we aim to co-create a more place-based and culturally-relevant version of the board game, which will be kept within the Salt River Pima-Maricopa Indian Community to protect culturally sensitive information.

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Taína Diaz-Reyes
An Ecology of Indigenous Culinary Culture

The Weaving Relations IIITSE involved students learning about the history of Northern Californian Indigenous communities and their relationship to land, culture, and food. Students listened, read, and experienced Indigenous knowledges related to ecology and food as they encountered Indigenous farmers, chefs, and community members who work to provide food to their respective communities. This work is being done to address the historical and contemporary challenges faced by Native communities in accessing traditional lands, waters, language, and foods. Culinary culture involves more than just the work of chefs and professional kitchens, but every part of the food production process from ecological knowledge of how to procure food from the land, water, and other beings to the activity of consuming food. One element of culinary culture is the recipe. Typically, recipes are designed for individuals and communities that use documents, numerals, and related systems of categorization and standardization as part of their system of knowledge. This project investigates the value and process of designing Indigenous recipes by and for Indigenous people as a means of incorporating Indigenous knowledge systems (IKS) and traditional ecological knowledge (TEK) into a predominantly Western-influenced culinary culture- not dissimilar from the experience of Indigenizing the academy. Indigenizing recipe making means centering the traditional, cultural, and ecological knowledge of the people using the recipe. Exploring the question of how to Indigenize recipes honors the importance of Indigenous science, as it demonstrates the ecological relationality between people, land, water, other beings, and for many communities, elements of the sacred.

ESSA Scholar 2023 presentations

Daniel Moses
Research Protocols for Heron Shadow

The history between our indigenous groups and the sciences of formal academia have been long strained due to lack of understanding, trust and empathy frequently on both sides. The IIITSE program offers a unique opportunity to mend those relationships, by proposing and approving research protocols for Heron shadow. These protocols hopefully should help to set the foundation of better understanding and foster new relationships for scientists and researchers going into areas of study in regards to native lands. While the purpose of these protocols is not to amend all past issues , it is a way to hopefully come to an understanding and allow those not of a similar backgrounds insight into cultures that may be different from theirs.

Ashley Foster
Predicting Taste and Odor Compounds in Phoenix Canals

The early Hohokam agricultural efforts of diverting water throughout the Central Arizona valley in 1300 AD created the foundation of the canal system found in present day Phoenix. Currently, the canals act to convey water to drinking water treatment plants, as well as to provide a source of recreation for local residents. Carp and white amur are stocked for fishing, with catch and release restrictions in place for the white amur as they are a protected species. Water quality observed in the canals impacts biological life that directly depends on the waterways, and residents that complain of odorous tap water.. Largely responsible for the seasonal changes in water quality are cyanobacteria species and their byproducts. MIB and geosmin are taste and odor (T&O) compounds that change the smell and taste of water when in high concentrations, and are difficult to fully remove through water remediation processes. Past research conducted by the Regional Drinking Water Monitoring Program identified blooms of cyanobacteria and subsequent spikes in their associated byproducts, MIB and geosmin. Environmental monitoring of the canals includes measurements

of temperature, nutrients, and byproducts of algal blooms. However, the laboratory effort required to measure T&O compounds during regular environmental monitoring is expensive and time consuming. This study presents models to classify T&O odor threshold concentrations (OTC) with basic environmental observations. The research presented will show two classification trees, one for MIB and one for geosmin, to predict whether a water sample is above or below the OTC value of that compound. The main benefit of this modeling exercise is to provide stakeholders with the ability to predict T&O concerns without having to process for T&O concentrations directly.

Alycia de Mesa
The Critical Nature of Indigenous Pre-Research

Epistemicide is defined in information studies as the killing, silencing, annihilation, or devaluing of a way of knowing (Patin et al., 2020, Patin et al. 2021). As Indigenous research methods increase in their contributions to a pluriverse of knowledge and methodologies (Tuhiwai-Smith, 2021, Kovach, 2021), what is the role and critical nature of Indigenous pre-research in order to limit the potential for neo-colonial research practices? Alycia de Mesa discusses and explores respectful pre-research in order to be a “good relation” as an Indigenous researcher working on and within other Indigenous peoples’ land and communities. She will discuss specific lessons learned from a Summer 2023 Indigenous graduate student research experience on the traditional lands of Coast Miwok and Pomo peoples (Sonoma County, California).

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ESSA Scholar 2023 presentations

Weaving Relations 2023 Northern California cohort led by Dr. Melissa Nelson