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2022 Cobell Graduate Summer Research Fellowship Recipients Announced

\$25,000 Total Awarded to Five Fellows

Albuquerque, NM, May 9, 2022 - Indigenous Education, Inc.(IEI) announces the 2022 recipients of the distinguished Cobell Graduate Summer Research Fellowship administered on behalf of the Cobell Board of Trustees.

Five fellows from a highly competitive pool of over 100 graduate applicants, were selected for the 6th Summer Research Fellowship cohort each receiving \$5,000. “Every year, IEI looks forward to reviewing the applications. We recognize the students are in their final phases of their graduate programs and need support to cross the finish line. It’s such an honor and inspiring to witness their work and dedication,” said Melvin Monette-Barajas, CEO of IEI.

The fellowship supports high achieving student researchers who might not otherwise have access to funds for research and related activities during summer months. Research fellows receive a \$5,000 stipend to offset remaining costs associated with their final research projects. During the Fellowship period, scholars receive direct guidance from their faculty research advisor and support from the Director of Research and Student Success at Indigenous Education, Inc. Cobell Summer Research Fellows enjoy opportunities to network with other Fellows across the world and engage in future Fellowship activities as new cohorts are selected. “We are excited to continue supporting Native scholars representing a variety of tribes and working to indigenize higher education in their respective academic fields,” added Monette-Barajas.

Learn more about the **2022 Cobell Graduate Summer Research Fellows**. Applications for our 7th cohort of 2023 Cobell Summer Graduate Research Fellows open on September 1, 2022.

About Cobell Scholarship Program, Indigenous Education, Inc.

Created in 2016 for the express purpose to administer the Cobell Scholarship Program, Indigenous Education, Inc. provides elevated opportunities for Native college students through empowering them with an impactful scholarship experience designed to support their success in higher education. The overarching mission and vision of Indigenous Education, Inc. is to support American Indian and Alaska Native student success. Since the program's beginning, it has supported nearly 4,500 students with more than \$30,000,000 in scholarships. To learn more about IEI and the Cobell Scholarship, visit cobellscholar.org.

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Cobell Fellow: Allison Ramirez

Tribal Affiliation: Tohono O'odham Nation

Institution: University of California Los Angeles

Degree: PhD – Sociology

Research Project: Experience of the Tohono O'odham peoples in relation to climate change and relationship(s) to water.

Detailed Research Project Overview

“The purpose of this research project is to understand how members of the Tohono O'odham Nation have experienced climate change and drought conditions since 1999 in Tucson, Arizona. To do this, Allison will interview 10 members of the Tohono O'odham Nation living in Tucson about their experiences with climate changes by centering their stories on water and rain.

Native

peoples living off of Indian reservations are provided less environmental protections for Native Americans living off of Indian reservations. My dissertation research centers on two events of drought from 1940-64 and 1999-2020. Research concerning this proposal will examine the experiences of Tohono O'odham living in Tucson from 1999-2020. This research will help me complete the third chapter of my doctoral dissertation.

Since 1999, the American Southwest has experienced prolonged and extreme drought conditions. Alongside prolonged drought conditions, the growing population of the American Southwest continues to stress local water resources in desert metropolitan areas. Solutions for current and future drought conditions facing metropolitan cities in the American Southwest have involved transporting water from the Colorado River Basin through infrastructures like the Central Arizona Project Aqueduct, drought contingency plans, and water settlements with local

Native Nations. Native Nations themselves have taken measures to mitigate the effects of climate change such as alternative energy projects (Redsteer 2013:386).

While the political efforts of Native Nations provide avenues for local climate adaptation, many Native people live off of Indian reservations in cities and towns. This means that urban Native communities are subject to the environmental laws and adaptation efforts of the jurisdiction they reside in, providing them varied political experiences from Native communities that live within the jurisdictional boundaries of reservation land. Allison's research aims to understand the experiences of Tohono O'odham with climate change for social awareness and to help better serve urban Tohono O'odham communities and other urban Native communities facing the realities of climate change.

To understand the environmental experiences of Tohono O'odham living in Tucson, Arizona, Allison will complete 10 semi-structured interviews. Interviews with Tohono O'odham living off the reservation will help us to understand how climate change impacts Native people living off of

Indian reservations and reservation border towns has given environmental protections for Native people living in these spaces. To understand how Tohono O'odham living off the Tohono O'odham Nation's reservations, this project asks: "How does environmental change impact the lives of Tohono O'odham living in Tucson, Arizona?" and "How does their experience historically compare to those residing on the Tohono O'odham Nation given the lack of environmental and human projects for O'odham living off the reservation?"

Like other Indigenous and non-Indigenous scholars who have followed the water as an object and method of analysis (Cattelino forthcoming; Curley 2021), this dissertation follows water to outline how climate change has historically impacted Tohono O'odham life and kinship ties in times of drought. Research for this project does not involve any scientific sampling of water. This research for this project will require 15 burden hours from research participants, which they will be provided with a \$30 donation from their time. Research methods for this project align with the values and culture of the Tohono O'odham nation rooted in kinship, respect, place-based ways of being, and wellness. If provided the opportunity to receive the Cobell Graduate Summer Research Fellowship, she will use this opportunity to build relationships with organizations and localities invested in Tohono O'odham life and environmental welling in Tucson, which she has had limited opportunity to do due to the Covid-19 pandemic.

Information from interviews will also be compiled in a written report to the Tohono O'odham Nation that addresses the environmental and social needs of Tohono O'odham living in Tucson, Arizona. As a life-long member of Tucson's Tohono O'odham community, information about the environmental and social conditions especially pertaining to environmental change and

access to clean water could contribute to the wellbeing of this very resilient community.”



Cobell Fellow: Ashton Smith

Tribal Affiliation: Apache Tribe of Oklahoma

Institution: University of Montana

Degree: MA – Clinical Psychology

Research Project: Indigenous culture, learning, and identity in educational settings

Detailed Research Project Overview

“Native American and Alaska Native (NA/AN) culture and identity are fundamental to their learning and well-being. The importance of cultural and identity is particularly noted in the education system. For example, Isaacson et.al. (2018) found both NA/AN elders and youth described the importance of learning within their education systems; yet, learning how to maintain their culture and traditional values was vital for their well-being. Using Talking Circles, NA/AN youth and elders explained the need for youth to be able to live within the Western world, while maintaining their culture and establishing their identity (Isaacson et.al., 2018). Specifically, some of the components that shaped their identity were language, relationships, and education. Further, tribal elders shared in Talking Circles that they wanted their children to be educated, but during their education, they experienced negative relationships with the public education system due to the long-lasting impacts of boarding schools on them and their

families. Indeed, there was commonality in that NA/AN people in contemporary society experience challenges to navigating two worlds within education.

Learning and well-being are integral values for NA/AN people but finding an appropriate way to approach education and learning can be difficult, especially when historically, the colonial-based systems have been created for NA/AN people to fail. Scholars (e.g., Fryberg, Covarubias, & Burack, 2013) have suggested that one way to engage NA/AN students in education is to have appropriate representation of NA/AN people within school settings. This representation can include having NA/AN educators and staff, textbooks that have accurate information of NA/AN histories, appropriate curriculum for NA/AN youth, and cultural and language immersion (Aguilera & LeCompte, 2007; Northup & Withington, 2015).

Another approach is to create spaces that support NA/AN students, making them feel welcome and safe in schools. Many teachers are often taught child- or subject-centered approaches, but not taught community- or Indigenous-centered approaches that are more common in NA/AN communities (Castagno & Brayboy, 2008). Reyhner and Jacobs (2002) proposed that educators who work with NA/AN students can better prepare themselves by (1) being reflective and responsive in teaching, (2) critically considering pedagogical assumptions of the dominant culture, (3) increasing expectations for Native students, (4) studying the concepts of spirituality and reciprocity, (4) focusing more on extended family involvement in teaching and learning, (5) being sensitive to language issues on many levels, (6) understanding problems related to overusing extrinsic motivation, (7) realizing the importance of continued teacher support, and (8) appreciating that the wisdom NA/AN cultures can benefit all children (Reyhner & Jacobs, 2002). Having teachers that are culturally aware and who can embody these qualities and traits as an educator can contribute to NA/AN students feeling welcome and safe.

Specifically, an approach to making schools feel safe and welcome for NA/AN students is integrating cultural matching and identity safety. Cultural matching has been conceptualized as having a child's classroom environment reflect their own culture at home (e.g., beliefs, values, traditions, language, dialect, shared experiences; Rip et.al., 2020). Identity safety, on the other hand, is conceptualized as when individuals believe that their social identity is an asset, rather than a barrier to success in the classroom, and that they are welcomed, supported, and valued whatever their background (Steele & Cohen-Vargas, 2013).

Cultural matching and identity safety for NA/AN people in other environments (e.g., psychotherapy, child-welfare system, mentoring roles) have been found to support well-being and identity (Brown et.al., 2009; Ibaraki, Nagayama-Hall, 2014; Johnson et.al., 2019). Previous research studies have shown that identity safety and cultural matching are effective in promoting a sense of belonging in the classroom and eliminating stereotype threat for students

of color, including African American and Hispanic students (Steele & Cohen-Vargas, 2013). Further, the existing research has found that cultural matching can have positive outcomes on foster placements for First Nation youth (Brown et.al., 2009). First Nation youth in Canada need to have their own cultural framework within educational environments that is consistent with the student's culture for them to have higher grades and protection from discrimination and culture biases (Fryberg, et al., 2013). There is a gap in the research, however, specifically examining cultural matching and identity safety for Native American and Alaska Native students in school. Although these studies examine cultural mismatching of education specifically for First Nation youth in Canada, there is a need to examine what components compose a culturally matched and identity safe classroom for NA/AN students in the United States.

The purpose of this study is to help identify culturally matched and identity safe practices that allow for NA/AN youth to feel safe within school settings. Although there are several ways in which people may identify this population (e.g., Indian, American Indian, Native American, Native), Ashton has chosen to use the term "Native American/Alaska Native" (NA/AN) to better reflect the contemporary identification, particularly because the alternative term, American Indian/Alaska Native, is used by the US federal government and does not reflect her own identity. Importantly, NA/AN people identify themselves with their affiliated tribe/tribes, and she will subsequently use the tribal affiliation when describing a research study or when discussing participants, committee members, and members of the research labs as appropriate. To address the aims of this study, Ashton will be using a Blackfeet, Kiowa, and Apache lens, while adhering to Niitsitipi (Blackfeet) values and worldview."



Cobell Fellow: James Stumpff

Tribal Affiliation: Navajo Nation

Institution: University of California - Riverside

Degree: Cellular and Molecular Biology

Research Project: Respiratory diseases and cellular correlations in Indigenous populations

Detailed Research Project Overview

“Respiratory diseases disproportionately affect American Indian/Alaska Native (AI/AN) populations which was recently highlighted by the SARS-CoV-2 pandemic. Key determinants over the past decade of chronic respiratory diseases disproportionately affecting AI/AN are socioeconomic status (low-income housing), weight morbidity, and smoking. Further health inequities were also highlighted during the pandemic as infection rates of COVID-19 were three and a half times higher in the Navajo Nation than that of white Americans. Seasonal influenza poses a threat despite current vaccinations, and we see AI/AN populations are at higher risk than others for pneumonia and bronchitis, hospitalizations and death. His research focuses on host responses to influenza by identifying differences in cell populations and dynamics to find correlations with mild or severe disease. Correlates with mild or severe disease can be targeted for therapeutic strategies.

James has identified innate immune cell populations that correlate with mild influenza disease outcomes and are absent in severe disease. Current strategies combine computational, immunological, and virological techniques to predict and identify immune cells and their roles.

His summer research project will further investigate and elucidate the role of these immune cells and how they help lung tissues restore homeostasis and promote healing.

The pleural cavity surrounds the lungs and aids in breathing, however, there are an abundance of immune cells that reside within the cavity. Using computational data, we have predicted a population of macrophages that cross the mesothelium into the lung during the recovery phase of influenza. This has been confirmed by staining these cells with a fluorescent dye (PKH26PCL) that can selectively label the macrophage population of cells. After infection mice are sacrificed and lungs are analyzed by flow cytometry and confocal microscopy. Both methods use fluorescence to observe our cell population and quantify their abundance. Data also shows when these macrophages are ablated in influenza infection it leads to increased weight loss, indicating these macrophages have an important role either in recovery or modulating the immune system during and after infection. Another aspect seen in mild influenza is alveolar macrophages do not decrease in number, but we see their numbers deplete significantly in more severe disease. These macrophages are known to be “safeguards” of the airways as they are primarily involved in clearing out pathogens that enter the airways. Another population named interstitial macrophages have two different subsets that reside in the lungs, and he has identified rapid expansion of both populations during the recovery phase of influenza infection. Preliminary data suggests a role in wound healing and immunomodulation. These three macrophage populations will further be investigated to elucidate how they responds to mild and severe disease, and what their role is during infection and the recovery phase of restoring homeostasis.

At his institution, James has access and been trained to use the high-containment BSL-3 with select agents. This makes him uniquely suited to pursue a project of highly infectious influenza viruses. James will compare a sub-lethal infection of seasonal influenza (H1N1) to a lethal infection of highly pathogenic avian influenza (H5N1). Mice will be used as a model and will be intranasally inoculated before being sacrificed at multiple timepoints. Pathology will be determined by hematoxylin and eosin staining. Macrophage populations will be identified with immunofluorescent staining. Using Visium technology by 10x Genomics the pathology can be overlaid with gene expression data to understand which genes are upregulated or downregulated in areas of chronic inflammation and damage or areas promoting wound healing and recovery. Immunofluorescence will identify different macrophage populations and their gene expression and distribution will be visualized by Visium. By understanding the contribution of different macrophage populations to the outcomes of infection we will elucidate new therapeutic targets. Dysregulated immune responses can be changed with different stimuli and macrophages can be activated to promote healing or viral clearance. Gene expression can identify these targets and correlates.”



Cobell Fellow: Shawna Yazzie

Tribal Affiliation: Navajo Nation

Institution: University of California – Davis

Degree: PhD – American Indian/Native American Studies

Research Project: Retelling and sharing of cultural knowledge through weaving

Detailed Research Project Overview

“I am of the Big Water clan born for the Red Bottom clan. My maternal grandfathers are the Towering House clan. My paternal grandfathers are the Tangle Peoples clan. I am a Diné woman. I am from A Body of Water in a Sunken Area [what is currently known as Pinon, Arizona].

Since time immemorial, Diné women of the Red Bottom Clan wove stories of survival through the practice of at’ooh [rug weaving]. K’é [Diné Kinship System] is expressed in weaving as a record and recognition of our practice of relating to and being responsible for each other through our clans. It is through our clan system that we find our place in the world as Diné. Our family still knows-feels the significance of rug weaving as an expression of K’é. In this case, my work with Diné women weavers’ uplifts modes of storytelling -- the language in and surrounding -- the practice of rug weaving. This practice carries knowledge and teachings from time immemorial about how to exist in the world given by Asdzáá Naashchéii [Spider Woman], who gifted rug weaving to Diné. More specifically, my project shares how Diné women in A Body

of Water in a Sunken Area build long-lasting connections to rug weaving to reclaim and heal themselves and their families, and to re-establish kinship ties that facilitate responsible intergenerational transfers of knowledge for future generations. Kinship relations centers Diné Language as a core concept of understanding the cultural values inhibited in the loom, warp and tools attached to rug weaving. Through an intergenerational transfer of cultural knowledge, a cyclical responsibility gifted to me by my grandmother, I engage rug weaving as Diné women's stories, truths, and remembrances.

Broadly speaking, my research aims to amplify a range of Diné women's histories and lived experiences across the Navajo Nation to counter dominant narratives that flatten the density of our Indigeneity. Grounded in my role as an apprentice weaver, my proposed project will focus on master weavers from my home community to document the ways in which their practices embody Diné-specific theories and methods of doing histories with, by and for Diné. This work is imperative as a Diné scholar to recenter how knowledge is transferred to future generations while utilizing our own ways of knowing/being. Weaving is a way to live in balance in the Universe. I have experienced first-hand the ways in which rug weaving brings healing to Diné women and their families. My work shall bring healing by demonstrating the ways in which our women's works are vital to our community's futurity. As a Diné woman, our culture continues to be centered as being 'lost' or on the verge of being lost. Anthropological ethnographic and linguistic studies of weaving tend to document Diné histories and practices in an extractive and linear fashion that do not follow Diné frameworks, and thus does not fully account for how Diné theorize their cultural history and place in the world. My work does not propose to represent all Navajo Nation or all Diné weavers across the land. Rather, my work serves as a call to Diné and non-Diné readers and future researchers alike to learn from a range of Diné weavers. Rather, my work seeks to allow future Indigenous scholars to explore their own community rug weaving histories.

This documentation would follow two phases: first, to return home to speak with my relatives and second to edit the creation. Each of these educational principles model, Sa'ah Naagháí Bik'eh Hózhóón [SNBH], which places living in harmony. (I) Nitsáhákees [Thinking]. By the end of spring quarter 2022 I will have completed all of my coursework for my (1) PhD in Native American Studies (2) a Designated Emphasis in Feminist Theory and Research. This academic foundation will advance this project as my classes taught me how to provide a critical lens and methods for integrating feminist perspectives and approaches. (II) Nahat'á [Planning]. I will relocate to Pinon, Arizona for the entirety of summer 2022, which will necessitate quarantine to protect community members. (III) liná [Implementation]. I will then begin the process of engaging with community grandmothers through listening, talking, and remembering and what it is that they are willing to do and share. (IV) Sihasin Reflection/Assurance]. By Fall 2022, I will

be ready to present and submit a final report that includes reflections and assurances with, by, and for the community.”



Cobell Fellow: Timothy Fish

Tribal Affiliation: Muscogee (Creek) Nation

Institution: University of Wisconsin – Madison

Degree: PhD – Interdisciplinary Studies

Research Project: A Case Study on the Reflections and Lessons Learned from Community-Led Initiatives Leading to the Construct of the Yungtun Language Proficiency Test using Narrative Inquiry.

Detailed Research Project Overview

“The purpose of this qualitative case study is to gather evidence on how a group of Yup’ik educators, and other key stakeholders, came together to develop the Yungtun language proficiency test. This case study will use a narrative inquiry methodology to capture the lived experiences of those involved, as it pertains to the development of the Yungtun language proficiency test.

Timothy's approach will look at how the collaborative efforts of the Yup'ik tribal community, partnering organizations, and others pooled their resources, experience, knowledge, and skills together in order to convert and develop standardized language proficiency instruments into the Yup'ik worldview using Yup'ik epistemology and language. Roles and various levels of influence and participation will be studied using surveys and in-depth interviews. Utilizing these data collection techniques, knowledge and evidence will be gained to advance an understanding of how pertinent issues influenced the need to develop a culturally-relevant language proficiency instrument that authentically reflects the Yup'ik epistemology, how the developed research design by the Yup'ik community of experts and partnering organizations came to be, how decisions were determined and consensus achieved, and finally, how capacity building for those involved came together to achieve goals set forth by this collaborative community of change agents. From existing research, it is well known that participation in community-led research leads people from their respective 'community' to become co-researchers, or community researchers, researching issues and concerns that directly impact their place of belonging and the people within their environment.

Furthermore, participating organizational groups, and other partnerships, will be included in the study in order to gain a better understanding of their unique partnership roles and contributions leading to the development of the Yungtun Language proficiency test and their response to the tribal community needs, desires, and ways of knowing and doing. From what is gathered, the Yup'ik tribal community and their partnering community organizations have developed a distinct relationship that has proven successful. Though successful, many challenges have been encountered along the way, as well as differences. These challenges and differences create many lessons to learn from that, if addressed appropriately, provide opportunities for learning, growth, innovation, and much needed support for American Indian and Alaska Native English language learners.

In summary, this qualitative case study will capture the story regarding the importance of preserving Yup'ik heritage languages and culture, research approach and process, community inclusion, and the lived experiences from those who participated in this effort. It is my goal, as an Indigenous researcher, to capture and share this work through the voices of those involved in order to provide an accurate and authentic account of their stories and contributions. It is my hope that this approach will speak to the validity and reliability that this work merits in order to gain an in-depth understanding of the situation and meaning from those involved. Timothy's interest, as a researcher in this context, is in the process rather than the outcomes, in context rather than a specific variable, in discovery rather than confirmation. Lastly, the outcomes from this qualitative case study will bridge a research gap between western research canons and

approaches to tribal community-led research initiatives through tribal research methods, practices, researchers, and support for American Indian and Alaska Native youth.”

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