
**URGE Policies for Working with Communities of Color for University of Tennessee,
Department of Earth & Planetary Sciences**

Context for this URGE Deliverable

The Geosciences discipline is strongly rooted in colonialism, with targeted expeditions that leverage local knowledge to accumulate valuable observations that will be later analyzed and disseminated at home institutions, with little to no collaboration or follow up with those previous contacts. The Western approach continues in present day science; it will take recognition and commitment to change. For this Session, the pods were provided with readings and interviews that described exploitation of Indigenous, Arctic, and/or other international communities, environmental racism and injustice, but also successful approaches to include Indigenous community perspectives in, for example, climate assessments and reports. Exploitation can and does also occur in non-Indigenous domestic communities of color. Building productive relationships with these communities can take time. Laying a foundation of awareness, feedback, and buy-in is a start, but true inclusion goes beyond providing a “seat at the table.” Approaching an issue from different perspectives, not just the western or academic standard, acknowledges that there are multiple ways of knowing. The time and effort invested upfront can lead to more meaningful and impactful results.

To address questions provided by URGE for this deliverable, related to working with communities of color, the **U of Tennessee Department of Earth & Planetary Sciences Pod**, at the **University of Tennessee**, compiled their collective personal experiences and perspectives. For some responses, specific individual experiences are highlighted as examples. Many more shared their thoughts but did not feel comfortable including in this public document. Names were removed to anonymize the information and to focus on the actions rather than individuals. The views and opinions shared by some of these individuals may not reflect the views and opinions of all pod members. At the end of the deliverable, the Pod’s ideas to improve working with communities of color by enhancing relationships and partnerships are provided, with links to resources that are available publicly via websites. Lastly, a recommendation for how the department can partner with a local HBCU community is made.

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Audit of Previous Interactions with Communities of Color (US or abroad)

What research projects were undertaken in countries or regions with communities of color?

Nearly every pod member has been involved on research projects in the US and abroad to regions with **communities of color**. Regions and countries discussed:

- Within the United States: Tennessee, Louisiana, New Mexico, Arizona, Hawai’i, Florida, Texas, New Jersey
- Other Countries: Oman, Peru, Chile, The Bahamas, China, and others

What U.S. projects include (or included) meaningful interactions with communities of color? What has worked and/or was successful? What hasn’t or didn’t work? Were communities of color included in the early development and/or proposal of the research or project, or added at a later stage? Were local collaborators included as authors on presentations and/or papers?

U.S. Example 1 (provided by pod member A): A collaboration with the Malcolm X Shabazz High School (the population of which was, at the time, 100% minoritized students)in Newark, NJ, started in 2013. Students participated in research and had opportunities to present their research fundings at regional and national conferences. The project has continued as an attempt to work with local high school students via an NSF GEOPATHS grant. This project is moving forward with local partners in Tennessee, including [Freedom Schools of East Tennessee](#) and [Big Brothers Big Sisters of East Tennessee](#). Overall, the program has successfully involved >120 high school students in research. However, a major challenge has been that the incentives for a pre-tenure faculty member do not align well with the work required to make projects like these successful. Similarly, working with public schools has been a challenge. Although many teachers and high school administrators were enthusiastic about the idea of collaborating, these people did not realistically have time to engage in a meaningful collaboration given the other pressures on their time and energy.

U.S. Example 2 (provided by pod member B): A pilot research project was performed with students at South Doyle Middle School, Knoxville, TN (32% racial and ethnic minorities, the majority of which are Black). The project included guest lectures at the school and monthly visits to check on experiment progress. The students seemed to enjoy the interactions and become personally invested in the research. However, complications unrelated to the research forced the project to end early due to faculty turnover.

U.S. Example 3 (provided by A & B): In general, the public schools in the Knoxville area have higher percentages of Black students compared to county demographics; for example, the demographics of the Fulton High School Student Population: Black or African American (35.1%), Hispanic (21.7%), two or more races (5.6%), Asian (0.1%), American Indian (0.1%), White (37.5%). Current efforts are underway, as part of their NSF GEOPATHS project, to generate lesson kits in required high school science disciplines. These kits will be tested and refined with the McClung Museum and made available to area teachers through the Knox County Public Library System at little to no cost. Kits meet specific curriculum requirements in biology, chemistry, and physics, but are rooted in the Geosciences. Once COVID-19 restrictions relax, these lesson kits will be the subject of several free teacher workshops.

U.S. Example 4 (provided by pod member C): For ongoing research on the Island of Hawai'i research, there is a strong need to balance Native Hawaiian cultural practices with Western scientific approaches. The State of Hawai'i is indigenous land, and the researchers needed to recognize that the volcanic features intended for study are on the ancestral lands of the Native Hawaiian people. The features may also be considered kapu, as sacred, forbidden sites that should stay undisturbed, within the traditional Hawaiian cultural and religious landscape. But, the volcanic features have scientific significance. For the previous work, the researchers engaged with local communities, including Native Hawaiians, through public talk story, and with non-profit organizations whose missions are to protect and conserve the natural landscape. Partnering with the local groups involved a lot of community action, like picking up garbage along the roads and eradicating invasive plant species on community land. The research group is also consulting with (and paying) with a Cultural Advisor employed by the Bishop Museum in Honolulu to assist in training the PIs in Native Hawaiian cultural practices that can be used to improve recruiting students into the research from Hawaiian Title 1 schools, Pacific Island universities and community colleges, and through the UH [Pasefika Passion Pipeline](#). The team already has mentored Pacific Islander students, and is working on ways to leverage their activities in Honolulu on Hawai'i island. The research team also incorporates ceremony and protocol, such as with kipuna, local Native Hawaiian elders, like for performing land blessing ceremonies.

What international projects included meaningful interactions with those communities of color, including the use/employment of local collaborators / liaisons / guides? Were they included in the

early development and/or proposal of the research or project itself, or added at a later stage? Were any local collaborators included as authors on presentations and/or papers? Were local names used for landmarks or features, adhering to restrictions and customs?

International Example 1 (provided by pod member D): They were involved with the Oman Drilling Project that worked closely with the Sultanate of Oman, not only to get approval for drilling but also for there to be full inclusion of junior researchers, undergraduates and career geoscientists from Oman in all stages of the project from planning to characterization of cores to sample archiving.

International Example 2 (provided by pod member E): The research group is providing water quality reports to local and Indigenous groups in central Peru, which will improve knowledge of the springs and regional water quality. The team incorporated members of the community in the field sampling (i.e., people guide the team to additional springs that were not publicly known and to springs that were most appropriate for the types of samples they were collecting). These interactions also encouraged the team to learn about the community connection to the springs, also built a relationship with the community for ongoing work, made connections to distribute findings amongst the community, and built trust. The researchers were also able to gain knowledge from the local communities who are able to observe changes in springs directly after events, such as earthquakes. They are also involved in discussing geologic hazards and their prior or risk of impact to the remote communities.

International Example 3 (provided by pod member F): As part of past NSF-funded research in Region II of Chile, and at the El Tatio geyser field in the Atacama Desert, the team paid local, mostly Indigenous, community members to help with field trip logistics, including food preparation, lodging in local residences (including on village church grounds), and being guides or drivers. The purpose of the research was to understand the arsenic cycle throughout the region, starting at El Tatio, which is the headwaters to the only regional river. Natural groundwater and surface water arsenic concentrations in this region are among the highest in the world. As part of the project (which was planned from the beginning at the proposal stage), the team met with regional leaders (equivalent of mayors, but really tribal chiefs) in neighboring villages to discuss the research findings related to arsenic, and explained the scientific and conservation value of El Taio, but they were also able to learn about local problems related to tourism and water resource exploitation due to geothermal energy production. The team gave presentations in Spanish to the local communities and to the geothermal companies, to inform about the arsenic cycle. During these visits to the villages, the group always brought gifts like fresh fruit and vegetables, and school supplies for the children, but also flowers. These were rewarding experiences for everyone.

International Example 4 (provided by pod member G): This pod member is involved with an ongoing project that involves collaborators and specimens from several east African countries. However, the project is in its earliest stages. All publications are planned to include local collaborators, and funding includes local institutions.

Overall, what worked well in these interactions?

These were some of the general points made during discussion of this question:

- It's important to pay people to be involved on a project, especially when the research is being done in a region with communities of color or where there are or have been marginalized communities.
- It's important to increase a project's success by helping students, consultants, advisors, etc. understand and navigate the field or museum work being done. Some students or others (including BIPOC) may not be comfortable with what is required of them (i.e., for field work).

- It's important to have food and other activities (e.g., ceremony, program, events) that will pay respect to local cultural practices.
- It is important to train people in best DEI practices when interacting with communities of color, this includes PIs, students, assistants, etc.
- For performance evaluations of faculty, students, staff, etc., it is important to recognize that meaningful DEI activities have value and that consideration should be given for how such DEI activities impact career duties (i.e., DEI activities can be time-consuming and take away from the more traditional ways we "value" career productivity, like publications).
- It is important to work in the context of, and leverage, DEI programs for communities of color within one's organization. For instance, at UT, there are a number of faculty (some of whom recently received awards for their DEI work) who are already doing the hard work needed to establish relationships and partnerships. Reinventing the wheel is time-consuming for everyone, so working with people, and partnering, with organization groups and people will help.
- It is important to include local communities of color when developing our proposals and research plans, and to include community members in proposal and publication writing as collaborators.
- When working with teachers (e.g., for K-12 work), it's important to provide materials, lesson plans, etc. to students and teachers for free (ideally) or at an absolutely minimum cost, because school funding is decided by property taxes. The poorest communities have the least funded schools.
- Also for K-12 activities in communities of color, some attention must be given to meeting curriculum requirements, in some way, or else teachers may not receive permission from administrators for any interactions or activities. Student performance on standardized tests, based on the standard curriculum, are used to determine funding and promotion in schools, so enrichment of the basic curriculum, for the sake of enrichment, is often the first to go.

What did not work well, and how can this be better addressed in future plans?

These were some of the general points made during discussion related to this question:

- BIPOC people within communities of color may become "overused" and exploited. This can be with invitations for speakers, use of BIPOC people for institutional or organization, or research group photographs, websites, recruiting materials, etc. This can also happen if communities of color are in field areas that are heavily visited, such as the American Southwest. Involving tribal groups may be the same groups that everyone wants to interact with, and this can become a burden to the community.
- There may be times when, while trying to balance and improve interactions with communities of color, that actions still result in being, or coming across as, imperialistic and colonistic.
- With respect to working with public school systems and K-12 teachers, their goals may not align with scientific goals for the research, even if initially everything seemed to match. To alleviate these potential issues, it would be best to start with pilot studies/proof-of-concept partnerships.

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Ways to Improve the Outcome of Projects Already Undertaken

These were some general ideas that came from discussion:

- ***Reimagine geoscience research, particularly field work, that involves communities of color:***
To be aware of and improve upon the legacy of imperialism, colonialism, and racism that may have

been caused by the Geosciences, a huge first step is recognizing that past actions (e.g., for field work done in regions with communities of color) may have had negative impacts, whether directly or indirectly, on those communities. The second step would be to commit to change and acknowledge the importance of involving communities of color in the research.

- ***Include awareness training in activity planning:*** To encourage awareness within the research team regarding local cultural and/or religious practices, including important customs, days, ceremonies, protocols, and activities that would respectfully engage communities of color, hire a community member to consult early on in the planning of field work or other research activities. Part of the training may include hiring someone, like an outside faculty member, during the planning stages of the research who has experience in developing strong connections with communities of color.
- ***Provide land acknowledgements,*** where and when appropriate. If land acknowledgements are not available (e.g., for UT), then work to prepare one in a meaningful way that shows respect and gratitude for the Indigenous people whose land you work on or will work on.
- ***Make real, meaningful local connections:*** Find, consult, and partner with “trusted” persons within the community to help reduce the unknown between “you” (as the “outsider”) and the community. This would involve paying people for their time; do not expect people to volunteer for your research or outreach activities. Essentially, make the research activities “work with communities” rather than “work for communities.”
- ***Increase the capacity for the research by involving non-traditional people:*** Including people who we might not ordinarily consider for a research project, such as teachers, community leaders, community members, etc., and include them from pre-funding (proposal writing) through to any publications or presentations about the project.
- ***Always ask permission and ask what you can provide in return:*** It is important to open a dialogue with community members rather than demanding or requesting an audience with members of the community. Procedures may not be obvious to an outsider, and conversations need to be had prior to partnering. This becomes critically important when needing to be seen as someone who is responding to the needs of the community rather than imposing specific research needs on the community.
- ***Accept “no” or “not at this time” from people:*** Recognize that there will be challenges to navigate when working with communities with color, maybe initially or continuously throughout your project. Be prepared to navigate reluctance to engage while also trying to work within the confines given by the community and not around the community.
- ***Review performance evaluation materials and expectations:*** For faculty, students, and staff, there is a need to redefine award and promotion/tenure guidelines that take into account active engagement in DEI activities professionally. Time, resources, and scholarship are needed to leverage, develop, and implement DEI programs and partnerships in meaningful ways that are sustainable and that are beneficial. Expectations need to explain how these activities are assessed compared to traditional mechanisms for awards and promotion (i.e., grant dollars, publications).

Resources / Guidelines for Working and Partnering with Communities of Color

- Local campus student groups:
 - [Minorities in Agriculture, Natural Resources, and Related Sciences \(MANRRS\)](#)

- [Pipeline: Vols for Women in STEM](#)
- [UTK SACNAS Chapter](#)
- [UTK oSTEM Chapter](#)
- [Or, any of the ethnically-focused student groups not necessarily STEM-related](#)
- Existing University connections, like the community engagement office portal:
<https://communityengagement.utk.edu/community-connection-portal/>

Pod Recommendations:

During our discussion, it came to the Pod's attention that [Knoxville College \(HBCU\)](#) is trying to get their accreditation back. They currently have an online program in environmental health. It might be possible for UT EPS to extend a hand to build a **partnership** (the College is already trying to build a partnership with UT). We're looking for ways to bring communities of color into our program and research (within the faculty and staff and student populations). They may need classroom space (their science building is not operational). There could be a way to have sharing arrangements for lab spaces. The GEOL 100, which will have an online and hybrid component, might be appealing, as part of the IDP online degree completion program. EPS will be offering 3 courses in the IDEP program in future semesters, and we might be able to expand to encompass a partnership arrangement with online course offerings with Knoxville College.