

# URGE

## Unlearning Racism in Geoscience



Department of Geosciences

### URGE Policies for Working with Communities of Color at Penn State University Geosciences

#### Inventory of previous interactions with communities of color at our organization:

Across the Department of Geosciences there are a wide variety of research projects undertaken in regions or countries with communities of color. At a Department level, there has been no policy or guidelines about how to conduct these projects or manage such collaborations. Individual PIs have navigated, built, and managed their research projects and collaborations on their own. Examples of types of engagement with local communities (BIPOC and underserved or minoritized communities) from the past 5-10 years in the Department of Geosciences:

- Most(?) research projects throughout the Department have not included meaningful interactions with local communities of color. We recognize this as a serious issue and commit to raising awareness of this across the department, developing guidelines for collaboration and engagement, and providing support for students, faculty, and staff so this work can be included in all projects. (See Recommendations section, below.)
- AfricaArray <http://africaarray.psu.edu/> (PI Maureen Feineman, Co-PI Andrew Nyblade): Between 2015 and 2019, 31 undergraduates from universities and colleges across the United States participated in the Penn State - AfricaArray Bushveld REU Program. All participated in research projects related to the geochemistry and geophysics of the Bushveld Igneous Complex, and 30 students traveled to South Africa to conduct field work at the Bushveld Igneous Complex and the Vredefort Impact Structure. Participants presented the results of their research projects at in-house symposia at the Pennsylvania State University and the University of the Witwatersrand, the AfricaArray Diversity Forum in Houston, TX, the National Association of Black Geoscientists Conference, the Geological Society of America Annual Meeting, and the American Geophysical Union Fall Meeting. AfricaArray research has been published in fifteen abstracts (AGU, GSA, and Goldschmidt) including 9 REU first authors and 4 REU co-authors. Demographically, 42% of the REU participants identified as female and 67% identified as Hispanic/Latino/Mexican-American (48%) or Black/African-American (19%). As of Fall 2019, at least 12 REU participants had started MS programs in Geosciences and related fields, and at least 4 had started PhD programs in Geosciences and related fields, including one NSF Graduate Research Fellow. Of the students who entered graduate programs, five have completed their degrees and the rest are still in progress. At least

seven former REU participants are currently employed as geoscientists in industry or academia. In post-participation assessment surveys, nearly all of the former participants site the Penn State - Bushveld REU as their entry point into research in the geosciences, and credit the experience with opening avenues to subsequent employment and academic opportunities. Many also report that the REU helped them to improve their scientific communication skills and confidence.

- Successes of this program include long-standing relationships with the University of Witwatersrand built on joint scientific interests and commitment to broadening diversity in geosciences.
- Ledi-Geraru Research Project, Afar Ethiopia  
(<https://shesc.asu.edu/research/projects/ledi-geraru-research-project>)
  - Paleontology, geology, and archaeology research in the Afar region of Ethiopia focused on sediments dating to between 2 and 3 million years ago during the appearance of our genus *Homo* in the fossil record. We work on indigenous land of the Afar people and work closely with them for the duration of our ~2-3 month field season. They have become our friends and colleagues since we began working there in 2002.
  - We visit the capital of the Afar, talk with senior officials, secure permits, and invite and pay an Afar representative to camp with us for the duration of our field season. At camp we exchange culture and language, and incorporate local names and meanings into maps and publications (i.e., names of tephros).
  - We hire multiple Afar from the kebeles (similar to a county) that we work and camp. Each field season we have 15-25 Afar colleagues that camp and eat with us daily. We hire them to help with fossil hunting, as field assistants, guards, kitchen assistants, and as senior advisors.
  - We have provided training in paleontology, archaeology, and geological field methods to many students from Addis Ababa University, as well as the National Museum of Ethiopia.
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- Penn State Geosciences' mixed undergraduate–graduate course Marine Biogeochemistry features an annual spring break trip to San Salvador, Bahamas. In addition to various field work measurements and sampling projects, the professor makes it a priority that the students prepare in advance for a day of service in the local communities, e.g. teaming up to lead marine biology or geology lessons in the local elementary school's classes.
- Some faculty are starting to include land acknowledgements in manuscripts that include fieldwork

### **What worked well in these interactions?**

- The most successful, sustainable, and equitable collaborations seem to be founded in a commitment to relationship building and that has cultivated mutual respect and understanding.
- Recognizing local/national holidays and customs

- Bringing gifts (such as food) to community members when meeting with them
- Hiring community members to participate in aspects of the research and making sure they feel like they belong
- Making the time and space for people from different backgrounds to really get to know each other and form meaningful relationships, outside of the formal research setting
- Developing long term relationships with local and regional collaborators.
- Using local names (and knowing their meanings) for geologic units and landmarks.
- We are sensitive to religious practices and cultural norms (food and clothing). For example, pulling over the land cruiser and providing time for prayers on our way home from the field.

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

- A significant issue is the lack of thought or consideration of local communities when conducting fieldwork, research, or teaching. Outside of a few examples from courses, field-trips, or occasional research papers, the issue of interacting with local communities has largely been ignored in our research and teaching.
- There is concern about research, teaching, and service/outreach efforts developed with good intentions ultimately falling into patterns of intellectual or educational colonialism or “saviorism”. From a position of privilege at a white-dominated R1 University, it can be easy to develop ideas or plans to “reach out” in ways that are well meaning, but are ultimately domineering or dismissive of local communities’ expertise, perspective, and needs.
- Scholars and knowledge-holders from the communities should be incorporated into every aspect of the research and decision-making, starting from the initial planning.
- All members of the research team should be treated equally in the field. For example, do not assume that local people working on the team are comfortable with washing their clothes and bathing in the river, while offering a shower and clothes washing service to the people foreign to that community.
- In the future, we should prioritize learning the local language (if applicable). We should not expect scholars and community members in other nations to speak English for us. This is especially important because knowledge is encoded in language, and using a translator can both prevent true collaborative knowledge exchange and cause important information to be lost in translation. Learning a language is a significant investment and may be difficult for students who are new to a project, yet working with communities should require significant investment. PIs who have been working in a specific region for a long time should especially be expected to be proficient in the local language.
- It can be difficult to engage local PIs who are extremely busy. They are often unable to join us in the field because of high teaching loads or prior commitments.

**Recommended resources, guidelines, and support that is needed to improve the process for planning ahead and working with communities of color:**

- Provide resources and references for best practices for developing meaningful relationships and connections with local communities, for example:

- Matson et al., 2021, Transforming research and relationships through collaborative tribal-university partnerships on Manoomin (wild rice), *Environmental Science and Policy*, <https://doi.org/10.1016/j.envsci.2020.10.010>)
- Dr. Kristina Douglass (PSU Anthropology) is a good resource here (examples of her work and her ideas for working collaboratively with communities):
  - <https://www.nature.com/articles/d41586-018-06858-4>
  - <https://www.sapiens.org/archaeology/the-fire-this-time-black-and-indigenous-ecologies/>
- **DEI Committee could help assemble these and post them on the Dept. website**
- Develop a Department Land Acknowledgement and provide guidelines for others to develop land acknowledgements for their own research or teaching activities. Have all students, faculty, and staff read about the history of expropriated lands that established Penn State
  - Lee and Ahtone, 2020, Land-grab universities: Expropriated Indigenous land is the foundation of the land-grant university system, *High Country News* <https://www.hcn.org/issues/52.4/indigenous-affairs-education-land-grab-universities>
- Discuss best practices and issues associated with local community involvement and scientific colonialism with graduate students in GEOSC 500: Issues in Geosciences;
- Establish outlets and provide support (mentoring, leadership, financial) for students involved in research projects (e.g., large collaborations) that are not following best practices for engagement.
- The Department (or College) could audit research proposals for PI's plans or consideration of plans for engagement with local communities. (This would be a positive thing to do to reinforce and act on our community values; practically, It would not be surprising if some NSF programs started to adopt this kind of assessment for proposals this in the future);
  - Have appropriate contacts been established prior to writing and developing the proposal? How have local partners' priorities and needs been assessed, understood, and incorporated into the proposal? Do stated outcomes and measures of success include goals and needs of local partners?
  - Are local partners included in the proposal itself as collaborators or contractors (or have they only written supplementary letters of support)?
  - Have appropriate funds been budgeted to compensate local communities and to sustain adequate support for engagement throughout the duration of the project?