

## PLANETARY RESOURCES AND CONTENT HEROES (REACH): PROGRESS ON A MODEL FOR CULTURALLY INCLUSIVE PUBLIC ENGAGEMENT WORKSHOPS

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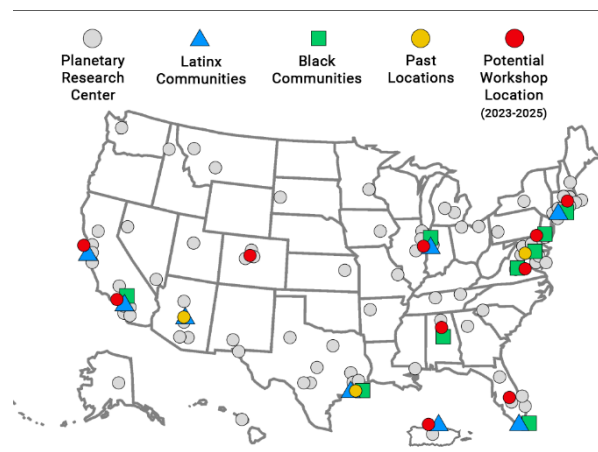
**Introduction:** As the population of the United States continues to diversify, the planetary science field must do so in parallel. However, the Black and Latinx communities continue to be severely underrepresented in the field of planetary science and astrobiology, making up just 1% and 5% respectively [1,2]. In response, The State of the Profession (SoP) chapter in the Origins, Worlds, and Life (OWL) report [3], laid out actionable items that can be taken by funding agencies and highlights community actions that can help to increase the diversity of professionals within the field of planetary science and their inclusion. One theme emphasizes the importance of community engagement and outreach.

The focus of the Planetary Resources and Content Heroes (ReaCH) project is to assist planetary science and astrobiology professionals in engaging diverse audiences in out-of-school settings. More equitable and inclusive interactions between scientists and diverse communities can inspire future STEM professionals [4]. Consequently, the ReaCH project is taking deliberate steps to enhance the planetary science and astrobiology community's ability to engage with diverse audiences, specifically Black and Latinx youth and their families. To this end, ReaCH is conducting a series of 2.5-day workshops at locations across the country.

**ReaCH Workshops:** *Culturally Inclusive Planetary Engagement* workshops bring together expertise from local scientists and out-of-school time educators to 1) explore the importance of building equitable partnerships with organizations, subject matter experts, and informal educators serving Black and Latinx audiences, 2) learn evidence-based culturally relevant authentic approaches to nurture connections with Black and Latinx individuals, and 3) practice planetary science engagement approaches through a culturally inclusive lens. Following the two-day workshop, participants work together to facilitate hands-on activities during a public engagement event at a local youth-serving organization. During each workshop, evaluation data are collected from participants by a group of professional, external evaluators. This data not only informs the on-going design and implementation of future ReaCH workshops, but also informs the development of a replicable model for planning and implementing workshops that provide scientists with useful strategies for being more culturally inclusive in their public engagement efforts.

**A Model for Inclusive Engagement Training:** Still in development, the ReaCH “proto-model” contains four pillars on which workshops are framed: Creating the Workshop Space, Creating Workshop Content, Delivering Workshop Content, and Applying Workshop Content. Actions within each pillar are aligned with DEIA practices as operationalized by the ReaCH project [5]. Here we present a sample of actions within each pillar as informed by evaluation data.

*Creating the Workshop Space.* When determining locations to hold workshops, ReaCH is intentional about selecting locations with/near planetary science “hubs” and with/near large Black/Latinx communities (Fig. 1). For example, workshop locations to date have included Laurel, MD; New Orleans, LA; Miami, FL; and San Juan, Puerto Rico.



**Fig. 1.** A guide for selecting ReaCH workshop locations.

*Creating Workshop Content.* ReaCH is intentional about allowing the workshop location to influence the content. Community assets are leveraged as appropriate to contextualize these discussions for the local audience. The 2023 Miami workshop, held at the Pérez Art Museum-Miami, utilized a museum exhibit featuring local Black artists as a catalyst for discussing biases.

*Delivering Workshop Content.* Workshop discussions should draw from the expertise of both scientists and out-of-school time educators. Both groups are intentionally brought together in each workshop – scientists have expertise in their discipline while the educators have expertise in engaging diverse audiences.

Therefore, workshop leads should participate as facilitators rather than lecturers.

*Applying Workshop Content.* This pillar is concerned with the public engagement event (Fig. 2) following the workshop. When planning an event, consider the community partners' goals and definitions for a "successful" engagement event. Community groups, such as a Boys & Girls Club or a public library, may have different ideas of what success looks like.



**Fig. 2.** A young scientist views an anorthosite sample through a hand lens during a public event following a ReaCH workshop.

**Discussion:** One theme that runs through each pillar of the proto-model is that the planning and implementation of a workshop should start with identifying, engaging, and co-creating with one or more local community partners throughout the process. Partnering institutions and organizations may also host the workshop and events and assist with disseminating the workshop and event opportunities to potential participants and attendees.

Later ReaCH workshops that have followed this have been much more effective than earlier workshops. The team prepared for the workshop in Puerto Rico by creating and meeting with an advisory group for many months before the workshop; their input was critical in incorporating and highlighting cultural considerations and addressing common misunderstandings.

The ReaCH project will continue conducting *Culturally Inclusive Planetary Engagement* workshops and follow-on public engagement events in 2024 and 2025. Evaluation data will continue to refine the proto-model.

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