

**CERES: A SMALL BUT MIGHTY CULTURALLY INCLUSIVE PLANETARY SCIENCE ITERATIVE ENGAGEMENT PLANNING STRATEGY.** C. Rojas<sup>1</sup>, L. Rubino-Hare<sup>2</sup>, K.L. Lynch<sup>3</sup>, E. G. Rivera-Valentin<sup>4</sup>, C. Shupla<sup>3</sup>, S. Buxner<sup>5</sup>, A. Shaner<sup>3</sup>, and the Planetary ReaCH Team. <sup>1</sup>NASA Goddard Space Flight Center (corrine.rojas@nasa.gov), <sup>2</sup>Northern Arizona University, <sup>3</sup>Lunar and Planetary Institute, USRA, <sup>4</sup>Johns Hopkins University Applied Physics Laboratory, <sup>5</sup>Planetary Science Institute

**Introduction:** Planetary ReaCH is a NASA Science Activation program developing a model to enhance the ability of the planetary science community to engage Black and Latinx youth and their families through workshops for scientists and informal educators. Development of this model is informed by a series of workshops attended by scientists and informal science educators that emphasize evidence- and lived experience-based strategies for culturally inclusive planetary science engagement [1]. The Planetary ReaCH workshops help to address points laid out by the State of the Profession chapter of the Planetary Science and Astrobiology Decadal Survey, which emphasized the continued and severe underrepresentation of Black and Latinx scientists, intentionally including them, and the importance of community building and engagement [2]. The workshop content concludes with a session that presents practical engagement strategies for participants to apply to their science outreach events and talks. Here we highlight a new engagement planning strategy developed for the Planetary ReaCH workshop series that we term CERES (Community, Empathy, Relensify, Engagement, Self-Reflection) [Figure 1]. CERES is aimed at giving participants a concrete, iterative tool to summarize strategies introduced during the workshop. It is built upon workshop experiences with previous design thinking-inspired sessions practiced in Miami (August 2023), New York City (September 2023), and San Juan, Puerto Rico (November 2023).

**Planetary ReaCH Workshops:** A goal for the Planetary ReaCH project is to provide the planetary science community effective practices to engage diverse audiences, and this is practiced during the workshop by intentionally facilitating collaborations between planetary science and informal education experts. For community engagement, we explore three major strategies: 1) valuing identities and exploring bias, 2) building relationships and authentic partnerships, and 3) nurturing authentic approaches (Session 3). This abstract will detail the strategy discussed in session 3.

*Nurturing Authentic Approaches session 3 objectives.* The objectives were to learn evidence-based, culturally relevant, and authentic approaches to nurture connections with Black and Latinx individuals, and to practice planetary science engagement approaches through a culturally inclusive



**Figure 1.** Summary of the CERES iterative engagement planning tool with corresponding Planetary ReaCH workshop activities.

lens, a process we call “relensify”. Building on a previous cycle’s content, we revisit the themes of **positionality**, which is the knowledge of where one is located in relation to their various social identities and where one might experience privileges or marginalization that shape one’s perspective. [3]. We introduce asset-based planning to find **community assets** based on what the community has to work with,

which can include people, places or structures, political or financial assets, and available resources and services [4]. This is also supplemented by the inaugural activity in the workshop where we facilitate community building via interactive introductions. That activity is supposed to model the importance of setting up relationships before jumping in. Together, these themes aid the process of *relensifying* an authentic public engagement approach.

*A need for an engagement planning strategy.* Evaluations from workshops in 2021-2022 were positive about the strategies introduced, but participants identified a need for a clearer, more focused engagement strategy that is better centered on the ReaCH workshop goals and more practical takeaways for later use [5]. Therefore, workshops in Miami and NYC tested and iterated a design-thinking [6] inspired resource to support a process for enacting the engagement strategies, which involves empathizing with communities, generating insights about the assets that are present, and ideating new approaches to engagement. The design-thinking process is a creative problem solving model that teams use to understand users, challenge assumptions, redefine problems and create innovative solutions to prototype and test [6].

During and after the workshop in San Juan, participants were asked for feedback for facilitators and the presented content to help evaluate whether the workshop met its goals. There were many positive and rave reviews; there was also constructive feedback about the design-thinking model used to summarize the content of the workshop. Participants stated that the model was unclear as it was being presented and its use for planning made better sense after the engagement event. Some participants were distracted by prior knowledge of design thinking. Lastly, time constraints were evident in the presentation.

**CERES: Planetary ReaCH's new iterative engagement planning strategy:** During the San Juan facilitator workshop debrief, the team decided to develop a new ReaCH-branded model inspired by the design thinking cycle that better suits workshop needs and incorporates valuable feedback to use for future workshops. This model ideally would be flexible with time constraints and/or live workshop flow reshuffling. Thus, taking into account previous testing and iterating, "CERES" was born. CERES will be an iterative engagement planning strategy and mnemonic device for participants to apply evidence-based engagement strategies built upon theoretical approaches introduced in the workshop.

*Community.* In this step, participants consider the assets and diversity of the intended community including location, cultural identities, available resources and services. Participants are encouraged to begin building community by reaching out to key

partners. Lastly, participants will then make goals for engaging the community.

*Empathy.* Participants consider and use their own positionality, or location in their social identities, to help elicit insights from the community's cultural identities and assets. This will be the foundation of building authentic partnerships.

*Relensify.* Participants "relensify", or reframe, their insights and goals through a culturally inclusive lens to make an actionable plan. This step allows participants to see traditional approaches through a new lens centered on the community in which they are engaging in order to build authentic partnerships.

*Engagement.* Participants practice the planning strategy through intentional engagement.

*Self-Reflection.* Participants reflect on whether their culturally inclusive goals were met with authenticity, and what was learned from the experience to iterate and do better in the future. CERES will be a cornerstone of the presented content for participants to return to when planning to engage audiences in planetary science, astrobiology, and other areas of science in the SMD. CERES's goal aligns with the larger Planetary ReaCH's goal to use feedback from participants to inform the larger model for supporting SMEs to engage diverse audiences.

**Work ahead:** The team will develop CERES and incorporate it into workshops this year and refine it through an iterative process based on feedback from workshop participants through the surveys and focus groups conducted by ReaCH evaluators. The details of the tool, once they are ready to share, will be publicly available on the Planetary ReaCH website.

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**Additional Info:** If you have any questions or would like additional information regarding the Planetary ReaCH project, please visit [www.lpi.usra.edu/planetary-reach](http://www.lpi.usra.edu/planetary-reach) or contact Andy Shaner at [shaner@lpi.usra.edu](mailto:shaner@lpi.usra.edu).