## Focus Group Interviews

In addition to the survey instruments, focus groups will be used to collect qualitatively rich discourse and observational information that cannot be collected through survey instruments from individuals in the Engine leadership team (e.g., Chief Executive Officer (CEO), programmatic leads), members of the governance boards or advisory committees, and NSF Engines stakeholders such as NSF Engines participants, and partner and community-based organizations. Data collected from the focus groups will offer valuable insights and enrich the overall comprehensiveness of the data collection efforts of the NSF Engines program.

Insights from the survey instruments along with the informal knowledge from Engines program staff will be used to guide the selection of suitable participants as well as the design of questions to be used in the focus groups. Individuals identified as suitable participants will receive an invitation email to participate in a focus group. Individuals who decide to participate will receive a secondary email confirming the details of the focus group session, and a third email, about a week before the scheduled focus group session, containing guiding questions to prepare them for the focus group discussion. The three main guiding questions that will be used to guide the focus group sessions are:

- What has been the most important benefit(s) of your NSF Engine to date?

- Of the efforts that your NSF Engine has launched, which one(s) are you the most proud of or excited about? And why?

- Is the work of your NSF Engine spurring other projects or programs that were unexpected or unanticipated by your team? These could include activities that other groups may be pursuing as an indirect result of the efforts made by your NSF Engine.

Aside from these high-level guiding questions, the focus group interviews will be unstructured. Each focus group session will begin with participants doing self-introductions. Subsequently, participants will be grouped in pairs to discuss the guiding questions provided before the session. Trained focus group facilitators will ask follow-up questions as participants collectively build a map of activities and outcomes associated with their NSF Engine's work.

In the first year of the NSF Engines award, the focus group sessions will focus on how each NSF Engine is establishing and building the foundation of their innovation ecosystem. We intend to repeat this focus group at years 4 and 6 of the award with the aim to building on insights from the first year.  During these periods, we anticipate expanding on the lessons learned and formulating new sets of guiding questions to further our understanding of Engine ecosystems and the program's impact.