



## INCLUDES ALLIANCE COMMUNITY WORKSHOP: September 28-30, 2022

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## Executive Summary

A group of INCLUDES Alliance leads presented a session, entitled "Collective Action within the INCLUDES Ecosystem: A Braided River Approach," at the 2021 NSF INCLUDES convening to address the need for Alliances to develop relationships and partnerships for collective action to broaden STEM participation. The session centered on how Alliances might align efforts and helped Alliance leaders realize the possibilities for deeper alignment with an enhanced understanding of the scopes of the other Alliances. What resulted was an *ad hoc* committee of NSF INCLUDES Alliance leaders who co-developed an NSF conference proposal in October 2021 (submitted in December 2021) to build collaborations across the Alliances and “engage leaders in deep discussions regarding how to best leverage the collective knowledge, lessons learned, and specific activities to accelerate change in broadening STEM participation.” There are commonalities in the complex work of the Alliances and salmon as captured in Fig.1.



*"We have much in common with the salmon. All our best beginnings were tiny and fragile and built upon the sacrifices of others.*

*Like the salmon, we were all born in different places, different streams, with a power within, that pushed us to grow and to search for the deeper waters. All of us our different, in shape and color, and are seeking deeper water for food and life.*

*The little streams took us to larger rivers where we found ourselves thrashing in the shallows and on the surface where we are most clumsy and vulnerable. Where fear, mistrust and manipulation tear at the water, there are none of us without scars or parts missing.*

*It is only in the deeper water, that we find our companions swimming alongside us. The journey is full of dangers. It requires everything in us to get back to the place where we began. But the deeper water is where the swimming is smoother; where there is room for everyone."*

*Figure 1: Reflection from Father Towhy that relates to the work of the Alliances in accelerating change.*

The proposal was granted in July 2022; after 18 months of planning and collaborations, the *ad hoc* committee formed a planning committee composed of leaders from five Alliances: Computing Alliance of Hispanic-Serving Institutions (CAHSI), Alliance for Inclusive and Diverse STEM Faculty (ASPIRE), STEM Pathways for Underrepresented Students to Higher Education (STEM PUSH), Supporting Emerging Aquatic Scientists (SEAS), and Alliance for Identity-Inclusive Computing Education (AiiCE). The Planning Committee invited representatives from all four Alliance cohorts to the 2-day, in-person convening held at Arizona State University's SkySong in Phoenix, Arizona in September 2022. The agenda included an afternoon welcome and orientation on Day 1. On Day 2, a panel of thought leaders reflected on systemic change, which was followed by small- and large-group discussions, networking, and small group activities focused on deepening collaboration and accelerating change in STEM fields. The final half-day included reflections from the thought leaders, participants, the NSF, and Coordination Hub. In addition, the participants discussed potential next steps for cross-Alliance collaborations. This report highlights the themes and lessons that include: 1) excerpt captured

by the graphic artist during report outs and discussions at the event and 2) information provided by the external evaluator. The report concludes with a set of key recommendations to the Alliance Community, the NSF, and the Hub: extend support of Alliances moving toward systemic change.

- Tell the story of the broader INCLUDES Alliance community.
- Create mechanisms for improved collaboration and communication.
- Define mechanisms for data collection and sharing.
- Establish a repository of tools, instruments, training, and materials; and
- Provide support and training for scaling, growth, and change within Alliances, including policy advocacy.
- Collaborate to initiate Phase 3 post-convening planning efforts.

## Introduction

NSF designed the **Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science (INCLUDES) Alliances program** to build the infrastructure needed to foster collaboration and accelerate broadened participation in STEM. The **vision of NSF INCLUDES** is to catalyze the STEM enterprise to work collaboratively for inclusive change, resulting in a STEM workforce that reflects the population of the Nation.

The NSF INCLUDES program supports Alliances positioned to build novel connections and intentional synergy across the hundreds of individual Diversity, Equity, Inclusion, and Accessibility (DEIA) reform efforts in STEM with the aim of developing and sustaining the systemic change needed to accelerate inclusivity in STEM. Alliances (the focus of this workshop) work toward solutions of specific DEIA issues through networks of key partners from different sectors, e.g., business and industry, educational institutions, community organizations, nonprofit funders, and government agencies.

The INCLUDES Alliance Community held an in-person 2-day workshop on September 28-30, 2022, to bring together and engage leaders from the NSF INCLUDES Alliance Cohorts 1, 2, 3, and 4 in deep discussions regarding how best to leverage their collective knowledge, lessons learned, and specific activities to accelerate change in broadening STEM participation (BP). Prior to the in-person workshop, an online whiteboard and supportive pre-work were created to jumpstart Alliances in engaging with one another, providing opportunities to gain insight into strategies and programs involved in each Alliance.

The INCLUDES Alliance Community aims to operationalize a national infrastructure, enhance collaboration across INCLUDES Alliances, and, thus, coordinate larger and more significant partnerships of people, institutions, and organizations. The INCLUDES Alliance Community Convening is the start of achieving the long-term vision of significant systemic change--which will require dedicated efforts and building upon this model of collaboration by engaging other BP efforts both supported by NSF and other agencies.

This report aims to inform the NSF, the Coordination Hub, and all partners on future directions toward building interdependencies among the leaders and toward building the infrastructure that accelerates change to include the ‘Missing Millions.’

## Format and Agenda of the INCLUDES Alliance Community Workshop

The convening began in the late afternoon of Wednesday, September 28 at the Arizona State University’s Skysong facility with a welcome, framing of the conference, and introduction to the shared Miro board, an online collaborative whiteboard, in which Alliances shared information and ideas prior to the in-person convening. The goal of the Miro board was to assist Alliances in learning about each other’s goals, activities, and needs and to facilitate collaboration. Throughout the conference, a graphic facilitator captured key themes and ideas from the workshop in a graphic of a braided river. The braided river metaphor was apt for the convening because it symbolized the complexity of the NSF INCLUDES Alliance ecosystem with many threads that branch and merge into one whole.

To ensure inclusion of the voices of all members of each Alliance, the Planning Committee organized the Community Workshop in three phases: pre-convening, convening, post-convening.

**Phase 1: Pre-Convening.** The planning committee requested “Score Cards” and “In Search Of” cards from each Alliance. The collection of this information occurred through reminders and presentations at the INCLUDES Coordination Hub Leadership and Collective meetings as well as through email. These cards,

full of Alliance goals, objectives, and needs, were posted on a Miro Board that opened the month prior to the convening to all Alliance members to add comments, post questions, and extend content. The planning committee also hosted “office hours” to ensure that Alliance representatives knew how to use Miro and navigate the information effectively.

**Phase 2: Convening.** The in-person meeting allowed representatives of each Alliance to participate in cross-Alliance discussions focused on what can be done as a collective to accelerate change. Each section of the agenda was tied to an objective that led participants through a series of reflective, immersive, and interactive activities. These objectives and activities led to reported outcomes that were collected through various ways such as verbal share outs, table consensus, and chart paper posted throughout the room - much of which was covered with multi-colored stickies. No matter the format of reporting out, the graphic artist captured the content and context on a mural. Dr. Heather Thiry served as the external evaluator. The [evaluation report](#) formally documents the activities, Dr. Thiry’s observations at the convening, results of the surveys that she conducted, and recommendations.

**Phase 3: Post-Convening.** The Coordination Hub, NSF INCLUDES leads, and the planning committee will collaborate to hold a series of meetings to extend and plan the actions identified at the convening with involvement of all members.

## Documentation of the INCLUDES Community Convening

The Miro board was used in all aspects of the convening to include the pre-convening activities, which includes core information on each Alliance and “in search of” cards to capture areas of possible collaboration; a frame for each agenda item; flip charts and images drawn by the graphic artist developed during the convening; and other relevant documents of the convening. The main topics of the agenda were:

- Welcome and framing the convening
- Creating meaningful partnerships to accelerate systemic change (panel of thought leaders)
- Table discussions on systemic change
- Maximizing impact of collective action through partnerships (Part I)
- Maximizing impact of collective action through partnerships (Part II)
- Networking
- Reflections

Please review the [Miro board](#) for details of each activity associated with the agenda items and the participants’ responses that were captured during the convening.

## Outcomes of the INCLUDES Community Convening

As stated in the proposal, the expected outcomes are as follows:

1. Dynamic mapping of intersectional BP efforts across the Alliances and potential cross-Alliance collaborations (see Miro frames 0.2 and 1.6)
2. Areas of investment and strategic actions to advance the Alliances (see Miro frames 1.3 and 1.5)
3. Recommendations including components of collaborative infrastructure (see below)

The **recommendations** listed below are largely based on attendees’ own recommendations during the workshop, and include supporting remarks from the external evaluator, Dr. Heather Thiry, based

on survey responses and her observations. Some recommendations target the Alliance leads, Coordination Hub, the NSF INCLUDES team, or a combination of leads and combinations.

- **Extend support of Alliances moving toward systemic change.** *Five years of Alliance funding is not sufficient to enact systems-level change.* Workshop representatives overwhelmingly agreed on the need to continue funding alliances that are progressing toward systemic change. There is also interest in leveraging the strengths of the community to collaborate on “one big transformational aspirational collective goal” that supports the work and goals of the Alliance community at large. NSF should consider supporting cross-Alliance collaborations that have potential for impact that cannot be achieved by a sole Alliance. Collaboration among federal agencies (e.g., NASA, NIST, DOE, NIH, and others), industry, and philanthropy are also essential to support the complex systemic change needed to broaden participation.
- **Tell the story of the broader INCLUDES Alliance community and provide training and support for each Alliance to better share their stories.** Throughout the workshop sessions and on the pre-post survey, attendees requested more support in disseminating the work of the Alliance community as a whole. There was great interest at the workshop in “telling the story” of the Alliances, through external support such as a professional storyteller, graphic designer or facilitator, media consultants, or branding experts. Individual Alliances also seemed to be challenged with broadly disseminating their outcomes, challenges, successes, and lessons learned. There was also interest in communicating to a variety of audiences, not only STEM faculty and administrators, but policymakers, foundations, and the general public. External consultants to support dissemination could better communicate the collective work of the Alliances and could help individual Alliances to communicate their outcomes to key stakeholders.
- **Create mechanisms for improved collaboration and communication with an emphasis on opportunities for deeper sharing and reflection.** Overwhelmingly, attendees encouraged future gatherings among the Alliances that would provide safe, inclusive spaces for deep sharing, reflection, and collaboration. In particular, the Alliances would like support for the cross-Alliance work that was started at the convening, which provided Alliances the opportunity and space to identify potential partnerships and co-design joint work to accelerate outcomes. Such meetings could ensure accountability and encourage closer collaboration and synergy within the Alliance community. More regular convenings would also benefit newcomers to the community who received the most benefit from the workshop in terms of identifying shared values and building relationships. When not in person, certain virtual tools proved helpful in spurring communication and collaboration, such as the pre-work using the Miro board. Participants valued the “in search of” function of the Miro board which has similar goals to other models, e.g., Connectory used by the National Girls Collaborative Project for organizations to identify partnerships, or the Expertise Connector used by CAHSI to connect individuals who have specific expertise or interests. Participants also requested a list of contact information for Alliance leadership and social media handles. *Workshop participants expressed the desire to work collectively but raised the need for a funding mechanism (i.e., a Dear Colleague Letter) to maintain momentum and create capacity to bring together well-aligned partnerships that produce outcomes.* In addition, a mechanism to track the generation and execution of cross-Alliance partnerships was considered to be important.

- **Define mechanisms for data sharing and data collection.** Research and evaluation were common barriers for many Alliances. Participants reported that they were challenged in determining how to measure impact. They were also interested in the benefits of potential data sharing across Alliances. While the coordination hub has undertaken these efforts, the community at large did not seem to be fully aware of the scope and outcomes of shared measures within the INCLUDES community. Further, there was interest in a mechanism for Alliances to be able to share data with one another. Several participants and thought leaders encouraged further conversations about common data collection as well as deep discussion about how the data might be used to benefit and improve the work of the community. Specific training or resources in measuring collective impact could also help individual Alliances to better document their outcomes and inform their strategic planning.
- **Establish an INCLUDES Alliance repository of tools, instruments, trainings, and materials.** There is a wealth of expertise and knowledge within the Alliance community and, as such, attendees suggested better mechanisms for leveraging and sharing this expertise. For instance, a regularly curated repository could store evaluation and research plans, logic models, and instruments. Participants also expressed interest in a searchable, curated repository for materials, trainings, resources, and student opportunities.
- **Provide support and training for scaling, growth, and change within Alliances, including policy advocacy.** Many participants were challenged with scaling initiatives, managing cross-sector partnerships, and overseeing accelerated growth. Throughout the workshop, some participants suggested the use of growth consultants to help individual Alliances successfully manage expansion and scaling of activities. Such consultancy could focus on supporting the collective impact infrastructure of individual Alliances, with a focus on backbone management, communication processes, aligning and adapting strategic actions to new partners, and refining data collection and feedback mechanisms with growth. Another area of interest was at the policy level, which can be critical for systemic change; however, there is a general lack of expertise. Several break-out discussions revolved around policy consultants who could support policy advocacy within the Alliance community. Several participants were interested in influencing state or regional policies to smooth STEM transitions, such as K-12 curricula and training, or articulation agreements and state transfer policy to ease the transition from community college to university. Attendees were also focused on micro-policies that could affect institutional change, such as tenure and promotion or hiring policies.

The last recommendation is that the Coordination Hub, Planning Committee, and NSF INCLUDES team collaborate to initiate Phase 3 post-convening planning efforts.

## Summary

Current INCLUDES Alliances are essential for understanding and contributing critical knowledge about the communities that they serve and identifying systemic efforts and contextualized practices for broadening participation. We posit Alliances can expand their contributions to the overall INCLUDES program goals by building synergy and collaboration of activities across Alliances. The multiple interactions of the leaders from the first two cohorts of INCLUDES Alliances, which occurred prior to and during the 2021 NSF INCLUDES convening, began creating synergy and trust resulting in the formation of what is informally



called the INCLUDES Alliance Community. The immense challenge and delays to building the synergy has been finding sufficient dedicated and collective time to build partnerships sans additional investment of resources.

The convening provided key takeaways from participants and thought leaders regarding leadership, systemic change, and networking. An emphasis was on the **importance of leadership** at multiple levels of the system: the classroom; the department; the institution; and the broader national landscape of disciplinary and professional associations, accrediting bodies, funders, and federal agencies. Successful efforts to broaden access or change the learning experience require attention to each level of the system, including what levers for change may be useful at each level, how one level influences the others, how developments at any single level may thwart the overall change initiative and goal, and how aligning change efforts across the levels of the system can be a powerful force for change. Participants and thought leaders described the importance to: clarify, articulate, and frequently highlight the problem and goal; create environments and promote practices that are culturally responsive; establish spaces where ALL stakeholders feel like they can express their views candidly *and* are heard; and a willingness to hear “what we are doing wrong” via intermediaries like external researchers and evaluators who can help to uncover embedded assumptions that hinder systemic change toward equity.

Other key takeaways relate to **systemic change**. Alliances must develop a theory of change to help advance and focus change efforts. A basic theory of change states what the overall vision for the change effort is, what strategies will be used to make advances toward the vision, why those strategies are believed to be effective given the goal and the context, and how progress or success will be assessed or measured. Systemic change requires ongoing analysis of the context in which the problem is located and how that context is changing, which includes: engaging in collective sensemaking of resource allocation, processes, and decision-making approaches, extending data collection to include holistic, health and basic needs data to better understand how to improve student success and support services, and moving away from the “fixer syndrome.”

Key takeaways on **networks**, which were promoted by thought leaders, relate to lifecycle stages of networks and recognition of the stage of one’s Alliance network: Formation, Development, Maturation, and Transformation or Sunsetting. It is important to establish criteria to guide decisions on whether an Alliance has reached its full potential and should sunset or transform. Other key points include the need to recognize different leadership roles and intentionality about the approach used to establish partnerships: why the work is being done, how the work is anchored in values, how terms are defined and operationalized, how the work is done, what the milestones are, and how success is measured.