

# ASSiST: Alliance to Strengthen the STEM Tapestry

## Motivating Critical Identity Shifts to Weave the STEM-disenfranchised into Science and the Sustainability Workforce

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### About Us

ASSiST is a research program that uses novel approaches to transform the self-identities of the “STEM-disenfranchised”—individuals who feel alienated, marginalized, or incapable of participating in STEM—to the “STEM-enfranchised”—individuals who can avail themselves of the science education and training resources that exist within the “loom” of science.

### Major Partners



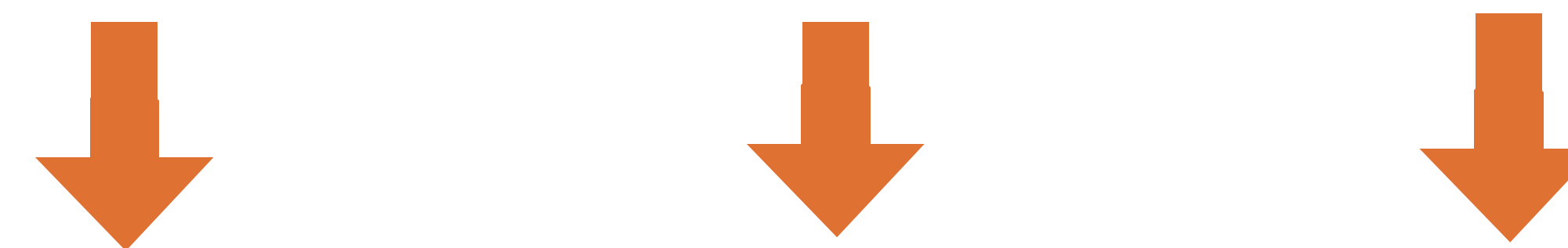
### Key Questions

- > As a result of our interventions, do participants shift their self-identity with STEM to having higher levels of exploration and commitment to STEM that can lead them to participation in the STEM enterprise?
- > Did participants' self-image change to be similar to those in the STEM enterprise?
- > Which elements might account for these effects?
- > Did our project create successful partnerships and infrastructure from which future efforts can grow?

### Who are the participants?



Previously incarcerated adults      Previously incarcerated youth      Refugee youth



### Interventions:

	<b>Devised Drama</b>	Participants will create a piece of drama on a topic of their choice, which may include their own journeys from incarceration to the STEM community, climate change, or their personal story. They will perform it for the cohort and others.
	<b>Ecological Restoration</b>	Participants will cultivate and assist with planting of native Utah plants along local waterways to restore ecosystem health. This work will provide work and college readiness skills and knowledge, and connect them with nature.
	<b>Autoethnography/ Story-telling</b>	Using a combination of story-telling and qualitative research, participants will reflect on their cultural orientations, identities, and experiences in STEM.

### Collective Impact

We will participate in eight of the NSF INCLUDES conferences to develop connections and interweave our efforts and results with other INCLUDES pilot projects. These synergistic relationships will help to inform broader impact efforts at a large scale, and ensure that we have a shared vision for change and a joint approach to problem-solving.

### Broadening Participation

Outcomes of our exploratory research respond to NSF's call for broader participation of STEM-disenfranchised groups. ASSiST will foster novel partnerships among academia, industry, and agencies. Research is grounded in established social science and ecological theory, with outcomes that can be generalized and scalable. Learning how we might weave our science-disenfranchised populations into the STEM enterprise will bring other groups that are disenfranchised and who—if motivated and directed—could strengthen the tapestry of STEM workforce, education, and research.

### Project Benchmarks

- > Successful creation of a partnership across organizations
- > Recruitment of participants in each of the target audience categories
- > Successful development, implementation, and evaluation of the interventions

### Evaluation Tools & Methods

**Question:** Does engaging in the interventions promote shifts in the participants' self-identity, by being more interested in and/or capable of participating in the scientific enterprise?

<b>1. Case Studies</b>	<b>2. Pre- and post-surveys</b>	<b>3. Recordings Analysis</b>
In-depth interviews for at least 3 points throughout the intervention process.	Instruments to document significant changes in self-identity and self-efficacy in relation to STEM.	Analysis of autoethnography recordings.

### Intended Outcomes

- The project will create a sustainable partnership for ongoing work in broadening participation in STEM as measured through:
- > Successful completion of the resource and opportunity map
  - > Implementation of the interventions
  - > Preparation and dissemination of research findings, tracked through ongoing observations of project work and interviews with project leaders and partners