

## PROJECT SUMMARY

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### **Overview:**

This EPSCoR workshop proposal supports the development, implementation, evaluation, and dissemination of two virtual Gatherings to Transcend Barriers to Success (GTBS) at the University of Arkansas in May 2021, and at Idaho State University in September 2021. These Gatherings will provide a platform for dialogue with current NSF programming focused on the development of Native American STEM students and professionals and their communities. This work builds on engagement models deployed in other EPSCoR jurisdictions and which have the enthusiastic support of the EPSCoR community. Workshop products will include a University of Arkansas Resiliency Center monograph, a Bannock Shoshone-higher education STEM pathway monograph, an iterative “Connecting Indigenous Knowledge and Western Science” Bibliography, and a project report. All four products will be valuable resources for EPSCoR jurisdictions seeking new and innovative ways to engage indigenous students, professionals and communities. Products will combine oral reflection and text narratives.

### **Intellectual Merit:**

GTBS will catalyze research and education capabilities derived from Indigenous and western knowledge systems resulting in new contributions to scientific discovery, innovation, learning, and knowledge-based prosperity in numerous EPSCoR jurisdictions and beyond. GTBS will be rooted in the concept of “Two-Eyed Seeing” which stresses the importance of viewing the world through an indigenous eye and a western eye to see together and benefit all (Bartlett, C, Marshall, M. and Marshall, A., 2012). The Gatherings will weave both indigenous and western ontologies, epistemologies, methodologies and objectives to develop new and durable strategies and practices to strengthen indigenous: 1) natural and cultural resource management; 2) food, nutrition, health and well-being; 3) success in STEM majors and careers; and; 4) youth and tribal identity, sovereignty and prosperity. Dr. Ed Galindo, member of the Yaqui Tribe, identified the need for these new strategies and practices through a survey of American Indian communities in 2014 and will implement the GTBS Gathering in Idaho with the Bannock-Shoshone community. The project will advance new culturally grounded verbal and text-based communication, evaluation and dissemination strategies, and compile and categorize the rich body of research on the indigenous-western knowledge system connections for transcending barriers to prosperous communities and indigenous student success in STEM majors and careers. Career connections will be through the Gatherings and the development of student research and internship partnerships. Traditional and local ecological, community-beneficial, and multi-generational knowledge will inform disciplinary and multidisciplinary western science. Indigenous and western scientists and specialists and tribal and community-based partners will gather to address the four strategy areas. The project will advance new culturally grounded verbal and text-based communication, evaluation and dissemination strategies, and compile and categorize the rich body of research on indigenous-western knowledge system connections. This EPSCoR workshop will catalyze research and education capabilities derived from Indigenous and western knowledge systems resulting in new contributions to scientific discovery, innovation, learning, and knowledge-based prosperity in EPSCoR jurisdictions and beyond.

### **Broader Impacts:**

The broader impacts of this EPSCoR workshop include the direct participation of diverse individuals, institutions, and organizations in science and engineering research and education initiatives. Two 2-day Gatherings will convene western and Native American scholars, experts, and specialists to co-create knowledge that tackles place-based environmental, educational and community challenges and advances place-based opportunities. The co-created knowledge will be integrated into the syllabi of 20 Faculty Fellows from six institutions who will also incorporate place-based active learning strategies such as project-based learning, service learning and community engagement, undergraduate research, and research and private sector internships. Each Gathering will strengthen program, campus, tribal and community-based partnerships where active learning and knowledge-based prosperity are developed, evaluated, and sustained by and for this and future generations. Evaluation and dissemination products, both oral and text, will engage multiple EPSCoR jurisdictions through the contributions of the Steering Committee. Project products will have broader impact for Native American, Alaska Native, Native Hawaiian and Pacific Islander serving institutions (20) and their faculty, students and communities.