

STATEMENT  
OF THE  
AMERICAN INDIAN HIGHER EDUCATION CONSORTIUM  
TO THE UNITED STATES SENATE - COMMITTEE ON APPROPRIATIONS  
SUBCOMMITTEE ON COMMERCE, JUSTICE, SCIENCE, AND RELATED AGENCIES

MARCH 27, 2015

This statement focuses on the National Science Foundation (NSF) and National Aeronautics and Space Administration (NASA).

On behalf of this nation's 37 Tribal Colleges and Universities (TCUs), which compose the American Indian Higher Education Consortium (AIHEC), thank you for the opportunity to express our views and recommendations regarding the National Science Foundation's Tribal Colleges and Universities Program (NSF-TCUP) and the National Aeronautics and Space Administration's MUREP for American Indian and Alaska Native STEM Engagement Program and (NASA-MAIANSE) for Fiscal Year 2016 (FY 2016).

**SUMMARY OF REQUESTS**

**National Science Foundation (NSF) - Education and Human Resources Directorate (EHR):** Since Fiscal Year 2001, a TCU initiative has been funded and administered under the NSF-EHR. This competitive grants program enables TCUs to enhance the quality of their science, technology, engineering, and mathematics (STEM) instructional, research, and outreach programs. TCUs that have been awarded an NSF-TCUP grant have completed comprehensive program needs analysis and developed a plan for how to address both their institutional and NSF goals, with a primary goal being significant and sustainable expansion and improvements to STEM programs. Through NSF-TCUP, tribal colleges have been able to establish and maintain programs that represent a key component of the pipeline for the American Indian STEM workforce. *We urge the Subcommittee to fund competitively awarded NSF-TCUP grants at \$15,000,000.*

**National Aeronautics and Space Administration (NASA) – NASA Headquarters, Office of Education - Minority University Research and Education Programs (MUREP):** In 2014, the NASA-MUREP program initiated two competitive grant programs to enhance the range of education and research opportunities in STEM at the 34 eligible TCUs: (1) the NASA Innovations in Climate Education (NICE-T); and (2) the Tribal College and University Experiential Learning Opportunity program. Collectively, these programs comprise MUREP's program for American Indian & Alaskan Native STEM Engagement (MAIANSE). Activities funded under these programs help to address critical science education and research needs of TCUs, are helping to build the Native (and national) STEM workforce, and enhance the economic development of the tribal communities. *We strongly urge the Subcommittee to fund the NASA MUREP program for American Indian & Alaskan Native STEM Engagement (MAIANSE) at, or above, the FY 2014 level.*

**TCU SHOESTRING BUDGETS: "DOING SO MUCH WITH SO LITTLE"**

Tribal Colleges and Universities (TCUs) are an essential component of American Indian/Alaska Native (AI/AN) education. The 37 TCUs operate more than 75 campuses and sites in 16 states, within whose geographic boundaries 80 percent of American Indian reservations and federal Indian trust land lie. They serve students from well over 250 federally recognized tribes, more than 70 percent of whom are eligible

to receive federal financial aid. In total, the TCUs annually serve about 89,000 AI/ANs through a wide variety of academic and community-based programs. TCUs are accredited by independent, regional accrediting agencies and like all U.S. institutions of higher education must undergo stringent performance reviews on a periodic basis to retain their accreditation status. TCUs fulfill additional roles within their respective reservation communities functioning as community centers, libraries, tribal archives, career and business centers, economic development centers, public meeting places, and child and elder care centers. Each TCU is committed to improving the lives of its students through higher education and to moving American Indians and Alaska Natives toward self-sufficiency.

TCUs have advanced AI/AN higher education significantly since they first began four decades ago, but many challenges remain. Tribal Colleges and Universities are perennially underfunded. In fact, TCUs are among the most poorly funded institutions of higher education in the country.

The tribal governments that have chartered TCUs are not among the handful of wealthy gaming tribes located near major urban areas and often featured in the mass media. Rather, they are some of the poorest governments in the nation. Some of the poorest counties in America are home to Tribal Colleges and Universities.

The federal government, despite its direct trust responsibility and binding treaty obligations, has never fully funded the TCUs' institutional operating budgets, authorized under the Tribally Controlled Colleges and Universities Assistance Act of 1978. In fact, TCU operating funding is far below the level received by other institutions of higher education. The Administration requests and Congress appropriates approximately \$200 million annually towards the institutional operations of Howard University (exclusive of its medical school), *the only other Minority Serving Institution (MSI) that receives institutional operations funding from the federal government*. Howard University's current federal operating support exceeds \$20,000/student, because this is the level of need as determined by the U.S. government. In contrast, most TCUs receive \$6,355/Indian Student (ISC) under the Tribal College Act, less than 80 percent of the authorized level. TCUs have proven that they need and have earned an investment equal to -- at the very least -- the congressionally authorized level of \$8,000/Indian student. Please understand that we are by no means suggesting that our sister MSI, Howard University does not need or deserve the funding it receives; it does. We are only affirming that the TCUs also need and deserve adequate institutional operations funding; however, TCU operating budgets remain underfunded.

While TCUs do seek funding from their respective state legislatures for the non-Indian state-resident students (sometimes referred to as "non-beneficiary" students) that account for 24 percent of their enrollments, successes have been inconsistent, at best. TCUs are accredited by the same regional agencies that accredit mainstream institutions, yet they have to continually advocate for basic operating support for their non-Indian state students within their respective state legislatures. If these non-beneficiary students attended any other public institution in the state, the state would provide that institution with ongoing funding toward its operations.

TCUs effectively blend traditional teachings with conventional postsecondary curricula. They have developed innovative ways to address the needs of tribal populations and are overcoming long-standing barriers to success in higher education for American Indians. Since the first TCU was established on the Navajo Nation in 1968, these vital institutions have come to represent the most significant development in the history of Tribal higher education, providing access to, and promoting achievement among, students who might otherwise never have known postsecondary education success.

**JUSTIFICATIONS:**

- **National Science Foundation/Tribal Colleges and Universities Program (NSF-TCUP) in the Education and Human Resources Directorate:** American Indian students have the highest high school drop-out rates in the country. Those who do pursue postsecondary education often require developmental classes before beginning in earnest. Placement tests administered at TCUs to first-time entering students indicate that 70 percent required remedial math. Of these students, our data indicate that many do not successfully complete the course in one year. Without question, a large proportion of the TCUs' already limited resources is dedicated to addressing the continual failings of K-12 education systems.

To help rectify this, TCUs have developed strong partnerships with their K-12 feeder schools and are actively working, in large part through support from NSF-TCUP grants, to engage young students in community and culturally relevant science and math education and outreach programs. These efforts include weekend academies and summer STEM camps that reinforce and supplement the instructional programs area K-12s are able to provide.

For the past 15 years, NSF-TCUP has provided essential capacity building assistance and resources to TCUs. In the years since the program began, NSF-TCUP has become the primary federal program for building STEM capacity at the TCUs. NSF-TCUP has served as a catalyst for capacity building and positive change at TCUs and the program can be credited with many success stories. Today, American Indians and Alaska Natives are more aware of the importance of STEM to their long-term survival, particularly in areas such as renewable energy, and technology-driven economic development.

The NSF-TCUP, administered by the Education and Human Resources Directorate, is a competitive grants program that enables TCUs to develop and expand critically needed science and math education and research programs relevant to their respective communities. Through this program, TCUs that have been awarded an NSF-TCUP grant have been able to enhance their STEM instructional offerings, workforce development, research, and outreach programs.

For example, Northwest Indian College (NWIC) in Bellingham, Washington is building a strong STEM pipeline for American Indian students through support from the NSF-TCUP. Strengthening the STEM pipeline includes monthly academy and summer STEM camp programs for high school students that provide a variety of opportunities to learn and apply scientific concepts through community-based projects such as riparian-zone restoration, involving activities such as re-vegetation, water quality monitoring, and stream bank stabilization. Through these experiences, young people are becoming advocates within their communities for sustainable management of their water, land, and wildlife resources. Students can further channel their interest in ecological research and management through bachelor and associate of arts and sciences degree programs in Native environmental science that were developed to help meet the critical need for American Indian environmental scientists rooted in traditional culture. NSF-TCUP funds have allowed NWIC to cultivate a comprehensive science education program that, beginning at the high school level, are providing a range of mentoring, peer tutoring, research, service learning, and academic enrichment opportunities that are helping to grow the next generation of American Indian scientists, science teachers, and leaders.

Despite its successes, funding for this vital program has been static. Therefore, not all of the TCUs have had an opportunity to benefit from this program; in fact the percentage of proposals funded has declined each year beginning in 2004. *We urge the Subcommittee to fund competitively awarded NSF-TCUP grants at \$15,000,000.*

- **National Aeronautics and Space Administration (NASA) Office of Education/Minority University Research and Education Programs (MUREP). NASA Innovations in Climate Education-Tribal (NICE-T) and the American Indian & Alaskan Native STEM Engagement (MAIANSE):** College of Menominee Nation (CMN) in Keshena, Wisconsin is one of four tribal colleges to win a three-year grant award designed to improve teaching and learning about global climate change. CMN will collaborate with Argonne National Laboratory, University of Wisconsin-Milwaukee and UW-Platteville, National Council for Science and Environment, and of course, NASA. The overarching goal of the CMN project is to explore climatic factors that affect solar module performance, and to design an evaluation tool for comparing different solar energy systems. The project is threefold: (1) to provide an experiential learning opportunity for four to six STEM students to construct a user friendly solar energy system evaluation tool, including detailed cost analysis and investment payback schedule; (2) to establish innovative teaching curricula that meld STEM concepts with climate change literacy resulting in combined social science and physical science courses that would appeal widely, to many students; and (3) to develop an educational train-the-trainer model as a training outlet for Tribal College and University faculty and local middle school teachers to learn how to implement climate change into the classroom. The project is intended to advance discovery and understanding of climate-related research while promoting teaching, training, and learning of STEM principles. The results of this research will advance knowledge and understanding of the short- and long-term performance of solar energy, thereby allowing consumers to make educated choices about solar module return on investment for residential and commercial energy. One of the goals of the NICE-T program is to create as diverse and highly skilled climate-related workforce. *Continuation and expansion of the MAIANSE programs will give more TCUs the opportunity to participate and advance the NASA mission in Indian Country. We strongly urge the Subcommittee to continue to fund NASA-MUREP for American Indian and Alaskan Native STEM Engagement (MAIANSE) programs at a minimum of \$5,000,000.*

## **CONCLUSION**

Tribal Colleges and Universities provide access to quality higher education opportunities, including STEM focused programs, for thousands of American Indians. The modest federal investment that has been made in TCUs has paid great dividends in terms of employment, education, and economic development. Continuation of this investment represents one of the most cost-effective strategies for enabling Tribal (and national) STEM-based economic development.

We greatly appreciate your past and continued support of the nation's Tribal Colleges and Universities and your thoughtful consideration of our FY 2016 appropriation request.