

Native Americans in Marine and Space Sciences; Native Americans in Science, Engineering and Natural Resources

History

The Native Americans in Marine Sciences program began in 1990 as an internship opportunity for Native American and Native Alaskan undergraduates at Oregon State University, funded by the National Science Foundation's Ocean Sciences Division. Shortly thereafter, funding from NASA's Oregon Space Grant helped expand the program to include other under-represented groups of students to pursue mentored research in science, technology, engineering and mathematics (STEM) subjects. The expanded program became the Native Americans in Marine and Space Sciences (NAMSS). In 2005, participation of faculty mentors and support at OSU expanded to include the Colleges of Science, Engineering, Agricultural Sciences, Forestry, as well as Oceanic and Atmospheric Sciences, and the program name changed once more to Native Americans in Science, Engineering and Natural Resources (NASENR).

Why this Program is Needed

Nation-wide there is a low participation of ethnic minorities (African-Americans, Hispanic-Americans, Native-Americans and Pacific Islanders) in STEM disciplines, which results in lost contributions of diverse cultures and talents to the workforce. More broadly, these low enrollments at college level and the potential health of the sciences, technological development and engineering capabilities reflect an inability to sell the relevance of these disciplines to the career goals of the fastest growing groups of our population. There are several challenges: recruitment, retention and community support for increasing numbers of STEM professionals among minorities. NASENR is built on a network of partners that provide a strong pipeline of recruitment, mentoring, and experiential learning.

How the Program Works

Our internship and mentoring program fosters free-choice learning -- the type of learning guided by a person's needs and interests, that people engage in throughout their lives to find out more about what is useful, compelling or just plain interesting to them. Undergraduates in this program are supported financially with a stipend. They freely choose research internships most interesting to them; personal learning contracts or internship agreements are then negotiated between faculty mentor and student. This also gives the mentor free choice in deciding how best to assist the student. Together, mentor and student choose what, when and how student learning will best take place. Some of the possible products of the individual research experience are: a senior thesis, co-authorship in a research publication, oral or poster presentation at science meetings, and design and delivery of science educational materials for K-12 students. Another strength of the program is tracking students after they graduate. We support life-long mentoring and networking.

Statistics

To date, 135 mentors have contributed to achieve the goal of increasing the number of under-represented community students who earn undergraduate degrees in STEM subjects. The core program has produced a 95% retention and graduation rate for 155 undergraduates earning BS or BE degrees, with 55% of these students continuing to graduate degree programs. The NAMSS program received the 2004 Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring. Alumni and Mentors are listed.