NORTHERN ARIZONA UNIVERSITY

Research Updates at NAU
September 2007

Grants: September 2007

1. **English, Karan**. National Renewable Energy Laboratory. $225,000. Expansion of Arizona Wind Working Group efforts in three areas: outreach, education, and analysis. (Ecological Monitoring & Assessment)

2. **Flikkema, Paul**. National Science Foundation. $152,000. Multi-University Systems Education (MUSE) - A model for undergraduate learning of complex-engineered systems. (Electrical Engineering)

3. **Kain, Daniel.** Arthur M. Blank Family Foundation. $395,900. Collaborate with the Maricopa Community College Foundation to assist 490 students at Carl Hayden High School to successfully prepare for college. (College of Education)

4. **Tegler, Stephen.** NASA. $55,933. To study the physical properties of Kuiper belt objects using ground-based telescopes. (Physics and Astronomy)

5. **Thode, Andrea.** National Park Service. $344,156. To track the effectiveness of post-fire herbicide spraying on reducing or eliminating cheatgrass. (Forestry)

6. **Trujillo, Octaviana.** National Science Foundation. $125,000. Native American students will be chosen to take part in a series of indigenous themed science courses. (Applied Indigenous Studies)

7. **Wagner, David.** Isis Pharmaceuticals. $396,924. To develop genetic signatures for important potential agents of bioterrorism, including anthrax, plague, and tularemia. (Biology)

Selected Books/Creative Activity/Recognition & Awards: September 2007

1. Bakker, Jonathan D., & **Moore, Margaret M**. (2007). Controls on vegetation structure in southwestern ponderosa pine forests, 1941 and 2004. *Ecology* 88(9), 2305-2319. (Forestry)

2. **BeDuhn, Jason**, & Mirecki, P. (2007). Frontiers of faith: The Christian encounter with Manichaeism in the Acts of Archelaus. Leiden: Brill. (Humanities, Arts, and Religion)

3. **Gumerman, George IV, and Hays-Gilpin, Kelley,** launched a new journal called *Heritage Management,* a global, peer-reviewed journal that provides a venue for using scholarly, professional, and indigenous knowledge to address broader societal concerns about managing cultural heritage.

4. **Hewes, Joshua.** (2007). Seismic tests on precast segmental concrete columns with unbonded tendons. *Bridge Structures* Vol. 3, No. 3-4, 215-227. (Civil and Environmental Engineering)

5. **Meeks, Eric V**. (2007). *Border citizens: The making of Indians, Mexicans, and Anglos in Arizona*. Austin: The University of Texas Press. (History)

6. **Nair, Sheila**. (2007). The limits of protest and the prospects for political reform in Malaysia. *Critical Asian Studies 39*(3). (Political Science)

7. **Tanner, Dennis**. (2008 publication date). *The family guide to surviving stroke and communication disorders*. Boston: Jones and Bartlett. (Health Sciences)

National Undergraduate Research Observatory (NURO)

NURO**,** the National Undergraduate Research Observatory, is a consortium of primarily undergraduate education institutions from around the country, such as University of Puerto Rico at Humacao and Western Connecticut University, that have joined together to provide training and research experiences for their students. Together, the institutions share 120 nights per year on Lowell Observatory's 31-inch telescope, with instrumentation and observer support provided by Northern Arizona University through its Department of Physics and Astronomy. Astronomers and students at the member schools collaborate on key research projects, as well as conduct their own private research. The consortium's mission is to encourage more students to pursue careers in science.

Research Profiles

Stephen C. Tegler has been a Professor of Physics and Astronomy at NAU since 2004. He received his B.S. in Physics from the State University of New York at Stony Brook, his M. S. in Space Physics from Rice University, and his Ph.D. in Physics from Arizona State University. Before coming to NAU in 1995, Dr. Tegler was a faculty fellow in Physics at the University of Notre Dame, and a Postdoctoral Research Associate in Astronomy at the University of Florida. His current research interests include Kuiper Belt objects, comets, optical and infrared photometry and spectroscopy, and laboratory studies of astrophysical ice analogs. He uses the 10-meter Keck telescopes, the largest in the world located in Mauna Kea, Hawaii, to observe the far away icy debris in the Kuiper Belt orbiting beyond Neptune.

Dr. Tegler's many accomplishments include:

- nearly $1 million in research grants since coming to NAU ;
- 30 authored and co-authored articles in peer-reviewed publications such as *Icarus*, *Nature*, and *Astrophysical Journal*, and the *Proceedings of the National Academy of Sciences;*
- observing the night skies at 12 telescopes located across the country and internationally; and
- reviewing proposals for NASA and NSF astronomical and planetary grant programs.

At NAU, Dr. Tegler has taught undergraduate students in astronomy and physics. He also provides public service to Flagstaff elementary schools to open the minds of young people to astronomy and to consider career paths in the sciences.

Octaviana V. Trujillo has been Chair and Professor in NAU's Applied Indigenous Studies program since 2002. She received a B.A. in Education, M.A. in American Indian Education, and Ph.D. in Curriculum and Instruction from Arizona State University. Dr. Trujillo was the Director of the Center for Indian Education at ASU before coming to NAU. She also served on faculty at the University of Arizona and ASU where she was editor of the *Journal of American Indian Education*, the nation's longest continually published refereed research journal on Native education. Prior to that, she was active in the Tempe and Tucson schools, heading up Native American and Bilingual/Multicultural Education programs. From 1992 to 1996, Dr. Trujillo was a Tribal Council Member of the Pascua Yaqui Tribe of Arizona; and, in 1994, she was the first woman to become Chairman of that tribe.

Among Dr. Trujillo's many outstanding achievements are:

- over $3.5 million in grants and funded research before coming to NAU, and $685,000 since coming to NAU in 2002;
- more than 100 paper presentations at national, international, and tribal conferences;
- 18 curriculum guides and technical reports; and
- over 20 published books, articles, and book chapters.

In addition to teaching courses to undergraduates in Applied Indigenous Studies, Dr. Trujillo advocates for peace and human rights through the efforts of the United Nations. This work has taken her to the Middle East, Mexico, Northern Ireland, Colombia, Ecuador, and Bolivia.