NORTHERN ARIZONA UNIVERSITY

Research Updates at NAU
June 2007

Grants: June 2007

1. **Foti, Pamela E.** US Bureau of Land Management. $52,960. To determine if the land health assessment process as defined by BLM is applicable in determining land health related to OHV travel impacts in different ecosystems. (Geography and Public Planning)

2. **Gess-Newsome, Julie.** Biological Science Curriculum Studies. $198,881. To examine science teachers' pedagogical content knowledge and its role on student learning. (Center for Science Teaching and Learning)

3. **Hampton, Haydee**. US Department of Agriculture. $148,673. To characterize wood supply in Ponderosa pine dominated areas in Northern Arizona. (Environmental Sciences)

4. **Linstedt, D. Elise**. US Department of Education. $199,933. Four-year project to train 56 entry level speech-language pathologists to take new roles in regular education classrooms. (Speech Pathology and Audiology)

5. **Nishikawa, Kiisa**. National Science Foundation. $162,000. To use ballistic tongue projection in toads to investigate the relationship between biomechanics and neural control of movement. (Biology)

6. **Parnell, Rod**. US Geological Survey. $166,019. To understand the effects of flows from Glen Canyon Dam on sand bars and campsite areas along the Colorado River in Grand Canyon National Park. (Geology)

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

1. Bricklemyer, Ross S., Miller, P. R., **Turk**, **Philip J.,** Paustian, K., Keck, T., & Nielsen, G. A. (2007). Sensitivity of the century model to scale-related soil texture variability. *Soil Science Society of America Journal 71*, 784-792. (Mathematics and Statistics)

2. **Hofstetter, Rich**, Dempsey, T. D., Klepzig, K. D., & Ayres, M. P. (2007). Temperature-dependent effects on mutualistic, antagonistic, and commensalistic interactions among insects, fungi, and mites. *Community Ecology 8*(1), 47-56. (Forestry)

3. Smith, R.F., Freyer, M.W., & **Lewis, Edwin A.** (2007) Biophysical characterization of Vaccinia Virus Thymidine Kinase substrate utilization. *Journal of Virological Methods 142* (1-2), 151-158. (Chemistry)

4. Miller, Jay D. & **Thode, Andrea E.** (2007). Quantifying burn severity in a heterogeneous landscape with a relative version of the delta Normalized Burn Ratio (dNBR). *Remote Sensing of the Environment 109*, 66-80. (Forestry)

5. **Chrystal Redding,** NAU Animal Care Facility Manager, was awarded Member of the Year by the Arizona branch of the Association of Lab Animal Science.

6. **Ruwe, Donelle**. (2007). *Another message you miss the point of*. Bronxville, NY: Camber Press. (English)

7. **Abe Springer** was elected a Fellowship to the Geological Society of America and will be honored at the GSA Presidential address and awards ceremony at the GSA annual meeting in Denver, CO. (Geology)

CSTL: Center for Science Teaching and Learning

The Center for Science Teaching and Learning at Northern Arizona University is a teaching, research, evaluation, and materials resource for NAU science faculty and students and for K-20 science teachers. The CSTL's mission is to engage educators in the quest for excellence, access, and equity in science teaching and learning. As a center, CSTL serves to facilitate quality science education, leadership, and coordination of science education professional development and the evaluation of science education programs at the K-12 and university levels. The CSTL's academic programs serve approximately 100 science teachers each year. The CSTL's Professional Development and Outreach programs serve an additional 300 teachers and 14 university faculty. Currently, the CSTL has $3,632,000 in external funding through various funding agencies. We are pursuing an additional $6,668,000 to support an additional 225 teachers in future years.

Research Profiles

Julie Gess-Newsome received her BA in Secondary Education and Biology from Northland College in Wisconsin, her MA in Curriculum and Instruction and Outdoor Education from University of Northern Colorado, and her PhD in Science Education from Oregon State University in 1992. Dr. Gess-Newsome came to NAU as the J. Lawrence Walkup Distinguished Professor of Science Education, the Director of the Center for Science Teaching and Learning (see above), and as an Associate Professor in 2000. Prior to that, she served as faculty at University of Utah.

Among Dr. Gess-Newsome's many accomplishments are:

- Nearly $6 million in research funding since coming to NAU, with an additional $4.6 million pending review
- More than 20 single and co-authored articles in refereed journals such as *Science Education*, 9 books, 8 book chapters, and 8 technical reports
- 84 presentations at national and international conferences, 8 key note addresses, and 11 invited presentations to groups
- 14 honors and awards including three national awards for research

Dr. Gess-Newsome has been an active advisor serving on dissertation committees of 22 students, 7 of which she was chair, and advising 33 master's students. She has also served at all levels in numerous professional organizations, including as President of the Association of Science Teacher Educators and on the board of the National Association for Research in Science Teaching.

Kiisa Nishikawa received her BS in Biology from the State University of New York and a PhD in Zoology from the University of North Carolina. Prior to coming to NAU as Assistant Professor in 1989, she was a Postdoctoral Fellow at Dalhousie University and a Miller Fellow at University of California, Berkeley. Dr. Nishikawa became Associate Professor at NAU in 1993, Professor in 1998, and Regents' Professor in 2003. She has also served as faculty or visiting scholar at the University of Kentucky, the University of Bremen in Germany, the University of Minnesota, Duke University, and the University of Washington.

Dr. Nishikawa's many accomplishments include:

- Over $2 million in extramural research grants and nearly $8 million in NIH training grants since coming to NAU
- 13 honors and awards including several for outstanding teaching and student advising
- 55 single and co-authored articles in peer-reviewed journals such as the *Journal of Experimental Zoology*, 2 edited books, 3 book chapters, and 90 published abstracts
- 23 invited presentations and plenary lectures, and organized or co-organized 9 symposia

In addition, Dr. Nishikawa has demonstrated a strong commitment to minority students in education, serving as Director of the MBRS/IMSD Program at NAU from 1993 - 2007, as well as on the MARC U*STAR Program at NAU and the Bridges to Baccalaureate for Native Americans as a mentor.