Inside this issue

- Science Foundation Arizona Grants Top $1 Million for CENS
- Joe and Kit Troxler Fund
- Shared Biology Labs to Spur Collaboration
- CENS by the Numbers
- Undergraduate Research Highlighted at National Conference
- Geology Thesis Project Wins Prize
- CENS Team Wins $10,000 in Eco-marathon
- Buscaglia Wins President’s Prize, CENS Students Win Gold Axe Award
- Student Earns Prestigious Summer Internship

College Friends and Supporters –

In my student days, I thought of summer as a relaxed time – but in fact there is a great deal of excitement and activity this season in the College of Engineering & Natural Sciences. This second issue of our newsletter gives you a few quick views of the full range – from the considerable successes of our faculty in winning funds for cutting-edge research, to the national and international accomplishments of our engineering students. And we were delighted to hear from many of you about your recent news and activities – check the Alumni Album for those updates, and please send us your thoughts for next time!

Laura F. Huenneke, Dean

Engineers Without Borders Building Better World

The Northern Arizona University student chapter of Engineers Without Borders (EWB-USA) celebrated its one year anniversary in April with several accomplishments under its collective belt, and plans for more volunteer service in the year ahead.

Forty active members come from many academic programs and are committed to working with developing communities to improve health and quality of life through environmentally and economically sustainable designs. In December of 2006, the EWB national board approved the chapter’s plans to work internationally and in the United States. The Northern Arizona University student chapter of Engineers Without Borders-Volunteer Karen Steinbronn (Biology, 1971) judges undergraduate student research posters at the April Celebration of Undergraduate Research and Design.

Upcoming Events

Mountain Campus Science Day: September 22, 2007
Festival of Science: September 21 - 30, 2007
Showcase of Undergraduate Achievement: October 12, 2007
Scholarship Celebration: October 12, 2007
NAU-ASCE Golf Tournament: October 12, 2007
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Science Foundation Arizona Grants
Top $1 Million for CENS

Programs in CENS will receive over $1 million in grants this year from Science Foundation Arizona (SFAZ), a nonprofit organization dedicated to strengthening the state’s scientific, engineering and medical research programs. “Nexus” mathematics outreach program – $757,000

Teacher Research Fellows program-summer research experiences for K-12 teachers. – $235,000

Eight Graduate Research Fellowships in biosciences or sustainable systems. – $440,000

Enhancing Teaching Effectiveness in Undergraduate Geology Education through the Use of Pen-Tablet Computers – $109,915

Principal investigator: Thomas Hoisch, Geology

Motor Primitives in Voluntary Frog Behavior – $140,486

Principal investigator: Kiisa Nishikawa, Biological Sciences

Developing Techniques to Measure the Structural State of Intrinsically Disordered Proteins in vivo – $111,800

Principal investigator: Matthew Gage, Chemistry and Biochemistry


Principal investigator: Alice Buscaglia, Biology

Arizona Watershed Education Program – $125,000

Principal investigator: Charles Schlinger, Civil and Environmental Engineering

For detailed descriptions of grants please visit our website at nau.edu/cens.

Joe and Kit Troxler Fund

The family of Dr. Joseph Troxler, Emeritus Professor of Mechanical Engineering, recently established the Joe and Kit Troxler Fund-a scholarship endowment to honor Dr. Troxler’s life and work, and to remember his wife, Kit.

Dr. Troxler was part of the original group of professors hired to start an engineering college at what was to become Northern Arizona University.

During his tenure at Northern Arizona University, he held numerous positions and levels of responsibility and started several programs. Alumni will remember that Dr. Troxler was deeply involved with the Mechanical Engineering students’ dune buggy races, and traveled with the team. He was also Associate Dean of Engineering, president of the University Heights Association and ran the coop program matching students with employers around the state.

Kit supported Joe in his career and spent her time volunteering in their community. Their home was always open to students, staff and faculty, alike.

Given their enduring commitment to students, this fund was created to allow Joe and Kit to continue to assist in the education of current engineering students. For more information on how you can contribute, visit: www.cens.nau.edu/alumni

CENS by the Numbers

2007 CENS Undergraduate Degrees (507 degrees)

- Physics and Astronomy, 10
- Computer Science, 7
- Earth and Environmental Sciences, 8
- Mathematics and Statistics, 11
- Civil and Environmental Engineering, 21
- Electrical Engineering, 13
- Mechanical Engineering, 21
- Chemical and Molecular Science, 17
- Materials Science, 11
- Construction Management, 2
- Mechanical Engineering Technology, 2
- Chemistry and Biochemistry, 62

CENS Students Win Gold Axe Award

Chemistry and mathematics major Robert Buscaglia won the coveted President’s Prize and 12 students from the College of Engineering and Natural Sciences were presented the university’s Gold Axe Award for the spring 2007 graduating class. The CENS students were among 40 Gold Axe Award winners university-wide.

Undergraduate Research Highlighted at National Conference

The many undergraduate mentoring, research, and design opportunities in CENS were the basis of a presentation by Dean Laura Huenneke and Associate Dean Barry Lutz in April at the 2007 EPA “Scholar” conference organized by the American Association of Colleges and Universities. Representatives of nearly 100 colleges and universities shared best practices and brainstormed ways of enhancing the undergraduate research experience.

Three days of panel presentations and workshops clarified areas in which our students’ experiences are truly outstanding. For a full integration, engineering capstone presentations with research results in our annual spring Celebration of Undergraduate Research and Design. Many other schools find it as challenging as we do to engage freshmen early on and to ensure that faculty are supported in their work with undergraduate researchers. Lutz and Huenneke also identified goals for improvement—most importantly, the potential impact of a more centralized office and coordination for our many diverse student opportunities.

Geology Thesis Project Wins Prize

Caleb Schiff (IMS Geology 2007) is the recipient of the Geological Society of America’s 2007 Arthur D. Howard Award for outstanding graduate research in geology and geophysics. The $2,500 award recognizes Schiff’s master’s degree project, a study of climate variability in southern Alaska.

Schiff is attempting to determine the causes and effects of a glacial period in a region strongly influenced by the Aleutian Low. His novel approach is based on the oxygen isotope composition of diatoms preserved in lake sediments at Prince William Sound. The award will fund Schiff’s return to the field site where he installed data loggers and sediment traps in 2006.

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For the Dean’s latest comments on news affecting the college, visit her blog at Talkcens.com

Student Ears Prestigious Summer Internship

Geology undergradute Marie Enga interned at Search for Extraterrestrial Intelligence (SETI) in California this past summer, with Dr. Devon Burr, a planetary geologist who studies the surfaces of planets. The project pertained to fluvial geomorphology and included imagery analysis of Mars and Titan, two prime astrobiological targets. Enga’s internship is just one example of the many opportunities for undergraduates to contribute to significant research.

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Software Engineering, 2

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Schiff has identified and performed his project, a study of climate variability in southern Alaska. Schiff is attempting to determine the causes and effects of climate change in a region strongly influenced by the Aleutian Low. His novel approach is based on the oxygen isotope composition of diatoms preserved in lake sediments at Prince William Sound. The award will fund Schiff’s return to the field site where he installed data loggers and sediment traps in 2006.

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The gas-stove fueled vehicle delivered 188 mpg in a competition held April 13-14 at the California Speedway in Fontana, CA. This team also competed in a similar event in Dearborn, Michigan—the SAE (Society of Automotive Engineers) (SAE) Supermileage competition—but did not place in that event.

Team members were mechanical engineering majors Michael Barton, Matthew Fant, Tanya Gallagher, and Kaitlyn Tymrak; electrical engineering major Jeremy King; and environmental engineering major Lauren McIntire.

Team members included Michael Barton, Matthew Fant, Tanya Gallagher, and Kaitlyn Tymrak of Mechanical Engineering; an electrical engineering major, Jeremy King; and an environmental engineering major Lauren McIntire (not pictured).

The team was accompanied by mechanical engineering associate professor John Tester, who advises the university student chapter of SAE, and co-advisor Andrew Dethlefs, a ME research associate and instructor.

Tester praised the students’ performance: “We have never competed in either event, and we managed to do well enough to secure some funds from the Eco-marathon. Now that there is some experience from these events, the students can better plan for next year.”

This fall Tester will become director of the college’s undergraduate Design4Practics program, which emphasizes team design and project management.

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Alumni Album

Mark Morrow – Tucson, AZ
(’01 BS Microbiology)
Recently graduated top of the class from the University of Arizona College of Medicine. Plans to complete a transition, internship, and residency in Anesthesiology in Portland, Oregon.

Linda Rae Sande – Cody, WY (’80 BS Physics and Astronomy)
Currently serves as the Senior Scientist for the Biology Department at the Woods Hole Oceanographic Institution. Research includes the dynamics of zooplankton on Georges Bank and krill living on the continental shelf region of the Western Antarctic Peninsula.

Matthew Salanga – Tucson, AZ (’00 BS Zoology; ’02 MS Biology)
Currently an Arizona Research Fellow in Biomedical Imaging at the University of Arizona College of Medicine. Plans to complete a transition, internship, and residency in Radiology in Flagstaff.

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