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Summit archive

On Sept. 17, ASU served as the host for the Sustainability Solutions Summit in Washington, D.C. The summit gathered some of the nation's best and brightest leaders in business, government, advocacy and academia to address the most serious sustainability problems facing mankind worldwide.

An audio and video version of the summit, which included ASU President Michael Crow as one of the panelists, can be found online at www.asu.edu/sustainabilitysummit.

Online offerings

ASU has launched a new initiative to dramatically increase access to higher education over the next decade. ASU Online and Extended Campus, ASU's fifth campus, plans to enroll and graduate tens of thousands of new students statewide, nationwide and globally in a variety of undergraduate and graduate online degree programs.

Led by Mernoy Harrison, the university's vice president and executive vice provost, ASU Online will provide the infrastructure for all ASU colleges and schools to build upon existing programs, and to develop new programs for meeting the needs of students and employers.

Programs will be offered online and in selected off-campus sites throughout the Phoenix metropolitan region.

"We are creating another avenue for access to ASU for time- and place-bound students, underserved populations, and those seeking a more convenient way for a higher education," Harrison says. "Our goal is to create a more educated and productive work force in our state and nation. The demand for online education continues to increase – and, as the New American University, we are committed to contributing to the growth and guidance of additional avenues to provide access, excellence and quality."

The new campus lists 28 online degree programs offered by ASU on its Web site, <http://asuonline.asu.edu>.

ASU recently completed an agreement with Innovation Ads, a strategic enrollment marketing and management firm, to assist its efforts in dramatically increasing enrollment in ASU online degree programs. The firm will assist with the retention of the students it recruits to ASU.

"ASU has an opportunity to become the nonprofit market leader in online education, and we are excited to have been chosen to play a key strategic role," says Patrick Sutton, vice president for enrollment management at Innovation Ads.

Innovation Ads has established a recruitment and student support center to support ASU Online. The company focus is on boosting enrollments, as well as increasing retention and graduation rates.

ASU makes top 20 list in research expenditures

By Skip Derra

ASU is among the top 20 leading universities without a medical school in research expenditures, according to the U.S. National Science Foundation (NSF).

With total research expenditures of \$224 million in fiscal year 2007, ASU ranked 19th among universities without a medical school, according to the annual "NSF Survey of Research and Development Expenditures at Universities and Colleges."

This marks the first time that ASU has been ranked in the top 20

and represents a remarkable growth in its research enterprise.

"These numbers clearly show the dramatic growth we have made in the past several years in ASU's research enterprise," says R.F. "Rick" Shangraw Jr., ASU's vice president for research and economic affairs. "This is a reflection of our researchers' focus on interdisciplinary science and their determination to tackle important societal issues. Even more importantly, it demonstrates ASU faculty commitment to discovery."

The Massachusetts Institute of

Technology (\$614 million) topped the list of universities without M.D. degree-granting medical schools. MIT was followed by the University of California-Berkeley (\$552 million) and Texas A&M University (\$544 million).

For the complete list, visit the Web site www.nsf.gov/statistics/infbrief/nsf08320/?govDel=USNSF_178.

ASU's research capacity has grown significantly in the past several years. Fiscal year 2006 was the first time research expenditures at ASU topped the \$200 million level, and it marked a doubling of

research expenditures in a period of six years, according to Stephen Goodnick, ASU's associate vice president of research.

It is even more remarkable when ASU's growth in research expenditures is juxtaposed with the overall flat research funding to universities as a whole. The NSF report states that, overall, federal funding of academic science and engineering research and development in fiscal year 2007 failed to outpace inflation for the second year in a row.

In current dollars, federally (See ASU on page 6)



TOM STORY PHOTO

Retired television news broadcaster Hugh Downs, left, and Victor Trastek, center, chief executive officer of Mayo Clinic Arizona, listen to ASU President Michael Crow speak Sept. 16 at the Southwest Conference on Health Care Reform.

Leaders discuss health care reform

By Julie Newberg

Many challenges facing Arizona's health care system seem insurmountable.

Among the most pressing are an aging and growing population needing increased health-care services, rising medical costs and caring for the uninsured.

Health-care reform was the topic of a conference Sept. 16 at ASU's Old Main building on the Tempe campus. Business, medical, political and academic leaders from across the state came to the Southwest Conference on Health Care Reform, which was held to raise awareness of the need for patient-centered reform.

ASU, the Mayo Clinic and the Project

for Arizona's Future served as hosts for the event.

Speakers and participants included ASU President Michael Crow, Arizona Gov. Janet Napolitano, Mayo Clinic in Arizona's chief executive officer Victor Trastek and Gene Karp, Project for Arizona's Future president of the board.

In his remarks, Crow cited taking a measured, contemplative approach to health care renewal through Mayo's partnership with ASU. He also pointed out the massive amount of energy that is going into fighting diseases such as cancer, but said that more needs to be done to eliminate behaviors that cause it, such as tobacco use.

(See HEALTH on page 7)

Cronkite students top national magazine contest

For the second year in a row, students in the Walter Cronkite School of Journalism and Mass Communication dominated a national student magazine contest, winning more awards than students from any other university in the country.

Cronkite students won nine awards in the 2008 Student Magazine Contest, sponsored by the Magazine Division of the Association for Education in Journalism and Mass Communication.

Following ASU were Kansas State University and Northwestern University.

Keridwen Cornelius, who received her master's degree in mass communication from the Cronkite School this spring, won three awards – the most given to any student in the country. She took second place in "Consumer Magazine Article: Places" for an article about Phoenix that "hit the target" with "concisely written descriptions of must-sees, activities, hotels and restaurants," wrote the judge, Scott Stuckey, senior editor of *National Geographic Traveler* magazine.

Cornelius also won honorable mentions in two other consumer magazine categories: features and first person. She won four awards in last year's contest.

Annalyn Censky, who graduated from the Cronkite School in May, won first place in "Specialized Business Press Article" for her story, "Ostrich – The Other Green Meat?" The judge, Sally Roberts, a senior editor at *Crain's Business Insurance*, wrote that the article "made a compelling case for why ostrich may become the healthy meat of the future."

Entries for the contest, which was judged by professionals in the magazine field, totaled nearly 300 from schools across the country.

Cronkite students won 13 awards in last year's contest.

(See CRONKITE on page 7)

Artificial water systems create unintended consequences

By Margaret Coulombe

Amidst the semi-arid stretches of Phoenix, a visitor might blink twice at the sight of a sailboat cutting across the horizon. Tempe Town Lake, on the northern edge of ASU's Tempe campus, is just one of a multitude of lakes, small ponds, canals and dams combining flood control, water delivery, recreational opportunities and aesthetics, and altering perception of water availability and economics in the area.

What are the consequences of such human-made tinkering

with land cover and hydrology on surrounding native ecosystems and biodiversity? This question forms the backdrop for a case study proffered by an ASU research team and published in the journal *BioScience*, which found that one of the most profound impacts of urbanization is the "reconfiguration of surface hydrology."

Lead author John Roach, now with Symbiotic Software in Missoula, Mont., ASU professors Nancy Grimm and J. Ramon Arrowsmith, and other former graduate students mapped

water resources and connectivity and tracked land-use change in the Indian Bend Watershed (IBW).

The researchers, associated with the Central Arizona-Phoenix Long Term Ecological Research project (CAP-LTER) and the Integrative Graduate Education and Research Training (IGERT) in Urban Ecology funded by the National Science Foundation, found that construction of artificial lakes and canal systems along with extensive groundwater pumping have had "unintended impacts

on nutrient cycling."

"As Phoenix grew from a small settlement to the large urban center it is today, it built an extensive canal network to bring water from the Salt, Verde and Colorado rivers to agricultural fields and city taps," Roach says. "While these canals enabled farmers to grow crops in the desert, they also cut across stream channels, disrupting the flow of water and sediments from tributary networks to the main channel. In pristine streams, sandbars (See ARTIFICIAL on page 7)

Innovative fusion of materials earns top award for engineering trio

By Joe Kullman

An advance in nanotechnology that promises to improve the integration of nanoscale materials into the manufacture of microelectronics has earned a top research award for an Ira A. Fulton School of Engineering faculty member and two former engineering students.

A 2008 Nano 50 award will be shared by Tom Picraux, a research professor in the School of Materials and chief scientist at the Center for Integrated Nanotechnologies at Los Alamos National Laboratory, former materials science and engineering graduate students Sarang Ingole and Pavan Aella, and Sean Hearne at Sandia National Laboratories.

The award recognizes the top 50 technologies, products and innovators that have significantly influenced the development of nanotechnology.

The Nano 50 honors are given by Nanotech Briefs, a monthly digital newsletter produced by the Tech Briefs Media Group, a leading publisher in the engineering and technology field.

The awards winners are the "best of the best," the innovators who are making the engineering advances that will move nanotechnology into

mainstream markets, according to the publishing group.

Picraux, Ingole, Aella and Hearne collaborated on work to find a more efficient method of fusing charge-carrying electrical contacts to tiny "nanowires" made of silicon. That accomplishment will help improve electronics technology, particularly chemical and biosensing devices and energy-collection systems.

Fusing such metal-silicon connections has been difficult and costly, hindering the fabrication methods necessary for more advanced applications of nanoscale materials.

The quality of these fusions can boost the effectiveness of solar energy systems because photovoltaic cells rely on the connections to carry energy generated from sunlight into homes, business and industrial operations.

Current nanomanufacturing relies on ultra-high-resolution patterns, or "masks," to accurately engineer good electrical contact between metals and semiconductors – for example, nickel and silicon. The technique calls for electron-beam lithography to separately connect the metal contacts to each nanowire. This process, in which the wire pattern is "written" with a

beam of electrons to one nanowire at a time, has proven too slow for practical application.

"From the microelectronics manufacturing approach, anything that takes a long time is just not cost-effective," Picraux says.

The Los Alamos lab's Center for Integrated Nanotechnologies, where Picraux works, formerly was based at ASU.

The research team designed a method that eliminates the final lithography step by first creating a set of planar gold electrodes. They then took advantage of an alternating electric field in a technique called dielectrophoresis. This pulls the silicon nanowires from a solution and places them between the electrodes.

Again using an electric field, along with a mild acid bath, the researchers selectively electro-deposited the nickel only where the underlying gold electrodes were located until the ends of silicon nanowires were buried, then heated them to several hundred degrees Celsius to establish good electrical contacts.

Through the use of this "directed assembly" guided by the electric field to create the contacts, the process did not require lithography to connect the individual nanowires, and all the

connections are made at once in the parallel electrodeposition process. The result is an increased potential for use in cost-effective nanotechnology manufacturing of existing technology, such as electronic switches.

It also could increase the feasibility of larger-scale applications, including biological and chemical sensor networks to detect potential threats from dangerous substances, as well as the fabrication of nanowire solar cells for providing a greatly expanded source of clean solar energy.

The team will receive its Nano 50 award at the NASA Tech Briefs National Nano Engineering Conference in Boston Nov. 12-13.

More information on the Nano 50 Awards and the conference is available online at www.techbriefs.com/nano.

Aella is working as an engineer in the advanced CVD group of Micron Technology Inc. Ingole is a postdoctoral research associate in the School of Chemical Engineering at Purdue University.

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College of Teacher Education and Leadership

Training program nets \$3.7 million grant from Department of Education

By Steve Des Georges

For ASU's award-winning College of Teacher Education and Leadership, the hits just keep coming.

The West campus college has received a \$3.7 million grant from the U.S. Department of Education (DOE) to provide school leadership training to nine high-poverty school districts across the state through the college's existing video conferencing network.

The award comes on the heels of a \$3.19-million DOE grant for the college's Project ASPIRE, and has its roots in a \$10-million DOE award for the creation of the Professional Development Schools (PDS) program that has been recognized nationally for its high level of success in the areas of teacher retention and student achievement in under-served school districts.

The grant, "Urban and Rural Bridge for Action Network – Excellence and Collaboration in Educational Leadership (URBAN-EXCEL)," will create a high-quality and rigorous principal certification program built on the needs of the partner districts and the recommendations of current exemplary principal certification programs.

The partnership with the districts will bring state-of-the-art professional development to acting principals in the URBAN-EXCEL network through technology. A "Principal Academy" will offer application-oriented workshops and advanced professional development seminars with the option of site-based, individualized coaching and campus visits, if the participants choose.

The nine school districts in the URBAN-EXCEL partnership include three in Phoenix: Creighton, Osborn and Roosevelt. Six districts are located in rural communities – Chinle Unified, Coolidge Unified, Douglas Unified, Gadsden Unified (San Luis), Indian Oasis-Baboquivari School District (Sells) and Kingman Unified. Included in these districts are 51,200 students, 3,115 teachers, and 76 schools. Of the schools, 45 percent were in some level of corrective action in 2007.

The Creighton, Roosevelt, Coolidge and Kingman districts are newcomers to the college's video conferencing network, which counts 15 statewide partners across its three professional development programs.

"This is another outstanding opportunity to reach out and make a difference in education in areas where the needs are the greatest," says Scott Ridley, the college's assistant dean and an associate professor, who was the principal investigator on the grant proposal. "We know that when the school principal is not perceived as a quality leader, good teachers at that school tend to leave. This is a logical next step for the College of Teacher Education and Leadership – to help with school leadership issues."



Scott Ridley

The DOE grant program "provides assistance to institutes of higher education in partnerships with high-need local education agencies in the development, enhancement or expansion of innovative programs to recruit, train and mentor principals (including assistant principals) for high-need schools," according to the department Web site.

"It's not by accident that the college has won national awards for our partnerships," says the college's dean, Mari Koerner, referring to a best practice award for effective partnerships from the American Association of Colleges for Teacher Education (AACTE) and a rich media impact scholastic achievement award from Sonic Foundry. "We are unique in how we make a difference in schools, and we continue to expand the depth of our commitment to improving schools by providing outstanding resources and expertise."

Two initiatives are included in the grant program: a highly selective principal certification program and a video conference-based professional development Principal Academy.

The URBAN-EXCEL principal certification program represents a new and higher standard of rigor in the prepa-

ration of Arizona principals, Ridley says. He points to key elements of the program, including a full-year internship, intensive observation and a unique coaching framework focusing on self-reflection by candidates to assist them in problem-solving, data analysis and leadership techniques. The program is designed for principals who will serve in schools in high-poverty rural and urban communities.

The Principal Academy will be delivered through live, interactive video conferences to partner districts across the state, bringing virtual "face-to-face" instruction to even the most isolated and remotely located administrator. Non-graded workshops covering areas of interest expressed by the participants, as well as classes extending the workshops and designed to enhance performance, will be featured.

"We have learned a great deal through our experiences with PDS and Project ASPIRE that has helped us balance access to the program with the rigors of the program," Ridley says. "There are no limits to video conferencing. It used to be that this type of program would come out of Phoenix, Tucson and Flagstaff, but now we are reaching into every corner of the state, and the different districts' norms are getting exposed to each other. This helps standardize the high quality of the programs across the state."

Ridley adds that the new grant provides the college with a logical expansion of its offerings.

"Through the PDS program, we are reaching out to elementary education, putting our students in under-served schools and increasing teacher retention and student achievement," he says. "Project ASPIRE will have a tremendous and lasting impact on special education in this state, and on those who teach to children with special needs. With this latest grant, we will enhance the quality of educational leadership."

"The college is really the leader in the state when it comes to working with and making a difference in the success of high-need districts."

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Professor creates program to ensure safer U.S. roads

Editor's note: This article first appeared in *Knowledge@W. P. Carey*. To visit the *Knowledge@W. P. Carey* site, go online to <http://knowledge.wpcarey.asu.edu>.

By Debbie Freeman

A controversial one-year pilot program that has allowed Mexican trucks to travel throughout the United States was supposed to end recently, but instead it likely will move forward. That has an ASU business professor working to start a driver training program to ensure safety on American roads.

Several members of Congress wanted to end the Mexican trucking program over concerns about American jobs, highway safety, security and immigration issues. However, President George W. Bush's administration and the U.S. Department of Transportation have decided to extend it for two years to further evaluate its effectiveness.

The program was created in an effort to generate and streamline international commerce.

"American carriers cannot, technically, employ Mexican drivers right now," says associate professor Arnold Maltz of ASU's W. P. Carey School of Business. "They can only work with Mexican carriers on international traffic at the border. That means there is currently a transfer from one driver on the Mexican side to a specialized driver for the border crossing, and then another transfer to a U.S. driver on the American side. Hence, lots of extra cost and delays in the system."

To help boost international commerce and ensure safety on American roads, more Mexican drivers will be needed, Maltz says – and they'll require more training, too. That's why he's working in conjunction with ASU's College of Design and constructNet International Inc., a private company spun off from ASU and the Del E. Webb School of Construction that teams up with top construction organizations to offer online training in several languages. They are starting a border enforcement grant program to better train the drivers.

The grant program focuses on two main issues:

- Creating a training program to ensure drivers can become fluent enough in English to operate safely and effectively in the United States.

- Getting a consistent test for inspectors at the border to use to make sure drivers do speak enough English.

Maltz already has made several recent trips to the Arizona-Mexico border to work on his training project, which is funded by a grant from the U.S. Department of Transportation.

But it's still possible that members of Congress will block funding for the overall Mexican trucking program. They introduced H.R. 6630 over the summer, in an effort to stop the program from continuing. That measure has not come up for a vote and would likely be vetoed by Bush, if passed.

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Valley Forward salutes School of Sustainability

ASU's School of Sustainability won top honors – the President's Award – in Valley Forward's 28th annual Environmental Excellence Awards (EEA) program, Arizona's oldest and most prestigious competition focusing exclusively on sustainability initiatives.

Established in 2007, the school is the first of its kind in the nation and offers five degree programs in sustainability. It combines multiple disciplines and leaders to create and share knowledge, train a new generation of scholars and practitioners, and develop practical solutions to pressing environmental, economic and social challenges of sustainability, especially those in urban areas.

Teaching and research at the new school is problem-based rather than discipline-oriented and focuses on major global issues, including:

- Rapid urbanization and population growth.
- Increased competition for water and other essential natural resources.
- The need for renewable energy and "smart" materials.
- The need to understand human dimensions that influence sustainable practices.

- Policies and government structures that support sustainable behaviors.
- Conservation of biodiversity and habitats.
- Providing for global equity in standards of living without endangering Earth's natural systems.

"The School of Sustainability is preparing students to achieve a balance

between economic growth and environmental quality, which is critical to building healthy, livable communities that stand the test of time," says Diane Brossart, president of Valley Forward. "This project – like so many others we recognized – has regional and even global significance. All of the success stories in the competition leave a legacy that will affect generations to come."

A record number of entries – 130 submittals in 24 categories – were received in this year's program. Winners were announced Sept. 6 at Valley Forward's Environmental Excellence Awards gala, held in partnership with SRP at the Westin Kierland Resort in Scottsdale.

In addition to the President's Award (best of show), the ASU School of Sustainability also won a first-place Crescordia Award in the Environmental Education/Communication (educators, students and nonprofits) category. "Crescordia" is a Greek term meaning "to grow in harmony," and Valley Forward's President's Award is selected from among all Crescordia recipients.

Valley Forward is a 39-year-old association that brings business and civic leaders together to convene thoughtful public dialogue on regional issues and to improve the environment and livability of Valley communities. The organization operates with the belief that business must take a leadership role in solving the complex and sometimes controversial problems that confront growing population centers.

In THE NEWS

ASU experts frequently are called upon by the local and national news media to provide insight and opinion on current events and issues of public interest. Following are excerpts of recent news articles featuring ASU representatives.

Scholars who study the history of humor say many jokes were not meant to be over-the-top funny. "Very few of these earliest jokes were meant to be knee-slappers, but the jokes usually pointed out the ironies, the paradoxes and the inconsistencies of culture, and they were all meant to be a little edgy – but not too edgy," English professor **Don Nilsen** says. "Therefore, these jokes all tend to violate social taboos. That's why people who tell jokes are always very aware of the taboos of a particular culture." *Hartford Courant*, Aug. 14.

Mexico's top environmental official has called for binational cooperation to improve air quality on the U.S.-Mexico border. The United States and Mexico have been cooperating on a broad range of environmental issues since the 1983 signing of the La Paz agreement. "It brought into being all kinds of coordination between the U.S. and Mexico, much of it flying under the radar," says **Erik Lee**, associate director of ASU's North American Center for Transborder Studies. *San Diego Union-Tribune*, Aug. 15.

The animal kingdom would give humans fierce competition in a multiple-species Olympics. Although the leggy, flightless body plan of an ostrich looks odd, it works well for running. The birds prove to be nimble, switching directions while running at speed, says **Devin Jindrich**, an assistant professor of kinesiology. As far as animal Olympics goes, Jindrich muses about ostriches playing soccer. "They do kick," he says. *Science News*, Aug. 16.

Throughout the East Valley, hotel homes are selling well despite a real-estate slump. There aren't very many resort condo options in the Valley, so demand significantly tops supply, says **Jay Butler**, director of real estate studies at ASU. Virtually every upscale, full-service U.S. hotel or resort planned during the last five years has included residential units, but hardly any new properties have been built in the Valley during that time, he says. *East Valley Tribune*, Aug. 30.

Texas remains a bright spot while more job losses and weak growth continue in the western United States, according to an economic report. "Although there are scattered signs the economy may be close to bottoming out, there is little optimism about an actual upturn in Arizona or nationally during the second half of this year," says **Lee McPheters**, senior associate dean in the W. P. Carey School of Business. "The first stirrings of recovery are not expected until the housing market stabilizes and begins its turnaround." *Houston Business Journal*, Sept. 3.

The argument about whether or not vice-president nominee Sarah Palin can handle vice presidential duties and raise a family has troops from both sides speaking out against a double standard. Blame it on old-fashioned thinking about gender roles, says **Denise Bodman**, an ASU professor and a parenting expert. Women are still considered the primary caregivers and nurturers of a family, she says. The thinking still is that mothers are welcome to work as long as they can keep their houses in order, too. "We expect a lot from women," Bodman says. *Arizona Republic*, Sept. 6.

Online literary magazine forms collaboration with produce program

By **Chris Lambrakis**

The *Superstition Review*, an ASU student-run online literary magazine, is continuing its popular reading series this fall, with remaining readings scheduled for 7:30 p.m., Oct. 13 and Nov. 17, at the Polytechnic campus.

According to the reading series editor Sarah Snyder, there is an added bonus this semester.

"We are collaborating with the Poly CSA (community supported agriculture), which is donating locally grown produce," Snyder says. "Cassie Tolman, one of our former student editors, is also a professional chef and will be preparing refreshments for the readings."

The October reading will feature creative writing faculty from local community colleges, including Lois Roma-Deeley from Paradise Valley Community College, Josh Rothkamp from Mesa Community College, Hershman John from Phoenix College and Patrick Flynn from Chandler-Gilbert Community College.

The November reading will feature the students of the creative writing programs at ASU.

Also new this semester, the *Superstition Review* is encouraging high school students to attend the readings, hoping to help promote creative writing at ASU.

"The *Superstition Review* realizes that the more we can reach out to local high school students, the more we can excite and encourage them to be college students," Snyder says.

The reading series is free to the public.

To learn more about the Poly CSA, visit the Web site www.polycsa.org. For further information about the reading series, visit the Web site www.asu.edu/superstitionreview or send an e-mail to superstitionreview@asu.edu.

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Annual fall Career Fiesta pairs companies with job-seekers

By **Judith Smith**

ASU's annual fall Career Fiesta is a little like a speed-dating event.

Over four days, students and alumni can meet and discuss job and internship opportunities with representatives from more than 250 employers.

Have a chat, leave a résumé, and go on to the next table. If there is mutual interest, make plans for a more in-depth talk.

The Career Fiesta, scheduled for Sept. 23-26 this year in the newly renovated Arizona and Ventana ballrooms in the Memorial Union on the Tempe campus, is one of the largest such events in the nation, says Kitty McGrath, executive director of ASU Career Services.

"Historically, more than 1,000 students are there each of the four days," she says. "Most students come for two days."

Though the economy is slow this year, Career Services has not seen a drop in the number of employers who are interested in paying up to \$775 for two days of recruiting, notes Elaine Stover, associate director.

Employers may sign up for either Sept. 23-24 or Sept. 25-26. The corporate fee is \$775, while nonprofits, government agencies and military organizations pay \$500 to be there for two days.

In return, the employers receive access to student résumés, an announcement on Sun Devil CareerLink, a display table and table for interviews, lunch and afternoon beverages, and parking for two vehicles.

Plus, they are able to meet a large pool of talented, well-educated prospective employees.

Many of the employers come back year after year, McGrath says.

"Nearly 75 percent were here last year, and some companies, like APS, Enterprise and General Mills, are here every year," she says.

The largest group of employers comes from financial services – 37 percent of the total – while government and high-tech/computer are next with 24 percent and 22 percent.

The employer list is varied, including retail, pharmaceuticals, energy, manufacturing, printing, entertainment, nonprofits, transportation and distribution.

Some of the companies and agencies are household names, such as Frito-Lay, Harley-Davidson, Monsanto, Staples, Hershey, Rolls-Royce, National Security Agency, Peace Corps, Target and Walgreens.

Some aren't as well-known, but they are all in the market for good employees.

Career Services helps the students prepare long before Career Fiesta arrives, so they don't feel intimidated by all the choices.

Students can go to the Sun Devil CareerLink before Career Fiesta begins to see which companies and agencies will be there which days, so they can plot their "plan of attack."

"We offer workshops the week before on how to succeed at Career Fiesta," Stover says. "Sometimes walking into a very big room can be overwhelming for the students. We also will critique their résumés on the spot, right at Career Fiesta."

Stover says students are advised to bring printed copies of their résumés to Career Fiesta, even though many companies will ask students to apply online after Career Fiesta concludes.

"They want to know that you're serious," Stover says.

Career Services asks students to bring their Sun Cards to the Career Fiesta, though they are not required for entry. The Sun Card provides data for Career Services and the employers, such as the number of students participating and their areas of study, and career services prints student nametags using the Sun Card information.

Though Career Fiesta is a long day for the recruiters, it's more than well worth the effort to be there, says Kelly Lerch of Enterprise.

"We like to be able to meet the students face to face and tell them about our opportunities," she says. "Smiling and saying the same thing over and over to the students is tiring, so I usually bring a team with me."

Lerch says many of the students, even though they have been coached, are still shy about approaching the tables.

"You have to grab them and talk to them," she says. "They don't know what to expect and what to say."

Smith, with Media Relations, can be reached at (480) 965-4821 or jps@asu.edu.

Incentive program encourages use of ASU Sun Cards

By **Steven Harper**

Downtown Phoenix area merchants, and ASU students, faculty and staff, can take advantage of a new business incentive program that uses ASU Sun Cards as the keys to experience what Phoenix has to offer.

Downtown area retailers, cultural attractions, entertainment venues and restaurant owners that use the incentive program provide a discount or other offer to the ASU community, thereby increasing their business from students, faculty and staff at the Downtown Phoenix campus.

Members of the ASU community can show their Sun Cards at participating businesses and venues for discounts on products and services. Participating vendors will display placards that say "Use it Here" with ASU's mascot, "Sparky," holding a Sun Card. Faculty and staff members will be encouraged to load dollars onto their cards and use them at participating vendors in the downtown area.

Young journalists in the Walter Cronkite School of Journalism and Mass Communication will earn valuable production skills as they produce video segments profiling the entertainment, cultural and culinary venues around campus that are part of the Sun Card program. The students will gain experience through reporting and editing video while they provide coverage of Sun Card participants for members of the ASU community to peruse.

The students' videos will be posted on the ASU Downtown Phoenix campus Web site, <http://campus.asu.edu/downtown>, with the first video going online during October.

Other advertising venues that promote the program will appear on the Downtown Phoenix campus home page and in ASU's student newspaper, the State Press. ASU also will display information about the program on the large display screens in the University Center lobby.

Harper, with Public Affairs at the Downtown Phoenix campus, can be reached at (602) 496-1038 or steven.harper@asu.edu.



Events are free, unless otherwise noted. Items in the "Exhibitions" section run at exhibit opening and on the first of each month only. Building abbreviations are listed according to the official ASU phone directory. Send information to Judith Smith at jps@asu.edu or fax (480) 965-2159. For information about ASU events, visit the Web at <http://events.asu.edu>.

Meetings

■ Tuesday, Sept. 23

Phi Delta Gamma, 11:30 a.m.-1 p.m., Interdisciplinary B-365. Phi Delta Gamma is an honor society for graduate students. Information: (480) 965-4821.

■ Thursday, Sept. 25

Arizona Board of Regents, 8 a.m.-5 p.m., Northern Arizona University. Continues Sept. 26. Information: (480) 965-2002.

Lectures

■ Friday, Sept. 19

"Memory Networks: From Molecules to Behavior," 2-3 p.m., Life Sciences Center (LS) E-104. Speaker: Uli Mueller, Freie Universität Berlin Institut für Biologie-Neurobiologie. Information: (480) 965-2705.

"Physics of Photosynthesis in Purple Bacteria," 3:40 p.m., Bateman Physical Sciences Center (PS) H-152. Klaus Schulten, professor, Department of Chemistry, University of Illinois, gives the annual Eyring Lecture Technical Presentation. Sponsored by Department of Chemistry and Biochemistry. Information: (480) 965-2747.

■ Saturday, Sept. 20

"Set in Stone But Not in Meaning: Southwestern Indian Rock Art," 1 p.m., Deer Valley Rock Art Center, 3711 W. Deer Valley Road, Phoenix. Speaker: Archaeologist Allen Dart, director, Old Pueblo Archaeology Center, Tucson. Information: (623) 582-8007.

■ Monday, Sept. 22

"From Illustration to Decoration: Maurice Denis reads Paul Verlaine and André Gide," 3-4:30 p.m., Durham Language and Literature Building (LL) room 165. Speaker: Frederic Canovas, associate professor of French, School of International Letters and Cultures. Part of the SILC Work-in-Progress Lecture Series. Information: silc@asu.edu or (480) 965-6281.

■ Wednesday, Sept. 24

"Biological Physics One Molecule at a Time," 7 p.m., PS F-173. Carlos Bustamante, University of California-Berkeley, who was named one of America's Best Scientists by *Time* magazine in 2001, delivers a Distinguished Lecture. Sponsored by Department of Physics. Information: (480) 965-9075.

■ Thursday, Sept. 25

Physics Colloquium, 4 p.m., PS F-123. Speaker: Carlos Bustamante, University of California-Berkeley. Sponsored by Department of Physics. (480) 965-9075.

■ Friday, Sept. 26

Sustainability Discussion, 10-11:30 a.m., Union Annex Ballroom, Polytechnic campus. Speakers: Jonathan Fink, director of the Global Institute for Sustainability and university sustainability officer; Charles Redman, director, School of Sustainability; and Bonny Bentzin, manager, University Sustainability Business Practices. Conducted by vice president and dean Keith Hjelmstad. R.S.V.P.: CTIRSVP@asu.edu by Sept. 22.

"The Role of Engineers in Public Policy," 2-3 p.m., PS H-153. Speaker: Johné Parker, University of Kentucky. Sponsored by Mechanical and Aerospace Engineering Department. Information: (480) 727-0476.

Autoantibody-induced Neuroinflammation: Neuropsychiatric Syndromes in Lupus-prone Mice," 2-3 p.m., LS E-104. Speaker: David A. Lawrence, head, Cellular Immunology, New York State Department of Health. Sponsored by School of Life Sciences. Information: (480) 965-2705.

"Evolution of MATLAB," 4-5 p.m., PS A-118. Speaker: Cleve Moler, chairman and chief scientist at Mathworks. Part of Distinguished Lecture Series sponsored by the Department of Mathematics and Statistics. Refreshments served at 3:15 p.m. in PS A-206. Information: irina@asu.edu.

■ Tuesday, Sept. 30

Marshall Lecture, 7 p.m., ASU Gammage. Speaker: Calvin Trillin, journalist and author. Sponsored by the College of Liberal Arts and Sciences. Information: (480) 965-1441.

■ Wednesday, Oct. 1

DCDC Water Briefing, noon, Decision Center for a Desert City Conference Room 175, Brickyard Orchard House (BYOH), 21 E. 6th St, Ste 126B, Tempe. Speaker: Trevor T. Hill, president and CEO of Global Water Resources, LLC. Sponsored by the School of Geographical Sciences, Decision Center for a Desert City, Global Institute of Sustainability, and the Central Arizona-Phoenix Long-Term Ecological Research Project. Includes lunch. Reservations required: (480) 965-3367 or Estella.Ohanlon@asu.edu.

"Differential Reassortment Among Closely Related Begomovirus Species Reveals Adaptive Virulence and Host Shifting: Diversification in Action," 3:40 p.m., Barry M. Goldwater Center (GWC) room 487. Speaker: Judith Brown, University of Arizona. Refreshments at 3:30 p.m. Sponsored by Center for Biological Physics. Information: (480) 965-4073.

■ Thursday, Oct. 2

"Nanomagnetism: Perspectives Through Coherent X-rays," 4 p.m., PS F-123. Speaker: Karine Chesnel, Brigham Young University. Sponsored by Department of Physics. (480) 965-9075.

"Land-As-Home: American Resource Wars in the Arctic & Desert," 7 p.m., Global Institute of Sustainability (GIOS) room 101. Speaker: Indian-born artist-educator-activist Subhankar Banerjee. Sponsored by F.A.R. (Future Arts Research) @ ASU. Information: (602) 258-1852 or sarah.munter@asu.edu.

"Challenges Facing 21st Century Indigenous People," 7 p.m., Heard Museum's Steele Auditorium, 2301 N. Central Ave., Phoenix. Wilma Mankiller, former president of the Cherokee Nation, delivers the Simon Ortiz and Labriola Center Lecture on Indigenous Land, Culture and Community. Reception and book-signing follows lecture. Sponsored by ASU's American Indian Studies Program, Department of English, Department of History, Labriola National American Indian Data Center and Women and Gender Studies Program, and the Heard Museum. Information: (480) 965-7611 or www.heard.org.

■ Friday, Oct. 3

"A Talk in Two Parts," 10:30 a.m., LL room 316. Maureen Daly Goggin, editor or co-editor of five scholarly collections, speaks on "A Stitch in Time: Janie Terrero's 1912 Suffrage Signature Handkerchief" and "Ins and Outs of Editing Scholarly Collections." Sponsored by the Rhetoric Society of America at ASU. Information: (480) 965-7611.

"How Does Your Garden Grow? Mechanical Sensing and the Regulation of Growth in Arabidopsis," 2-3 p.m., LS E-104. Speaker: Simon Gilroy, Botany Department, University of Wisconsin-Madison. Sponsored by School of Life Sciences. Information: (480) 965-2705.

"Spatial Analytic Methods in Health Utilization and Outcomes Research," 3:30 p.m., Coor Hall room 5536. Speaker: Lee Mobley, RTI International. Sponsored by School of Geographical Sciences. Information: (814) 591-6421 or bpompeii@asu.edu.

Conferences

■ Friday, Sept. 26

"Is Form-Based Coding in Your Future?" 8:30 a.m.-5:30 p.m., Planning + Design Academy at PURL, 234 N. Central Ave., Phoenix. Admission. Continues Sept. 27. Information: (480) 727-9819 or laurel.arndt@asu.edu.

Miscellaneous

■ Friday, Sept. 19

"The Poetry of Social Protest," 2-3:30 p.m., Durham Language and Literature Building (LL) room 316. A reading and discussion sponsored by the English Club. Information: (480) 965-7611.

Decision Theater tour, 3-4 p.m., Decision Theater, 21 E. Sixth St., suite 126A, Tempe. Information: Michele.nobles@asu.edu.

Science Café, 5:30-6:30 p.m., Arizona Science Center, 600 E. Washington St., Phoenix. The topic "Is Nanotechnology Good for Sustainability ... or Not?" will be discussed by George Maracas, Brad Allenby and Patrick Phelan – two engineers, and a professor of ethics and industrial ecology. Sponsored by the Center for Nanotechnology in Society. Information: (602) 716-2000.

■ Saturday, Sept. 20

Sun Devil Football Tailgate, 3-5 p.m., University Club.

Barbecue buffet \$10 per person, including soda or iced tea. Reservations: (480) 965-0701.

■ Monday, Sept. 22

"Classroom Assessment Techniques: The Background Knowledge Probe," 12:15-1:30 p.m., Discovery Hall 212. Sponsored by the Center for Learning and Teaching Excellence. Information and registration: <http://clte.asu.edu>.

Clean Election Debate, 6:30 p.m., ASU Kerr Cultural Center, 6110 N. Scottsdale Road, Scottsdale. Candidates in District 8 will speak. Information: (480) 965-0100.

■ Tuesday, Sept. 23

"Cooperative Learning Techniques III," 12:15-1:30 p.m., Discovery Hall 212. Sponsored by the Center for Learning and Teaching Excellence. Information and registration: <http://clte.asu.edu>.

Clean Election Debate, 6:30 p.m., Student Union Cooley Ballroom, Polytechnic campus. Candidates in District 22 will speak. Information: (480) 965-0100.

Discussion of "Red Cavalry" by Isaac Babel, 7 p.m., Hayden Library room C6A/East. Part of a monthly series titled "Let's Talk About it: Jewish Literature." Information: Rachel Leket-Mor, (480) 965 2618.

■ Wednesday, Sept. 24

Clean Election Debate 6:30 p.m., SkySong, N. Scottsdale Road and SkySong Way, Scottsdale. Candidates in District 17 will speak. Information: (480) 965-0100.

■ Thursday, Sept. 25

"The Learning Cycle II: Designing Activities for Enhanced Learning," 12:15-1:30 p.m., Discovery Hall 212. Sponsored by the Center for Learning and Teaching Excellence. Information and registration: <http://clte.asu.edu>.

Seed Grant Workshop: Why and How to Apply for an IHR Seed Grant, 3-4:30 p.m., Social Sciences (SS) room 109. Presenters: Sally Kitch, Paul Hirt and Carol Withers. Information: www.asu.edu/clas/ihr/faculty/seed-grant/index.html.

■ Friday, Sept. 26

Ollie's Storybook Adventures, 10-11 a.m., Deer Valley Rock Art Center, 3711 W. Deer Valley Road, Phoenix. Theme is "Desert Sounds." For children ages 3 to 6 and their parents. Admission. Information: (623) 582-8007.

"Locating Funding," 3-4:45 p.m., Computing Commons (CPCOM) room 107. Sponsored by Office for Research and Sponsored Projects Administration. Information and registration: <http://researchadmin.asu.edu/Training/workshops.cfm>.

Clean Election Debate, 6:30 p.m., ASU Research Park ASML Training Center, 2010 E. Centennial Circle, Tempe. Candidates in District 20 will speak. Information: (480) 965-0100.

Astronomy Open House, 8-10 p.m., roof of the Bateman Physical Sciences Building (PS) H wing (fifth floor). Information: (480) 965-7652 or <http://homepage.mac.com/agfuentes/openhouse.html>.

■ Saturday, Sept. 27

"Celebrating Public Lands Day as a Community," 8 a.m.-2 p.m., Deer Valley Rock Art Center, 3711 W. Deer Valley Road, Phoenix. Help with cleanup and trail maintenance. Information: (623) 582-8007.

Reading by novelist Jane Smiley, 7:30 p.m., Tempe Center for the Arts, 700 W. Rio Salado Parkway, Tempe. Sponsored by Virginia G. Piper Center for Creative Writing. Smiley's book "A Thousand Acres," based on William Shakespeare's "King Lear," received the Pulitzer Prize for Fiction in 1992. Information: (480) 965-6018.

■ Wednesday, Oct. 1

Empowering Women Support Group, 5:30-7 p.m., Tempe Social Services offices, located on the second floor of the Tempe Public Library. This group is designed to help individuals build strength in themselves, find direction and make changes they want to make in their lives. Additional support from ASU. Cost: \$5 per session. Information: (480) 350-5438.

■ Thursday, Oct. 2

Reception for Wilma Mankiller, 3-4 p.m., West Hall room 135. Mankiller is former chief of the Cherokee Nation. Conducted by ASU Women & Gender Studies Program. Information: <http://www.asu.edu/english/indigenous>.

Graduate Programs Information Session, 6 p.m., Faculty and Administration Building (FAB), West campus. Information: (602) 543-4622.

Poetry reading, 7:30 p.m., Desert botanical Garden, 1201 N. Galvin Parkway, Phoenix. Featuring poets William Pitt Root and Pamela Uschuk. Sponsored by Virginia G. Piper Center for Creative Writing. Information: (480) 965-6018.

Events and Performances

*Indicates tickets are available at Herberger College of Fine Arts Box Office, Nelson Fine Arts Center, (480) 965-6447.

Friday, Sept. 19

"ELINA's LINEAge," 7:30 p.m., Paul V. Galvin Playhouse. A gala tribute to long-serving ASU Herberger College Dance faculty member Elina Mooney. Continues at 7:30 p.m., Sept. 20; 2 p.m., Sept. 21.*

Sunday, Sept. 21

"Esprit Rude - Esprit Doux," 2:30 p.m., Katzin Concert Hall. Performing: flautist Elizabeth Buck and clarinetist Robert Spring.*

Friday, Sept. 26

"We Won't Pay! We Won't Pay!" 7:30 p.m., Lyceum Theatre. A rollicking comedy of stolen groceries, hysterical pregnancies, political awakenings and hilarious comeuppances by Nobel Prize winner Dario Fo. Continues at 7:30 p.m., Sept. 27 and Oct. 2-4; 2 p.m., Sept. 28 and Oct. 5.*

Sunday, Sept. 28

Clarinet, violin, piano concert, 2:30 p.m., Katzin Concert Hall. Robert Spring, Andrew Campbell, Jana Starling and Katie McLin present the Arizona premier of Roshanne Etezady's "Siren" for two clarinets and more.*

Wednesday, Oct. 1

Coffee at Kerr, 10:30 a.m., ASU Kerr Cultural Center, Scottsdale. Arizona Opera presents "Intro to Rigoletto." Free, but R.S.V.P. is required: (480) 596-2660. Bring a can of food or sealed personal item for Vista del Camino food bank.

Friday, Oct. 3

Friday Conversations in the Gallery, noon-1 p.m., ASU Art Museum. Meet local artist Steve Yazzie. Information: (480) 965-2787.

"Nonsense II: The Second Coming," 7:30 p.m., Evelyn Smith Music Theatre. The sisters work their comic magic around the set dressing of "The Mikado." Also at 7:30 p.m., Oct. 4 and 10-11; 2 p.m., Oct. 5, 12.*

Exhibitions

ASU Art Museum, Nelson Fine Arts Center – Regular hours: 11 a.m.-9 p.m., Tuesday; 11 a.m.-5 p.m., Wednesday-Saturday; 1-5 p.m., Sunday. Summer hours: 10 a.m.-5 p.m., Tuesday-Saturday. Information: (480) 965-2787.

Opens Sept. 27, "The Other Mainstream II: Selections from the Mikki and Stanley Weithorn Collection." This is the second exhibition at the ASU Art Museum that focuses on the adventurous contemporary art collection of Valley residents Mikki and Stanley Weithorn. True to its name, the exhibition reflects the dominance in the contemporary art world of artists from diverse backgrounds working with new issues of identity – a new "mainstream." With most of the works in the exhibition created since Sept. 11, 2001, the collection is bold in its commentary on global concerns and in its figurative imagery. The paintings, drawings and sculptures reach beyond simply examining the assigned powers in politics, gender and race, and move to a broader examination of our humanity through humor or fantasy or blunt honesty.

Through Sept. 28, "NOW: Selections from the Ovitz Family Collection." Reception: 7-9 p.m., Sept. 26. This exhibit highlights recent work by established and emerging international contemporary artists. Artists pursue their own innovations and artistic visions while thoughtfully mining the history of art. The Ovitz Family Collection represents the diversity in contemporary art, from abstraction to the figurative, refined technique to intentionally rough, and the blurring of boundaries between media.

Harry Wood Gallery – 9 a.m.-5 p.m., Monday-Thursday, 9 a.m.-3 p.m. Friday, Art Building, first floor. Information: (480) 965-3468.

Opens Sept. 22, MFA thesis exhibition in fibers by Mindy Sue Meyers. Opening reception: 7-9 p.m., Sept. 22.

Opens Sept. 29, MFA thesis exhibition in fibers by Nick DeFord. Opening reception: 7-9 p.m., Sept. 29.

Hayden Library Rotunda – normal library hours. Information: (480) 965-6164.

Through Sept. 30, "Surveying Arizona: Select Photographs from the Arizona Historical Foundation Collection." This exhibit tells the story of Arizona's documentation through photographs selected from the more than 40,000 held by the Arizona Historical Foundation. Included are an undated aerial photograph of Camelback Mountain surrounded by agricultural fields; a 1916 photograph of Oatmine Mine; prospectors in 1931; and the town of Roosevelt in 1905, before it was covered by the lake.

Interdisciplinary Arts and Performance Gallery – 11 a.m.-2 p.m., Monday-Thursday, University Center Building, Room 228, West campus. Information: (602) 543-ARTS. Tours: (602) 543-8152.

Opens Sept. 30, "Twenty Irish Printmakers Respond to the Schwemberger Photographs" is a collection of more than 100 compelling images of American Indian peoples, homes and landscapes dating back to 1902. The images were taken by Brother Simeon Schwemberger while he lived at St. Michaels Mission near Window Rock, Ariz., in the early 1900s.

Through Sept. 25, "Poesia=Imagen: Celebrating Hispanic Heritage Month." Faculty Artist Leandro Soto's solo show works with poets of the Hispanic tradition in an interdisciplinary exhibition honoring Hispanic Heritage Month.

Museum of Anthropology – 11 a.m.-3 p.m., Monday-Friday, Cady and Tyler Malls. Information: (480) 965-6224.

Through Oct. 3, "Mosaic: Cultural Identity in America" and "Fuse: Portraits of Refugee Households in Metropolitan Phoenix."

In "Mosaic: Cultural Identity in America," jury-selected student artists explore questions of national identity. Guest curator Sarah Elsasser, a student in ASU's Barrett, the Honors College, has asked students to express, through a variety of artistic media, how they understand and identify with being "American." "Mosaic" contextualizes American identity as a diverse and changing ascription, based on ethnicity, religion, gender and sexual orientation. "Fuse" is a portrait exhibit of the complex worlds of resettled refugees in the Phoenix metropolitan area. It fosters critical thinking on who refugees are – and how, through sharing experiences, the Phoenix metro community can seek common ground. The photographs validate the struggles and triumphs of these families, portraying them in a way that fosters a deeper sense of belonging in the community. The exhibition is being developed in collaboration with Community Outreach & Advocacy for Refugees (COAR), a youth-led nonprofit based in Tempe that works with refugees and local artist Eliza Gregory, a member of the eye lounge artist cooperative on Roosevelt Row.

Night Gallery – 6-9 p.m., Thursday-Sunday, 2000 E. Rio Salado Parkway, suite 1021, Tempe. Information: (480) 965-3468.

Through Sept. 28, "Ornaments." ASU graduate Michael Anderson exhibits large-scale sculptures that resemble Christmas ornaments. Anderson's steel works are in public and private collections across the United States, and in more than five countries, including the United Arab Emirates and Australia.

Step Gallery – noon-5 p.m., Monday-Thursday; noon-3 p.m., Friday, Tempe Center, 10th Street and Mill Avenue. Information: (480) 965-3468.

Opens Sept. 22, "Posing Poultry." Paintings by Layla Luna. Opening reception: 7-9 p.m., Sept. 22.

Defenses

Tsai-Shan Shen, PhD, Comm., 10 a.m., Sept. 19, STAUF 431.

Anne Ellis, PhD, Pub. Adm., 1:30 p.m., Sept. 19, UCLUB 201.

Weiyang Ge, PhD, Elec. Engr., 3 p.m., Sept. 19, GWC 409

Pu Yang, PhD, Phys., 9 a.m., Sept. 23, PS-F 306.

ASU staffers take pride in caring for university's campus flags

By Judith Smith

J. Carlos Escudero loves the sight and sound of the American flag waving in the wind.

Therefore, he is thrilled that raising and lowering the flag is part of his duties as a corporal in the Police Department at ASU's West campus.

Raising, lowering and maintaining the flags is one of the "unseen" jobs carried out at all of the ASU campuses. But those who take care of the flags do so with pride.

At the Tempe campus, groundskeepers maintain the flags on Gammage Parkway and at the Community Services Building. "We regularly have the flags cleaned.

When they are worn, they are burned in a special ceremony," says Ellen Newell, associate director of Grounds Services. "We always have two sets on hand. An 8-by-12-foot U.S. flag costs \$176.99, and we buy them from Air-A-Zona Flag Co., who also cleans and repairs them."

(An Arizona state flag costs \$335.85, while an ASU flag is \$347.02, Newell adds.)

So far this year, Facilities Management at the Tempe campus has spent \$6,827.05 maintaining its flags and poles.

The campus flags are such a normal part of the campus scene that no one usually

remarks upon them until they are lowered to half-staff.

Then, says Ted Woods, assistant supervisor for grounds, everyone wants to know why they are lowered – and who gave the order to do so.

The answer, he says, is that the governor's office sends out an e-mail directive when the flags are to be lowered.

A spokeswoman for the governor's office said flags are lowered when an Arizona serviceman or woman is killed in the line of duty, or when a police officer loses his or her life.

At Polytechnic campus, the facilities management department also has always bought flags for the campus and paid to have them repaired and cleaned, and groundskeepers raise and lower the flags as needed.

Occasionally, there is a special request from a military family whose loved one served at Williams Air Force Base, now the site of the Polytechnic campus.

Sharalyn Barnby, an administrative assistant with the Business and Finance Department at Polytechnic, says a military family recently asked that a flag be flown over the former base's parade grounds, which now are used for flag football games and other informal campus events.

"Normally I don't get involved in the day-to-day raising of the flag," Barnby says. "This particular time, however, I and two others raised the flag, took pictures, lowered the flag, folded it and returned the flag to the family. It was an honor to be part of a flag-raising ceremony that held such meaning for this family and do a little something special for one of our American veterans. This was a small gesture, but one greatly appreciated by the family."

West campus's Escudero, who has worked for the ASU Police Department since 1995, says he has "always respected the flag and what it stands for, and had a general understanding of flag protocol," but had never worked with a large flag until the first time he had to change the flags on 47th Avenue.

"It was a very windy day, and I was assisting a sergeant," Escudero says. "When it came time to lower the U.S. flag, I was bound and determined not to let it touch the ground. As the flag slowly lowered, I grabbed one end and tried to roll it up into my chest with one hand while grabbing the other end with my free hand.

"As I was doing this, I created a kind of a parachute when the wind caught the flag. Back then, I only weighed about 160 pounds, and my feet began to drag over

the gravel. I thought I was going to take flight for a second. I did not take flight, but it was a struggle to get the flag into the car."

Escudero says he always takes time to reflect on the sacrifices made by the police officer or military person being honored when the flag is at half-staff.

"A lowered U.S. flag also prompts me to reflect on Sept. 11," he adds, in remembrance of the lives lost during the terrorist attacks in New York and Washington, D.C., on that date in 2001.

For Tempe groundskeeper John Rush, taking care of the flags can be an emotional experience, particularly after ASU receives a message from the governor.

"Depending on if it's for the death of a cop or soldier, I get a little bit of sadness when putting the flags at half-staff," he says.

Though the general ASU population may not take much notice of the flags, there is one group that does.

"Veterans watch the flagpoles like hawks," Newell says. "And our groundskeepers dote on taking good care of the flags."

Smith, with Media Relations, can be reached at (480) 965-4821 or jps@asu.edu

ASU on top 20 list in research expenditures

(Continued from page 1)

funded academic research and development expenditures rose 1.1 percent in fiscal year 2007 to \$30.4 billion. After adjusting for inflation, this represents a 1.6 percent decline from fiscal year 2006, and follows a 0.2 percent decline compared to the fiscal year 2005 numbers.

Funding from non-federal sources grew by 7.8 percent (5 percent in inflation adjusted terms) in fiscal year 2007, according to NSF officials. Federal and non-federal sources combined equaled \$49.4 billion, 3.5 percent more than fiscal year 2006 (a 0.8 percent increase after inflation).

Medical sciences (\$16.5 billion) and biological sciences (\$9.2 billion) account for more than half of all research and development expenditures to universities and colleges, the NSF report says. When adding in universities with M.D. granting medical schools, MIT ranks 15th overall and the University of California-Berkeley ranks 20th.

The top universities overall are Johns Hopkins University, the University of California-San Francisco and the University of Wisconsin-Madison.

The federal government is the largest source of academic research and development funding, accounting for more than 60 percent of total research and development expenditures in most years since fiscal year 1972, though its share has dropped from 64 percent in fiscal year 2005 to 62 percent in fiscal year 2007.

Derra, with Media Relations, can be reached at (480) 965-4823 or skip.derra@asu.edu.

Student seeks to advance neurological injury treatments

By Debra N. Fossum

For Brian Brown, the interest in attending ASU can be summed up into one word: opportunity.

"I came to ASU because I knew that I would have many opportunities to try different hobbies and find the right major," says the kinesiology major in ASU's College of Liberal Arts and Sciences.

Brown received a National Achievement Scholarship, an ASU merit-based scholarship awarded to students who have earned nationwide recognition for their academic achievements. In qualifying for the award, he was identified by the National Merit Corp. and CollegeBoard, based on his PSAT performance, as a National Achievement Scholar. He also was named to the CLAS Dean's List by maintaining a GPA of 3.5 or higher.

Devin Jindrich, a kinesiology professor with ties to the University of California-Berkeley and UCLA, mentors Brown through his undergraduate research.

"One of the things I really like about Dr. Jindrich as a mentor is that he takes the time to meet with me regularly to explain concepts and keep me on track," Brown says.

"Brian is an excellent student with a very positive attitude and willingness to tackle many different challenges," Jindrich says in return.

Jindrich is working with Brown on three separate research projects. In one project,

Brown is working with another undergraduate student, Danielle Protas, investigating the neurotransmitter pathways in lab rats. He helps Jindrich electrically stimulate the brain of an anesthetized rat and measure the electrical response of its muscles.

"We are selectively blocking six different neurotransmitters and investigating the impacts these blockers have on the motor-evoked potentials (MEPs)," Jindrich says. "This project is significant because measuring MEPs is a safe method for assessing the severity of spinal cord injury (SCI) and evaluating recovery due to emerging treatments for SCI."

Brown also is working with graduate student Mu Qiao to test whether humans use control rules to stabilize running that are equivalent to those developed by Marc Raibert, a former MIT professor who funded the MIT Leg Lab in the 1980s, to build running robots.

In addition to all this, Brown is aiding Jindrich in investigating the effects of changing body inertia on the forces used in human maneuverability.

"We seek to test a hypothesis that I developed in the form of a simple mathematical model that relates the forces required for maneuvers to a limited set of morphological and behavioral parameters," Jindrich says.

Adds Brown: "We will also be measuring velocity and acceleration/deceleration using a video system."

The system uses infrared light and reflective balls attached to the test subject to track the movements of the body.

"We are also considering using EMGs to visualize which leg muscles are used in straight-line running, compared to turns," Brown says.

This project is pertinent in designing the next generation of functional electrical stimulation systems to help people with neuromotor injuries. Also, it benefits Brown as a kinesiology major to better understand the causes of injuries such as non-contact knee injuries.

In addition to his work in Jindrich's lab, Brown is interested in research related to the social and neurological effects of addictions, and he works part time at a local hospital. But when he is not astounding his professors at ASU, he enjoys spending his time outdoors hiking, camping or playing sports. He also is trying to learn to play the banjo and improve his talents for painting, drawing and writing.

"I have a wide range of interests," he says. "I am willing to try almost anything twice."

Brown intends to pursue a doctorate after graduation, and he'll have a jump on his colleagues with his undergraduate research at ASU.

Fossum, with Research and Economic Affairs, can be reached at debra.fossum@asu.edu.

In BRIEF

Tsosie to address forest management issues

Rebecca Tsosie, executive director of the Indian Legal Program at the Sandra Day O'Connor College of Law, will give a presentation on tribal interests in forest management at the 32nd Annual Public Land Law Conference at University of Montana Sept. 22-25.

The conference brings together leaders from government, industry, academia, and the legal and conservation communities, to explore challenges facing public lands and discuss key elements for a federal lands agenda for the 21st century. It will offer a broad context of national law and policy as well as detailed discussions of critical issues related to federal lands governance in the West and recommendations for how these issues might be addressed in the next administration.

Tsosie will sit on a panel titled "Forest Management for a Changing West," which will provide an overview of national forest management issues.

Astronomy open house set for Sept. 26

Free stargazing, a display of meteorites and other astronomy-related activities will be featured Sept. 26 at ASU's first astronomy open house of the year.

The open house, conducted by astronomy and geology graduate students, will take place from 8 p.m. to 10 p.m. on the roof of the Bateman Physical Sciences Center H-Wing on ASU's Tempe campus. The roof is wheelchair-accessible.

Free parking is available after 7 p.m. in the Tyler Street parking structure, located at the intersection of McAllister Avenue and Tyler Street. For more information, call Angel Fuentes at (480) 965-7652 or visit the Web site <http://homepage.mac.com/agfuentes/openhouse.html>. For a campus map, go online to www.asu.edu/map. Additional fall open houses also are scheduled for Oct. 31 and Nov. 21.

Retirement reception honors Rogers

Officials with ASU's Financial Services group are inviting the campus community to a reception for Kathleen Rogers as she prepares to retire after 19 years of service to ASU.

The reception will take place from 2 p.m. to 4 p.m., Sept. 30, at the University Club on the Tempe campus.

To R.S.V.P. for the event, send an e-mail to adrian.lesoing@asu.edu.

Attorneys can get loan repayment assistance

Arizona attorneys who are employed in nonprofit organizations that serve the legal needs of low-income individuals and families can receive help reducing their law-school debt.

The Arizona Foundation for Legal Services & Education has begun taking applications for its Loan Repayment Assistance Program, which provides forgivable loans to qualifying attorneys and allows them to work in legal-aid programs for the poor. Applicants must be members of the State Bar of Arizona, earn under \$65,000 and be employed by an approved nonprofit legal



TOM STORY PHOTO

A portrait of honor

Retired U.S. Supreme Court Justice Sandra Day O'Connor, in background at right, assists artist Michael Shane Neal, left, with the unveiling of her portrait Sept. 12, which was commissioned and presented by four of her former law clerks to ASU's Sandra Day O'Connor College of Law. The portrait, which was painted over the course of two years, depicts the smiling, silver-haired justice in a red suit, seated in a chair across which her black justice robe is draped.

organization (for a list and application form, visit the Web site www.azflse.org).

In addition, the Joyce Holsey Loan Repayment Assistance Program is available to law school graduates of ASU and the University of Arizona who are legal-aid attorneys.

Holsey was a Tucson lawyer and the first African-American woman to be admitted to the State Bar of Arizona. She was committed to fighting for the underserved, despite becoming blind while attending law school. For more information, visit the Web site www.azflse.org/azflse/grants/joyce_holsey.cfm.

Google shows off online tools to students

ASU students are getting a taste of all Google has to offer — to go.

The Internet giant parked its 1978 retrofitted, eco-friendly bus outside the Memorial Union Sept. 11 on the second of 10 stops in its cross-country "App-to-School" tour. The tour seeks feedback from students and demonstrates the abilities of Google applications available to the university.

Adam Sneed, a reporter with ASU's student newspaper, the State Press, chronicled the visit, including reaction from ASU students, in an article published in the Sept. 12 issue and on the ASU Web Dev.

A collection of photos from the event can be found at <http://picasaweb.google.com/ApptoSchool/ASUCampus-Visit>.

Stockrocki gives presentation at Japan event

ASU art professor Mary Stockrocki gave a presentation Aug. 8 at the International Society for Education through Art World Congress in Ozaka, Japan. Stockrocki's presentation was titled "Art Education Avatars in Cyberspace: Empowering the Disenfranchised through Second Life."

Stockrocki is world councilor for this organization and now head of its research board.

Professor earns engineering design award

Jami Shah, a professor in the Department of Mechanical and Aerospace Department, recently earned the American Society of Mechanical Engineers' (ASME) Design Automation Award.

The award, which represents the most prestigious honor given by the society's design engineering division, recognizes sustained contributions to research in design automation.

Shah was presented the award in August at the ASME Design Technical Conference awards banquet in New York.

At ASU, Shah has established research programs in mechanical design, computer-aided design, computer-aided manufacturing and manufacturing automation. He also has developed several research and instructional labs, including the Design Imaginarium, Design Automation Lab, Prototyping Shop and the Computer-aided Engineering Lab.

He is the author of two U.S. patents, two books, and more than 150 peer-reviewed technical papers in professional journals and conferences. Shah is the founding chief editor of ASME Transaction, the Journal of Computing & Information Science in Engineering. He was elected an ASME fellow in 2001.

Applied psychology professor earns grant

Nancy Cooke, a professor of applied psychology in the School of Applied Arts and Sciences at the Polytechnic campus, has been awarded a one-year grant from the Leonard Wood Institute to support a project on "Harnessing Human IED (Improvised Explosive Device) Emplacement Detection Expertise" in collaboration with Carnegie Mellon and Battelle.

Cooke delivered the keynote lecture at the Humans Operating Unmanned Systems conference Sept. 3-4 in Brest, France.

Artificial water systems create unintended consequences, researchers say

(Continued from page 1)

and other patches created where these sediments collect are often ideal places for nutrient cycling. By starving streams of their historic supply of this material, canals accidentally alter the way nutrients are cycled in stream ecosystems.”

Humans have altered water systems in the Phoenix area as far back as 300 B.C. The Hohokam people constructed an extensive series of canals for irrigation in the region (until A.D. 1450). A new group of settlers arrived in the 1860s and immediately began building “ditches” or simple irrigation canals. Construction continued through the 1900s as dams were built to harness the Salt and Verde rivers, and the canal system was expanded to bring more land under cultivation. As the area became more urban, flood control became more important, necessitating construction of the Indian Bend Wash greenbelt, one of the first non-structural flood management structures in the United States. These activities altered surface water availability, dramatically increasing the timing and spatial distribution of stream flow.

“Before these alterations, channel systems like those of Indian Bend Wash were ephemeral, storm precipitation-driven systems with only a limited connection to the groundwater – via loss from the channel bed,” says Arrowsmith, a professor with School of Earth and Space Exploration in the College of Liberal Arts and Sciences. “Now, the surface and subsurface hydrologic network is short-circuited, with water entering the channel from well and canal sources, and water leaving by important evaporation, seepage and canal redirection.”

The authors emphasize how modern urban water systems shatter any limitations imposed by the topographic contours of a region. The Central Arizona Project cuts a blue swath across the Sonoran Desert and subdivides watersheds to deliver a reported 1.5 million acre-feet of surface water to the area. In addition, the pumping of ground water has dropped the water table 90 meters and connected surface and subsurface flows, “not only increasing the spatial and temporal availability of water, but having the unintended effect of increasing the flux of NO₃ through urban waterways by returning nitrogen leached from historic fertilizer applications to surface flows,” the authors write.

One concern is the potential impact on riparian species – the “integrity of native ecosystems and the continued delivery of goods and services from these ecosystems,” they say.

Streams in deserts often are overlooked in their importance because of their ephemeral nature; however, streams in general have been shown to be critical to the removal of excess nitrogen from agricultural fields and wastewater run-off from urban areas.

Denitrification, a bacterially mediated process, converts nitrate to nitrogen gas, which then is released harmlessly to the atmosphere. High nitrogen loads from urban areas can overwhelm streams’ capacity to remove nitrates, and the resulting pollution of downstream rivers has been linked to the proliferation of coastal “dead zones.”

“We were surprised by how frequently the concentration of nitrate in surface waters was determined by the turning

of a tap,” Roach says. “Because the groundwater below the greater Phoenix ecosystem contains a lot of nitrate, when groundwater wells are tuned on, the concentration of nitrate in the canals and streams receiving this water goes up. This nitrogen, in turn, can act as fertilizer, stimulating unwanted growth and producing changes in what the stream looks like that are independent of the decision to deliver more water to city lawns.”

The present study underscores the importance of understanding the structure and function of natural streams and arid ecosystems and how they are impacted by human-altered systems, water distribution and design. The authors point out that the unintended consequences “must be carefully evaluated – especially in arid and semiarid cities – if managers are to have any hope of mitigating them.”

Grimm, a professor in the School of Life Sciences and member of the Global Institute of Sustainability at ASU, sums their study up this way: “Our findings contribute to answering the more general question of how fundamental ecosystem services – those processes of ecosystems that provide a natural resource or regulate properties of the resource, for example – change when people make large alterations to streams during the course of urban development. Perhaps our case study will help define how to best design such ecosystems to meet the need to provide multiple services – in this case, protection from flooding, recreation and regulation of nutrient concentrations reaching downstream systems.”

Coulombe, with the School of Life Sciences, can be reached at (480) 727-8934 or margaret.coulombe@asu.edu.

Health care reform takes center stage at conference

(Continued from page 1)

“We’ve lost track that large-scale health issues are derivative of behavior,” Crow said.

Crow’s remarks highlighted ongoing work at the university, including:

- Reshaping policy to look at science through a more comprehensive agenda.
- Building advanced information systems to increase effectiveness and lower costs.
- Using outcome-based healthcare models that measure progress.
- Looking at health care economics.

“I won’t walk you through the infant mortality variation by ethnicity in the United States, or the survival rates and lifespan for people based on income in the United States, but we should be ashamed of ourselves,” Crow said.

Participants at the conference listened to videotaped health care testimonials and reflected how they felt about health care issues through laptops set up at every table. Taking into account the work that has been done by the Mayo Clinic Health Policy Center, participants discussed and compared the Policy Center’s reform recommendations within the context of regional health care issues that providers, insurance companies, employers and patients throughout Arizona face.

Mayo Clinic formed its Health Policy Center in 2006 to bring together health care stakeholders from patients to national thought leaders for events that will develop new, consensus-driven principles and actions to accelerate health care reform.

While health care costs continue to rise throughout the country, Mayo proposes to address health care challenges through universal health insurance, improved payment systems, better information technology, lower costs and improved patient outcomes.

Crow invited the audience to “rethink everything” about current health care models, rethink science and define specific health care objectives.

“We should blow up all of the models, and then looking at the rubble, think about how we might find some way to advance on a different basis,” Crow said.

Newberg, with Media Relations, can be reached at (480) 727-3116 or julie.newberg@asu.edu.



TOM STORY PHOTO

The Mayo conference was completely interactive, with laptops on each table to submit questions to the participants and devices to record votes on various questions during the session.

Cronkite students top national magazine contest

(Continued from page 1)

AEJMC is the nation’s leading journalism education organization. It is made up of about 3,500 journalism and mass communication faculty, administrators, students and media professionals from around the world.

The complete list of Cronkite 2008 winners includes:

- Consumer Magazine Article: Places – “48 Hours: Phoenix” by Keridwen Cornelius, second place.
- Consumer Magazine Article: People – “When a Body Betrays” by James Kindle, third place.
- Consumer Magazine Article: Investigation and Analysis – “Playing with Fire” by Brian Indrelunas, second place; “Healthcare Without Borders” by Joshua Schoonover, honorable mention.
- Consumer Magazine Article: Features – “The Story of Los Niños Mejia” by Ryan Kost, second place; “Healing the Battle-Scarred Brain” by Keridwen Cornelius, honorable mention.
- Consumer Magazine Article: First Person – “Eating With Your Hands” by Keridwen Cornelius, honorable mention.
- Specialized Business Press Article – “Ostrich – The Other ‘Green Meat?’” by Annalyn Censky, first place; “Veterinarian Shortage” by Jonathan Cooper, third place.

EMPLOYMENT

The following positions are available as of Sept. 19 and are subject to change. All positions will be advertised in *Insight* only once. The staff requisition or job order number for each position is indicated by the (#) sign. ASU is an equal opportunity-affirmative action employer.

ASU POSITIONS

A complete job announcement for classified, administrative and service professional positions at the Downtown Phoenix, Polytechnic, Tempe and West campuses is available on the Human Resources Web page at www.asu.edu/asujobs, or the Telecommunication Device for the Deaf at (480) 965-3002.

For complete position descriptions and application requirements for academic positions, contact the appropriate department listed below. Faculty, academic professional and graduate assistant positions are also listed on the Human Resources Web sites and details must be obtained from the hiring department. Application deadlines are listed.

Dates listed are application deadlines, and application material is due by 11:59 p.m. on that date. Positions are 100 percent, full-time employment (FTE) unless otherwise noted. Code below is: (O) – position is open to the public.

STAFF POSITIONS

TEMPE CAMPUS

Professional

- Biosafety Specialist** (O) #20926 – Environmental Health & Safety (Sept. 25; applications will continue to be accepted and reviewed on an ongoing basis until search is closed)
- Clinical Veterinarian** (O) #20979 – University Services (Oct. 1).
- Research Technician** (O) #20980 – Biondesign Institute (Sept. 22).
- Research Technician** (O) #20991 – Biondesign Institute (Sept. 30).
- Specialist Senior** (L) #20947 – Department of Mathematics and Statistics (Sept. 24).

Student services Assistant (L) #21002 – Student Financial Assistance (Oct. 3).

Technical and computer

Animal Technician Senior (O) #21019 – VP-Research and Economic Affairs (Sept. 29; every week thereafter until search is closed).

Service/field craft/maintenance

- Custodian first shift part time (Facilities Management)** (O) #20979 – University Services (Oct. 1).
- Custodian second shift, part time (Facilities Management)** (O) #20983 – University Services (Oct. 1).
- Electrician-Repair and Maintenance second shift (Facilities Management)** (O) #20232 – University Services (Sept. 24).
- Event Attendant-Usher/Ticket Taker** (O) (part time) #20982 – Intercollegiate Athletics-Operation & Facilities (Sept. 24; every week thereafter until search is closed).

WEST CAMPUS

Professional

Student Support Specialist #20729 – New Student Programs (Sept. 24).

DOWNTOWN PHOENIX CAMPUS

Professional

Accountant Senior (O) #20942 – College of Design (Sept. 23).

Program coordinator Senior (O) (part time) #21029 – University Services (Sept. 25).

Administrative support

Library Assistant Senior (part time) (O) #20846 – University Libraries (Sept. 17).

ACADEMIC POSITIONS

TEMPE CAMPUS

- Assistant/Associate Professor** #9213 – W. P. Carey School of Business – Finance (Nov. 3; every month thereafter until search is closed).
- Engineering Librarian** #9212 – Noble Science & Engineering Library – Science & Engineering Services (Oct. 15; every month thereafter until search is closed).
- Graduate Research Assistant** – Job order G – Ira A. Fulton School of Engineering (Oct. 3; every two weeks thereafter until search is closed).

DOWNTOWN PHOENIX CAMPUS

Associate Dean #9211 – Nursing & Healthcare Innovation – Academic Affairs (Oct. 1; every month thereafter until search is closed).

POLYTECHNIC CAMPUS

Assistant Librarian #9214 – University Libraries (Oct. 15; every month thereafter until search is closed).

Veterans Upward Bound graduate Little makes it to the top

By Judith Smith

When Joseph Little was discharged from the Army after the Vietnam War, he had severe physical and emotional injuries.

Though he wanted to go to college, his doctors and vocational rehabilitation counselors told him he never would be able to earn a degree.

So, for the next 30 years, he was a test driver for General Motors, sold insurance and drove trucks, among other jobs – and tried to go to college several times.

The idea of school never left him, but he had no hope until around 1999, when a friend encouraged him to pay a visit to ASU's Veterans Upward Bound program.

That trip to ASU was a turning point for Little, who beat all the odds and now holds a master's degree in social work and counsels veterans at the Phoenix Veterans Center.

Little will be honored in October for his educational and career accomplishments at the national convention of the Council for Opportunity in Education (COE) in Washington, D.C.

Each year, COE honors students who have gone through any TRiO program – which includes Veterans Upward Bound – and have demonstrated remarkable success.

TRiO is the umbrella for a group of federal programs that offer help to disadvantaged students and veterans.

VUB was instituted by the Department of Defense, Veterans Administration and the Department of Health, Education and Welfare in 1972. It provides a free educational and skills program for veterans who wish to go to college, to prepare for their GED or to take classes for personal growth.



Joseph Little

ASU's VUB program offers classes in English, math and computers, with instruction, counseling, textbooks and supplies all provided at no cost to the students.

Little recalls that when he first went to ASU's VUB offices, he thought the staff was "not playing with a full deck" because they were too happy, and smiling too much.

But he found that the warmth and encouragement were genuine. He began taking classes at ASU and a community college at the same time, dropping into the VUB offices after class to do his homework.

"They helped me out," he says. "And Frank Evans (who nominated Little for the honor) wouldn't let me give up."

After he finished his bachelor's degree at ASU, he went on to earn his graduate degree. Little now recommends VUB to other veterans "to bridge the gap" between military service and college or civilian life.

"It helps build their confidence in their abilities to achieve something," he says.

Little, who suffered head trauma in the war and has had 50 surgeries for his war wounds, says VUB helped him become the first one in his family to graduate from college.

Little, a former Army Ranger, has worked at the Phoenix Veterans Center since 1998, and he "has dedicated himself to working with veterans with post-traumatic stress disorder," says Robert Pena, director of ASU's VUB. "His clients range from World War II veterans to those dealing issues from our present conflicts."

Little is the first VUB graduate to be honored by COE. He was selected as one of six winners from a national pool of 52 nominees.

"It's a tremendous honor for Joseph as well as for our program," Pena says. "For all the years that the VUB program has been in existence here at ASU, since 1972, we believe that this is the first time that one of our graduates has been so honored."

Smith, with Media Relations, can be reached at (480) 965-4821 or jps@asu.edu.

Delegation from former Soviet republics visits ASU

By Mark Luebker

How can a group of high-level administrators in public utility and energy-related sectors from Russia, Georgia and Ukraine travel and work together in the United States while political tensions are rising and military confrontations are occurring among their countries back home?

A 21-member delegation from those countries visited ASU Sept. 5 as part of a four-week program arranged by the Special American Business Internship Training Program (SABIT).

SABIT is sponsored by the International Trade Administration within the U.S. Department of Commerce to connect Eurasian professionals with U.S. counterparts and companies to promote partnerships, sustainable economic growth, market reforms and increased institutional capacity.

Dawn Kallestad, director of the Office of the Vice President for Global Engagement, conducted the group's campus visit, which included meetings at the Ira A. Fulton School of Engineering and the Global Institute of Sustainability.

"They talked about that when events began to unfold and agreed it best simply to deal with one another as individuals, not as representatives of different countries," Kallestad says, "They decided



Rich Lemon, senior coordinator in the Global Institute of Sustainability (GIOS), demonstrates a system that monitors energy use in the GIOS building for the SABIT delegation.

to keep their focus on the sustainability issues they're here to study and on opportunities to build bridges of collaboration, both among themselves and with those they meet during their travels."

The visit to ASU focused on how the university is addressing sustainability issues and entrepreneurship, both on its campuses and in collaboration with external partners.

"What impressed me is the activity of the university to bring businesses and academia together," says George Abulashvili, director of the Energy Efficiency Centre in the Republic of Georgia. "It is not an easy task, but you have created kind of locus where businesses can come and academics are there and they're

talking and exchanging ideas. From my knowledge, this is unique and might be really effective."

The group was in the Phoenix area to attend the second annual GreenSummit Expo and Conference, an international event focused on sustainability that was started last year by Chris Samila, and ASU senior in global studies and political science. The conference moved to the Phoenix Convention Center this year to accommodate the level of interest – both national and international – that the event attracted.

For more on SABIT, visit the Web site www.mac.doc.gov/sabit/index.html.

Luebker, with the Office of the Vice President and Provost of the University, can be reached at mark.luebker@asu.edu.

Feller publishes paper on Glen Canyon Dam

By Janie Magruder

Professor Joe Feller of the Sandra Day O'Connor College of Law has proposed a program for management of Glen Canyon Dam on the Colorado River in Arizona that he believes would better conform to the law – and be more amenable to adaptation and experimentation – than the current model.

Feller advocates these changes in his paper "Collaborative Management of Glen Canyon Dam: The Elevation of Social Engineering Over Law," which was published July 18 in the *Nevada Law Journal*.

Feller states in his paper that the Glen Canyon Dam Adaptive Management Program has substituted the needs and desires of stakeholders, including state, tribal and federal government officials and representatives of electric power companies, for the hierarchy of laws that should govern the operation of the dam. Its actions have resulted in non-compliance with the Endangered Species Act, he writes.

"In the broadest sense, all of the American people are stakeholders in the Grand Canyon, and in the fish, wildlife and other natural resources therein," writes Feller, who is on leave from the College of Law for the 2008-2009 academic year while serving as senior counsel to the National Wildlife Federation in its Boulder, Colo., office.

To read the rest of the paper (in PDF format), go online to <http://asunews.asu.edu/files/FellerGlenCanyonArticle.pdf>.

Magruder, with the College of Law, can be reached at (480) 727-9052 or jane.magruder@asu.edu.

Young biochemist seeks to discover medical breakthrough

By Debra Fossum

Conor Cox, a biochemistry major in the College of Liberal Arts and Sciences, came to ASU for its numerous research opportunities and immense resources.

As for his decision to go into biochemistry, Cox acknowledges his high school biology class. As part of the class, the teacher required all students to participate in an internship.

"I interned with a virologist microbiologist," Cox says. "This piqued my interest in molecular biology. And after completing two semesters at ASU, I knew that I had made the right decision."

When asked how he came to participate in undergraduate research at ASU, Cox says he had heard a lecture concerning evolution at a meeting of the ASU Student Affiliates of the American Chemical Society (SAACS). After talking to some professors, he came to find that Neal Woodbury of the Biodesign Institute was doing research in this area.

"I jumped right in, and it has worked well," Cox says.

Woodbury is now Cox's adviser.

Matt Greving, a graduate research associate at the Biodesign Institute, is Cox's immediate mentor.

"He helps me learn the procedures that I am not familiar with, and is teaching me how to analyze the data which is being generated by this project," Cox says.

At its core, the research Cox is working on involves discovering ways to bind peptides selectively to proteins. Peptides are small chains of amino acids, and proteins are large, folded chains of peptides that make up much of our bodies.

"Currently, I am working to determine where on a protein a peptide binds and how this binding location changes with mutations," he says.

To begin this research, Cox selects a peptide that has specific binding characteristics. Greving then takes that peptide and alters

it randomly to see what mutations optimize it. After that process, the mutated and original peptides are bound to a protein. By treating the mix with a few chemicals and enzymes, Cox and Greving wipe out everything but the protein piece bound by the peptide.

"We then use a mass spectroscopy device to discover the weight of the bound portion," Cox says. "This allows us to discover the binding site of a given peptide on a given protein, and allows us to examine how the mutations – which allow a peptide to bind better – chemically improve that binding."

Cox and his mentor hope to discover why peptides bind where they do on proteins and how this can be improved by less difficult methods than guess and check. If successful, the research also could allow for a big change in medical diagnostics, drug design or medical treatment regimens.

"I interned with a virologist microbiologist. This piqued my interest in molecular biology. And after completing two semesters at ASU, I knew that I had made the right decision."

– Biochemistry major
Conor Cox

"If we can design a peptide that only binds to one protein, or even one spot on the protein, nearly anything in the body can be targeted by it," Cox says. "If it can be targeted, it can hopefully be destroyed or changed, which will aid in fighting disease, infection and the like."

Cox hopes to continue this research throughout his undergraduate career and is looking into neuro-biochemistry for graduate school. He is interested because it seems like a field where researchers try to answer the philosophical question "Why are humans the way they are?" in the most accurate and scientific way possible.

"I am interested in anything that involves society and the nature of human interaction," he says.

His ambitions and achievements have not gone unnoticed. He recently was awarded the CRC Handbook Award for being the top (out-of-state) undergraduate in chemistry, and he is receiving a National Merit Scholarship at ASU. He also has made the CLAS Dean's list every semester.

"I have not yet won any scholarships for research," he says. "Hopefully next year that will change."

Cox also enjoys practicing martial arts at ASU and is interested in materials science and media studies, especially copyright and the nature and growth of the Internet.

"I really like complex things that grow and adapt to the conditions placed on them and manage to work around those conditions to form unique behaviors," Cox says.

He has a philosophy that applies to his work and his personal goals.

"In research, you think something will work, you test it, and you work the kinks out and test it again," he says. "If it works, go with it. If it fails, try something new. That is the way I try to live life."

Fossum, with the Office of Research and Economic Affairs, can be reached at debra.fossum@asu.edu.