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THE MAGAZINE OF ARIZONA STATE UNIVERSITY

Vol. 14, No. 1, September 2010

### HIGHLIGHTS

## 18 Robots, Robots Everywhere

Our society has grown accustomed to robots in its midst: for decades now, they have been used to perform tasks that are difficult or dangerous for humans to do. However, ASU researchers are collaborating on next-generation robots that will take things a step farther – they will position robotics as an essential part of nearly every human endeavor.

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Our new back page feature showcases the very first Homecoming parade.



#### **President's Letter**

Over the past three months, I've been enjoying some fiction and non-fiction titles that I set aside to read over the summer. One of the books was "Game Change" by John Heilemann and Mark Halperin. This behind-the-scenes look at the 2008 presidential election reminded me of how much has changed in the way we learn about candidates at the national level – with the advent of blogs, social networks, and mobile phone applications –

and how much the election process remains the same.

In a similar vein, the ASU Alumni Association constantly evaluates new ways to fulfill our core mission to unite and connect Sun Devil alumni. An example of this is our expanded social media presence on Twitter, LinkedIn and Facebook. We don't just use these new channels to deliver news of our programs and events, membership offers or contests – we build community and create an ongoing conversation between our staff and ASU alumni who are connected to us in this way.

In the spirit of keeping alums connected to their alma mater, in this issue of the magazine we review how ASU employs cutting-edge strategies to address long-standing issues. One of our features this issue explores the topic of student and teacher readiness and the impact this has on educational quality. ASU is a leader in teacher preparation, and we expect the university's reputation as a thought leader in this field to continue to grow. Our two other features take a look at the burgeoning "green job" sector, and the strides ASU researchers are making in the field of robotics.

No matter how contemporary our tools may become, the association always will retain its role as tradition-keeper, and this fall is packed with familiar activities for ASU alumni. We're hosting football tailgates before the away games at Wisconsin, Washington, California and USC, and planning for an all-day Homecoming Block Party on Oct. 30. Mark your calendar for all these events now so you and your family can bring your Sun Devil spirit.

Chixtine K. Williams

Christine K. Wilkinson, '66, '76 Ph. D. President, ASU Alumni Association Senior Vice President and Secretary of the University

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**ASU** researcher probes the dark side of the universe

Center of gravity Advancing into the next frontier in astrophysics and cosmology depends on scientists' ability to detect the presence of a particular type of wave in space, a primordial gravitational wave. Much like ripples moving across a pond, these waves stretch the fabric of space itself as they pass by. If detected, these weak and elusive waves could provide an unprecedented view of the earliest moments of the universe. During the past century, astronomy has been revolutionized by the use of new methods for observing the universe, but the origin of dark energy and dark matter continues to elude researchers.

> Albert Einstein predicted the existence of gravitational waves in 1916. Based on his theory of general relativity, objects cause the space around them to curve. When large masses move through space, a disturbance is generated in the form of gravitational waves, but because of the weakness of gravity, astronomical amounts of matter must be moved around to generate waves on a scale that might actually be detectable.

In an article appearing in the May 21 issue of Science, Arizona State University theoretical physicist and cosmologist Lawrence Krauss and researchers from the University of Chicago and Fermi National Laboratory explore the most likely detection method of these waves, with the examination of cosmic microwave radiation (CMB) standing out as the favored method.

"Primordial Gravitational Waves and Cosmology" was authored by Krauss, a professor in ASU's School of Earth and Space Exploration and the physics department in the College of Liberal Arts and Sciences; Scott Dodelson, Fermi National Laboratory and University of Chicago; and Stephan Meyer, University of Chicago. The authors posit two major sources of gravitational waves: inflation occurring immediately after the Big Bang, and possible phase transitions at early times. Other present-day sources may include colliding black holes or two huge stars orbiting each other.

Although these space-time ripples are imperceptible to humans, highly sensitive detectors and experiments such as the Laser Interferometer Gravitational Wave Observatory, located in Livingston, La., are being designed to look for such waves. Gravitational radiation from the early universe can be detected indirectly through its effect on the polarization of the CMB radiation (relic radiation from the Big Bang which permeates all space).

"The greatest sensitivity to a primordial gravitational wave comes from the distinctive detailed pattern of polarization in the CMB," Krauss said. "If gravitational waves produced by either inflation or phase transitions existed when cosmic microwave background radiation was created, they would be imprinted on the CMB and be detected as polarization."

As challenging as it is to detect, the technology to build sufficiently sensitive experiments is in hand – and well worth the effort, according to Krauss.

"As we enter the second decade of the 21st century, we are poised to enter a new realm of precision cosmology, one that could provide a dramatic new window on the early universe and the physical processes that governed its origin and evolution," Krauss said.



James Buizer

#### CLIMATE CHANGE REPORTS UNDERSCORE NEED FOR ACTION

As part of its most comprehensive study of climate change to date, the U.S. National Research Council (NRC) issued three reports emphasizing why the United States should act now to reduce greenhouse gas emissions and develop a national strategy to adapt to the inevitable impacts of climate change.

The reports by the NRC, the operating arm of the National Academy of Sciences and National Academy of Engineering, are part of a congressionally requested suite of five studies known as America's Climate Choices.

Two members of the panels that released the reports were associated with ASU: James Buizer, science policy adviser to ASU President Michael Crow, participated on the expert panel that assessed adaptation to climate change; and Billie Turner II, professor in the School of Geographical Sciences and Urban Planning and a member of the National Academy of Sciences, was part of the group who reported on advancing the science of climate change.

"Climate change will create winners and losers, and we need policies that reflect a recognition of both the threats and opportunities," Buizer said. "We need visionary and courageous political and corporate leadership to move the U.S. away from carbon-based energy sources that pollute the air and oceans and change our climate towards more 'homegrown renewables,' such as wind and solar power."

Buizer also said that the country needed to do more with energy-efficiency initiatives, noting that existing technologies could help the nation be 50 percent more efficient than it is today.

For copies of the reports, go to americasclimatechoices.org.

## UNIVERSITY EXPANDS ONLINE PROGRAMS FOR K-12 TEACHERS

Arizona State University has expanded its offerings of affordable online degree and certification programs for pre-kindergarten through 12th-grade teachers.

Beginning this semester, six programs will be available entirely online to assist current and aspiring teachers in reaching new levels of educational excellence. Arizona preschool and kindergarten teachers also will have the opportunity to fulfill their State of Arizona early childhood education certification requirement online, in order to meet the Arizona Department of Education's July 2012 deadline.

"We have expanded opportunities for elementary and secondary teachers with our online programs," said Mari Koerner, dean of ASU's Mary Lou Fulton Teachers College. "Teachers deserve the same exceptional learning experiences that they give their students each day. Our programs make that opportunity realistic and affordable for teachers, whatever the time of day or wherever they call home."

ASU Online graduate program tuition will be \$355 per credit hour, excluding fees, for both resident and non-resident students enrolled in entirely online degree programs.

Offered through ASU's Mary Lou Fulton Teachers College, the following programs will be available fully online in the fall 2010 semester:

 Master of Education in Early Childhood Education, with options for (Arizona Required) Initial Teacher Certification or Endorsement

- Master of Education in Special Education Consultation and Collaboration: Autism Emphasis
- Master of Education in Educational Administration: Principal, Grades PreK-12
- Master of Education in Elementary Education with a track in Gifted Education
- Master of Education in Secondary Education with a track in Gifted Education
- Graduate Certificate: Online Teaching for Grades K-12

Enrollment applications and additional details are available at: asuonline.asu.edu.

#### TEN OUTSTANDING PROFESSORS RECEIVE 2010 FACULTY ACHIEVEMENT AWARDS

Ten outstanding ASU faculty members have been recognized for cutting-edge research and creative activities, as well as excellence in classroom performance. Nominations for the 2010 Faculty Achievement Awards are made by deans and reviewed by panels of Regents' and President's Professors.

The awards are for activities that significantly change their professions in research, creative activities and undergraduate instruction, placing the achievements among the highest at the university. This is the fourth year for the annual awards.

The 10 individuals, representing a wide range of disciplines, were honored at a reception May 11 in the Carson Ballroom of Old Main.

Faculty honored at the event included:

- Best Professional Application of Research: Jay Blanchard, Division of Educational Leadership and Innovation
- Defining Edge Research in Natural Sciences and Math: Willem Vermaas, School of Life Sciences; John Kouvetakis, chemistry and biochemistry; and Jose Menendez, physics
- Defining Edge Research in Social Science: Gary Schwartz, School of Human Evolution and Social Change



2010 Faculty Achievement awardees: (Individual photos): Jose Menedez (top), John Kouvetakis (bottom). (Group shot, front row, left to right): Valerie Stout, T.M. McNally and Karen Gerdes. Back row (left to right): Willem Vermaas, Jay Blanchard, Ronald Rutowski, Gary Schwartz and Gerardo Chowell-Puente.

- Young Investigator: Gerardo Chowell-Puente, School of Human Evolution and Social Change
- Best Performance or Art Work: T.M. McNally, English
- Excellence in Undergraduate Instruction: Karen Gerdes, School of Social Work; and Valerie Stout, School of Life Sciences
- Excellence in Undergraduate Student Mentoring: Ronald Rutowski, School of Life Sciences

Vermaas, Kouvetakis, Menendez, Schwartz, Chowell-Puente, McNally, Stout and Rutowski work in the College of Liberal Arts and Sciences. Blanchard is in the Mary Lou Fulton Teachers College, and Gerdes is in the College of Public Programs.

## COMMUNICATION IS KEY FOR SELF-ORGANIZED SYSTEMS

Research conducted in a computerized microworld by scientists at Arizona State University and Indiana University, including 2009 Nobel laureate Elinor Ostrom, show how common-pool resources – such as fisheries, forests,

water systems or even bandwidth – can be managed effectively by self-organized user groups under certain conditions. The findings were published April 30 in the journal Science.

Marco Janssen, social science modeler at the School of Human Evolution and Social Change in ASU's College of Liberal Arts and Sciences and the study's lead author, said the experiments involve a timed computer game played simultaneously by college students in a lab. The students sit in individual cubicles and have their own avatars in the game. They go about individually "harvesting" a resource - in this case, colored dots - in an experimental environment, along with the other players. If they harvest them too fast, the resource runs out and the game ends. If they manage them sustainably, the dots regenerate, allowing them to harvest more and earn more points.

To do well requires the participants to monitor their own behavior, but also to be mindful of what the others are doing, Janssen said. In some cases, the players are allowed a brief opportunity to communicate via chat rooms to strategize and make decisions regarding where and when to harvest resources, or collect tokens. They also determined whether or not to impose costly fines for overuse of resources.

Janssen said the experiment's findings illustrated that stronger governance of common-pool resources does not always result in better harvesting, which runs contrary to the classic view of options regarding how to manage common resources.

When participants make decisions without communicating, they overharvest, noted co-author Elinor Ostrom, founding director of ASU's Center for the Study of Institutional Diversity and a professor of political science in Indiana University's College of Arts and Sciences. When given a chance to communicate, however, participants improve their joint outcomes greatly – and the effect is lasting even when communication is no longer possible, she said, adding that being able to use costly fines against each other did not improve harvest output.



Dijiang Huang

## NAVY SUPPORTS ASU-BASED MOBILE COMMUNICATIONS RESEARCH

Increasing security, reliability and mobility are the big targets in the realm of wireless communication technologies. ASU Assistant Professor Dijiang Huang's promising research in computer and communications networks – specifically in the emerging area of secure mobile cloud computing – has earned him a grant from the Office of Naval Research (ONR) Young Investigator Program to help take aim at those goals.

Huang, who teaches in the School of Computing, Informatics, and Decision Systems Engineering, a part of Arizona State University's Ira A. Fulton Schools of Engineering, is one of 17 researchers (out of an applicant pool of 200) to win a 2010 Young Investigator grant and the only one to earn funding in the area of secure networking and communication.

Huang's expertise extends beyond communication and computing to areas of cryptography, attack analysis, privacy preservation, and attack-resilient networking protocol design.

The ONR grant will provide up to \$510,000 over three years to support Huang's effort to develop a framework for advanced mobile wireless computing and communication systems that will employ cloud-computing techniques.

Cloud computing is Internet-based computing that works similarly to a public utility, providing on-demand information and software services directly to computers and mobile devices.

Dijiang will develop such a novel "mobile cloud" framework, called MobiCloud, tailored to the needs of mobile defense operations. His goal is to develop a new mobile service model that



ASU President Michael Crow

nodes with a range of capabilities comparable to cell phones, global-position tracking systems, sensing and networking technologies.

## SKYSONG SUMMIT ADVANCES INNOVATION IN EDUCATION

Attendees of the inaugural SkySong Education Innovation Summit left a symbolic apple on the event's desk, with rave reviews for its content, quality and collaborative environment. The summit, hosted April 20 and 21 at SkySong, the Arizona State University Innovation Center, brought together more than 370 education experts, investors and entrepreneurs for two days of discussion, networking and company presentations.

"Attending this summit was like having a front row seat at the 'education tomorrow' show," said Lisa Graham Keegan, former Arizona superintendent of public instruction, who moderated one panel discussion and participated in another. "We saw awesome possibility, and the crowd felt like a perfect blend of know-how and 'why-not?' An event like this proves that we could be finally hatching a breakthrough."

Panel discussions on topics such as "Control-Alt Delete: What would you do

if you could start over?" and "Global World, Local Education: Why, in a global marketplace, is education still primarily local?" spurred spirited exchanges among panelists. Keynote presenters included ASU President Michael Crow, Chegg.com President/CEO and former COO of Yahoo Daniel Rosensweig, Edison Schools founder Chris Whittle, and Netflix CEO Reed Hastings.

Change was a common theme throughout the event, noted Daniel Pianko, founder and managing member of The Noah Fund, an investor in, and advisor to, several education businesses.

"This summit pulled together some of the greatest leaders in innovative education solutions to discuss the issues that matter most – how to help our system of education adapt to the changing landscape of technology, political shifts and the continued economic pressures on educational institutions," said Pianko.



Carla Fisher (left) is researching communication and coping patterns between women with breast cancer and their young adult daughters with co-investigators Teri Britt Pipe (center) and Katherine Hunt.

#### **TALKING IT OUT**

Research focuses on mother-daughter communication around breast cancer

The statistics are alarming: Breast cancer incidence in women in the United States has increased from 1 in 20 in 1960 to 1 in 8 today. For women in the United States, breast cancer death rates are higher than those for any other cancer besides lung cancer. And a woman's risk of breast cancer nearly doubles if she has a first-degree relative who has been diagnosed with the disease. According to breastcancer.org, the numbers are starting to come down, though only slightly, as treatments improve and awareness increases.

Carla L. Fisher, an assistant professor in the Division of Social and Behavioral Sciences in Arizona State University's New College of Interdisciplinary Arts and Sciences, is launching a research project through the ASU-Mayo Clinic Partnership for Collaborative Research (also known as PARCORE) designed to strengthen the communication and coping patterns of mothers facing breast cancer and their young-adult daughters.

The research grant is part of a PARCORE seed grant program to encourage new research projects between ASU and Mayo Clinic collaborators.

Fisher will be working in collaboration with Teri Britt Pipe, director of nursing research and innovation and an associate professor of nursing at the Mayo Clinic College of Medicine in Phoenix, and Katherine S. Hunt, an assistant professor in the Division of Hematology/Oncology at Mayo.

The new study is an extension of research Fisher conducted while working on her doctoral dissertation at Pennsylvania State University.

"The medical community is recognizing more and more that cancer is not experienced by the patient alone, but within her family," said Fisher. "The whole family is affected ... as such, the family copes together."

In her new research, Fisher and her collaborators will be looking specifically at young adult daughters and their diagnosed mothers and examining how their interaction affects their ability to cope.

She said that family communication is tied to our own health and well-being

across our lifespan and is just as important to our survival as physical or biological processes.

"Our family interactions really affect how we adjust to challenging circumstances and can be instrumental in our ability to emerge resilient," Fisher said. "We know that (cancer) patients who perceive they have good support interactions within their family network also have better psychological, social and physiological well-being in comparison to those who don't."

To better understand how a mother and her daughter(s) are affected by breast cancer diagnosis, the research team would like to talk with diagnosed mothers and their young adult (age 18-30) daughters to learn more about how they managed difficult discussions related to coping and adjustment, as well as disease prevention. The team is looking for women who have been diagnosed and received treatment within the last three years who also have young adult daughters willing to participate.

For more information, e-mail MothersandDaughters@asu.edu or call 602-543-6669.



Beatriz Rendón

#### **LEARNING LEADER**

Beatriz Rendón named CEO for University Public Schools Inc.

Beatriz Rendón, an educational innovator and accomplished school administrator, has been appointed associate vice president of educational outreach and student services at Arizona State University. She will serve as chief executive officer of University Public Schools Inc. (UPSI), taking charge of a successful program launched under the leadership of Eugene Garcia.

UPSI schools provide a learning environment in which students are challenged by high-quality educational content, featuring a rigorous curriculum, individual learning plans, collaborative teaching teams, technologically rich learning environments and foreign language education. UPSI currently operates two charter schools: Polytechnic Elementary School, located near the ASU Polytechnic campus, which already has achieved "Excelling School" status in only its second year of operations; and University Public School Phoenix, located on Seventh Street and Fillmore, which opened in August 2009 and currently serves more than 650 students in grades K-8.

Rendón worked as the chief business officer for the Tucson Unified School District and served in several executive capacities for the Chicago Board of Education and the Chicago Public Schools. In Chicago, she worked with then-CEO of the Chicago Public School system, Arne Duncan, who is now the U.S. Secretary of Education, and was involved with Chicago Mayor Richard M. Daley's education reform effort to launch 100 independently operated schools.

ASU President Michael Crow said, "Rendón possesses an impressive and extensive combination of education, experience and creativity that will enrich and advance the development of ASU's University Public Schools initiative."

Rendón, who holds a law degree from Loyola University Chicago, a master's of public policy degree from the University of Chicago and a bachelor's degree from the University of Arizona, said she was excited about joining the UPSI team.

"I am thrilled to be a part of Arizona State University's transformational University Public Schools initiative. We have a unique opportunity to make a tremendous impact on the students and families in Arizona. I am excited to be part of that challenge," Rendón said.

For more information on UPSI, or to enroll students at the schools, visit university public schools. as u.edu.

#### **POWER AND LIGHT**

LightSpeed Solutions aims to resolve "Achilles' heel" of green energy efforts

In America's efforts to go green, our Achilles' heel is transportation – as cars, trucks and buses represent 29 percent of U.S. energy use, according to renewable energy expert Gary Dirks, director of LightWorks at ASU.

"When we want to move a car, a truck or an airplane, there's really only one way to do it – get the stuff out of the ground," Dirks said. "Oil remains a relatively cheap source of energy that is so convenient, its use overrides its considerable drawbacks in terms of air pollution, environmental concerns and national security."

Dirks and his colleagues at LightWorks, a new ASU initiative designed to pull all light-inspired energy research under one strategic framework, are competing for grant money from the U.S. Department of Energy to develop an energy innovation hub at ASU that will foster the development of clean, renewable fuel sources for America's current transportation fleet – including solar liquid fuels. The ASU-led team, working with colleagues at sister institutions such as the University of Arizona, Princeton University, Yale University and the Sandia National Laboratory, is collaborating under the name LightSpeed Solutions.

The process by which solar liquid fuels could be developed is similar to photosynthesis, in which concentrated solar energy is used in conjunction with carbon dioxide and water to create hydrocarbons. In addition to creating combustible fuels such as methanol and ethanol, additional processing can yield more traditional fuels such as gasoline, diesel and jet fuel.

Advantages of developing these fuels include a dramatic improvement in the country's energy security picture and carbon footprint, without requiring the extensive retrofitting of vehicles, refineries or fuel stations.

"The fuels that result from these processes will look, feel and perform just like what we pump into our cars today," Dirks said. "They will use existing refineries to prepare fuel blends and existing gas stations to deliver the fuel to today's cars."

The DOE Hub, along with several other ambitious initiatives involving both the near-term and long-term future of fuels, specifically looks at processes for making solar liquid fuels and bringing them to market in a developmentally rapid, 15-year time span.

For more information on ASU LightWorks, visit: asulightworks.com.

#### A+ SCHOLARS

Record 21 students win Fulbrights to study, teach abroad

A record 21 ASU students have won Fulbright awards to study and teach abroad next year, in 13 different countries—and new awards keep coming in. ASU is a leader in student Fulbrights, coming in second last year only to the University of Michigan, among public colleges.

The Fulbright Program is one of the most prestigious awards programs worldwide. The awards, funded by Congress, were founded to increase mutual understanding between the United States and other countries.

Fourteen of ASU's student Fulbright winners will teach English in foreign countries, while the others will tackle sophisticated research projects, ranging from solar energy to cancer research.

The following students have designed research projects and have located faculty or programs abroad to further their research:

Christina Clancey Rivera, a National Hispanic Scholar and a May graduate in electrical engineering, will go to the University of Alcala in Spain to study electrical energy generation systems known as microgrids.

Jeremy Wendte, a former Peace Corps volunteer and a senior in electrical engineering, will do a comprehensive study of solar electrification in Bangladesh.

David Walsh, a doctoral candidate in religious studies with an interest in indigenous people, will go to Canada to work with the Dene people of the Northwest Territories.

Eric Anderson, who just graduated with degrees in biomedical engineering, medicinal biochemistry and biological sciences, will go to the Netherlands to continue the cancer research he began three years ago at the Translational Genomics Research Institute.

Allyn Knox, a May graduate in biology and French, will pursue a master's in the rapidly developing discipline of biogeoscience at the Universities of Lausanne and Neuchatel in Switzerland.

Dusana Schnell-Vivas, a May graduate in marketing and Spanish, will enter the Comexus Binational Business Program in Mexico.



Tim Desch

Joanna Malukiewicz, a doctoral candidate in biology, will go to Brazil to conduct a genetic study on hybridization between common and black-tufted marmosets.

Six of the students will teach English in South Korea:

Jacob Schmidgall, a May graduate in political science and film and media production.

Michelle Hernandez, who just received her master's in education.

Olenka Lenets, who immigrated from Ukraine as a child, just received her master's in special education.

Justin Barbaro, a May graduate with a master's in elementary education.

Jing Song, who graduated a year ago in Chinese and business.

Than-Lieu Duong, a May graduate in economics who has been very active in the Sustainability House at Barrett, chose Korea partly for its work in sustainability.

These students also will teach English in other countries:

Jessica Reyes, a May graduate in global studies, is headed to Spain.

Annie Pennell, who just received her master's in elementary education, will go to Romania.

Samantha Jensen, a May graduate in English literature and psychology, will teach in South Africa.

Jeffrey Bergquist, who received a master's in secondary education in May, is going to Indonesia.

Christina Mesiti, a December graduate in art history and painting, is bound for Mexico.

Hayfa Aboukier, who earned her master's in elementary education in May, will teach in Turkey.

Olivia Gutierrez, a May graduate in English and Italian, also will go to Turkey to teach.

Brittany Collins, a December graduate in women and gender studies who also earned a certificate in Arabic, will teach in Jordan.

#### IN GOOD COMPANY

Business school offers program for high school students

Today's high school students will become tomorrow's business leaders. To prepare for that reality, the W. P. Carey School of Business at ASU offered the inaugural edition of its Fleischer Scholars Program to help educate some of Arizona's best and brightest high school students.

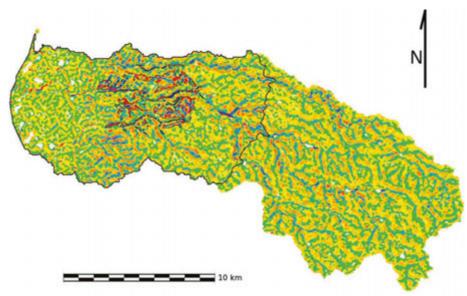
The Fleischer Scholars Program was developed to engage traditionally underrepresented and economically disadvantaged students during the summer between their junior and senior years. The program's initial four-day event, held July 12-16, prepared participants to thrive in both business school and their careers.

Students met with supervising mentors in Barrett, the Honors College, at ASU's Tempe campus, as well as with current W. P. Carey School of Business students and faculty members. They learned about academic and career opportunities open to business school graduates, and were shown the steps needed to get into business school and receive financial assistance.

Thirty students were chosen for the first cohort, and according to Tim Desch, assistant dean for undergraduate admissions at the W. P. Carey School of Business, they were kept very busy during their four days at ASU.

"We wanted to give these students a lot of valuable, practical knowledge," said Desch. "The curriculum included everything from local business visits to resume-writing workshops, lessons on college study skills, employer presentations, group projects and tips for the university application process. We wanted to take them from nervous and unsure about college to being knowledgeable, empowered and motivated."

The program is being funded by scholarships donated by local entrepreneur Morton Fleischer and his wife Donna, an ASU graduate.



Map of modeled cumulative hillslope erosion/deposition (HED) for the Wadi Ziqlab watershed after 200 years. The map shows HED due to human landuse, after subtracting 'natural' surface change from surface change with shifting cultivation and grazing. (Photo: The Mediterranean Landscape Dynamics Project/ASU/NSF)

#### MAPPING OUT THE FUTURE

Geographical models bring new perspective to archaeology

Computational modeling techniques provide new and vast opportunities to the field of archaeology. By using these techniques, archeologists can develop alternative computerized scenarios that can be compared with traditional archaeological records, enhancing previous findings of how humans and the environment interact.

An article published in the April 2010 issue of the journal American Antiquity by researchers from Arizona State University and North Carolina State University describes the use of computational modeling to study the long-term effects of varying land use practices by farmers and herders on landscapes.

"Using computational modeling is a new approach in the field of archaeology. Archaeology is known for learning about the past, but these methods can help us predict the future," said Michael Barton, one of the article's co-authors and co-director of ASU's Center for Social Dynamics and Complexity.

The study demonstrates how new modeling techniques are used to simulate different land use practices such as intensive farming, shifting cultivation, also called swidden or slash-and-burn, and grazing to determine long-term effects on landscapes. The research

models land use in the Wadi Ziqlab drainage of northern Jordan, an area where ancient Neolithic inhabitants cultivated wheat, barley, lentils and chickpeas, herded sheep and goats and raised domestic pigs 8,000 years ago.

"One of the more interesting findings from our study was that a combination of shifting cultivation and grazing results in more erosion run off, but that run off actually makes the farmland around tiny hamlets more fertile," said Barton, who is also a professor in ASU's School of Human Evolution and Social Change in the College of Liberal Arts and Sciences.

Barton added that as communities grew, they passed a threshold where farming practices that once increased yields began to cause soil loss. Faced with declining productivity, farmers were forced to make decisions, either to return to the small hamlets, choose herding over farming, or invest more labor in their fields in the form of terraces, diversion dams or new forms of cropping. All of these solutions can be found in the archaeological record of the ancient Near East.

"The research shows the importance of threshold effects when people alter landscapes for agriculture. Land use practices that are beneficial in one context can be very harmful in a different context," said Barton.

The study was the first of several funded by the National Science

Foundation's Biocomplexity in the Environment Program. Similar experiments spanning different time periods and different locations are also planned.

#### **ADVICE AND CONSUL**

Professor takes on role developing Romania-Arizona ties

ASU Professor Ileana Orlich, director of the Romanian Studies Program in the School of International Letters and Cultures, recently was named an honorary consul general for Romania in Arizona. In that capacity, Orlich will represent Romania's interest in the economic, academic, cultural and political arenas in Arizona. She will help stimulate and develop relationships and facilitate economic and commercial contacts between Arizona and Romania-based companies.

Orlich, a native of Bucharest who speaks Romanian, English and French, has built the university's Romanian studies program into one of the largest of its kind in the United States.

"Professor Orlich is a force of nature. She sets her sights on a goal and does not swerve until it has been achieved," says Deborah Losse, dean of humanities in the College of Liberal Arts and Sciences.



Illeana Orlich

#### **GIRLS GOT GAME**

Professor helps close computer science gender gap

Why do so few women pursue careers in computer science? In 2007, only 18.6 percent of computer science bachelor's degrees went to women, according to the National Science Foundation. In the work force, women make up just 26 percent of computer scientists, compared to 41 percent of life scientists.

Betty Hayes, an English professor in the College of Liberal Arts and Sciences, studies the gender gap in science and technology fields. She believes she knows one important reason why computer science is so skewed toward men.

"One of the most common motivating experiences cited by boys entering computer science was playing computer games," said Hayes.

Hayes has just completed a book on her research and experiences, co-written with James Gee, Mary Lou Fulton Presidential Professor of Literacy Studies in the Mary Lou Fulton Teachers College. The book, "Women and Gaming: The Sims and 21st Century Learning," debuted earlier this year.

The book includes Hayes' experiences working with girls, but also features interviews with adult women – ranging

from their 20s to their 60s – who became featured content creators.

"Some had no computing background at all," Hayes said. "People who would never take a formal computer science or graphic design course became fluent in graphic design through designing for the Sims."

She is exploring the relationship between in-game experiences and real-world skills. Girls do play computer games, but they tend to play different types of games than boys. When Hayes studied what kinds of games girls played, she found that most of them chose what are known as "casual" games, such as Solitaire, Tetris and Bejeweled.

Unfortunately, casual games lack a critical capability that may give boys a leg up – modding. Modding allows users to modify or create part of the game. For example, players can create new maps or scenarios that others can use. The process of modding helps gamers develop advanced computing skills.

Serious gamers and modders also form communities that provide informal learning and a peer network. It's like the old boys' network, only the venue is games rather than golf courses. So Hayes set out on a quest. She wanted to find



Betty Hayes

games that girls liked that also had modding potential, and then form gaming groups.

"We wanted to make gaming socially OK, and give girls the peer network boys have," she said.

Over the course of Hayes' research, games have opened up more to women. And products such as the Wii are radically transforming the demographics of gameplay by bringing gaming to people who would never have pursued traditional computer games. Hayes suspects that the increase in games on cell phones and PDAs will change the gaming landscape as well.

One thing is certain: Hayes will have plenty to study for years to come.

#### **INSPIRATIONAL INNOVATOR**

Montoya appointed executive dean at College of Technology and Innovation

Mitzi Montoya, formerly the assistant dean of research and Zelnak Professor of Marketing Innovation at North Carolina State University, recently became executive dean of the Arizona State University College of Technology and Innovation (CTI). She began her work at the college on July 1.

Montoya will report to Keith Hjelmstad, university vice president and dean of CTI. Her responsibilities will include faculty growth and development as well as planning and executing strategic initiatives.

In addition to being an accomplished administrator, Montoya is a researcher of note, as well. She has served as the principal investigator on a \$1.4 million National Science Foundation grant

focused on computational collaboration in crime scene investigation. The project, IC-CRIME (Interdisciplinary Cyber-Enabled Crime Reconstruction through Innovative Methodology and Engagement) was launched in response to a scathing report by the National Academies of Science to enhance the reliability and validity of forensic science.

Montoya earned a bachelor's degree in general engineering and a doctoral degree in business administration, both from Michigan State University.

"Mitzi Montoya has a broad background in management and engineering that is ideally suited to the position of executive dean of the College of Technology and Innovation," said ASU President Michael M. Crow. "She is an able administrator, a strategic thinker and an innovator."

"I like working at the boundaries," said Montoya. "I believe we can develop better solutions to real problems when we work



Mitzi Montoya

across boundaries because real innovation lies at the intersection of thought worlds."

## **Friends for life**

## The ASU Alumni Association welcomes the following new life members, who joined between March 11 and May 31, 2010.

Ayodeji M. Ajayi '09 B.S.W. Stephen M. Allen Craig G. Alviggi Elizabeth A. Anderson '73 B.A.E. Andrew B. Anguis '97 B.A. Susan A. Atwater '97 M.A. Gina R. Barone Janet W. Barr '85 B.A.E., '91 M.Ed. Steven F. Blake '98 B.S. Adam A. Blake '10 B.S. Tracy L. Blake Holly A. Bode '84 B.S. Nikki M. Bonnet '06 B.S. Brian J. Bordeaux '09 B.S. Tina M. Bork '10 B.L.S. Becky Breitwieser '10 M.Ed. Matthew L. Brinkmoeller '10 B.A., '10 B.A. Janet M. Brookes '07 B.A. Jenna C. Burns Richard E. Burton '70 B.S. Nicholas J. Busick '94 B.A. Gretchen J. Busick '94 B.A. Sergio R. Camacho '83 B.A.E. Rose F. Cameron '60 B.A.E. John J. Campbell II Cathrine L. Cartwright '69 B.S. Elizabeth C. Chavous '10 B.I.S. Maria E. Chomina '00 B.A., '00 B.A. Ryan D. Christensen '09 M.ENG. Marco Coronado Carol L. Court '66 B.A.E., '71 M.A.E. Thomas J. Coury '85 M.Q.S. Nicholas P. Coury '10 B.S. Elliott S. Cox '10 B.A.S. Richard J. Crews '09 B.S.E. Steven T. Curtis '09 M.B.A. Andrea N. Dater Hidalgo Garcia De La Cruz '10 B.S. Douglas E. De Voe '90 M.C. Raymond M. Deeny 72 B.A., '77 J.D. Jaime H. Diaz '09 B.S.E. Gordon E. Dill '56 B.S. Pauline Dill John J. Doran '02 B.S.E. Zachary T. Dorn '10 B.S. Andrew E. Drennon '01 M.B.A.

Matthew L. Drew '10 B.A.

Kayle M. Drucker '08 B.S.D.

Lauren A. Dunning '09 B.S. Gregory Edling '04 B.A. Kari L. Edling '04 B.S. Rachael A. Eidson Mark D. Eklund '81 B.S. Karla R. Elling '65 B.A., '68 M.A., '75 Ph.D Roland J. Elling '65 B.ARCH Kate C. Ernzen '08 B.S., '08 B.S. Theresa M. Esparza '94 M.TAX. Silvia O. Estrella-Tamsen '77 B.A., '80 J.D. Azar Farahmand Meghan M. Feller '09 B.S. Sandra K. Fernandez David A. Fitzgibbons '83 B.S. Stephanie L. Foster '09 M.B.A. Jason F. Franklin '99 B.S. Amy L. Friedl '09 B.L.S. Cheryl L. Furst '77 B.S.W. Gary E. Gawelko '07 B.S. Daniel R. Genduso '04 B.A., '04 B.A. Paul F. Gentile '02 B.A. Emily M. Ghan '10 B.S. Filippo Di Giovanni '04 B.I.S. Kevin R. Goetsch '09 M.B.A. Paul I Goin '87 B S Lisa A. Gonsiorek '10 B.S. Clarissa M. Green '98 B.A. ◆ Scott B. Greenberg '86 B.S. '88 M.B.A. Sharon S. Greenen '08 B.A.E. Stephanie L. Guimera '08 B.S. Oren W. Hankins '10 B.A. Briette S. Hannappel '10 B.S. Jay M. Harlan Todd C. Harry '08 M.B.A. Kent M. Hatfield '86 B.S. Daniel E. Hawkins '10 B.I.S. Sarah E. Hawkins '10 B.S. Allison L. Helblig April T. Hill '10 D.N.P. Jacquelyn E. Hill '08 B.I.S. Dominic L. Hilsbos '10 B.S. Barbara M. Hoffnagle '83 M.S.E. Thomas M. Hoffnagle Jr. '79 M.B.A. Laura M. Holmstrom '90 B.A. Daryl A. Horton '08 B.S.E. Philbert Huskon '08 B.S.E. Janet T. Johnson '73 B.A.E., '94 M.A.,

Ivan D. Johnson '73 B.A. '86 M.B.A. Pamela P. Jones '94 Ph.D. Sun H. Jones '86 B.S., '95 B.S.N., '01 M.S. ◆Lloyd Wamsley Jr. '62 B.A.E. Sean M. Kolve '09 B.A. Norbert J. Konzal '49 B.S., '51 M.A.E. Lindsay S. Kotas '03 B.S. ◆ Anthony P. LaMorte '98 B.S.D. Lingjie Li '08 B.S.E. Stephanie N. Lieb '09 B.A. ◆ Eric B. Linder '98 B.S.E. '03 M.B.A. Steven M. Lofton '69 B.S. Betty F. Lopez-Mori '09 B.I.S. Kathryn N. Lyter '09 B.S. Matthew A. Maddix '10 B.S.E. Leslie V. Magnusson '10 B.S. David L. Maher '90 B.S. Lara E. Maher '90 B.S. Rezwan Manji Douglas E. Martin Jr. '09 B.S., '09 B.A. Jessica M. Maurer '10 B.S. Lisa A. McClelland '09 M.B.A. Kelsi J. McDonald '10 B.S. Shaun T. McGonigle Gary K. McKay '85 B.A. Patrick S. McPherson '01 M.S., '01 M.B.A. Darren B. Meehan '10 B.L.S. Marina K. Mercer '08 B.S. Michael J. Mickelson '75 B.S. ◆ Patricia C. Mickelson '73 B.A. David R. Middendorf '08 B.S. John M. Mitman '10 B.S.E. Valerie N. Montoya '08 B.S.D. Orlando Moreno Raul Javier Moreno Jr. '90 M.ARCH. Katherine D. Munsch '08 B.A. Nathaniel B. Neal '10 B.S. Molly A. Nickel '10 B.S. Vytautas V. Norusis John W. Nucci '88 B.S., '89 M.Ed. Danielle P. Olson '09 B.A. Tristan C. Orozco '05 B.A.

Dilyana Pavlova '09 M.B.A. Anton A. Pestka '10 B.S.E. Michael R. Przybyla '01 B.S. Marcia H. Regan '88 M.A., '02 Ph.D. Kegan E. Remington '09 B.S. Steven B. Richards '84 B.S. Cynthia T. Richards '85 B.S. Maria A. Riggio '10 B.A.S. Peter A. Rios '09 B.S. Andrea R. Robles '10 B.S. Donna J. Rogers ◆ Alison L. Rund '10 B.A. Cameron P. Rutherig Henri M. Sasmor '77 B.S. Lee A. Scardina '10 B.S. ◆ Gustavo E. Schneider '09 J.D. Eric S. Smith '10 B.S. Heather E. Smith '08 B.S. Michael R. Snyder Barbara A. Snyder '84 B.A. Tara J. Spackeen Franessa Stalter '91 M.S. Kimberly S. Stearns '08 B.S. Jay A. Strehlow '10 B.A. Mark J. Tamsen '74 B.S., '75 B.S. Don R. Tracy '72 B.S. Gregory B. Twaites '91 M.S., '07 Ph.D. Muthukumar Vaithianathan Jeffrey R. van Raaphorst '87 B.S., '97 M.B.A. Christine D. van Raaphorst '94 M.Ed. Rubi V. Vasquez '06 B.A.E. Silvia A. Vega '10 Ph.D. Clifton L. Vere '10 B.S. Kristina L. Waters '99 B.A. Ross E. Weisman Leslie A. Whitehead '09 B.S.W. Elizabeth A. Wilcox '10 B.A. Andrew L. Will '00 B.S. Emily Williams '10 B.S. William G. Wood '91 M.S.

Heather L. Parker

◆ = indicates a member who has joined at the Gold Devil Life level. A Gold Devil Life membership, costs \$650/individual, \$800/couple, or \$150 to upgrade from an existing life membership.

Show your Sun Devil pride for life. Become a life member or upgrade to the Gold Devil life level at **alumni.asu.edu** or by calling 1-800-ALUMNUS.

Christoff Orr

William S. Otwell '73 B.ARCH.

Danielle N. Paprocki '93 M.TAX.

Krystal R. Paquette '10 B.S.

Craig M. Paprocki '03 M.B.A., '03 M.TAX.

Stephen W. Paap '96 B.S.

Allison V. Paap '00 B.S.

## PORTS

Ready To Rumble Long Drive Intelligent Choices Home Run Season Net Gain



Members of the powerhouse 2010 Sun Devil football team: (left to right) Thomas Weber, Gerald Munns, Brandon Magee, Vontaze Burfict and Shelly Lyons.









## **Ready to rumble**

Off-season changes empower Sun Devils football

As head coach Dennis Erickson enters his fourth season at Arizona State University, a variety of changes have occurred during this off-season, creating a high level of excitement for the upcoming football season.

Led by linebacker and All-America candidate Vontaze Burfict, cornerback Omar Bolden and defensive tackle Lawrence Guy, ASU boasts one of the nation's premier defenses this season after fielding the PAC-10's top unit last year. Budding stars and solid veterans such as defensive end James Brooks, defensive tackle Saia Falahola, safeties Clint Floyd and Keelan Johnson and linebackers Shelly Lyons and Brandon Magee also help make the Sun Devil defense one of the most dominant groups for 2010. With incredible athleticism, talent and depth and virtually every defensive position, the Sun Devils should place tremendous pressure on the offense of every ASU opponent this year.

A key offensive modification this year is the hiring of offensive coordinator Noel Mazzone, a veteran assistant known for developing quarterbacks. Under Mazzone, the Sun Devils are expected to utilize a quick-paced passing game with a rotation of multiple receivers.

The competition for the position of ASU starting quarterback that began this spring likely will carry over into the fall, with Brock Osweiler, Samson Szakacsy and Steven Threet vying for the right to start. Strong and speedy sophomore

Cameron Marshall leads the running backs group, while a stacked lineup of wide receivers includes returning lettermen Gerell Robinson, T.J. Simpson and Kerry Taylor as well as newcomer Aaron Pflugrad, who redshirted last season after transferring from Oregon. Christopher Coyle brings versatile athleticism as a tight end while Trevor Kohl packs a punch in his blocking duties at that same position. As a result of all this, the Sun Devils are expected to showcase the deepest offensive line the program has had in several seasons.

In the kicking game, ASU can rely on kicker Thomas Weber, a former All-American and Lou Groza Award winner as the nation's top kicker, who has returned to full health after missing time due to injury in 2009. They also can feel confident about the performance of punter Trevor Hankins, who emerged as one of the country's top players at the position last year.

Thanks to a sensational defense, a steady kicking game and upgraded offense, ASU heads into the regular season ready to take on conference leaders – and win.

By Joe Healey '06 B.I.S., a freelance writer for Intercollegiate Athletics.







Jaclyn Sweeney (lower left) and Carlota Ciganda (lower right) represent hope for a great 2010-11 season; Juliana Murcia (top) received kudos for her academic performance.

#### LONG DRIVE

Despite illness woes, women's golf perseveres at NCAA championships

Arizona State's women's golf program appears to be on solid footing after a fourth-place finish at the NCAA Tournament in May and a second-place individual finish by freshman Jennifer Johnson.

The Sun Devils, who won the title in 2009, finished behind Purdue, USC and Alabama.

"Any time you can walk away from the tournament with a trophy, you've done a good job," said ASU coach Melissa Luellen.

The Sun Devils were ranked No. 1 in the country for most of the season, but encountered an unforeseen obstacle in the PAC-10 tournament when Johnson and Giulia Molinaro came down with a virus and the team had to drop out. Despite this disappointment, Carlota Ciganda managed to win her second straight individual PAC-10 title, the first time that feat has been accomplished.

"That was bitterly disappointing. It was more like the PAC-9 championship," Luellen said. "It was a tough one to recover from, but we did pretty well."

Luellen was encouraged by the finish of Johnson at the NCAA Tournament before she became ill. She will return next season, along with Ciganda, Molinaro and Jaclyn Sweeney.

"She (Johnson) played great. She really grew as a player," Luellen said. "She was a lot more aggressive as the season went along and that allowed her to play with more confidence."

Senior Juliana Murcia departed the team after receiving the Edith Cummings Munson Award, which goes to the All-American golfer with the highest gradepoint average over the past two seasons. She also won ASU's Kajikawa Award, which goes to the school's top female student-athlete.

By Don Ketchum, a freelance sports writer in Phoenix.

#### **INTELLIGENT CHOICES**

ASU boosts Academic Progress Rate for student-athletes to No. 2 in The PAC-10

The NCAA announced its annual Academic Progress Rates (APR) over the summer and Arizona State University's average APR score of 974 helped it achieve a No. 2 ranking in the PAC-10 Conference, behind Stanford.

The APR provides a real-time look at a team's academic success each semester by tracking the academic progress of each student-athlete. The rating system awards points to student-athletes who meet academic eligibility standards (such as satisfactory progress, GPA and percentage of degree) and who remain with the institution (retention).

Ten of ASU's 21 varsity sports finished in the top three in the PAC-10 Conference, while 14 of the 21 finished in the top five in the league. All 12 women's sports at ASU finished with scores above 970.

The men's basketball team posted a score of 972, which is No. 2 in the conference, behind Washington. The Sun Devil

baseball team ranks No. 3 in the PAC-10 with a score of 966.

"ASU's APR scores represent the finest overall numbers we have had since the APR rating was instituted by the NCAA in 2003-04," says Vice President for University Athletics Lisa Love. "This is a result of excellent work by our Office of Student-Athlete Development, led by Jean Boyd, and support from our faculty and coaching staffs."

"The release of the Academic Progress Rate data and the elevation of performance ASU has experienced over the past four years are remarkable illustrations of the power of collaboration," said Boyd, an associate athletic director. "Coaches, academic coaches, university staff and student-athletes have worked together to raise APR scores to the upper tier of the Pacific-10 Conference."



ASU Baseball's successful first year under Coach Tim Esmay was given a boost by (clockwise from top) Jake Borup, Seth Blair and Zach MacPhee.





#### **HOME RUN SEASON**

Baseball's "transition" year turns out to be a winner

If there were difficulties in the transition from Pat Murphy to Tim Esmay as Arizona State's head baseball coach, it certainly didn't show on the field in 2010.

The Arizona State Sun Devils wrapped up the 2010 regular season by clinching the PAC-10 Championship with an 8-6 victory over Stanford. The win gave ASU the series win in Palo Alto for the first time since 1997. The team ended the regular season 47-8, 20-7 in PAC-10 play, and ASU went on to be named as a host site for the NCAA Regionals.

ASU won their Regional, their Super Regional, and were the number-one seeded team nationally going in to the College World Series tournament. But baseball fortunes can change overnight, and the team was eliminated just two games into the tournament by losing to South Carolina.

Still, it was an amazing run for a team that changed coaches during its off season.

"You couldn't ask for a better group of guys," said Esmay, who took over the program on Nov. 20. "They just took things game by game."

A former assistant coach for the ASU squad, Esmay said he had "a good sense for who this group was. We expected to have a good club."

The Sun Devils racked up 25 straight victories before losing a game. They received balanced, timely hitting and key pitching efforts from their three main starters, righthanders Seth Blair, Jake Borup and Merrill Kelly.

"We lost Mike Leake (to the major leagues) and Josh Spence (to an elbow injury that kept him out all season), but these three guys really stepped it up," Esmay said.

On offense, perhaps the most pleasant surprise was the development of sophomore second baseman Zach MacPhee as a switch-hitter. MacPhee, who usually hit second in the batting order, was among the PAC-10 batting leaders most of the season and hit near .400.

"He had one of those special years. What he did was borderline miraculous," Esmay said.

By Don Ketchum





The play of Micaela Hein (left) and Michelle Brycki (right) led to an improved year for the women's tennis team.

#### **NET GAIN**

Women's tennis sees improvement, aspires to excellence

The women's tennis team compiled a 14-6 record for Arizona State coach Sheila McInerney in 2010, an improvement of two wins over the previous season. But the team still has plenty of work to do.

"Overall, we felt good about the season," McInerney said. "But you usually measure your program by whether you get to the Sweet 16 in the (NCAA) tournament. We need to go out there and get better, get stronger. The PAC-10 is one of the strongest conferences for tennis, and so everybody is trying to do the same thing."

The 23rd-ranked Sun Devils fell to PAC-10 foe UCLA in the second round of the national tournament.

Junior Micaela Hein, ASU's No. 1 player, received an atlarge bid to the NCAA singles championships.

Hein began the season as the No. 3 individual, but rose to the top with hard work and consistent play, according to McInerney. Hein was a second-team All-PAC-10 selection and junior Kelcy McKenna was listed as honorable mention.

"Micaela did a great job for us," said McInerney, who has a career record of 387-244.

ASU will lose two seniors, Nadia Abdala and Amanda Martin, but Hein, McKenna and sophomore Michelle Brycki will be back next season. Brycki lost only one match during the regular season.

In one especially bright side note, the tennis team was recognized, along with ASU's volleyball squad, by the NCAA for scoring Academic Progress rate numbers that are in the top 10 percent nationally. The tennis team had a perfect score of 1,000 in each year of the measurement.

By Don Ketchum

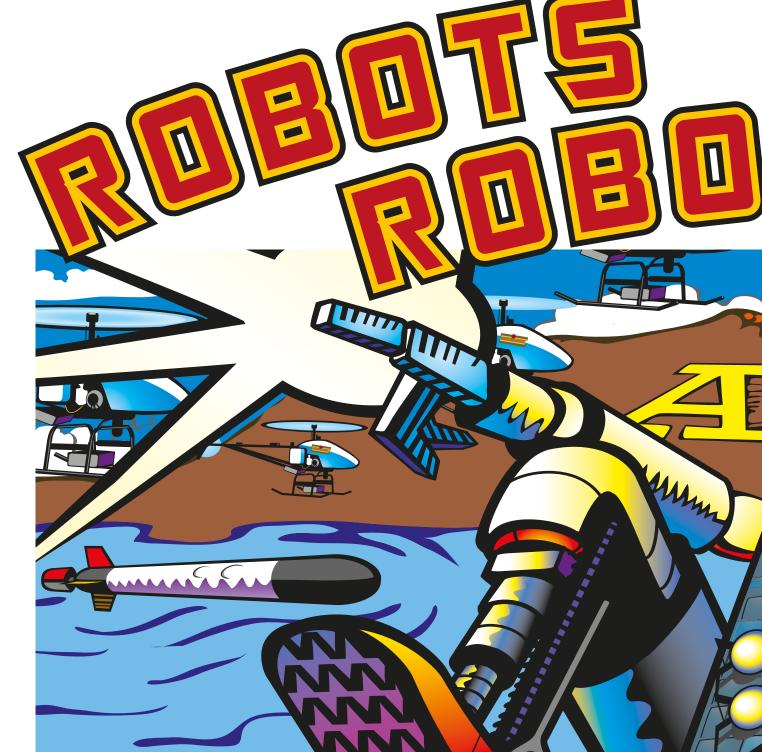


Illustration by Gary Krejca

# TS EVERYWHERE



ASU FACULTY PROPEL ROBOTICS RESEARCH INTO NEW DIMENSIONS

By Christopher Vaughan



ur society has grown accustomed to robots in its midst: for decades now, they have been used to assemble cars, check the welds on underground pipes, investigate and defuse bombs, and perform many other tasks that are difficult or dangerous for humans to do. Still, robots are not anything like the super-intelligent humanoids that science fiction writers of the 1950s thought we would have by now. For the most part, today's robots are capable of performing only very limited jobs, working under the close supervision of a human being.

ASU researchers in fields ranging from engineering and physics to medicine and biology are developing next-generation robotic devices with far more intelligence and autonomy. If they succeed in their quest, robotics seems poised to become an essential part of nearly every human endeavor.

Srikanth Saripalli, assistant professor in the School of Earth and Space Exploration, points out that despite the impressive capabilities of unmanned vehicles like predator aircraft or the underwater robots that have been used in the attempt to halt the flow of oil from the Deepwater Horizon rig off the Gulf Coast, these craft are still controlled by humans.

"Unmanned vehicles are not really autonomous," Saripalli says. "There is a pilot somewhere, making them operate."

Saripalli's research focuses on figuring out how to cut the electronic umbilical cords that connect humans to these sorts of robots. To do so, he and









fellow researchers need to solve two daunting problems: autonomous vehicles need to be able to know where they are, and they need to be able to quickly figure out what they need to do based on that information.

Resolving the first problem, known as simultaneous localization and mapping, or SLAM, is more challenging than it might seem. SLAM can be thought of a chicken-and-egg problem: to know the position of the robot, it needs to know what's around it, and to know what's around it, a robot needs to know its own position.

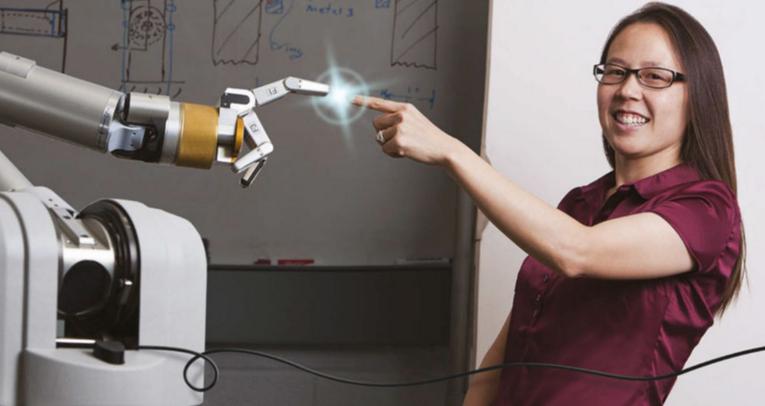
"The biggest problem is that vision is a really rich sense, and while humans do a lot of the processing automatically, computers really don't know how to incorporate all that data into something meaningful," Saripalli says.

In many cases, GPS signals are available to help, but these are not available everywhere. Saripalli and colleagues are working to understand how to combine data from disparate sources, such as video cameras and inertial guidance systems, to create positional awareness. Ultimately, a solution to these problems could lead to helicopters that land themselves on the decks of rolling ships, underwater vehicles that are let loose to map the sea floor, and robotic probes that autonomously explore planets and their moons.

Many robotics applications are more terrestrial and personal. ASU scientists Thomas Sugar and Veronica Santos are







independently working on robotic solutions for prosthetic devices that replace missing body parts. Sugar, an associate professor in the College of Technology and Innovation, has created a mechanical ankle that uses artificial intelligence to store and release energy in the joint, making walking more comfortable and efficient for those who wear the prosthetic device.

"We interpret the motion (of the ankle) using a computer algorithm to determine how to pull on the spring, which acts as our artificial Achilles tendon," Sugar says. The algorithm on board the artificial ankle makes that decision 1,000 times a second to allow the most efficient walking motion.

Santos, an assistant professor in the Ira A. Fulton Schools of Engineering, has been at work creating an artificial hand possessing a sense of touch. Putting intelligent sensors in the robotic hand can make it much more able to grasp delicate objects without breaking them or move with objects without dropping them. It also more closely parallels what actually goes on in the human nervous system. "When people think of intelligence they tend to think of the brain, but there are a lot of levels of intelligence," Santos says. "If you are at a party and holding a bottle, and someone hits the bottle, there is an immediate reaction from your fingertips that you don't even think about. Neuroscience studies suggest that these early responses are spinally mediated."

Santos is also working with Stephen Helms Tillery, an assistant professor in the Ira A. Fulton Schools of Engineering, on ways to integrate signals from sensors on an artificial hand with a person's central nervous system. "If you could stimulate the nervous system to produce a conscious sensation of tactile feedback ... you could have an artificial hand and feel what you are touching," she says.

Stephen Pratt is another researcher who is looking to the natural world to make robots more intelligent and autonomous. An assistant professor of biology in the School of Life Sciences, Pratt is working with the U.S. Department of Defense and associates at the University of Pennsylvania and Georgia Tech to design robots and control them using factors similar to those at play in animal social networks. Pratt's team looks at how social animals like ants, bees or wolves solve problems and attempts to develop computer algorithms that let robots do the same.

"One thing robots don't do well is respond to unpredictable or changing conditions," Pratt says. "Ants are good at recruiting groups of two to 20 and working cooperatively to move large

> objects over rough terrain." Through the motions of the object they are moving, individual ants are able to tell if they have to stop pulling and start pushing or simply let go, he explains. If the ants come across a barrier, they are able as a group to work out a way to go over or around it. "Part of what engineers would like to do is find out why this system is so robust."

Pratt's work could lead to the creation of teams of small robots that work together in harsh environments such as in space, undersea or on the battlefield. The attraction of teams of robots is that they are much more resilient than single machines. With many smaller, cheaper robots, it doesn't matter if some fail, because the others are programmed to take up the slack – much like the team of ants that adapt when one ant loses hold.

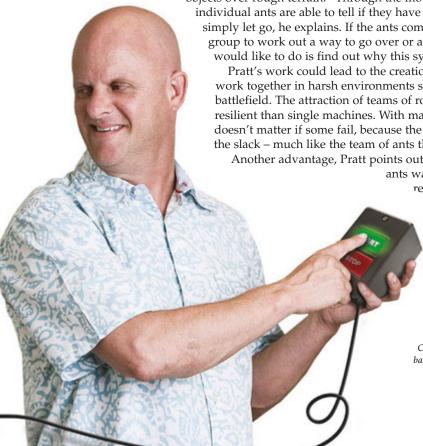
Another advantage, Pratt points out, is that it is easy to scale up. When ants want to move a larger object, they

recruit more team members. If the

size of a job grows, there is not need to build a new and bigger robot, just add more little robots.

Like Pratt's ants, researchers at ASU are acting independently but working together to move robotics forward.

Christopher Vaughan is a freelance science writer based in Menlo Park, Calif.

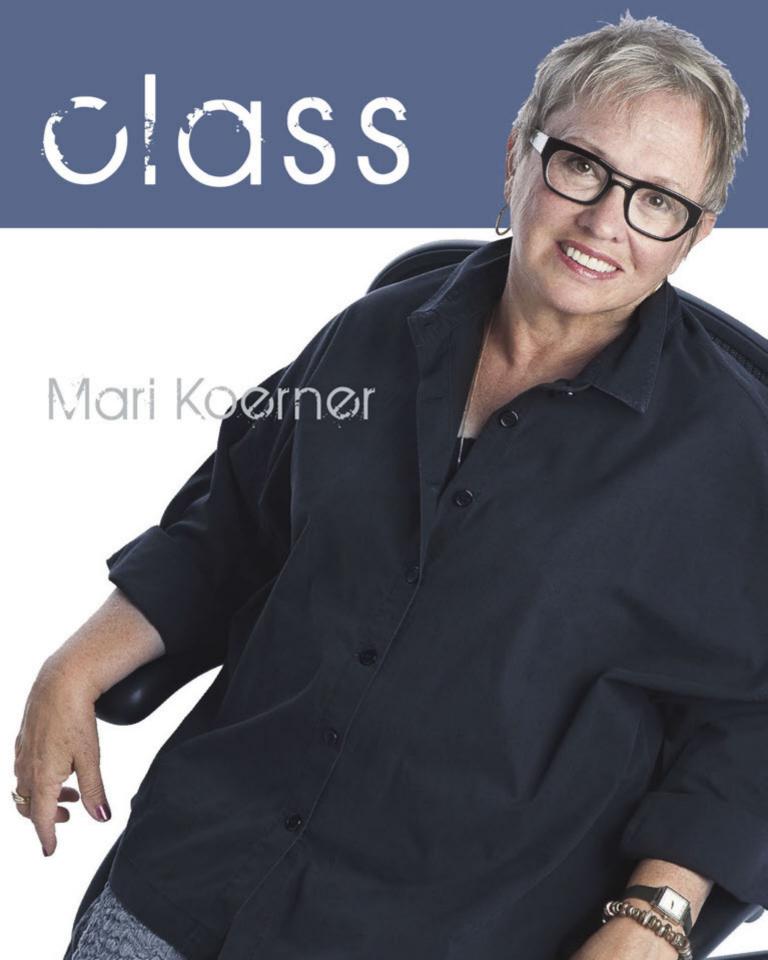


# Roady for

## ASU transforming both teacher preparation and student readiness

## By Betsy Loeff

For all the disagreement about how to implement educational reform in America, there is little argument about the central assumption of that debate: our country's approach to delivering learning needs an overhaul. Those who enter the work world without a college degree can expect to earn 33 percent less than those holding a bachelor's degree. Educational deficiencies affect everyone in a given community, because low levels of educational achievement are correlated with many problems, from higher rates of unemployment to increased health care costs over a lifetime.







Only about 70 percent of American students graduate from high school, a figure that has remained largely unchanged since the 1970s and holds as true in Arizona as anywhere else.

Students who do graduate often lack vital skills, and that affects their employability. With all this on the line, the Mary Lou Fulton Teachers College at ASU is remaking itself in order to fulfill what Dean Mari Koerner calls the college's central mission: transforming education from pre-kindergarten through graduate school. Koerner, her faculty colleagues and her staff are harnessing new technologies, forging alliances with other ASU schools and colleges, and crafting partnerships with local school districts, policymakers and think tanks to improve educational outcomes and dramatically shift how learning happens in a classroom setting.

The dean's goal is "creating the college of education for the 21st century," and she's tapping resources from across the university, not to mention the community, to get the job done.

## **Funding excellence**

Arizona's budget crisis has gouged state funding for education at all levels. But Koerner and her team are moving forward with their transformative work, thanks to boosts from several key grants her college has received.

One major funding source is an \$18.9 million investment made by entrepreneur and philanthropist T. Denny Sanford to fund the Sanford Educational Project. This project will allow the teachers college to collaborate with Teach For America (TFA), a non-profit organization that has recruited and trained more than 24,000 top-performing college graduates to become highly effective teachers in underserved areas.

A crucial part of the TFA program is its Summer Institute, an intense, five-week training program that combines instruction on teaching theory with hand-on classroom experience to get TFA corps members, most of whom are not education majors, ready to lead their own classrooms. ASU's teachers college is partners with the TFA program and looking at providing a similar offering. "We'll take the best from their program and incorporate it into our own," Koerner says.

TFA also measures student performance to track the effectiveness of the teachers it trains. As a presidential initiative and with a grant award to design a system which tracks the performance of her college's graduates, Koerner's team will be able to follow their teacher graduates through their teacher preparation programs and into their careers to see how long they stay in teaching and measure their impact. Called the Teacher Research and Evaluation Project , it will provide valuable information over time about the effectiveness of the college's programs as it relates to the effectiveness of their teachers. Asserting that performance should be measured by other factors beyond test scores, Koerner says, "A prepared teacher has a measurable impact on students."

## Off the treadmill, onto the path

More than 6,000 ASU students attend the Mary Lou Fulton Teachers College, which was created from a consolidation of the university's existing education programs in May, and about 4,000 of them are engaged in teacher preparation courses. Any education major destined for classroom teaching eventually will come face-to-face with one of the profession's biggest challenges: student readiness.

According to David Garcia, an associate professor of education who tracks student-preparation rates, part of the decline in student readiness in recent years is due to what is known as the



"recession effect," which is caused by increased enrollments in college programs during economic downturns because jobs are scarce. Many underprepared college students might have been able to find adequate employment in rosier times and ignored higher education as an option.

For those who enter college without the background to handle the coursework, Garcia says many will wind up on an educational treadmill.

"We know that students who are not ready for college are less likely to finish," Garcia explains. "They take developmental classes and often repeat them." As a case in point, he references 2009 figures from Maricopa Community Colleges showing that only 53 percent of students in developmental math courses made passing grades. The rest had to retake the classes.

Two significant factors play a role in the creation of this situation, Garcia continues. One is the disconnect between what schools expect students to do related to college preparation and what students actually do. Another issue stems from disagreement about whether student readiness is properly classified as an input measure for universities to evaluate, or an output measure for high schools to determine. Many educators think it should be considered a bit of both.

That's why the Center for the Future of Arizona, an independent public-policy research organization located in Phoenix, has developed an initiative to link high school requirements more strongly with higher education expectations. Known as Pathways to Postsecondary Education, the program involves collaborations among ASU experts, local school administrators, as well as community college officials, and it aims to make sure high school graduates have both skills and the will to continue with school.

The need for the road between high school and college to be free of obstacles has never been more urgent, according to Sybil Francis, executive director of the center and leader of the Pathways project.

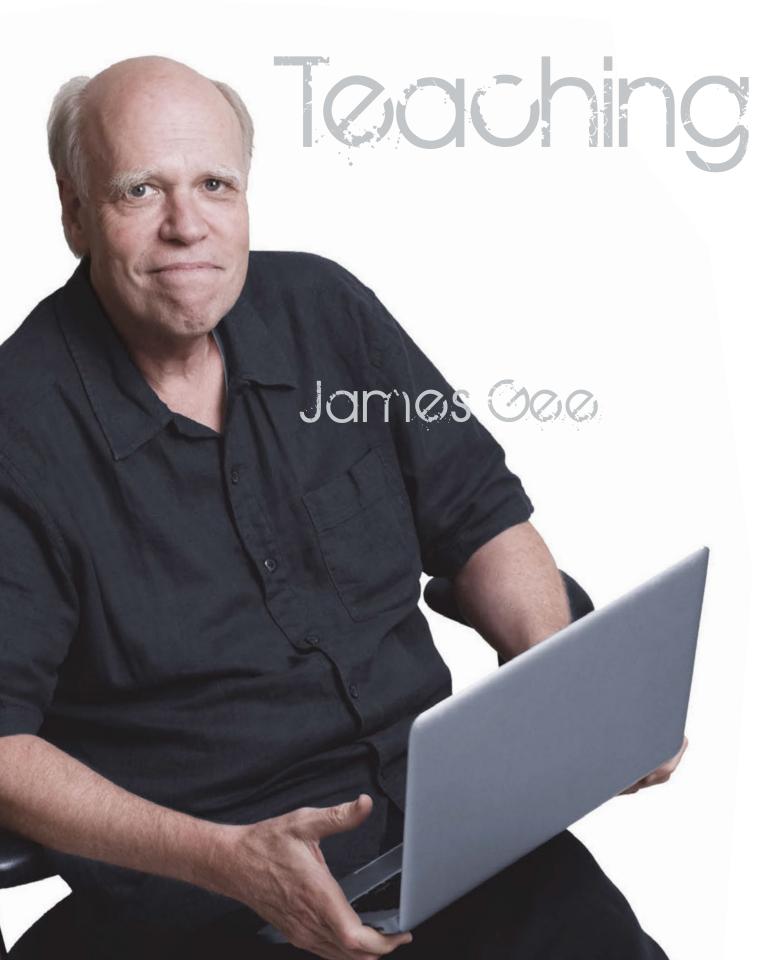
"Less than 2 percent of new high-growth jobs don't require education beyond high school," Francis said. "For many years, a high school diploma was a respectable degree that could take a person down many paths. But, that's not the case anymore. High schools need to be the starting point to education, not the endpoint."

Francis added that there must be more interaction between secondary and postsecondary educators to ensure that students who want to progress are ready to do so.

"You'd be amazed at how little communication there is between sectors," she said. She pointed out that, until a couple years ago, most Arizona high schools only required two years of math for graduation, while universities required four years of math for admittance: "Right from the start, we were getting students off track."

## **Teaching the teachers**

Students aren't the only ones headed down a path of different and more rigorous study. According to Koerner, her newly reconfigured college will dramatically change the way it equips



## the teathers

teachers to teach. She said effective teacher preparation programs integrate pedagogy – the art of teaching – with the content that the teacher will eventually teach, such as math, science or English.

"We're reducing the amount of pedagogy courses in the undergraduate programs by 25 percent and replacing (those courses) with content-based ones," she explains. The remaining hours of pedagogy will be "more intense," she adds. Meanwhile, the amount of time student-teachers will spend delivering instruction in school environments will double.

For some of the college's students, time spent immersed in classroom settings already is well above average. Associate Dean Scott Ridley runs the district-based Professional Development School (PDS), a program that partners with school districts around the state to offer teaching-school students an intensive curriculum from ASU mixed with classroom experience. Currently, some 250 ASU students participate in the PDS, but Ridley expects the number to grow to as many as 500. Last year, PDS received a \$33.8 million federal grant to expand across its reach to include 15 member school districts across metropolitan Phoenix and the state of Arizona, spanning rural American Indian communities and the Tucson area.

"A lot of curriculum assumes that if you know the concepts of teaching, you'll be an effective teacher," he says. "(But) it's not just what you know in your head that counts. Teaching requires that you deliver what you know and create relationships with your students in a motivational context."

Learning to do that takes hand-on experience. But, according to Ridley, traditional education programs often have people other than college professors managing the in-classroom practicums, so there is no way to know if theory gets put into practice. By contrast, Ridley's PDS program monitors student teachers closely. In fact, he arms his student teachers with video cameras, and part of their curriculum requires them to tape themselves in front of their own students so that their teaching can be critiqued by ASU peers.

PDS also has a "grow your own" component that allows people in rural parts of the state to acquire teaching credentials without ever attending classes in the Valley of the Sun. As Ridley explains, people in outlying areas who might want to teach may have family obligations or other conditions that prevent them from leaving home to attend the university. "So the program goes to them," he says. Each community has an ASU coordinator who works with student-teachers to offer face-to-face instruction; effective remote learning venues, such as teleconferenced classes, are also built into the program. The program turns out teachers who feel at home in front of a class, and who also understand the most effective ways to help youngsters master challenging content.

"You get so much more in-classroom experience than you would in a traditional program," says PDS graduate Rebecca Maestas, who did her student teaching at Copper Trails Elementary in Avondale before accepting a position at Desert Spirit Elementary in Glendale after graduation. She credits the program's immediate feedback – plus highly effective mentor teachers – with giving her what she needed from a condensed course of study.

## New lesson plans

In the PDS program, student-teachers partner with ASU peers, teaching mentors, site coordinators and school administrators to acquire the skills and knowledge they need. James Gee, Mary Lou Fulton Presidential Professor of Literacy Studies, sees this model, which emphasizes teamwork, as a crucial step to promoting a truly 21st century learning environment.

"Modern kids learn differently than Baby Boomers, and they certainly learn in ways that are different from what professors choose," he says. "Professors learn through texts, through reading alone. Modern kids learn through activity, problem solving and collaboration."

The Internet is a large part of the shift, he notes.



# WSS()f

## On the bright Side Math-Science Honors program offers a bridge

## for willing-and-ready students

What happens high schoolers are more than ready for college, but have little help to make their college dreams come true? ASU's Math-Science Honors Program, which is supported and funded by the Office of the Executive Vice President and Provost of the University, offers a bridge to higher education for bright but underprivileged students.

"We are a summer residential program for kids who are first-generation college bound," explains MSHP co-coordinator Cynthia Romero, who runs the program along with Rebeca Ronstadt-Contreras. Up to 500 students apply for the 100 spots available. Those selected get an all-expenses summer of actual ASU math classes. Along with math skills, the

program gives the students instruction on applying for financial aid, finding scholarships,

resume writing and more.

The approach changes lives, Romero said. She recalls one student who had already taken pre-calculus, the most advanced math class his rural high school offered, by the end of his sophomore year. He utilized the honors program to be ready to enter college with the same math background as his engineering-school peers. Another student changed his post-high school plans from enlisting in the Marines to attending ASU's engineering program after participating in the honors program.

Romero estimates that 98 percent of the students served by the program go to college, and 60 percent study engineering. That's no small matter considering that, according to National Science Foundation data, 63 percent of doctorate degrees in engineering and 36 percent of science degrees awarded in the United States in 2006 went to foreign-born students.

By Betsy Loeff



Timonie Hood '92 J.D.

When Timonie Hood '92 J.D. began her career as an environmental activist in the mid-1980s, curbside recycling was still a new concept and the term "green building" referred to a building that was, literally, green. Hood says our society has come a long way since then.

Hood is one of a growing number of Americans — and ASU alumni — working in the so-called "new green economy," a fast-growing sector that carries with it great hope for economic growth. While traditional jobs grew by only 3.7 percent nationwide between 1998 and 2007, clean energy and conservation jobs grew at a national rate of 9.1 percent, according to a 2009 Pew Charitable Trusts report. Growing financial support for green initiatives has come from both the private and public sectors — one huge boost came from nearly \$85 billion slated for energy- and transportation-related



intersection with the economy opens doors for new environmentally minded professionals

**By Amy Roach Partridge** 



Amy Lively, internship coordinator for the School of Sustainability

Sander van der Leeuw, dean of ASU's School of Sustainability

programs as part of last year's federal stimulus bill. All these factors would seem to indicate that the green economy is poised to expand significantly.

"The green movement is not a fad. There has been a major shift in the way we think about industry and the way we think about our society," says Sander van der Leeuw, dean of ASU's School of Sustainability, the nation's first school of sustainability.

What makes a job or a company "green" is still the source of much debate, and gauging the scope, size, and impact of the green economy is challenging. For its federally funded programs, the U.S. Department of Labor defines green jobs as those "involved in economic activities that help protect or restore the environment or conserve natural resources." But that still leaves plenty of gray areas. Is a company that uses eco-friendly packaging counted as green? Can a firm that donates a percentage of profits to environmental or social organizations say it is fostering sustainability?

Because of growing public interest in environmentally conscious business practices, companies have



### movement is not a fad.

Sander van der Leeuw

There has been a major shift in the way we think about industry and the way we think about our society.

rushed to declare themselves green, and a "greenwashing" effect has begun to emerge. Amy Lively, internship coordinator for the School of Sustainability, said that some of her school's students don't even like to use "green" as shorthand to describe an environmentally conscious business.

"Many of our students cringe at the overuse of the word 'green'—they see it as a marketing term that the public is getting tired of hearing about," explains Lively. "They are embracing 'sustainability' instead, as a broad concept that is about implementing solutions to environmental and economic problems."

Dan O'Neill '79 B.S., director for entrepreneurship and research initiatives at ASU SkySong as part of the university's Office of Knowledge Enterprise Development, said that the term "green" also just doesn't go far enough in describing the shift in mindset that has occurred.

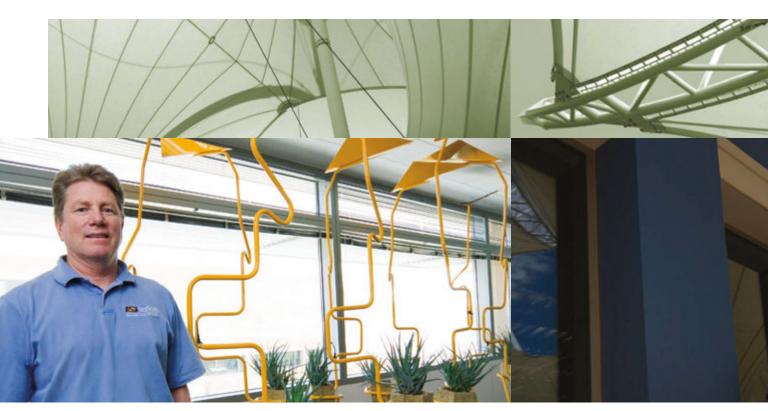
"Sustainability is not just about being green, it is about taking a systemic view to find balance between the economy, the environment, and society," said O'Neill, who is also a Ph.D. student in the School of Sustainability. "A green economy means that you have found a way to address environmental issues by incorporating them into the economic system."

## Growing Interest, Gaining Traction

Regardless of how you define or measure it, the idea of a green economy is attracting growing interest from students and companies alike. ASU's School of Sustainability now offers bachelor's, master's and doctoral degrees, while business, engineering, and law students can earn their degrees with a concentration in sustainability. Though only in its third academic year, the school has graduated more than 80 students and had approximately 600 students enrolled during the 2009-10 academic year.

The School's transdisciplinary approach is helping to make it a leader in sustainability education.

"Our idea is to harness as much of the university as we can — scientists and social scientists, humanities and arts people, business scholars —



Dan O'Neill '79
B.S., director for
entrepreneurship
and research
initiatives at
ASU SkySong

Scott Perkofski, program manager for the Edson Student Entrepreneur Initiative to think about, explore, and promote sustainability," says van der Leeuw, who also directs ASU's School of Human Evolution and Social Change.

By encouraging students to think about how sustainability is interwoven with the economy and everyday life, the program prepares them to find real-world solutions to environmental, economic, and social challenges, he adds. And companies are chomping at the bit for employees with knowledge of sustainability issues.

"There is a real demand in the business world for people who have done substantive work on sustainability. A number of major companies now employ high-level managers to oversee sustainability efforts," he said.

"Students often ask, 'What can I do with this degree?'" Lively adds. "I respond by asking them, 'What do you want to do with this degree?' Do you want to work for a hospital? Own your own business? Work for the government, or in finance, or retail?' Our program helps them figure out how to take a sustainable approach to any of those options."



# movement is so hot right now, we are seeing a lot of green ventures.

Scott Perkofski

There is a lot of exciting free-thinking about the industry.

Students in the internship program Lively oversees have netted a rich range of experiences, which include calculating the carbon footprint of a hospital, designing an eco-friendly golf bag, and conducting an energy audit. And the school's impressive, albeit short, list of alumni includes an assistant director of sustainability at a university, a recycling programs manager, and a solar photovoltaic analyst.

### Jobs With a "Green Collar"

As the number of sustainability graduates grows, so too will the long and varied list of sustainability-driven careers, says Hood, who reports growing interest in an area known as "climaterials," or the connection between climate change and the production of goods and materials.

"New research shows that more than one-third of greenhouse gas emissions are associated with the production of 'stuff,'" she explains. "Corporations are now looking to measure and assess manufacturing processes across their products' entire lifecycles so they can gauge — and hopefully reduce

— the carbon footprints associated with those products."

Green building will be another big engine for domestic job creation, Hood asserts, adding that while new construction has been the primary focus of green builders to date, a shift is occurring now to make existing commercial and residential buildings more efficient and eco-friendly.

"The industry needs people who can look at groups of buildings in a system—the vast cookie-cutter suburbs, for example—and determine the best retrofits for those types of structures," she explains.

## Green Academics and Entrepreneurs

Academia will be another source of jobs for grads with sustainability knowledge, as universities across the country seek to develop and expand sustainability education, van der Leeuw notes. One School of Sustainability student who confirms that notion is Vairavan Subramanian '07 M.S.E., who is seeking a Ph.D. focused on product sustainability.



Vairavan Subramanian '07 M.S.E.

Gary Dirks, LightWorks director

"There is a lot of research to be done on sustainability and I feel very certain that academic institutions will be looking for people with my background and education. Also, people in the business world need the expertise this kind of research can provide," says Subramanian, whose own skill at combining research and business earned him a 2007 grant from ASU's Edson Student Entrepreneur Initiative. His proposed venture, Eco Imitation, looked at ways to create a biodegradable drinking straw made from food waste products.

Subramanian is far from alone at ASU in his desire to parlay sustainable ideas into viable businesses. The Edson Initiative, which provides funding, training, and office space for student entrepreneurs, acts as a launching pad for students like Subramanian, whose green ideas are sprouting up all over the desert.

"Because this green movement is so hot right now, we are seeing a lot of green ventures," says Scott Perkofski, program manager for Edson. "And because sustainability ventures are so new, there is a lot of exciting free-thinking about the industry."



# third-generation solar panels using nanotechnology

**Gary Dirks** 

employing cyanobacteria to create the basis of renewable liquid transportation fuels ... and producing biodiesel and jet fuel from algae.

In addition to the Edson entrepreneurs, a growing number of the companies associated with the ASU Scottsdale Innovation Center, known as ASU SkySong, have a green focus. "We have quite a few sustainable ventures including solar, biofuel, and construction product companies," says O'Neill.

### **Here Comes the Sun**

Not surprisingly, a burgeoning community of solar entrepreneurs is also taking root in the Valley of the Sun, which enjoys more than 300 sunny days a year.

American Solar, the largest installer of photovoltaic systems in Arizona, is a SkySong resident company, and China's largest solar manufacturer, Suntech Power Holdings, recently announced that it will base its first U.S. manufacturing plant in Arizona, O'Neill notes. Some 50 other companies in the solar and renewable energy industry have made a home in the Phoenix metro area.

ASU is helping to boost this solar and renewable energy boom through LightWorks, an initiative that

pulls together the university's varied light-inspired research under one strategic framework.

"LightWorks embraces promising research that is creating third-generation solar panels using nanotechnology, employing cyanobacteria to create the basis of renewable liquid transportation fuels ... and producing biodiesel and jet fuel from algae," explains Gary Dirks, LightWorks director.

As the university focuses on seeding education, innovation, and business opportunities in an industry still in its infancy, forward-thinking students, alumni and faculty are playing a vital role in shaping an emerging sector of the national economy. And it's possible they just may enjoy themselves doing it.

"Future job seekers thinking about what to spend their lives working on have the opportunity to find a career that can really make a difference," says Hood. "Implementing changes that impact communities is the fun part about having a green job."

Amy Roach Partridge is a freelance business writer based in Thornwood, N.Y.



Write on Shelf improvement



### **ASU Magazine hosts first-ever** alumni writing contest

By Liz Massey

Sharpen your pens, fire up your laptops, tap excitedly on your iPads - do whatever you need to do to prepare yourself for ASU Magazine's inaugural alumni writing contest.

The contest, which closes Nov. 1, will provide two lucky winners (one each in the fiction and nonfiction categories) with the chance to see their work published in the March 2011 issue of the magazine. For those who limit their writing to tweets and Facebook status updates, there is a "Briefly Speaking" category, which will seek the best writing that can be done in less than 140 characters. Ten of the best Briefly Speaking entries also will be published in the March 2011 issue.

The contest is open to all graduates of ASU. Contestants are encouraged to submit entries as Word documents (.doc or .rtf files) by e-mailing them to ASUMagazineWritingContest@asu.edu. The winners will be selected by our judges, who are all ASU faculty members and/or Sun Devil alumni. In addition to being published in ASU Magazine, winners of the fiction and nonfiction categories will also receive a prize package filled with ASU goodies.

Detailed contest rules can be found online at the Alumni Association Web site, alumni.asu.edu.

### **Meet the judges**

### **Fiction**



### **Peter Turchi**

Peter Turchi is director of the Piper Center for Creative Writing at Arizona State University. He is the author of a novel, "The Girls Next Door"; a collection of stories, "Magician"; and "The Pirate Prince," as well as several nonfiction books. He has received numerous awards for his

writing, as well as fellowships from the National Endowment for the Arts and the John Simon Guggenheim Memorial Foundation.



### **Jewell Parker Rhodes**

Jewell Parker Rhodes, Artistic Director for Piper Global Engagement at ASU, is the author of six novels and a memoir. Her literary awards include: Yaddo Creative Writing Fellowship, the American Book Award, the National Endowment of the Arts Award in Fiction, and two Arizona

Book Awards. She has been a featured speaker at the Runnymeade International Literary Festival (University of London-Royal Holloway), Santa Barbara Writers Conference, Creative Nonfiction Writers Conference, and Warwick University, among others.

### Nonfiction



### Bill Konigsberg '05 M.F.A.

Bill Konigsberg is an award-winning journalist who has written for television, newspapers, wire services, and the Internet. As a sports writer and editor for The Associated Press from 2005-08. He has also worked for ESPN.com as an editor and won a GLAAD Media Award in 2001. In

addition to his career as a journalist, Konigsberg is an accomplished novelist. His first novel, "Out of the Pocket," a young-adult title, was published in 2008.



### Paul Morris '75 B.A.

Paul Morris, the director of the Master of Liberal Studies program in the College of Liberal Arts and Sciences, holds an M.F.A. in creative nonfiction writing from Goucher College. Morris has taught creative writing at ASU for more than 18 years. He is a published travel writer with a focus

on culinary topics. He has also served as the literature director with the Arizona Commission on the Arts and worked for many years as a creative director, copywriter, speechwriter, Web writer, public relations writer, editor of corporate communications, and technical writer.

### **Briefly Speaking**



### **Dan Gillmor**

Dan Gillmor is an internationally recognized leader in new media who is the founding director of the Knight Center at ASU for Digital Media Entrepreneurship at ASU, as well as the Kauffman Professor of Digital Media Entrepreneurship at the Walter Cronkite School of Journalism and Mass

Communication. A longtime Silicon Valley-based journalist, Gillmor wrote a popular business technology column for the San Jose Mercury News for many years. In 2004, he published "We the Media: Grassroots Journalism by the People, for the People," the leading book on citizen journalism.

### CONTEST RULES AT A GLANCE

### **CONTEST CATEGORIES**

#### Fiction

Submit an original, unpublished work of 1,000 words or less. All genres considered. One submission per contestant, please.

### Nonfiction

Submit an original, unpublished work of 1,000 words or less. All genres considered. One submission per contestant, please.

### **Briefly Speaking**

A written work of 140 characters or less, in the manner of a Twitter tweet or a social media status update. Limit of five entries per contestant, please.

### **ELIGIBILITY**

The contest is open to all graduates of Arizona State University and its predecessor institutions, with the exception of Alumni Association staff and relatives of contest judges.

### **CONTEST DEADLINES**

The writing contest will begin accepting entries on Sept. 1, 2010 and will close at 11:59 p.m. (Arizona time) Nov. 1, 2010.

### **HOW TO ENTER**

E-mail your entry as a Word document (.doc or .rtf file) to ASUMagazineWritingContest@asu. edu. For a complete list of official contest rules, please visit alumni.asu.edu.

### BOOKS AND MEDIA PRODUCED BY ALUMNI, STAFF AND FACULTY



### Breeding Bio Insecurity: How U.S. Biodefense Is Exporting Fear, Globalizing Risk, and Making Us All Less Secure

By Lynn C. Klotz and Edward J. Sylvester, the University of Chicago Press.

Coming on the heels of the 9/11 terror attacks, the deadly anthrax letters sent to American media and political outlets fueled the United States' ramp-up of its biodefense efforts. Billions of dollars have been spent this decade on biodefense research, which has been conducted under highly secretive conditions and with little oversight. Klotz, a senior science fellow with the Center for Arms Control and Non-Proliferation, and Sylvester, a respected science journalist and a professor in the Walter Cronkite School of Journalism and Mass Communication at ASU, make the case that this current state of affairs is making America more vulnerable to bioterrorism incidents and accidents, not less. The book uses easy-to-grasp explanations to help readers understand alternatives to the current approach, as well as the benefits of pursuing a biosecurity strategy grounded in conclusions drawn from public health research.

### Talent Management: Strategies for Success from Six Leading Companies

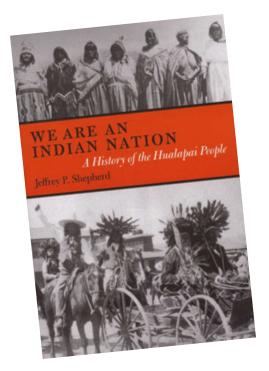
Edited by Larry Israelite '79 M.A.E., '83 Ph.D., ASTD Press.

Talent management is no longer just the domain of human resources, nor is it reserved for grooming those who will step into the managerial and executive ranks, argues Israelite, who is vice president and manager of human resource development at Liberty Mutual Group. It is the total of everything a company does to help its employees achieve individual and organizational goals and objectives. Israelite has brought together nine authors to discuss the talent management strategies of high-profile businesses such as McDonald's, Avon, and Cisco. That would be accomplishment enough, but the book also provides perspectives on research in the field and software systems that make the talent management function easier.

### **New Deal Art in Arizona**

By Betsy Fahlman, University of Arizona Press.

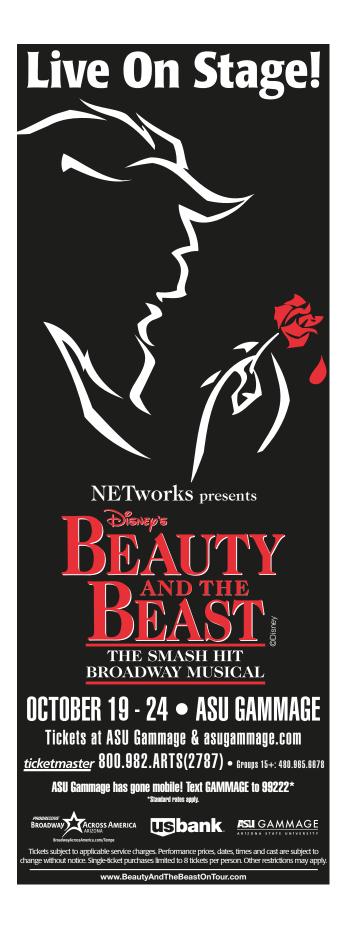
Part of the government response to the Great Depression was to form a plethora of support agencies as part of a "New Deal," and artists, writers and photographers were among the beneficiaries of this tremendous undertaking. Fahlman, a professor of art history at ASU, has done a masterful job of documenting the many New Deal agencies that operated in Arizona between 1933 and 1945, and discussing the meaning and impact of the art that was created as a result. Work by photographers such as Dorothea Lange and Russell Lee is catalogued, as are murals on the ASU campus created by painters Joseph Morgan Henninger and John Porter Leeper. In addition to being a thorough introduction to art created within Arizona's borders during the period, the illustrations document the diversity of fortune experienced in that era by the state's residents.



### We Are an Indian Nation: A History of the Hualapai People

By Jeffrey P. Shepherd '02 Ph.D., University of Arizona Press.

Most American citizens are by now aware of the cultural war waged on Native Americans during the expansion of the United States. The Hualapai tribe, whose lands border the Grand Canyon and other sites in northwestern Arizona, has experienced its share of violence, forced assimilation and land reduction. However, this book, written by a non-Native scholar, recasts the story of the tribe in an empowering light, documenting the many ways the tribe resisted Anglo domination and maintained its cultural vitality in the face of great odds. The book was researched and written with the cooperation and approval of the Hualapai Tribal Council, further ensuring the volume provides a fresh take on a historical period that has often been seen only through the eyes of white Americans.



Ready for acton



### **Ready for action**

Sun Devils fight the summer doldrums with Alumni Association events

Time can seem to slow down during the summertime, but the Alumni Association was in fast-forward mode this year, as it hosted events from coast to coast that nurtured the 300,000-plus strong Sun Devil nation. Here are highlights from selected events that took place between April and August 2010.





### U DEVILS

The Alumni Association continued its tradition during April of celebrating the contributions of university faculty and staff who are also members of the association. The appreciation month schedule included favorite events such as an outdoor picnic with carnival-style games and high tea at the University Club, as well as a new online "Amazing Race" trivia game conducted via Facebook. More than 230 members of U Devils shared in the fun.

### SENIOR YEAR EXPERIENCE: GRAD BLAST

ASU's outgoing senior class said goodbye to undergraduate life and hello to the ASU Alumni Association on April 22 at the annual Grad Blast event. Nearly 300 seniors enjoyed free food, prizes, fun and music on the Old Main Lawn and learned about programs and services offered by the Alumni Association and its business partners.

### MAROON & GOLD PROFESSIONALS/WOMEN IN BUSINESS

The Alumni Association's popular business mixers continued to connect Sun Devils and stimulate the local economy. The monthly Maroon & Golf Professionals mixers continued their momentum over the summer, hosting more than 250 professionals from a wide array of industries. On May 25, nearly 60 of ASU's successful female alums gathered at La Bocca on Mill Avenue at a mixer hosted by the Women in Business group to enjoy great food and wine and learn from each other's business savvy.







The ASU Alumni Association hosted dozens of events this spring and summer, including (clockwise from opposite page, top) the U Devils Fun-A-Fair carnival; the Women in Business "Live to Give" panel discussion breakfast; the Arizona State Young Alumni's Dinner with a Dozen Devils event at Four Peaks Brewing Company; mixers such as the quarterly Women in Business gatherings; and the Senior Year Experience's "Grad Blast."

### WOMEN IN BUSINESS: LIVE TO GIVE

Women in Business partnered with az magazine to host nearly 300 women at June 22's Live to Give event. The meeting, which was held at the Sheraton in downtown Phoenix, featured a panel

discussion of the value of community involvement that highlighted the contributions of three successful and philanthropically minded women active in the Valley who are Sun Devil alumnae or ardent ASU supporters: Barbara Barrett '72 B.S., '75 M.P.A.; Linda Hunt; and Luz Sarmina '76 M.S.W. The event was led off by a nonprofit showcase featuring Phoenix area charities.

### ARIZONA STATE YOUNG ALUMNI

The Alumni Association's newest program group has come a long way in its first year of existence!

In April, more than 60 ASYA volunteers participated in the Pat's Run in Tempe. It was an amazing showing and everyone had a great time!

ASYA celebrated the accomplishments of the class of 2010 by hosting its inaugural Sun Devil Dash, an innovative pub-crawl event that utilized the Valley's light rail system to move participants from place to place. Revelers answered trivia questions and enjoyed the pokerthemed event, which offered prizes at the final stop for the winners.

The young alums also enjoyed culinary gatherings courtesy of the "Dinner with A Dozen Devils" series at Brio on April 22, The Vig – Uptown on June 17 and at House of Tricks in Tempe on Aug. 12.

The ASYA group battled the fearsome summer heat on June 5 by hosting its second annual pool party at the Clarendon Hotel in central Phoenix. Alumni made a splash in the upscale pool and neutralized the triple-digit temperatures.

On July 24, the young alums visited Chase Field for a day at the ballpark. ASYA members cheered the Arizona Diamondbacks as they took on the San Francisco Giants and satisfied their ballpark hunger by sitting in the stadium's All-You-Can-Eat Seats.



ASU alumni chapters hosted nearly 30 Sun Devil Send-Offs this summer, in locations that included (from top) Las Vegas, Northern California, and Austin. (Lower right) Sparky and the Sun Devil Generations crew were out in force at the grand re-opening of the Tempe History Museum.



### **SUMMER SEND-OFFS**

Incoming Sun Devils were welcomed to the ASU family in style at 30 Send-Offs, which were held at locations ranging from New England to Los Angeles. More than 300 soon-to-be freshmen were treated to a taste of Sun Devil spirit and the opportunity to start making new friends! More than 150 alumni participated in the welcoming events, sharing their college experiences with students and answering the questions of new ASU parents.



Sparky had a very busy and exciting summer, thanks to the Sun Devil Generations' Sparky's Summer Break promotion. Children of alums submitted photos of their Sparky doll tagging along on all their summer activities. Sparky got to go to the beach, ride on a roller coaster and even go to summer camp! Sparky rewarded a young Devil with a prize for his favorite summer break based on the photos submitted.

Families involved in the Generations program had several opportunities to get together for Sun Devil fun during the hot summer, including a movie day at Old Main and the chance to attend a week at the Deer Valley Rock Art Center Camp together.

Many Sun Devil Generations families are currently counting down the days until Sept. 25, the date of the annual Generations Carnival Celebration at the Memorial Union on the ASU Tempe campus.













## Recruit new members, enjoy luxurious perks!

July 1-October 31, 2010

Help us recruit your family and friends to join the ASU Alumni Association and you could earn exciting rewards for yourself, including a getaway to your choice of luxurious hotels: The Arizona Grand, Tempe Mission Palms, Xona Resort Scottsdale and Hotel Indigo Scottsdale.

Tell your family and friends about membership in the ASU Alumni Association, then give them a membership form to join or direct them online to **alumni.asu.edu/join**.

For every new membership that names you as the referrer, you earn one point. Two points qualifies you for a prize!

POINTS	PRIZE
2	Choice of Sparky puppet OR Sparky squeak doll
3	Gift certificate to Yogurtini*
4	Choice of ASU license plate frame OR executive padfolio
6	A haircut and style at Mood Swings Salon*
8	Restaurant dining certificate from Monti's, Rula Bula OR Four Peaks*
12	1-night hotel stay at The Arizona Grand Resort*
15	2-night hotel stay at Hotel Indigo Scottsdale, Xona Resort Scottsdale OR the Tempe Mission Palms*

<sup>\*</sup> limited supply, offered on first-come, first-serve basis. For non-Arizona members, a gift card may be substituted.

Get more details and download forms at alumni.asu.edu/devil2devil.







### Reports from around the Sun Devil nation

### **AUSTIN**

Our chapter had its annual spring golf tournament in April. Six teams competed at the event, which was held at Grey Rock Golf Club. Golfers enjoyed a barbecue dinner after the competition and the night concluded with a raffle drawing that raised \$225 for our scholarship fund! We also hosted a "shadow run" in conjunction with Pat's Run in Tempe on April 17. Nearly two dozen runners and walkers competed. Everyone had a great time, and the race even included a photo finish!

At press time, our chapter was looking forward to its new signature event for summer, the Sun Devil Dinner Cruise. We enjoyed dinner and an evening boat ride on Lady Bird Lake and caught a view of the downtown skyline.

For more information about our activities, e-mail us at austin.sundevils@gmail.com. You can find us on Facebook (by searching for "Austin Sun Devils") or follow us on Twitter (@AustinSunDevils).

### **BLACK ALUMNI**

Our chapter had two major successes this spring. The first one came on April 13, when chapter members read to homeless children as part of the UMOM project. UMOM focuses on helping families to get on their feet.

Then, on April 30, we partnered with the ASU Undergraduate Black Business Student Association (BBSA) and raised \$500 at the organization's first speed dating social! This funding will serve as a scholarship for BBSA and allow our chapter to start an emergency fund for college students in need.

Thanks to our supporters for making both projects so successful! Please visit us on Facebook to check out pictures from our events; you can search for us using the name "Black Sundevils."

### **CHICAGO**

Sun Devils in Chicagoland have had a great summer. Our chapter was part of a PAC-10 Happy Hour in June, and we



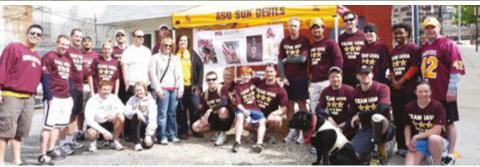


The Black Alumni chapter members participated in a "speed dating" social to benefit black business students (top) and in a service project to assist the UMOM organization (bottom).

enjoyed golf outings throughout the season, including one June 26 at the Indian Lakes course in Bloomingdale. We also had a great time at the White Sox-Detroit Tigers baseball game on August 14.

We're kicking off ASU football season this month with gamewatching parties at the Cubby









Fourteen chapters participated in "shadow runs" held in conjunction with Pat's Run on April 17, including (clockwise starting on opposite page) Los Angeles, Colorado, Chicago, Austin and Greater Philadelphia.

Bear. Don't forget to buy tickets for our bus trip to the ASU-Wisconsin game on Sept. 18!

Check out our chapter's Web site for information on all upcoming events: www.asuchicago.org.

### **COLORADO**

Our chapter's had a great year so far. Local participation in our ASU CARES and Pat's Run "shadow run" events was excellent, and we plan to repeat them in 2011.

This fall, we'll be watching Sun Devil football at the Blake Street Tavern in Denver. Join your Sun Devil family as we cheer on ASU!

We'd like to hear from alums living in Colorado about activities you'd like to see scheduled, as well as sponsorship recommendations for our chapter scholarship. Please e-mail cambodave@asualumni.org.

### **INDIANAPOLIS**

Our group had a Sun Devil night out Aug. 13 when we took in an Indianapolis Indians game. This is a new signature event for us, and we were pleased to see how many alums came out to enjoy a night out under the stars. We are gearing up for the ASU football season by planning several game-watching parties around town. We also want to organize a group to travel to Wisconsin for the big Sept. 18 game in Madison. For information about our upcoming events, please find us on Facebook by searching for "Arizona State U Alumni ~ Indianapolis" or contact Chrissy Vasquez at asusugah@gmail.com or 602-369-6631.

### LOS ANGELES

Thank you to all the alumni and friends who supported our Pat's Run "shadow run" at the Rose Bowl in April and all the maroon-and-gold-wearing fans at the ASU vs. UCLA baseball series. We've more recently enjoyed some summer happy hours around LA, and we continue to ramp up our Entertainment Devils (Alumni in Entertainment) group for alumni networking. This group also will provide mentoring and internship opportunities for ASU students studying film and theater. On Aug. 21 we took our annual trip to Dodger Stadium, which included a meet-and-greet with former Sun Devil baseball athletes playing with the Dodgers and Cincinnati Reds.

With fall right around the corner, we're gearing up for football season – and that means game-watching parties in Hollywood, the Valley and the South Bay. We will continue our Pennies for Points scholarship fundraising program, which awards funds to local LA area students attending ASU. We raised \$2,000 in 2009 and want to grow that amount substantially this season.

For more information on our chapter, please visit www.lasundevils.com or e-mail Eddie DeVall at devall@aol.com.

### **GREATER NEW YORK**

New York area alums recently enjoyed spending some time together at our Ocho de Mayo dinner and wishing the next generation of Sun Devils well at our annual Sun Devil Sendoff gathering. This fall, we look forward to football game watching parties and PAC-10 flag football in Central Park along with other activities. If you don't receive our chapter's weekly chapter e-newsletter, e-mail ny\_sundevils@thesundevils.com to be added to the distribution list.

ASU hockey game watching in Chicago.

NorCal chapter members at their Wine and Dine event.



Western Pennsylvania chapter.







Old Pueblo (Tucson) Alumni game watching event.



ASU vs. UCLA baseball game watching in Los Angeles.



Chicago alumni enjoyed seeing the NBA Bulls team in action.

### **ORANGE COUNTY**

We're holding twin kick-off events for ASU's season opener on Sept. 4. We'll have game-watching events at 7 p.m. that day at Sharkeez in Newport Beach and at The Catch in Brea/Corona. Another football-related gathering is, of course, our annual tailgate at the ASU-USC game, which will be on Nov. 6 this year. For more information on either event, contact Chris Bissonnette at chrisbissonnette@aol.com or 949-225-9398.

### **GREATER PHILADELPHIA**

The Greater Philadelphia chapter hosted its second annual Pat's Run "shadow run" in April. Local members of Iraq and Afghanistan Veterans of America joined Sun Devils and their families for the 4.2-mile run in Manayunk. Runners were treated to lunch at Machismo Burrito, which is owned by ASU alum Will Caton and a co-sponsor of the run, along with Bryn Mawr Running Company. Many thanks to everyone who participated!

Our chapter also participated in fun summer events such as the second annual Southwest Picnic, new student orientation sessions for Philadelphia-area freshmen and Sun Devil Send-Off celebrations.

For more information about upcoming events, contact Fernando Torres at 267-229-3139 or fernando.j.torres@gmail.com.

### W. P. CAREY SCHOOL OF BUSINESS

Our chapter's had a great year so far, filled with events like Pat's Run, networking mixers, and family-themed events at the zoo and Chase Field. In May, we welcomed the class of 2010 to the alumni family by hosting an inaugural new grad/alumni networking reception.

This fall we'll be hosting two networking events on Sept. 9 – one in Phoenix and one in Washington, D.C. We will be back on Oct. 19 for another networking reception in Washington, D.C. We're excited about hosting our Homecoming Alumni Hall of Fame Celebration at the Arizona Biltmore on Oct. 29. Our 2010 class of inductees are: Michael Ahearn '79 B.S.,'82 J.D., Executive Chairman, First Solar; Edward Blechschmidt '74 B.S., consultant; and Martin M. Quintana '87 B.S., '04 M.B.A., Chief Operating Officer, Chicanos Por La Causa, Inc.

A full calendar of business school-related events can be found at wpcarey.asu.edu/events. Looking to get involved? E-mail us at wpcareyalumni@asu.edu.

### WESTERN PENNSYLVANIA/NORTHERN APPALACHIA

In May, our club celebrated Cinco de Mayo Sun Devil style in Pittsburgh. Everyone present had a great time! Our membership continues to grow, and we invite ASU alumni and friends to our fall events.

We'll kick things off on Sept. 24 with an ASU Night at the Pittsburgh Symphony and follow it up with our signature Oktoberfest event on Oct. 2. The Oktoberfest event features tours of three microbreweries in the Pittsburgh area; we conclude our day with a gamewatching event, or by listening to our ASU Sun Devils on the radio while eating homemade international desserts!

To get involved with our group, contact Charles Tichy at charles.tichy@sru.edu

### HELP YOUR LOCAL CHAPTER AND ASU SCHOLARS WIN WITH PENNIES FOR POINTS

This fall, ASU alumni chapters around the country will be participating in the Pennies for Points program, a friendly competition in which Sun Devil alumni and fans pledge their pocket change to support the student scholarship programs of their local chapters.

The concept is simple: you can pledge an amount that you choose for each point that the ASU football team scores against its opponents this season, or for ASU's score in any individual game. Scholars win when Sun Devils score!

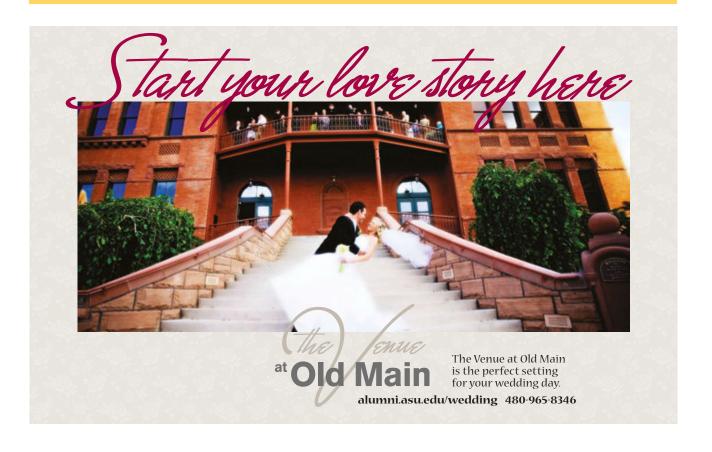
You can learn more about the program and submit your pledge today at alumni.asu.edu/programs.



Take advantage of one of the most popular benefits of membership in the ASU Alumni Association and travel with other alums! As a member, you can see the world while enjoying special rates and unique experiences.

Get the latest travel information from Sun Devil Destinations by signing up for our bi-monthly travel E-newsletter.

ARIZONA STATE UNIVERSITY
alumni.asu.edu/programs/sun-devil-destinations





Employing equality
Looking beyond the frame
Richard Strange 1929-2009
Sun Devil Births
Sun Devil Marriages
Sun Devil Snapshot

## **Employing equality**

P. David Lopez, '85 B.S.



Standing up for the rights of others is in Patrick David Lopez's genes. Growing up in Tucson, he learned about justice from his parents, who were involved in the United Farm Workers. Instead of Sea World, they took him to attend demonstrations in California. He met Cesar Chavez as a child.

It didn't mean much to him then, he says, but their values and sense of fairness seeped into his bones and shaped his life. When Lopez was confirmed by the U.S. Senate as general counsel for the Equal Employment Opportunity Commission (EEOC) in April, it was as if he had been preparing for the position his whole life.

"Those experiences echo through the years," says Lopez, who has moved to Washington, D.C., with his family to be the commission's top in-house lawyer. "It stayed with me, the importance of service to others, and those values became part of me."

Lopez spent his teen years immersed in guitar, books and music, enrolling at ASU as an English major. But it wasn't long before his genes kicked in, and he became a leader in MEChA, a political action group for Chicano students. He switched his major to political science and wrote his honors thesis on civil rights. His path was set.

After getting his law degree from Harvard in 1988, Lopez worked at a firm for a few years, then joined the employment section of the U.S. Justice Department's Civil Rights Division. He started working for the EEOC in 1994 and began compiling a successful record of trying a wide variety of discrimination cases before moving to the Phoenix district office as supervisory trial attorney in 1998.

During his time in the courtroom, he won a large jury award against an employer who wrongfully terminated an employee on the basis of religious belief, and another one for a Muslim woman who was forbidden by her company to wear a head scarf during the holiday of Ramadan. He also was able to settle a disability case before trial, in which a corporation paid \$140,000 to a blind employee who had asked for basic accommodations but was told not to return to work.

Lopez says his years as an avid reader and English major help him tell the stories to juries they need to hear to understand a case.

"I'm a big believer in the jury system, in the ability of jurors to recognize unfairness when they see it and to act as the conscience of the community," says Lopez. "It makes me proud as an American to see these basic American values protected."



Elizabeth (Beth) M. Wilkinson



Shayna H. Balch



Rachel Bennett



Sean Waltz



Glenn Morgan

### 2000s

**Kirt F. McKay '09 B.S.** recently received his commission as an officer in the U.S. Navy after completing officer candidate school.

◆ Sean Coleman '09 B.S.E. was awarded the Young Entrepreneur of the Year award by the Arizona Small Business Association at its 17th annual Enterprise Business Award Luncheon.

**Elizabeth (Beth) M. Wilkinson '08 B.A.** has been promoted to account executive at HMA Public Relations.

◆ Ashlea Taylor '08 B.A. was recently accepted into the masters-level Marriage and Family Therapy graduate program in the School of Social and Family Dynamics at ASU.

**Shamar Thomas '08 B.S.E.** has been named as a Woodrow Wilson Indiana Teaching Fellow, which is considered the "Rhodes Scholarship" of teaching fellowships. The fellowship is designed to recruit outstanding candidates to teaching and to transform teacher preparation.

**Eric Ferguson '08 B.S.** recently launched State Bicycle, a web-based business that specializes in fixed and single-gear bikes.

◆ Philip Beere '07 M.R.E.D. was honored as Green Building Remodeler Advocate of the Year and one of his company's residential remodel projects was honored as the Remodel Project of the Year by the National Association of Home Builders at its 12th annual National Green Building Conference in Raleigh, N.C. **Steve Price '06 M.F.A.** is participating in a unique project called "26 Blocks," joining several other artists, photographers and writers creating pieces of art inspired by 26 different city blocks in downtown Phoenix.

Rachel Bennett '05 M.Ed., founder of the Phoenix Collegiate Academy Charter School, was awarded the 2010 Spirit of South Mountain Educator Award, which honors both individuals and organizations that are making a difference in the South Mountain, Laveen and historic Phoenix communities.

**Jennifer Pineda-Bodnar '04 M.B.A.** was named as vice president of strategy and business development at Harte-Hanks.

Victor Olivieri '04 B.A., '04 B.A. is currently pursuing a doctorate in political science/international relations at the University of Florida after serving for three years as a military intelligence officer in the U.S. Army and completing a M.A. in political science at the University of Louisville.

**Glenn E. Heimburger '04 B.S.** recently graduated from Creighton University School of Medicine in Omaha, Neb., and was accepted to an emergency medicine residency at East Carolina University.

**Shayna H. Balch '03 B.A., '06 J.D.** joined Fisher and Phillips LLP as an associate, representing employers in all aspects of employment law, including discrimination, sexual harassment and restrictive covenants.

**Thomas Curry '03 M.T.** was recognized as a "Silent Hero" in April by United Blood Service for donating platelets 22 times during 2009.

**Sean Waltz '03 M.B.A.**, currently senior vice president of investment at Merrill Lynch, was named to the "America's Top 1,000 Advisors" state-by-state list issued by Barrons.

**Glenn Morgan '03 B.I.S.** has been named the executive director for the modern aerial dance company Braided Light Dance Project in Jacksonville, Fla.

**Jennifer Spiegel '03 M.F.A.** conducted a fiction-writing workshop recently at Changing Hands Bookstore in Tempe.

Rachel L. Robertson '03 B.A. recently received the "For the Love of Justice" Award for Consumer Rights from the Volunteer Lawyers Program of Maricopa County. Robertson is employed with the labor and employment group of the law firm of Quarles & Brady LLP.

**Jeffrey P. Shepherd '02 Ph.D.** is an assistant professor of American Indian and Western History at the University of Texas, El Paso. He recently published a new book, "We Are An Indian Nation: A History of the Hualapai People."

**Joshua I. Welle '02 B.S.** recently became a partner at Olson and Welle, PC, a full service, multi-state construction law firm.

◆ Meghan A. Dorn '02 B.I.S. has opened an event planning, public relations, and marketing company, MAD Marketing & Events, LLC.



Ravi Jethra



Rachel L. Robertson



Bryan P. McNamara



Beth A. Collins-Burgard



Alan Bayless Feldman

- ◆ Clifton Burt '01 B.A., '01 B.S. recently received his medical degree from the Drexel University College of Medicine in Philadelphia.
- ◆ Bryan P. McNamara '01 B.A. recently graduated with an executive M.B.A. from the University of Memphis, Fogelman.

Abdullah Al-Bargi '01 M.T., '06 Ph.D. is currently the vice dean for development at the English Language Institute at King Abdul Aziz University in Jeddah, Saudi Arabia. He is also advisor to the editor-in-chief of The Saudi Gazette, the first daily English newspaper in Saudi Arabia.

Andrea Avery '00 B.A., '03 M.F.A. is participating in a unique project called "26 Blocks," joining several other artists, photographers and writers creating pieces of art inspired by 26 different city blocks in downtown Phoenix.

### 1990s

Ravi Prasher '99 Ph.D. has been elected a fellow of the American Society of Mechanical Engineers in recognition of his innovative research in advanced electronics thermal management technologies and nanoscale thermal energy transport.

Christine Lee '99 M.A., '07 Ph.D. was named a 2010 National Geographic Emerging Explorer for her work in forensic research into skeletal remains in China, which is revealing new information on population and human migration. As a recipient of the award, Lee will receive \$10,000 to assist with research and aid further exploration.

Beth A. Collins-Burgard '99 M.Ed. joined the law firm of Brownstein Hyatt Farber Schreck as part of the natural resources, land use and litigation group.

Ravi Jethra '99 M.B.A. has recently been promoted to industry manager of power and energy at Endress+Hauser, and is responsible for developing power generation business.

Alan Bayless Feldman '98 J.D. has been elected to the board of directors of the Epilepsy Foundation of Arizona. He works as an attorney for the firm of Steptoe & Johnson LLP, focusing his practice on labor and employment law.

Mark Allen Pressnall '98 M.Ed. was recently granted tenure at Grossmont College.

◆ Kolby Granville '97 B.A.E., '00 M.Ed., '07 J.D. has donated more than \$25,000 to fund micro-loans in developing countries via the website Kiva.org.

Dawn Valdivia '97 B.A., '97 B.A. is a partner at Quarles and Brady LLP and has been named pro bono coordinator for Phoenix.

Paul Corens '97 B.S. was recently accepted into the Royal Institute of Chartered Surveyors, a global real estate investment and construction association.

George C. Chen '96 M.S.E., '99 J.D. recently was named to the 2010 edition of "Southwest Super Lawyers," which lists the top five percent of attorneys in a state or region who have attained a

high level of recognition and professional achievement. Chen practices intellectual property and commercial litigation law for the Phoenix office of Bryan Cave LLP.

◆ W. James Burns '94 M.A. recently has been selected as the executive director of the Desert Caballeros Western Museum.

Darren V. Roman '93 B.S. has joined the law firm of Quarles & Brady LLP. He is working in the firm's real estate group, representing financial institutions in commercial lending and finance transactions.

Adrienne (Whitaker) Luce '92 B.A. recently was named executive director of the California State Summer School Arts Foundation.

Dyana Hesson '91 B.A. recently had a painting, "Not the End, but the Beginning," displayed at the Phoenix Sky Harbor museum.

### 1980s

Barby Grant '88 M.M.C., owner of Barby Grant Communications, is the recipient of the 2010 Gold Quill Award for excellence in business communication, presented by the International Association of Business Communicators.

James Christ '88 B.A. recently finished his third embedded tactical trainer book on the Afghanistan war, "Kamdesh."

- ◆ Margie Traylor '87 B.S. and
- ◆ Bret Giles '87 B.S., co-founders of Sitewire Marketplace Solutions, were named 2010 Arizona State Small Business Person(s) of the Year by the U.S. Small Business Administration.



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Kevin Salcido







Barby Grant



Paul J. Faith



Diane E. D'Angelo



Adrienne (Whitaker) Luce

Victoria Linssen '87 B.S. recently participated in a 100-mile bike ride for the Leukemia and Lymphoma Society.

Dawn Valdivia

Jonathan Sands '86 B.S. recently accepted a position as executive vice president of the Patient Advocate Foundation, located in Newport News, Va.

Diane E. D'Angelo '86 B.A., vice chair of the city of Phoenix Human Relations Commission, traveled to Turkey in June as a guest of the Foundation for Inter-Cultural Dialogue, a non-profit organization established in 2004 with a goal of promoting dialogue, mutual respect and cooperation among different cultures and faiths.

- ◆ Kevin Salcido '84 B.S., '93 M.B.A. has been appointed associate vice president and chief human resources officer for ASU.
- ◆ Julie A. Pace '83 B.S., '92 J.D. has been made a shareholder at the Cavanagh Law Firm.

Moira McSpadden '84 B.S., '84 B.S.E. was recently named as a Woodrow Wilson Indiana Teaching Fellow, which is considered the "Rhodes Scholarship" of teaching fellowships. The fellowship is designed to recruit outstanding candidates to teaching and to transform teacher preparation.

Vicki A.R. Lopez '81 B.A., '85 J.D. recently has joined the law firm of Marc J. Victor, P.C., practicing criminal defense, personal injury, civil rights and civil litigation law.

Linda Price Snider '81 B.MUS., '86 M.M. was elected president of the California Business Education Association for 2010.

- ◆ Jack Furst '81 B.S. recently received the Silver Buffalo Award from the Boy Scouts of America. The award is the organization's highest honor and recognizes individuals for extraordinary community service. Furst, who is a philanthropist based in Argyle, Texas, has been a driving force in the development of the Summit Bechtel Family National Scout Reserve, a new high-adventure base for the Boy Scouts of America that will open in 2013
- ◆ Paul Asmuth 80 B.S. was inducted into the International Swimming Hall of Fame in May 2010. In 2008, he served as a USA Swimming coach for the

first year marathon swimming was made an event at the Olympic Games.

### 1970s

George McCaskey '78 B.S., '81 J.D. was named chairman of the board for the Chicago Bears. He had been the organization's director of ticket operations since 1991.

Susan J. Kramer '76 B.S.N. was honored by being the namesake for and the first recipient of the Susan Kramer Award for Excellence in School Nursing by the Laurel School and the Diabetes Association of Greater Cleveland.

Paul J. Faith '75 B.S. was recently named to the 2010 List of "Southwest Super Lawyers."

Karuna N. Bhuyan '75 M.S. retired recently after more than 34 years of service to the Arizona Department of Agriculture.

Dave Mann '74 B.S. is currently the president of Have Ideas, Will Travel, a marketing and promotions firm.



### **GOLDEN OPPORTUNITY**

Carl Nelson '88 M.Arch., Dede Radford '78 B.F.A. and Vincent H. Rieselman '92 B.S.D. stand in front of the "A" on Hayden Tempe Butte, also known as A Mountain. The three alumni collaborated recently with the ASU Alumni Association to ensure that the Student Alumni Association (SAA), which is charged with keeping the A painted gold at all times, has the resources it needs to fulfill that mission.

Radford is a design services professional for Dunn-Edwards Paints, now the official paint sponsor for SAA. Nelson and Rieselman, who work for the architectural firm Orcutt | Winslow, were instrumental in connecting the Alumni Association with Dunn-Edwards for the sponsorship.

### 1960s

**Karen Grosso '67 B.A.E., '70 M.A.E.** has helped build a 30-acre community school in Uganda while also implementing sustainable ways to improve local environmental health.

### 1950s

**Herbert Dreiseszun '59 B.S.** was recognized as a "Silent Hero" in April by United Blood Service for donating platelets 24 times during 2009.

### 1940s

**Frances (Plake) Cox '41 B.A.E.** was recognized by The American Biographical Institute's Woman of the Year for Outstanding Pursuits and Biographical Achievements in 2009.



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### **Looking beyond the frame**

Timothy Rodgers '83 B.A.

Timothy Rodgers, the new director of the Scottsdale Museum of Contemporary Art (SMoCA), has great plans for the museum, housed in a sleek, minimalist building located across from the Scottsdale Center for the Performing Arts. Many of his plans may stretch visitors' minds about the notion of just what "contemporary art" should include.

"We're devoted to contemporary design and architecture impacting the community, as well as contemporary (visual) art," stresses Rodgers.

An exhibition that exemplifies Rodgers' view of SMoCA's mission is the eagerly anticipated show "Bridges: Spanning the Ideas of Paolo Soleri," a collaboration between the museum, Scottsdale Public Art and the Cosanti Foundation. Celebrating the work of Soleri, an innovative Arizona arts pioneer, the exhibition, opens Oct. 9. The exhibit will come on the heels of Soleri's 90th birthday and the opening of the Scottsdale Waterfront Bridge that bears his name.

Before being hired to lead SMoCA in November, Rodgers was chief curator for the New Mexico Museum of Art, where he oversaw exhibitions focused on modernist and contemporary art and appeared frequently in podcasts and videos that made

those works of art more accessible to the public. He's also influenced the art world as a writer, lecturer and academic, first at Brown University, where he earned his Ph.D., and then as a tenured professor at Lawrence University.

Rodgers says he was inspired by ASU professors Anthony Gulley and Claudia Brown, as well as museum director Rudy Turk, when studying for his undergraduate degree. He experienced a vocational epiphany of sorts here, he says.

"There wasn't any question about devoting my life to art," he said.

And just as the academic resources of the university propelled him into the art world, the nexus of talent and support for the arts in the Phoenix metropolitan area have drawn him back here for the SMoCA position.

"The creative wealth offered by ASU and the rewarding partnerships that can be formed (here) greatly contributed to my enthusiastic return to the Valley," says Rodgers, whose father and brothers also reside here.

That choice will undoubtedly delight art lovers in the years to come.

By Oriana Parker, a Scottsdale-based freelance arts writer.









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## ASU ALUMNI

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### Annis (Jones) Dotts '57 B.A.E., 1935-2010

Annis (Jones) Dotts, an active Sun Devil alumna and wife of former ASU Alumni Association executive director Don Dotts, passed away on July 13.

Dotts was born in San Angelo, Texas, in 1935 and moved with her family to Phoenix at the age of three. She was a graduate of North Phoenix High School and graduated from Arizona State University in 1957 with a degree in music education. At ASU, she was a member of Alpha Sigma Alpha sorority and President of the Panhellenic Council.

Dotts was an elementary school music teacher in the Mesa and Tempe school districts. Besides music, she also taught sewing, a long-time hobby of hers. She was active in ASU Faculty Wives and enjoyed working with Arizona State alumni through the ASU Alumni Association and its many affiliate groups. She was diagnosed 15 years ago with Parkinson's Disease; after her diagnosis, she enjoyed being a part of The Tremble Clefs, a singing group for Parkinson's patients and their caregivers.

Dotts is survived by her husband; her daughter, Debbie Farson; her son, David Dotts; and grandchildren David, Katie and Carrie Farson and Abby and Luke Dotts.

Memorial gifts may be made to the Annis Dotts Legacy Scholarship, c/o the ASU Foundation, P. O. Box 2260, Tempe, AZ 85280-2260.



### Richard Strange 1929-2009



One of the longestserving band directors in Arizona State University history, Richard Strange, who passed away late last year, left a lasting legacy amongst the musicians he conducted and the music-lovers of the Phoenix metro area. He was 81.

Strange joined ASU in 1974 and served until 1999. While he was at the helm, the Sun Devil Marching Band and ASU Symphonic Band both accrued national reputations for

excellence. Under his leadership, ASU hosted two national conventions of the American Bandmasters Association, as well as an international joint convention of the ABA and the Japanese Band Directors Association, which brought more than 700 elementary, high school, college, and military

musicians to the Tempe campus for a week of concerts. The Symphonic Band made appearances at national conventions of the College Band Directors National Association and the Music Educators National Conference, and the American Bandmasters Association, as well as joint appearances with numerous Valley of the Sun high school concert bands.

In addition to his service to ASU, Strange was active in the community orchestra field. He conducted Pittsburgh's Carnegie Civic Symphony Orchestra from 1961 to 1974 and the Butler County (Pa.) Symphony Orchestra from 1965 to 1974. He served as the director and conductor of the Tempe Symphony Orchestra for 35 years.

When Strange wasn't wielding the conductor's baton, he played saxophone, clarinet and flute professionally for many years with big bands headlined by well-known performers, such as Buddy Morrow, Les Elgart, Ted Herbert and Isaac Hayes (of "Shaft" fame). He also played with the Pittsburgh Civic Light Opera, plus backup and "pit" bands accompanying many famous Broadway singers and television stars, such as Carol Channing, Ethel Merman, Eddie Fisher, Andy Williams, Englebert Humperdinck and Bill Cosby.

In addition to his wife, Marian, Strange is survived by two sons, Phil of Japan and Steve of Los Angeles, and one grandchild.

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### **SUN DEVIL BIRTHS**

### **SUN DEVIL MARRIAGES**



Michaela Lynn McLendon

Michaela Lynn McLendon was born to **Stacie McLendon '01 M.Ed.** and Michael McLendon on March 14, 2010.

Lucas Taylor Root was born to Leigh (Richards) Root '08 B.S. and Robert Root '10 B.S. on September 30, 2009. He joins big brother Robert Joel Root, who was born October 8, 2008.



Darin Shebesta and Alesha Nicole Corey

Darin R. Shebesta '06 B.S. and Alesha Nicole Corey '08 B.A. were married on April 22, 2009 in Antiqua.

Russ Perry '05 B.I.S. and Mika (Gabriel) Perry '05 B.A. were married February 28, 2009 in Maui, Hawaii.



Russ and Mika Perry

Christopher Bissonnette '93 B.S. and wife Maureen Bissonnette celebrated their 10th anniversary on June 10, 2010. ASU MAGAZINE



### **SUN DEVIL SNAPSHOT**

Thinking dry thoughts

It may have been raining during at the first Homecoming, held in 1926, but nothing could dampen the spirits of the graduates of Tempe State Teachers College, ASU's predecessor institution. The alumni of the class of 1923 were but one group celebrating school spirit and hoping for a football victory on the gridiron.



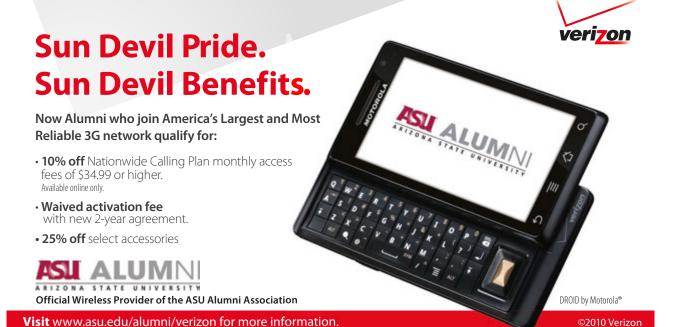
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