ASU enrollment tops 63,000 students

By Sarah Auffret

Every fall, the college or university that has reached a record 63,278 students, almost 4 percent higher than last year. ASU's enrollment is up by nearly 8,000 students since 2002, when its mission expanded to include a higher-access model of President Michael Crow's vision of the New American University.

"ASU is a university in the nation in the second-fastest-growing state in the nation," says Jim Rand, vice president for university student initiatives. "Our goal is to serve the people of Arizona — to build high-quality programs and expand our capacity to meet the growing demand for a university education." ASU has strategically placed programs on campuses where they can flourish.

At the new Downtown Phoenix campus, ASU enrolled 6,229 students, with the colleges of public programs, nursing and health care innovation and the University College having relocated from the Tempe campus this fall. At the Polytechnic campus, 51,234 students are enrolled, comparing closely with last year's 51,602, with the shift of these colleges downtown.

Enrollment at the Polytechnic campus in Mesa grew to 6,545, from 6,465 last year. Enrollment at the West campus fell to 8,211 from 7,734 last year.

Campus enrollment figures total more than the overall unduplicated count of 63,278, as ASU students take advantage of the courses that are offered by departments throughout the university, not just those in their college of residence. Of the home of the student, says Lou Ann Denny, associate vice president and university registrar.

While the incoming freshman class profile and demographic information will be available soon, other authors of this paper are Fred Auffret, with Media Relations, and initial analysis of it in "A juvenile early hominin skeleton from Dikika, Ethiopia," in the current issue of Nature (Sept. 21). The skeleton was discovered by lead author Zeresenay Alemseged, director of the Dikika Research Project and a former postdoctoral researcher at ASU's Institute of Human Origins. It's unprecedented to have such a complete skeleton of a young child.

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Organisms’ medical potential attracts researchers’ attention

By Adriana Elektra Sanchez

More than an ornament or a basic source of food, photosynthetic organisms have the potential to be among the toughest cancer fighters and best biofuels available for humans. ASU and Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM) in Mexico, ASU and ITESM have established the Collaborative on Biotechnology Research Grant Program to support scientific research projects.

Several scientists competed for $200,000 available through the program to support their research projects during the next two years. The winners for this year are professors Guy A. Cardinale and Willem Vermaas from ASU’s School of Life Sciences. They will join Marco Rito-Palomares and Manuel Zertuche from Centro de Biotecnología del Tecnológico de Monterrey.

The team formed by Cardinale and Zertuche will direct a project focused on the genetic modification of alfalfa (Medicago sativa) to obtain a production system to express, and thus extract, transgenic proteins of medical value from green tissue. The clinical application of the target proteins for this specific project can be used to support the recovery of patients exposed to chemotherapy, as well as treatment of different diseases, such as anemia.

(See RESEARCHERS on page 7)

Search for a better battery keeps going … and going …

By Joe Caspermeyer

Users of laptop computers, digital cameras or portable music players who are frustrated by frequently losing battery power can take heart: A better source of “juice” is in the works.

Chemists at ASU’s Biodesign Institute have created a tiny hydrogen fuel cell that generates electricity. The generator could then power portable electronic devices three to five times longer than comparable batteries of the same size and weight.

"We’re trying to maximize the usable hydrogen storage capacity of borohydride to make the fuel cell power source last longer.”

— Study leader Don Gervasio

The generator uses a special solution containing borohydride, a fuel cell grade that has an unusually high capacity for storing hydrogen, a key element that is used by fuel cells to generate electricity.

In laboratory studies, prototype devices have been used to provide sustained power to light bulbs, a radio and a DVD player, the researchers say.

“We’re trying to maximize the usable hydrogen storage capacity of borohydride to make the fuel cell power source last longer,” says study leader Don Gervasio, who serves as an associate research professor within the institute’s Center for Applied NanoBioscience. "That could lead to the most powerful power source ever produced for portable electronics.”

The fuel system can be packaged in containers of the same size and weight as conventional batteries, and the system is recharged by replacing the fuel cartridge. Research on the technology is supported by the Department of Energy (See TINY on page 7)
**Owlet to lease space at SkySong**

By Sharon Keeler

Qwest Communications Inc., a leading provider of high-speed Internet, 100 percent digital television, digital voice and wireless services, will lease space at SkySong, the ASU Scottsdale Innovation Center.

Qwest representatives in Arizona and at the Qwest corporate headquarters in Denver are "impressed by SkySong's creative business model, as well as its location," says Pat Quinn, President-Phoenix.

"The opportunity to interact with ASU organizations located at the center, other technology businesses leasing space there, along with international companies conducting business at SkySong, appears to be an excellent business prospect for Qwest," Quinn says. "We're excited to participate in what should become one of the most advanced innovation centers in the world."

"Qwest's decision confirms that the idea behind SkySong makes excellent business sense today, when our global economy is driven by innovation," said Bill Montgomery, Tempe's mayor. "Clearly, the state's largest communications company understands the importance and the potential of SkySong.

Although Qwest has not announced what aspects of its operations—or how many employees—will move to SkySong, discussions are underway with ASU officials regarding potential strategic partnerships between the university and other entities.

"The university is thrilled that Qwest has chosen to locate at SkySong," says Rob Melnick, ASU associate vice president for economic affairs. "It exemplifies the type of company that will help position SkySong as a global focal point for technological innovation, cross-disciplinary collaboration and entrepreneurial ventures."

Qwest Communications has about 40,000 employees worldwide.

Keeler, with the University Relations, can be reached at (480) 965-4012 or (sharon.keeler@asu.edu).

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**New system aids university's reliance on paper documents**

By James Vito Palazzolo

ASU has implemented a new electronic document management system capable of streamlining today's paper-based university business processes. This new system, built on an electronic data interchange (EDI) system, will allow ASU staff to replace paper-based processes with the electronic storage and routing of electronic forms.

As one of the nation's largest and fastest-growing universities, ASU has implemented this system to promote the use of online document services to continually improve efficiency and increase the university's level of service.

The Documentum software lets users create and define "electronic workflows" that allow documents to be passed along from person to person electronically, replacing the printing and mailing needed when a process is paper-based.

Electronic routing translates to faster response times and fewer errors.

A Division of Graduate Studies has been using this new digital system to file graduate applications with great success over the past several years.

This project is a great leap forward for ASU," says Gary Delago, assistant director for the Office for Research and Sponsored Projects Administration. "Current slow-moving and paper-driven systems are replaced with a more efficient, electronic environment that supports a more efficient workflow, with rapid access to project files from remote locations."

The new system will provide faster service, and it also means less work for ASU staff by reducing paper handling, sorting and storage costs. Documents also can be archived for a set amount of time, allowing users to reference forms or add information on an as-needed basis.

ASU plans to extend this approach throughout the entire university in its drive to make its operations "digital." The Documentum system will be tightly integrated with OASIS, ASU's new PeopleSoft-based student records and online administrative services environment.

For more information about ASU's document management project, send an e-mail to (gene.tucker@asu.edu).

OASIS, the online information services system, also can be reached at (480) 965-4012 or (sharon.keeler@asu.edu).

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**Biodiesel Institute's Poste calls hiring 'a tremendous asset'**

By Kimberly Ovitt

ASU's Biodiesel Institute has recruited Sidney Hecht to co-direct its research program. Hecht is a respected leader in biological chemistry and drug design who has played a key role in the development of Hydrocortisone, a drug used to treat ovarian and lung cancer, as well as in the study of the mechanism of the antimicrobial agent bleomycin.

Hecht is now turning his attention to enhancing university business processes. This new system, based on Documentum technology, will be tightly integrated with OASIS, the university business processes system.

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**By Steve Reith**

Lena visits ASU to support new real estate degree

The curriculum features industry case studies presented by leading local and national developers, synthesis projects, classroom and collaborative team assignments, research, site visits, mentorship opportunities and distinguished visitor lectures.

Students will be exposed to the complexities of the real estate development process for an industry-relevant learning experience.

Upon completion of studies, students will enter the real estate development field with knowledge, perspective and understanding of numerous industry-related issues including real estate development process – from dirt to deal, from finance to façade.
National Hispanic Science Network honors Marsiglia

8 ASU doctoral students praise professor for his mentorship

By Debra Palka

The National Hispanic Science Network (NHSE) has awarded Flavio F. Marsiglia, a professor in ASU’s School of Social Work, the 2006 National Award for Excellence in Mentorship from the National Hispanic Science Network (NHSE) at its annual meeting in Scottsdale, Ariz. The students are, from left: David Becerra, Maria Guirro, Francisco Párra, Tanya Nieri and Francisco Alatorre.

The nominators also praised Marsiglia’s “ability to demonstrate excellence and his open-door policy to students and professors, to recognizing and rewarding student achievement and providing the opportunity for students to develop their abilities and become important contributors to society.”

Marsiglia, who holds a Ph.D. in psychology from the University of California at Los Angeles, is a principal investigator at the Research Center on Addictions, a partnership of the National Institute on Drug Abuse, the National Institute on Mental Health, the National Institute of Justice and the National Institute of Child Health and Human Development. Marsiglia is a director of the Research Center on Addictions and directs the Positive Youth Development Research Program, a research program that studies the effects of early childhood experiences on young people’s outcomes. The research program is funded by the National Institute of Health and the National Institute of Drug Abuse.

Marsiglia has published more than 50 papers in peer-reviewed journals and has been a consultant to more than 50 agencies, including the National Institute on Drug Abuse, the National Institute on Mental Health, the National Institute of Justice and the National Institute of Child Health and Human Development. Marsiglia has also received several awards for his research, including the Research Award from the American Psychological Association’s Division of Addictive Behaviors and the Research Award from the American Psychological Association’s Division of Clinical Psychology.

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In addition to the history and preservation of the Traeri organ, the Master organ is the March 2010 installation of the Traeri organ. It is a part of the New Music program. The organ was housed in a church in Moderna, Italy, that was bombed during World War II. Before the church was razed in 1950, the organ was bought by an Austrian, who kept it in his attic for the next 50 years. The organ is now on permanent loan to ASU's Herberger College of Music.

By Wendy Craft

The ASU Herberger College of Music is home to a rare Italian Baroque organ on permanent loan to the university. The organ, which was built by Domenico Traeri in 1742, is a part of the 2006-2007 MainStage Organ Series concert season.

With the installation of the Traeri organ, ASU is believed to have become one of four U.S. academic institutions--and the only university southwest of the Midwest--to house such a rare musical treasure: Other campuses that have Baroque organs include the Eastern School of Music at the University of Rochester, the University of California-Berkeley and the Peabody Institute.

The instrument will be used for performance, special classes and lessons in Italian. "It incorporates into the organ program already is helping to attract a higher level of student to the School of Music, giving the school an advantage when competing with other institutions," says Kimbodi Marshall, interim director of the School of Music and Goldschmidt Professor of Organ.

Before its arrival in Tempe, the Traeri organ made a fateful journey. The organ was housed in a church near Moderna, Italy, that was bombed during World War II. Before the church was razed in 1950, the organ was bought by an Austrian, who kept it in his attic for the next 50 years.

Despite the environmental challenges the organ has faced, it has survived nearly completely intact, with just one of its 500 pipes needing to be replaced. The Traeri organ was brought to ASU in 2004 by one of the foremost American organ builders, who restored it to its original condition. "Martín Pasi brought it to his Seattle workshop," Marshall says. "It's amazing to realize that the organ was built in Italy in the year after Verdi's death."
Tuesday, Sept. 26
“Creating Connections for Success,” 11:30 a.m.-1:30 p.m., Memorial Union (MU) Atrium Lounge 202. Speakers: Maria Allison, Division of Graduate Studies; William Franco, last year’s College of Science Dean; and Michelle Kerkmanshah, College of Science. Information: (480) 965-3468.

Wednesday, Sept. 27
Exhibits@Noon, noon-1 p.m., ASU Libraries. Sponsored by ASU Museums, Galleries and Collections Committee. Information: (www.asu.edu/museums).

Thursday, Sept. 28
“International Student Job Search,” 3:30-4:30 p.m., MU Apollo Room 208. Sponsored by Career Services. Information: (480) 965-2350.

Friday, Sept. 29
Astronomy Open House, 8-10 p.m., Battam Physical Sciences Center (PS) H Wing (fifth floor) roof. Information: (480) 965-2380 or (denise.tanguay@asu.edu).

Monday, Oct. 2
“International Student Job Search,” 3:30-4:30 p.m., MU Santa Cruz Room 213. Sponsored by ASU Career Services. Information: (480) 965-2350.

Thursday, Oct. 5
1894 Shinfield Supper Club, 9:30 a.m.-4 p.m., on the mail between Memorial Union (MU) and Administration Building (ADM) on the Tempe campus. Also: 9:30 a.m.-3 p.m., Oct. 6. Sponsored by Purchasing and Business Services. Information: (480) 965-3271.

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

Saturday, Sept. 23
Danwen Jiang, violin, Siegert Rampe, harpsichord, 7:30 p.m., Katin Concert Hall.

Sunday, Sept. 24

Pianist John Thompson and Friends, 2:30-3 p.m., Katin Concert Hall.

“The King of Instruments Meets the Instrument of Kings,” 2:30 and 7:30 p.m., Organ Hall. Enjoy the first performance on an Italian Baroque organ built by Domenico Traeri in 1742, on permanent loan to ASU.

Wednesday, Sept. 27
“An Evening of Comedy with Jay Leno,” 8 p.m., ASU Gammage. The event, hosted by the National Association of Industrial and Office Properties (NAIOP) and SkySong in partnership with the ASU Foundation, will benefit ASU’s newest real estate degree program, the Master of Real Estate Development (MRED). Tickets: $15. Information: (480) 727-7582.

Friday, Sept. 29
“Godspell,” 7:30 p.m., Elyse Smith Music Theatre. The musical, one of the most popular of all time, tells the story of the seven days of chặn of Christ’s life according to the Gospel of St. Matthew. Other performances: 7:30 p.m., Sept. 30, Oct. 4, 6, 7, 2 p.m., Oct. 1, 8, 9 p.m., Oct. 2.

Wednesday, Oct. 4
Coffee & Conversations: ASU Kerr Cultural Center, Scottsdale. The Arizona Opera Co. offers previews of its upcoming production of “Madame.” Fee, but RSVP required (480) 596-2660. Bring a can of food or sealed personal item for Vista del Camino Food Bank.

Thursday, Oct. 5
“Overture to a New Season,” 7:30 p.m., ASU Gammage. Performing: ASU Sinfonietta and Wind Ensemble.

Exhibitions

ASU Art Museum, Nelson Fine Arts Center — 10 a.m.-5 p.m. Monday-Thursday, 11 a.m.-7 p.m., Wednesday – Saturday. Information: (480) 965-2787. Through Sept. 23, “Seeing Ourselves.” The exhibit comprises more than 50 artworks that show the different ways artists depict themselves and their subjects. There also will be computer kiosks with image-morphing software, costume and graffiti walls, and a life-sized, interactive portrait.

Through Sept. 30, “Art Inspires Music.” Local independent musicians recently responded to works of art from the ASU Art Museum’s permanent collection with original musical compositions for this installation. Museum visitors can enjoy music and visual art at music-listening stations within the interdisciplinary space of the museum’s American Gallery.

ASU Gammage — 1-4 p.m., Monday. Information: (480) 965-6912.


ASU Kerr Cultural Center — 10 a.m. – 5 p.m., Monday-Friday and during performances at 6110 N. Scottsdale Road, Scottsdale. Exhibition hours are subject to change. Information: (480) 596-2660.

Open Oct. 2, “Acrylic & Watercolor Florals and Landscapes by Tha King.” King received a degree in art from ASU and has been painting since 1992. Reception: 7-9 p.m., Oct. 5.

The Galleria — 7:30 a.m.-6 p.m., Monday-Friday, located in Mercado Building C, 502 E. Monroe St., Phoenix. Information: (480) 965-3468.

Open Oct. 2, “CommunityArts in Dialogue and Action.” A combined art exhibit of 16 artists featuring all art mediums, including glitter and found objects. The exhibit can be viewed during First Friday from 6-9 p.m., Oct. 6. Through Sept. 29, In celebration of Hispanic Recognition Month, the Galleria features an exhibit of pastels by Sandra Ortega.

Gallery 100 — 1-5 p.m., Monday-Thursday, 1-3 p.m., Friday, Engineering Center A-100. Information: (480) 965-2380.

Open Sept. 25, “PRINTVISIONANZA.” The second annual juried student print exhibition at ASU Art Museum is curated by the Printmaking Student Association. The exhibit is open to all ASU undergraduate and graduate students with work in any traditional or nontraditional print medium. Reception: 7-9 p.m., Sept. 25.

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

Open Sept. 25, David Jones, master’s degree in fine arts, drawing.

Open Oct. 2, Ismael González, master’s degree in fine arts, ceramics.

Interdisciplinary Arts and Performance Gallery — 11 a.m.-2 p.m., Monday-Thursday, University Center Building, room 228, West campus. Information: (602) 543-2787. Tours: (602) 543-8152.


Northlight Gallery — 7:30 p.m., Tuesday; 10:30 a.m.-4:30 p.m., Tuesday – Thursday; 12:30-4:30 p.m., Sat- day, Matthews Hall. Information: (480) 965-6517. Through Sept. 30, “Children of the Borderlands, 2006.” Features the work of ASU students in the Walter Cronkite School of Journalism and Mass Communication who documented various aspects of life near the border of the United States and Mexico.

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

Open Sept. 25, “New Perceptions Through the Past.” This exhibition is a collection of the work completed in the fall 2003 non-summer class. The work includes mediums of cyanotype, van dyke and gum bichromate. Reception: 7-9 p.m., Sept. 26.

Open Oct. 2, Intercollege Metalkaholik. The Intercollege Metalkaholik Exhibition is a group show incorporating work from a variety of university metals and metalworking departments across the United States. Among the exhibitors, including ASU, will Work include that of undergraduate and graduate students, as well as work produced by faculty. Reception: 7-9 p.m., Oct. 2.

Tilt Gallery — 1-5 p.m., Saturday. Also open first and third Fridays, 11-6 a.m., October 20; 6-11 a.m., Nov. 3-10 p.m., Nov. 17. Also by appointment, 191 West Fillmore St., Phoenix. Information: (602) 716-5667.


Miscellaneous
“Godspell” is among the most accomplished paint- ers recording the impact of globalization on society. “Gardening with Japanese heritage who is among the most accomplished painters recording the impact of global- ization on society. “Gardening with Japanese heritage who is among the most accomplished painters recording the impact of globaliza- tion on society. "Godspell," among the most accomplished painters recording the impact of globalization on society. "Gardening with Japanese heritage who is among the most accomplished painters recording the impact of globalization on society. "Gardening with Japanese heritage who is among the most accomplished painters recording the impact of globalization on society.

By Denise Tanguay
The ASU Art Museum will present the first U.S. exhibition of paintings by Oscar Oiwa, the Brazilian-born artist of Japanese heritage who works in various forms, including Anselm Kiefer, Claude Monet and science-fiction films. His imagery reflects the post-war reforms and the gradual deformation of the environ- ment, especially of cities.

Oiva has a master’s degree in fine arts, drawing.

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In BRIEF

Hole-y cow: Casey notches record payday

Former ASU golf standout Paul Casey turned in a record-setting performance Sept. 17 to win the World Match Play Championship in Wentworth, England. Casey’s victory earned him the richest prize in golf—about $1.88 million—and sends him to the Ryder Cup with the biggest win of his career.

Casey never trailed in his final 71 holes of a marathon week, winning the final five holes against Shaun Micheel for a 10-and-8 victory, the largest margin of the final match in the 43-year history of the World Match Play Championship. Casey played 126 holes en route to the title, a record for fewest holes over four 36-hole matches. Ian Woosnam and Padraig Harrington each played 128 holes in 2001.

“None of the matches were easy, even though the scores may not have reflected that,” says Casey, a 29-year-old from England who grew up about 15 minutes away from Wentworth. “I was happy to just make the final. If I won, it was purely a bonus.”

His prize was the largest of any official golf tournament in the world.

While at ASU, he posted a distinguished amateur career. He was the first man to win three consecutive Pac-10 championships (1998, 1999 and 2000). In 2000, he broke the championship scoring record held by Tiger Woods (18 under par) with a 23-under-par 265.

Center honors 5 Arizona businesses

The Spirit of Enterprise Center at ASU’s W. P. Carey School of Business has announced the winners of its 2006 Spirit of Enterprise Awards.

The awards, which celebrate ethics, energy and excellence in entrepreneurship, were handed out to five businesses at a luncheon Sept. 20 at the Arizona Biltmore Resort & Spa. The awards are sponsored by Edward Jones, the Rich Dad Co. and Monster.

The five honorees are:

• AIR Marketing of Tempe.
• Complete Print Shop Inc. of Phoenix.
• Data Doctors Computer Services of Tempe.
• DLC Resources Inc. of Phoenix.
• Grand Canyon Railway of Flagstaff.

“Companies receiving the Spirit of Enterprise Awards are leaders in their businesses and in the community,” says Mary Lou Beserote, director emerita of the Spirit of Enterprise Center. “Their high standards of leadership and service set examples that give our students the opportunity to study entrepreneurship and learn from people who have built their dreams into successful businesses.”

A newly designed award sculpture was unveiled as part of the Spirit of Enterprise 10th anniversary celebration. The original design is the work of Cave Creek artist Bill Geaves of Concept West.

Speaker poses ‘transhuman’ question

According to the Bible, God formed Adam, the first man, from the dust of the Earth and breathed the breath of life into his nostrils.

In his 2005 novel, “Never Let Me Go,” Kazuo Ishiguro tells the story of three young adults who grew up in a private school in England, where they were never told the dark secret of their existence: that they were clones, born to sacrifice themselves for others.

Has humanity already made the long journey from creation to clone?

ASU-sponsored fair provides educational value for teachers

By Chris Lambrakis

Innovation, creativity and sharing with the education community is what the annual Education Fair, sponsored by ASU’s School of Educational Innovation and Teacher Preparation, is all about. ASU wants K-12 educators to get on the bus for its annual fair from 8 a.m.-4:30 p.m., Oct. 7 at ASU’s Polytechnic campus.

The fair, which takes place in the Student Union ballrooms and the Agribusiness Center classrooms, provides opportunities for K-12 educators to enhance educational innovation through networking and resource sharing among community partners, educators and university students.

The fair is for teachers of all experience levels. Dosreta Van Harren, a veteran teacher of 26 years, finds the fairs informative.

“I feel like you can always learn more about teaching and experience other ways of doing things to expand your teaching skills and appeal to the many types of learners,” she says.

Fair attendees will have many opportunities throughout the day to gather new ideas, information and free items. Workshops and breakout sessions are available, and more than 30 community partners will participate in the fall event, including the Desert Botanical Garden, the American Red Cross, the Arizona Museum for Youth, Leapfrog School House, Ripiant Institute, Science is Fun and many more.

SRP and Arizona Foundation for Resource Education are the primary sponsors of the event.

Local teachers and students will demonstrate their creative ideas in “Make ‘n’ Take” activities, and topics for sessions will include:

• K-12 classroom management and techniques
• Curriculum content
• Cross-curriculum strategies to increase student achievement
• Curriculum-based field trip information
• Grant writing
• Creating partnership and funding opportunities

The breakout sessions presented by local educators can be used to meet the professional development requirements for many local districts. These sessions will range from 45-90 minutes and will cover a wide range of content, including science, math, reading, social studies, art, educational games and more. Each session emphasizes the use of community resources in the classroom and content is aligned with state academic standards.

“The workshops and sessions are presented in a way that addresses current issues and teaching styles that add to my current knowledge of teaching skills,” says Van Harren, who works for the Miami Unified District in Arizona. “It’s also very valuable to network with other teachers and professionals in education.

Registration for the entire day is $25 before the event and $35 at the door. Full-time education students at ASU, Central Arizona College or in the Maricopa Community College system can attend for free with a current student identification card.

Check-in will be from 7:30-9 a.m. in the Student Union. To register, visit the Web page (www.poly.asu.edu/edfair). For more information, contact Deb Milona-Wickers at (480) 727-1510 or (dlmo@asu.edu). Lambrakis, with Public Affairs at the Polytechnic campus, can be reached at (480) 727-1173, or (lambrak@cfaasu.edu).

Always leave ‘em smiling

Patricia Arredondo, left, associate vice president in University Student Initiatives at ASU, smiles during Dan Koestner’s presentation at the formal opening ceremony of the first phase of Hassayampa Academic Village on the Tempe campus Sept. 15. Koestner is a resident assistant at the Hassayampa Academic Village.

Leda Cosmides, co-director of the Center for Evolutionary Psychology at the University of California-Santa Barbara, will discuss this topic in a free lecture at 7:30 p.m., Oct. 10, in Old Main’s Carson Ballroom on ASU’s Tempe campus.

The lecture, titled “Are We Already Transhuman? Evolutionary Psychology and Human Nature”, is sponsored by the Center for the Study of Religion and Conflict. It is part of theTempleton Research Lectures, a four-year interdisciplinary project called “Facing the Challenges of Transhumanism: Religion, Science, Technology.”

The project, which is supported by a grant from the Metanexus Institute, looks at the supposition that humans stand on the precipice of a new phase in human evolution, referred to as “posthumanism” or “transhumanism.”

This new phase, in which humans become their own makers, emerges because of the confluence of new developments in the life sciences, technology and neuroscience.

The lecture is free and open to the public, but tickets are required. For tickets or lecture information, call (480) 727-6736 or visit the Web site (www.asu.edu/crc).

Face time

ASU President Michael Crow, left, and research assistant Abraham Karam from the School of Life Sciences stand next to a time capsule during a ceremony at the Old Main Lawn on the Tempe campus Sept. 20. The time capsule was assembled to commemorate ASU’s reaching $200 million in research expenditures during the past year. The capsule will be opened when ASU research expenditures reach $1 billion.

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Tiny fuel cell holds promise for more ‘juice’

(Continued from page 1)

The hydrogen gas leaves the gas generator by moving across a special gas/liquid separating membrane to the fuel cell component, while the membrane retains the liquid in the catalytic gas generator. The hydrogen gas then combines with oxygen inside the fuel cell to generate water and electricity, which can be used to power a portable electronic device.

The byproduct of the reaction is a safe, nontoxic watery solution that remains trapped and secure in the fuel cell container.

Although the battery generates heat, it generally doesn’t get any higher than body temperature, Gervasoni says. And because the hydrogen generated by the device is matched by the rate of hydrogen consumption, there’s virtually no free hydrogen gas during power generation, making the fuel cell safe, he says.

Although the fuel cell itself is reusable and doesn’t need recharging, the borohydride fuel eventually is depleted. The fuel cell can be rejuvenated simply and quickly by adding a new cartridge of borohydride, Gervasoni says.

While the prototype fuel cell is the size of a shoebox, it can easily be scaled down to the size and weight of a small, conventional battery, Gervasoni says.

Commercialization could take as many as three to five years, so current technology users may need to put up with their regular batteries and rechargers for a while longer.

Funding for this study was provided by the National Science Foundation through the Ira A. Fulton School of Engineering’s Green Energy Program and KITECH, the Korean Institute of Technology, a Korean national laboratory in Incheon, Korea.

Capermann, with the Biosciences Institute, can be reached at (480) 727-0360 or (goshun.capermann@asu.edu).

Discovery of oldest infant skeleton helps fill gaps in human timeline

(Continued from page 1)

Alemseged has been carefully preserving the skeleton for the last five years by dripping away sandstone from the fragile bone fragments. He still has several years of work to complete it.

The skeleton remains include the skull and jaws, parts of the limbs, the breastbone, shoulders, spinal column, ribs, right arm, fingers, legs and left foot. A significant fragment of the skull by Alemseged and his team has shown that its lower body is adapted for bipedal locomotion, like that of adult Australopithecus, while the upper body – especially the scapula, or shoulder blade – exhibits some gorilla-like features, Kimbel says. However, there continues to be debate about the interpretation of these features and what was the preferred mode of locomotion for this species.

Some researchers have argued that the ape-like features with serve the purpose, but are not functional, while others argue that the features are functional and indicate that the species spent some time climbing trees.

“I don’t think a 3-year-old adapted to bipedality is going to spend much time climbing in trees, but the mix of features in this skelton is going to stir up the debate about locomotion in early Australopithecus,” Kimbel says.

Alemseged uncovered a hyoid bone in the skeletal remains, which is the first time that bone has been discovered in the early Australopithecus fossil record.

The hyoid bone is located in the larynx, or “voice box,” and supports muscles of the throat and tongue involved in speech. The one discovered in the infant ape is primitive and is similar to hyoids found in apes other primates, Kimbel says. The one discovered in the fossil record is more primitive and similar to hyoids found in modern humans, Spoor says, who has studied the evolution of this region in humans and other primates.

The findings are expected to provide insights into the growth and development of this region in early Australopithecus and other primates.

The genetic makeup of humans is so similar to that of our closest relatives, such as the chimpanzee, that most anatomical differences are explained by changes in the pattern of growth from infant to adult.

The infant Dikika skeleton is expected to provide an important reference point that will help researchers explain how changes in growth and development contributed to the evolution of human.

Alemseged announced the publication of the research on the Dikika skeleton at a Sept. 20 press conference in Addis Ababa, Ethiopia. Jerusha, with Media Relations, can be reached at (480) 965-6830 or (danielle.jerusha@asu.edu).

Understanding growth and development and how it has changed in human ancestry is central to the study of human evolution, Kimbel says. He also adds that information about growth and development can help answer questions about the mechanisms that drove changes in body form that we see in the fossil record.

“Most differences between humans and their ancestors can be associated with developmental changes,” Kimbel says. The generic makeup of humans is so similar to that of our closest relatives, such as the chimpanzee, that most anatomical differences are explained by changes in the pattern of growth from infant to adult.

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Tiny fuel cell holds promise for more ‘juice’

(Continued from page 1)

cells, which also are safe for the environment, was described at the 232nd national meeting of the American Chemical Society.

Because higher hydrogen production translates into more energy for longer battery life, one of the challenges in fuel cell development is maximizing the concentration of hydrogen in the fuel cell.

Many different hydrogen sources have been explored for use in fuel cells, including metal hydride “sponges” and hydrides such as sodium, gasoline, ethanol and even vegetable oil.

Recently, borohydride has shown promise as a safe, energy dense hydrogen storage solution. Unlike other fuel sources, borohydride works at room temperature and does not require high temperatures to liberate hydrogen, Gervasoni says.

The team at ASU is focused on a key enabling technology, the chemistry for developing useful fuels with higher energy density than battery metals.

Using novel chemical additives, Gervasoni and his associates are working on a way to increase the useful hydrogen storage capacity of the borohydride solution two to three times the hydrogen capacity of simple aqueous sodium borohydride solutions that are being explored for fuel cell development.

The additives help prevent the solution from solidsifying, which could potentially clog or damage the hydrogen generator and cause it to fail. In developing the borohydride fuel cell system, the researchers have shown the solution in a tiny generator containing a metal catalyst composed of ruthenium metal. In the presence of the catalyst, the borohydride in the water-based reaction solution acts to form gas hydrogen.

The proposed protein has commercial value, but because higher hydrogen production translates into more energy for longer battery life, one of the challenges in fuel cell development is maximizing the concentration of hydrogen in the fuel cell.

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By Chris Lambrakis

Daniel Sanchez, a senior in agribusiness at ASU's Morrison School of Management and Agribusiness, has received the Asparagus Scholarship, a $3,000 award given to students who are pursuing a degree leading to a career in the grocery industry. He is the first Morrison School student to ever receive the national scholarship.

The Asparagus Scholarship is awarded by the Asparagus Club, which was founded in 1909 in New Orleans, La. The club has awarded more than $800,000 in scholarships during the last 15 years.

The Asparagus Club annually grants scholarships to a limited number of students from across the country.

Sanchez, a native Arizonan from Gilbert who plans to graduate magna cum laude in May, competed against applicants from several other top food marketing schools in the country, such as Cornell, Michigan State, Western Michigan and St. Joseph's University.

"It's not the first or the only scholarship for Sanchez. He has received the Beth DeGroff Memorial Scholarship, the Robert Lytle Scholarship, and the Arizona Food Marketing Alliance Food Professionals Scholarship.

"I have been able to learn about the food chain and supply chain in the industry, and I hope to use what I learned in a category manager or food merchandiser position with a food company," Sanchez said.

-- ASU senior Daniel Sanchez

By Lisa Campbell

Shaun McDonald is not a quitter.

While most students make frequent drives to commutes to show up for class, McDonald took commuter flights, because the recent ASU alumnus also is a professional football player for the St. Louis Rams.

He began his college education straight out of high school upon receiving a full scholarship to play football at ASU. He also had a successful career at ASU, finishing it with 2,867 yards receiving – just 126 yards shy of the school career record.

In 2003, he left ASU to play professional football and was drafted by the Rams in the fourth round of the NFL draft. But before leaving ASU, McDonald made a promise to his ASU academic advisor, Corinne Corte, that he would finish his degree.

This year, McDonald kept his promise to Corte – although he says a lot of the recognition should go to her.

"Corinne played a big role in my academic career and deserves recognition," McDonald says. "I have been able to learn about the food chain and supply chain in the industry, and I hope to use what I learned in a category manager or food merchandiser position with a food company."

-- Former ASU football standout McDonald shows he's no quitter

By Debra Friedman

Debra Friedman, dean of ASU’s College of Public Programs and professor of public affairs, was named to a two-year term on the Phoenix Human Services Commission. As a commissioner, Friedman joins elected officials, representatives of community and neighborhood organizations in advising the Phoenix Human Services Department.

Friedman’s areas of expertise include policies on quality child care, health care, affordable housing, livable neighborhoods and transportation. The uncertainty of funding for social service programs are challenges the community will address in partnership with the city of Phoenix.

Friedman leads the College of Public Programs, anchoring the ASU Downtown Phoenix campus with about 1,500 undergraduate and graduate students. The college has more than 30 academic programs, the largest of which is social work, and also includes the schools of public affairs and community resources and development.

Linda Pastori

Linda Pastori, Eight/KAET-TV’s associate director of development, has been named the new chairwoman of the Arizona Football Football Chamber of Commerce. Pastori will oversee the chamber’s mission of advancing community development and progress. Her responsibilities include coordinating volunteer efforts of individuals and businesses to help meet the community’s social needs.

Since joining the Arizona public television station in 2000, Pastori’s innovative strategies and programs – “Small Business Partners,” “Signal Stewards” and “Studio Club” – have strengthened community involvement and resulted in some of the largest development revenue increases in the station’s history.

Pastori also has worked for two other public television stations. During her 16-year career in marketing and development, she has raised millions of dollars for nonprofit organizations.

By Andy Ortiz

Ranu Jung, co-director of the Center for Adaptive Neural Systems at ASU’s Biodesign Institute and an associate professor in ASU’s Harrington Department of Bioengineering, is the new president of the international Organization of Computational Neurosciences.

This prize comes with a cash award of $1,000 and an invitation to speak on her research at Texas A&M.

Andy Ortiz, project manager for Capacity Building Initiatives at ASU’s Center for Nonprofit Leadership & Management, recently was selected as a semifinalist for the United States Jaycees 10 Outstanding Young Americans program.

In addition to going to school, Sanchez has been working at Albertson’s grocery store as an assistant meat manager. While working and attending school, he made the dean’s list every year and has been recognized as an outstanding leader by the Morrison School.

All of his experiences have prepared him well for his future in the grocery industry.

The grocery industry is a very challenging, innovative industry, says Sanchez. "When speaking to the current ASU football student-athletes, I use Shaun as an example of what needs to be done to be successful as an ASU athlete and student – and if possible, at the next level," Corte says.

"He took both seriously, which is very rare," says Corte. "He took both football and studies seriously, and he remained a student-athlete throughout his ASU career."

Sanchez would graduate with a degree in management and agribusiness. He says the way he arrived at ASU and pursued his degree also prepared him for his future in the grocery industry.

Lambrakis, with Public Affairs at the Polytechnic campus, can be reached at (480) 727-1473 or (lambrakis@asu.edu).

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