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Comments can be sent to Cal Poly Magazine, Public Affairs, Heron Hall 204, Cal Poly, San Luis Obispo, CA 93407-0009.

PHONE: (805) 756-6530
FAX: (805) 756-6533
E-MAIL: jlloyd@calpoly.edu

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Vice President for University Advancement: Sandra Ogren

Public Affairs Director: Leah Kolt

Cal Poly Magazine Editor: Jo Ann Lloyd

Cal Poly Magazine Assistant Editor: Susan McDonald

Contributors: Teresa Hendrix & Stacia Momburg

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ON THE COVER
City and regional planning major Elise Torres prepares for dressage competition.
CHEMISTRY ALUM
A 'PRIME' EXAMPLE OF CAL POLY CAN-DO SPIRIT

STEVEN BOONE (CHEM '84) and a team of researchers at Central Missouri State University have found the largest known prime number - 

The team worked on the project for about nine years, using more than 700 computers, identifying the number last December. The number has 9.1 million digits. It's so long, Boone said, that if it was printed in 12-point font, it would cover 2,800 pages.

A prime number is a positive number that can be divided only by itself and 1.

The number that the Central Missouri team discovered is a Mersenne prime, described by Boone as a "special type of prime number" that follows a pattern to a certain point, then the pattern breaks up, making the next such number even more elusive. Only 43 such numbers have been discovered.

SYMANTEC'S BLOOM LEADS NEW CAL POLY FOUNDATION

GARNERING CRUCIAL PRIVATE SUPPORT to maintain Cal Poly's margin of excellence and to build for the future are the goals of a new nonprofit organization formed in November 2005.

Organized as an auxiliary under the California Education Code, the organization will lead campus philanthropic activity, according to Sandra Ogren, vice president for university advancement and CEO of the new Cal Poly Foundation.

Gary Bloom (CSC '82), former vice chairman and president of Symantec, serves as chairman. He is joined by a number of other alumni, faculty, staff, students and friends of the university.

"To maintain the momentum of the highly successful Centennial Campaign, which raised a record $264.4 million, we are turning to our alumni and other supporters to add vigor to our fund-raising efforts," Ogren explained.

The former Cal Poly Foundation is now named the California Polytechnic State University Corporation.

NOTHING COMMON ABOUT KENNEDY LIBRARY'S LEARNING COMMONS

THREE LABS THAT DOUBLE AS CLASSROOMS, each with state-of-the-art technology and expert advice at hand, make up the new Learning Commons at the Kennedy Library.

Whatever the need – a laptop, smart computer lab, access to oversize printers, or help with technical or library resources – the Learning Commons delivers for faculty and students.

The Learning Commons is a collaboration between Instructional Technology Services, the Center for Teaching and Learning, and the Kennedy Library. It is part of the Digital Teaching Initiative, which seeks to foster creative, flexible relationships among students and professors, resources and technology.

For more information, visit www.learningcommons.calpoly.edu.
CSU ENGINEERING FORUM FEATURES SUN V.P. KATHLEEN HOLMGREN

(Kathleen Holmgren (IE '80) joined a panel of industry experts at the CSU Engineering Impact Forum in San Jose last fall.

The event brought together engineering stakeholders from industry and the CSU, along with several state and local officials to discuss key issues facing the engineering industry and the CSU's partnership role in preparing the future work force.

Discussion focused on concerns about the dwindling work force supply for science and technology jobs and generating ideas for attracting students to the field, especially women and minorities.

CAL POLY WOMEN ENGINEERS ARE NO. 1 — AGAIN!

FOR THE FOURTH STRAIGHT YEAR, Cal Poly Society of Women Engineers was named the Outstanding Student Section in the nation from a field of 300 student chapters.

The group also won the Team Tech competition and other honors at the SWE National Conference in November. The Team Tech project involved working with Walt Disney Imagineering on the design of a maintenance vehicle for a new Disney World ride, "Expedition Everest."

In all, Cal Poly received two scholarships and six awards.

NSF $1-MILLION GRANT GOES TO MATERIALS ENGINEERING EDUCATION

THE MATERIALS ENGINEERING DEPARTMENT has received $1 million from the National Science Foundation to redesign its materials engineering education program. The re-engineering of the degree curriculum is intended to attract and retain more women and minorities, while preparing all students to solve increasingly complex global problems, said Department Chair and Professor Linda Vanasupa. For details, visit www.mate.calpoly.edu.

$3.4 MILLION AWARDED FOR HIGH-TECH OCEAN CURRENT MONITORING

CAL POLY RECEIVED A $3.4-MILLION GRANT from UC San Diego's Scripps Institution of Oceanography and San Francisco State University to install a high-tech system to monitor California's near-shore currents.

The state Coastal Conservancy approved $21 million for the project, which includes seven other institutions.

The system will help combat pollution, aid in response to natural hazards, and provide information about the state's coastal ecosystem as it monitors currents from the Mexican border to the Oregon state line.

It will also collect hour-by-hour data, which will be made available "live" on the Internet as a resource for fishermen, marine researchers and government agencies tracking pollution spills.

Cal Poly biological sciences Professor Mark Moline heads up the effort at Cal Poly. For more information, go to www.cocmp.org.
PUBLIC AFFAIRS CAPTURES CASE AWARDS

THE CAL POLY PUBLIC AFFAIRS OFFICE recently captured two awards at the District VII regional conference of the Council for the Advancement and Support of Education.

In competition with other public and private universities in California, Nevada, Arizona, Utah and Hawaii, the Cal Poly group received a silver award for Best Public or Government Relations Campaign.

"The Party's Over" campaign, designed to promote safety during San Luis Obispo's 2005 Mardi Gras weekend, was jointly developed with the City of San Luis Obispo and Cuesta College.

A bronze award was presented to Cal Poly for its online newsletter, Cal Poly Update, which is distributed monthly to over 40,000 alumni, donors and other supporters of Cal Poly. To subscribe, go to www.calpolynews.calpoly.edu/update/archives.html.

NEW ETHNIC STUDIES MAJOR OFFERED

CAL POLY NOW OFFERS a Bachelor of Arts degree in comparative ethnic studies. The major offers students an opportunity to study the historical development and social significance of race and ethnicity in the United States.

Courses in ethnic studies survey how race and ethnicity affect access to political power and economic resources, as well as how race and racism influence cultural expression, according to Department Chair Charise Cheney. For more information, call (805) 756-1707.

CAL POLY CELEBRATES FIRST CONSTITUTION DAY

WHEN CAL POLY CELEBRATED ITS FIRST Constitution Day last fall, a new tradition was born. The university each year plans to honor the signing of the U.S. Constitution with a special event highlighting the ideals of liberty, justice and equality.

Sponsored by the College of Liberal Arts, the event celebrates the birth of the U.S. government and the oldest written constitution in the world, according to College of Liberal Arts Interim Dean Linda Halisky.

ENDOWMENT ESTABLISHED IN MEMORY OF WALT TRYON

AN ENDOWMENT IS BEING ESTABLISHED in honor of longtime landscape architecture Professor Walt Tryon, who passed away in October.

Tryon is remembered for his holistic teaching style, caring attitude, world perspective and genuine friendship. Hundreds of students and many colleagues were influenced by his kindness and compassion, and by his nearly 30 years in the classroom at Cal Poly.

His efforts greatly contributed to the department's "Best in the West" ranking by a national survey conducted by the publication DesignIntelligence. The survey ranks both the undergraduate landscape architecture program and architecture program as No. 1 West of the Mississippi.

Tryon earned Bachelor of Science and Bachelor of Landscape Architecture degrees from the State University of New York at Syracuse in 1964. While working as a landscape architect, he earned a Master of Landscape Architecture degree at Syracuse University in 1974. He served as a faculty member there from 1970 to 1976.

He served in the U.S. Coast Guard aboard the USS West Wind in the North Atlantic during the Vietnam War.

Donations to the endowment should be made payable to the Cal Poly Foundation "In memory of Walt Tryon" and sent to the Landscape Architecture Department, Cal Poly, San Luis Obispo, CA 93407-0285. For more information, call (805) 756-1319.
"WE ENTERED THE SEASON WITH high and great expectations, and we worked hard in anticipation of a difficult schedule," said head football Coach Rich Ellerson. "There were great days and tremendous adversity."

Texas State ended Cal Poly's playoff run in early December with a 14-7 victory in the quarterfinal round at San Marcos, Texas, but that didn't dampen the tremendous success the Mustangs have enjoyed since Ellerson's arrival in 2001.

The team had a perfect 6-0 mark in home games, including wins over ranked schools Montana State, North Dakota State and Eastern Washington. Three consecutive wins at home in November propelled the Mustangs into the playoffs and the historic 35-21 triumph over national powerhouse Montana in the first round of the playoffs at Missoula - Cal Poly's first win in 11 tries against Montana's Grizzlies.

Senior defensive end Chris Gocong won the Buck Buchanan Award, recognizing him as the nation's best defensive player in Division I-AA. He was also named first-team All-American by the American Football Coaches Association, Walter Camp Foundation and The Sports Network.

Junior linebacker Kyle Shotwell broke a record for tackles in a season (158), and redshirt freshman running back James Noble rushed for 1,578 yards and 16 touchdowns, both school records.

Other top Mustangs were quarterback Anthony Garnett, wide receiver Jonah Russell, offensive linemen Beau Finato and Brett Gauld, cornerback Courtney Brown and safeties Aaron Williams and Kenny Chicoine.

Ellerson was named Great West Coach of the Year by his peers for the second consecutive year.

Mustang fans can play a vital role in completing Memorial Plaza at the Spanos Stadium, now under renovation, by buying brick pavers to honor victims of the 1960 plane crash that claimed the lives of 16 football players, among others. Bricks can be engraved with a personal message. For more information, call (805) 756-2255 or go to www.GoPoly.com/news/20052006/Bricks.html.
CYBER-MAN
ABLE TO HELP SOLVE CRIME WITH THE CLICK OF A MOUSE

BY JO ANN LLOYD

THE VOICES ON THE AUDIOTAPE WERE MUZZLED, nearly inaudible, yet there was little doubt: a murder-for-hire was in the making.

On this Friday evening, with no time to lose, police locate Bob Howell. The mild-mannered photography professor hurries to his makeshift lab in the University Police Department, where he meticulously dissects the evidence, stopping a murder before it occurs.

Seems unlikely, but this soft-spoken Cal Poly professor fights crime with a mouse – the computer kind.

With his film and digital cameras, video and audio equipment, a high-powered laptop, and software he’s likely written himself, Howell has become something of a celebrity cybersleuth on the Central Coast.

As high technology becomes more readily available, its dark side is emerging, Howell says. “Like the sophisticated weapons used by street gangs in major cities, criminals are now using sophisticated technology to commit crimes.”

Howell uses his skills and whatever spare time he can muster to help local law enforcement agencies solve crimes ranging from identity theft and computer infiltration to drug dealing and murder.

He approached the University Police Department about six years ago, when he realized he could help solve crimes. The police were skeptical at first.

But time has turned their skepticism into admiration. Last summer the Criminal Justice Administrators Association honored Howell for his work in extracting information from audio and videotape to help solve crimes.

Howell’s investigative powers lie in his ability to clarify and restructure – not enhance – information or evidence. He’s the man to call when you can’t identify a robbery suspect from a bank surveillance tape, or have trouble deciphering the audio portion of a dialogue recorded during the commission of a crime.

Frame by frame, he painstakingly “breaks down” the video or audiotape, clarifies details, and reconstructs it.

Background noise can obscure a conversation, he says. With specialized software that he often creates himself, he digitizes the tape and removes irrelevant sounds, revealing an audible conversation.

“Much like karaoke drops out the voice and leaves just the music, I take out the ‘music’ and leave the voice,” he explains.

His efforts helped identify and send to jail an individual who had shot and wounded a man during a store robbery. The act was caught on videotape, but the quality was so poor, the suspect could not be identified – until Howell stepped in.

Howell is also called on to “virtually” recreate crime scenes. Using this technology, police can examine details as minute as carpet fibers.

The technology available today, though, is expensive and complicated to use, says Howell, who is on a mission to create an inexpensive, easy-to-use system that small law enforcement agencies can afford.

He is, apparently, the man for the job. A computer programmer, who often builds equipment from the ground up, Howell says he is fascinated by just about everything. “If I can’t get it, I build it,” he claims.

He says combining his programming with photography results in a “perfect blend of imaging solutions. Getting the image is the art; processing it – extracting the data – is the science.”
LAST SUMMER THE CRIMINAL JUSTICE ADMINISTRATORS ASSOCIATION HONORED HOWELL FOR HIS WORK IN EXTRACTING INFORMATION FROM AUDIO AND VIDEO TAPE TO HELP SOLVE CRIMES.
IN ONE OF THE NEWEST SPACES in the Advanced Technology Laboratories on campus, a professor and a team of students are blending winemaking, engineering and earthquakes.

It may sound like an odd mix, but in fact it's a research project with plenty of punch.

Structural engineering Professor Charles Chadwell is looking for ways to prevent wine barrels from toppling and breaking during an earthquake. Standard industry practice in California is to age wines in oak barrels stacked on portable metal racks, Chadwell explains.

Wineries commonly stack the barrels five, six, seven — even eight high.

It's a tradition that may work fine in France — but it doesn't always work well in earthquake country.

Many Paso Robles-area wineries found that out Dec. 22, 2003, during the 6.5 San Simeon earthquake. Wine barrels shook, rattled, rolled and fell all over San Luis Obispo County, particularly in areas closest to the epicenter. Thousands of gallons of wine spilled from broken barrels, causing hundreds of thousands of dollars in loss and damages. At Wild Horse Winery, a worker was buried under a pile of fallen wine barrels. She was rescued after crews drained the barrels and rolled them off.

Just two days before the quake, Chadwell had submitted a grant proposal for a wine barrel earthquake research project. The project was quickly granted $40,000 from Cal Poly's C3RP technology park research program for junior faculty. In addition to the grant, Mondavi wineries donated wine barrels, and storage-rack maker Topco Inc. donated portable steel wine barrel racks.

The new wine barrel lab at the ATL is equipped with a "shake table" and a hydraulic lift, along with sophisticated computer equipment. The setup recreates movement from actual earthquakes, including the 1994 Northridge earthquake.

Chadwell and engineering students Jeremy Stanley, Mark Philipps and Townsend Brown have been stacking 600-lb. wine barrels filled with water two, three and four rows high, recreating quakes, and recording what happens. They're working their way up to a five-barrel tower test.

The goal of the research project, Chadwell says, is to come up with a mathematical formula and model for winery earthquake loss estimations. "For a particular winery, if we know the kind of soil the winery is on, the distance to the closest earthquake fault, and the maximum earthquake that fault can produce, we can use the model to assess the monetary risk of an earthquake," he explains.

Wineries could then contrast the risk against the cost of modifying their wine barrel storage.

With the data they've gathered so far, the professor and his students have come up with new ideas on how to make stacks of wine barrels safer during earthquakes. They're seeking a patent on one of them. Chadwell and the College of Engineering are planning to invite winery owners from the Central Coast and Napa and Sonoma counties to the lab this spring for a demonstration — and some wine and Cal Poly cheese.

For Chadwell and the students, the project is a chance to come up with a solution to a real-world problem. "We were looking for a project that would benefit industry, and with Cal Poly's location in wine country, this was just a natural," Chadwell says.

And besides, as a cabernet sauvignon fan, "I hate to see a good barrel of wine go to waste." •
DON'T CALL US COWBOYS

BY SUSAN MCDONALD

Students pictured: Erin Lewis, Elise Torres and Tori Dye
THE BEAUTY AND ELEGANCE OF DRESSAGE HAS FOUND ITS PLACE IN INTERCOLLEGIATE COMPETITION, ALONGSIDE REINING AND CUTTING AND OTHER EQUESTRIAN EVENTS.
HORSEMANSHIP ISN’T JUST ABOUT ropin’ and ridin’ at Cal Poly.

The beauty and elegance of dressage has found its place in intercollegiate competition, alongside reining and cutting and other equestrian events.

Dressage in French means “training,” but watching a horse and rider gliding along, you’re bound to think “ballet.” A skilled rider makes it look effortless, using leg pressure and weight changes so subtle, the cues are virtually invisible.

Control, balance and rhythm are what judges look for - horse and rider moving together in harmony, said team president Erin Lewis. “It’s all about how the rider communicates with the horse.”

Communicating with the Animal Science Department about starting a dressage program was another matter. “I didn’t know what dressage was,” said Department Head Andy Thulin. “I didn’t know who the riders were.”

Since Cal Poly doesn’t have its own dressage horses, it’s up to the team’s “horse master,” Elise Torres, to find suitable mounts. “I don’t use the horses;” said Torres, a sophomore city and regional planning major. “I usually start calling around three weeks ahead of time. Then I go out and ride the horses to determine their level of competition.”

The day of the event is hectic. “We bathe the horses, braid them, clean tack – it’s a big day,” Torres said. “It’s fun though, because we’re all together.”

There’s a lot of sharing of clothes and equipment. They swap boots, coats, hats, crops. They laugh a lot and “ooh” and “ah” everyone’s appearance, especially the horses. “Look at Red, isn’t he cute,” someone said about Torres’ 12-year-old chestnut thoroughbred.

“IT’S ALL ABOUT HOW THE RIDER COMMUNICATES WITH THE HORSE.”

Actual competition allows the riders just 10 minutes to warm-up the horses they’ve been assigned. Then they ride a prescribed U.S. Dressage Federation “test” that they’ve memorized.

“When you only have 10 minutes to build a relationship, it takes a lot more than the animal’s good looks to get the job done,” said Sarah Von Brandt, an animal science senior. “It takes feel and skill because dressage is very technical. You can’t fake it.”

For now, the team practices and competes at an arena in Atascadero, but plans are under way for renovation of the campus Equine Center. A barn for mares, a stallion collection area, a round pen and hay barn have just been completed. Another barn with stalls, a covered arena, and classroom are on the drawing board.

“All I need is $1.5 million to finish the job,” Thulin said. “We are now so impacted, we have no space for everything we want to do. I want the Equine Center to be a clean, functional workplace – a showplace we can be proud of.”

reining cow horses. This was something totally new for me.”

He credits Katie Dougherty (ASCI ’04) with his enlightenment. “She came to me about four years ago, asking to start a team. She practically camped out in my office. Her perseverance paid off. The dressage team is a class act. They’ve really worked hard to get where they are today.”

Dougherty and other students recruited UC Davis, UC Santa Cruz, UCLA and Fresno State in 2002 to create the Western Region of the national Intercollegiate Dressage Association. Since then, Cal Poly has been the regional champ three times. Last year the team finished eighth out of 57 teams in the national competition.

Not bad when you realize some students join the team without ever having tried dressage before; a few have never even been on a horse. They soon learn there’s more to it than riding.

When a school sponsors a dressage event, its team does all the legwork, including rounding up a couple dozen horses for all the competitors to ride.

Since Cal Poly doesn’t have its own dressage horses, it’s up to the team’s “horse master,” Elise Torres, to find suitable mounts. “Some trainers let us use their horses,” said Torres, a sophomore city and regional planning major. “I usually start calling around three weeks ahead of time. Then I go out and ride the horses to determine their level of competition.”

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CARING FOR THE CALIFORNIA CONDOR
BIOLOGY SENIOR HELPS SAVE ENDANGERED SPECIES

BY TERESA HENDRIX

BIOLOGY SENIOR JAMIE MILLER IS A BIG BIRD FAN. Not the Sesame Street Muppet, but the California condor. With its nearly 10-foot wingspan, the endangered species is the largest bird in the Western Hemisphere.

Its wing feathers, Miller points out, are the length of her entire arm. "They're not cuddly. They're basically large vultures. But they're very, very impressive."

Miller has been volunteering with the California Condor Recovery Project for the past two years. The catch-and-release captive breeding program is credited with bringing the state’s wild condor population back from the brink of extinction, with only about 10 known birds in 1979 to some 125 today.

Most weekends, Miller and a handful of Cal Poly students and other volunteers can be found at Hi Mountain Lookout, 14 miles east of campus as the crow – or condor – flies, but a solid hour’s drive on a winding narrow road.

Every California condor is tagged with a radio transmitter, and the volunteers take hourly signal readings to track the birds between Big Sur in Monterey County and Hopper Mountain in Ventura County.

During a summer internship at Hi Mountain, Miller tracked 56 condors. “It’s an awe-inspiring sight,” she says, “when a prehistoric-looking bird with a 10-foot wingspan slowly, gracefully circles the tower and Hi Mountain, curiously watching the humans studying them.”

Miller wants to pursue a career in wildlife conservation biology when she graduates next year. She’s already done an internship on the “Big Island” of Hawaii, netting, measuring and taking blood samples from rain forest birds in a study of avian malaria. She’s currently counting kangaroo rats on the Nipomo Mesa for her senior project. And she’s also recruiting more Cal Poly students for the Hi Mountain condor recovery project.

It’s peaceful, it’s beautiful, and it’s important, she stresses. “When I’m up there taking signals, I know I’m contributing to the recovery of the condor. The information is useful for the agencies helping them. And the condors still need a lot of help. They’re better off than they were 20 years ago, but they have a long way to go."

For details on the Hi Mountain Lookout California Condor Recovery Project station, visit www.condorlookout.org.
WHEN JOE DONALDSON LED A SMALL GROUP of Cal Poly students and faculty to Honduras last October, he knew early on it would be no mere sightseeing trip.

After enduring a 24-hour ordeal of air travel from San Luis Obispo to San Pedro Sula, his group encountered a mudslide that closed the highway five miles from their hotel in Copan, forcing them to hoist their luggage up over their heads and slog knee-deep through mud.

"It was raining hard; the river was swollen with red mud," Donaldson said. "Buses and cars were stopped in the road, and people and animals were everywhere. We were so tired, we couldn't believe we'd have to walk five miles with our luggage."

Once they got through the "moving mud" — it was still an active landslide — a van took them to their hotel. "It was pitch-dark. I remember all of us standing out in front, rinsing off the mud with a hose and laughing. Believe it or not, we were actually enjoying ourselves."

Welcome to Copan, an ancient village of hand-hewn houses and cobblestone streets set in the steep terrain of Northwest Honduras. Once isolated, this rain forest community's culture and natural resources are now threatened by civilization.

Roads and dwellings sit on top of 1,500-year-old Mayan ruins. A two-lane highway rumbles through the heart of the ruins. Land along the Copan River, once shaded by dense rain forest, is almost void of vegetation and wildlife due to deforestation. Devastating landslides are common.

To help with some of Copan's problems, the Honduras Ministry of Tourism asked the Cal Poly crew of six students, landscape
architecture Professor Donaldson, and a handful of other faculty to create a plan for protecting the area’s vast cultural and natural resources and sustaining the area environmentally, economically and socially. The World Bank provided funding for the project.

Working alongside members of the Honduran Institute of Archaeology and university counterparts from the Centro de Diseño, Arquitectura y Construcción [Center of Design, Architecture and Construction] of Tegucigalpa, the Cal Poly group helped develop a plan for an 80-square-kilometer buffer zone around the Copan Archaeological Park. Its extensive Mayan ruins are so spectacular that UNESCO designated it a World Heritage site in 1980.

Though the Honduran government ordered protection of the area 20 years ago, the rules have not been enforced, Donaldson said, pointing out a Texaco gas station built amidst a beautiful natural area at the entry to the park.

Back home, the students are finalizing a plan for regional sustainability to protect and improve the environment, economy and culture. “We’re creating design guidelines,” said Rudy Castro, a fourth-year landscape architecture major who was born in El Salvador. “It’s not easy. They do things a lot differently over there. We can set the guidelines, but without anyone enforcing them, things won’t change.”

The Honduran people need to realize what they’re sitting on, he said. “We’re trying to help them find the best places to grow their food, to live and survive, and ways to protect their resources. It’s very intense, there are lots of layers. Finding the right balance, that’s our real challenge.”
STUDENTS BREAK THE MOLD TO ATTEND COLLEGE

BY JO ANN LLOYD

CAL POLY PRESIDENT WARREN J. BAKER is one. So is ASI President Tylor Middlestadt. As are former U.S. Secretary of State Colin L. Powell, U.S. Vice President Dick Cheney and award-winning writer Joyce Carol Oates.

All are first-generation students - the first in their family to attend college - and all face unique obstacles.

First-generation students' parents probably don't expect them to go to college, creating early challenges to success that have nothing to do with the rigors of academia, says Susan Sparling, director of Cal Poly's Student Academic Services.

Many of these students are coping with guilt, homesickness and loneliness because "they feel they don't belong here" and might take longer to connect to Cal Poly.

Some feel guilty for not helping support the family, Sparling explains. Many work two or three jobs to send money home.

Aerospace engineering senior Carlos Hurtado sends what he can. He's been helping support his single mom since he was a 15. "My mom worked two jobs. She's the reason I'm here; she knows the importance of education."

Some parents, though, don't realize the value of higher education. Angelina Aviña, a fourth-year biology major who plans to become a doctor, said her parents didn't know she was serious about college.

"I have eight siblings," she explains. "I was expected to stay and help out."

"I had to plan for college secretly. It was hard to be selfish for once in my life."

And while animal science senior Monica Ulloa's parents were supportive of her plans, they couldn't help with the application process or filling out papers for financial aid. During her first quarter, Ulloa was almost forced to drop out because of a financial aid error.

With the help of her Educational Opportunity Program advisor in Student Academic Services, the problem was rectified.
Ulloa graduates in June.

Up to 25 percent of Cal Poly students are first-generation college students, estimates Sparling. Getting here is their first challenge; succeeding once here is their next.

Student retention is a goal shared with the University Diversity Enhancement Council. The council is sponsoring an initiative aimed at increasing retention and graduation rates.

As part of the initiative, first-generation student panels are telling their stories to groups across campus to give faculty and staff a better understanding of the students' unique needs. The UDEC is also focusing on establishing endowed scholarships for first-generation college students.

First Year Seminars - classes designed to help new students succeed - as well as the three-week residential Summer Institute for EOP students, help ease the transition from high school to college. And Sparling and her staff help students and families adjust.

"Families want to find that one person they can entrust 'their jewel' to," Ulloa says.

Students, too, need to find someone to connect with. "It wasn't until I got involved in activities outside the classroom that I began to feel better," says Aviña, recalling her early feelings of isolation. Ulloa, from San Diego, got involved with Latinos in Agriculture "right away." Still, she feels the pangs of homesickness.

"I'm really close to my family," she said. "I was the first of five children to leave home. My brother lives two blocks from my mom; my sister lives five minutes away. Sometimes when we're on the phone, I feel left out."

All three students admit it's a tough balancing act - school, work, extracurricular activities and a social life. But they're convinced they took the right path.

"I almost gave up," Aviña says. "My first 'A' was an affirmation that I am supposed to be here."
A SIMPLY
GRAND REUNION
ALUMNI REFLECT ON THE POSTWAR YEARS

BY LEAH KOLT WITH STACIA MOMBURG

THEM CAME FROM AS FAR BACK as the Class of 1939 – and from as far away as Hawaii and Virginia – to attend the Cal Poly 2005 Grand Reunion.

Held last November to honor the Class of ’55 and celebrate all who attended prior to 1955, the event drew over 70 alumni and spouses.

Cal Poly Magazine surveyed these “golden” alumni to learn what it was like on campus in those postwar years.

So what was their dominant Cal Poly memory after 50 years? The undefeated football team? No.

The Korean War? A worry, certainly, but one that paled in comparison to the No. 1 concern – the fact that there were no female students on campus!

“No girls on campus made it a little tough to find dates,” says Al Bradley (ARCE). “But what the heck. We decided to go there anyway.”

The more motivated students hit the road, journeying to Santa Barbara or even Los Angeles to find dates, according to Gene Starkey (DSCI ’52), who later would return to his alma mater and become head of the Dairy Science Department.

At least one student decided marriage was the solution for him. Eugene R. “Gene” Robinson (AERO ’55) says he “ended up marrying my high school sweetheart midway through my sophomore year. We lived in the silver trailers on the hill for $25 a month, and she worked in the campus library. Without her, I believe I would not have made it to graduation.”

So many women were helping their husbands that these wives even received special certificates at commencement, recognizing the vital but difficult role they played.

Not a Ph.D., but a “PH.T” for “Putting Hubby Through” is how one wife characterized the recognition she received for her contributions. Ruth Renihan and her husband, Lawrence Renihan (EE ’50; now deceased), were typical of the married students who composed a large segment of the student body.

Childhood sweethearts who started first grade together, the Renihans married when they were 28 years old, after Larry had served in the Navy during World War II. They moved to San Luis Obispo in 1947 so he could attend Cal Poly on the GI Bill, which provided $83 per quarter.

They lived in married-student housing until new quarters were built where the Kennedy Library now stands. Moving into a tiny one-bedroom house in “Vetville” was nonetheless “like moving into a mansion for us, compared to our trailer, where we shared one bathroom with 18 other couples,” she says.
While Larry attended classes and worked in the Math Department grading papers, Ruth worked full time in the poultry unit, keeping records of the eggs and chickens produced and sold at the campus store.

The companionship problem for the single students was solved in 1956, when women were officially admitted, or more precisely, "readmitted." Women had attended Cal Poly up until a 1929 legislative act limited enrollment to males.

Finances were another large challenge for students during the 1950s. Even with tuition and room and board totaling less than $150 a quarter, many students struggled, including Ken Krossa (EL '55). "I was earning my own way, with no financial support," he says. "There were a lot of GIs, and we had to work hard to keep ahead. We took an average of 19-20 units. The flunk-out rate was about 75 percent."

Robinson remembers holding down five part-time jobs to supplement the funds he had saved and the money contributed by his parents.

"Most students were anxious to get their college work done and move on to a job to support their families," Starkey recalls.

Despite the hardships, Cal Poly's 1,500 or so students in the mid-50s still managed to enjoy their college years, retaining fond memories of building homecoming floats, competing in Ugly Man contests, and dancing at Poly Royal.

Not only did everyone's favorite band, Les Brown and his Band of Renown, play frequently on campus, but a local group was possibly even more popular.

The Collegians, directed by legendary Music Department Head Harold P. Davidson (now deceased), were regarded by many as the best college orchestra on the Pacific Coast, according to Starkey.

Bradley agrees. "Les Brown was the prominent band at the time and played at our Poly Royal dances. My favorite band, though, was our own Cal Poly Collegians, who were every bit as good as the well-known bands. They filled in during a break for Les Brown's band and even played one of his arrangements. That was something to see and hear!"

Ron Ching (EL '55), who played in the Collegians during his freshman and sophomore years, still plays and owns a collection of guitars. "I'm also working on the ukulele," he says.

With the healthy postwar economy of the 1950s, graduates were able to find good jobs. Business Week magazine even published an article in the mid-50s titled "Why Cal Poly Men Are Wanted." The story pointed out that industries "clamor for Poly graduates" because of their "more agreeable attitude toward work."

The 1950s graduates agree that the Cal Poly learn-by-doing educational approach was a major factor in their career success. "While we got tired of spending so many hours in labs, learning to work with others to resolve problems and achieve our goals was a real asset," says Robinson, now a 25-year veteran of aerospace testing with advanced degrees in business and engineering.

He notes that his Cal Poly lab experience gave him confidence in his ability to deal with design problems in the working world. "I knew when I left Cal Poly that not all designs work the first – or the second or third – time."

While reflecting on their own college years and careers from the perspective of a half century, the alumni offered advice to today's students. "Make sure you take some time to smell the roses and enjoy your family," says Krossa.

"Participate in activities outside your major," says Robinson.

Ching advises: "Pursue a career that you enjoy."

Starkey agrees. "Study hard in a field you enjoy, and your future is secure."

"Always remain teachable," is Bradley's recommendation. "No matter what you have learned in college, there's always more to learn, not only in your chosen career field, but in life itself."

Editor's Note: For more information on the history of Cal Poly, read Cal Poly: The First Hundred Years, available from El Corral Bookstore at www.elcorralbookstore.com.

Cal Poly's 2005 Grand Reunion attracted alumni from near and far. Pictured on Page 20 is Gene Starkey (DCSI '52) with President Truman. This page (left to right) Don Seddon, (PI '53), Marshall Wix (33 '55) and Ron Rodrigues, (ASCI '55), Bob Scofield (OH '53), Ken Krossa (EL '55) and guests, Ruth Reinihan. (Photos by Dennis Parks)
WITH TWO SYNCON HOMES INTERNSHIPS under his tool belt, Aaron Amuchastegui has something many graduates want: a job. And not just a typical, fresh-from-college job, either. Syncon Homes is holding a place for him as a mid-level project manager until he graduates in March.

Through the Construction Management Department, Amuchastegui participated in Cal Poly's co-op program. "I was involved in every aspect of the building process and used more than just my construction management knowledge," Amuchastegui said. "I witnessed firsthand how collaboration can cut the cost of a build by $100,000 to $200,000."

Amuchastegui realized his career path when he trained in land acquisition and discovered it was his favorite aspect of home building. "In land acquisition, I'll work with the smartest people in the company and learn from them," he said.

In land acquisition, you make an educated guess at valuing the land, the home build, and what the build will net a company. If the guess is off by as little as 10 percent, the project is scrapped, and the company loses everything, he explained.

"I love the challenge in that," he added.

Cal Poly Career Services Director Martin Shibata says Amuchastegui's experience is just one example of the success of the internship-co-op program. U.S. News & World Report's 2006 America's Best Colleges guidebook ranked Cal Poly's internship-co-op program, as "one of the programs to look for" and as an "outstanding example of academic programs that are believed to lead to student success."

"Aaron put himself in a better position to be competitive for jobs, and he was able to determine specific career goals," Shibata said.

Many companies rely on Cal Poly's co-op and internship programs as feeders for employee recruitment. "Employers place a high value on student participation because the work experience complements the classroom learning."

Amuchastegui claims he learned as much in one three-month internship as he did in nine months of classes.

"It was a terrific experience, and I couldn't be more excited to have a job that I love waiting for me when I graduate," he said. ■
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THE HOUSE THAT STUDENTS BUILT

Cal Poly's solar house and student team, Solar CalPoly, won third place at the international Solar Decathlon competition in Washington, D.C., last fall. Cal Poly's entry was California's only entry in the seven-day competition, sponsored by the U.S. Department of Energy. Some 18 universities from the United States, Canada and Europe competed, with the University of Colorado taking first and Cornell University second.

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