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A stroll around Cal Poly is a pleasant experience for most visitors, who see a scenic campus set among rolling green foothills, with fresh-faced students scurrying to classes and labs.

Equally impressive but not noticeable to the casual observer are the retrofitted lighting, upgraded heating and cooling systems, room-occupancy sensors, and other features designed to make the campus energy efficient.

These efforts are part of the sustainability and conservation program developed by Mark Hunter (CM '87), director of facility services, and his staff of about 150. The program is supported by a $300,000 matching grant from Pacific Gas & Electric.

He and Robert “Kit” Kitamura, director of campus planning and capital projects, share an appreciation for sustainability, which they describe as “balancing environmental responsiveness, resource efficiency, and cultural and community sensitivity.”

Hunter says the key is to focus on “resource efficiency” by building and maintaining a campus environment that uses resources efficiently both now and in the future. To do this, consideration is given to a wide range of factors, from the choice of products to building design and selection of sites.

For example, Hunter’s group implemented an energy-management system to better control heating and cooling of each building and installed a detailed computer-based preventative-maintenance work-order system.

In fact, one project was selected for recognition at the UC/CSU Fourth Annual Sustainability Conference in the Best Practice in the Load Management category.

Supporting all these improvements is a policy issued by The California State University Chancellor’s Office, which covers energy conservation, sustainable building practices, and physical plant management for the entire CSU system.

In compliance with the CSU policy, Hunter and his group have completed a campuswide audit to identify areas of possible energy savings and their relative benefits.

Their calculations show that Cal Poly has achieved an overall reduction of 16 percent in energy usage during the last four years. “We’re way ahead of the game,” Hunter says.

Details of the project were presented at the conference at UC Santa Cruz this past summer. The project, cited for improving efficiency and saving energy, reconfigured the air conditioning system in the Performing Arts Center to cool additional campus buildings, eliminating the need to buy new equipment.

Another example that exemplifies sustainability is the Engineering III Building, now under construction. Its features include maintenance-free finishes, such as concrete with minimal finishes in working labs; natural ventilation in offices with windows; and room-occupancy sensors.
It sounds like science fiction: former Soviet Cold War-era rocket blasts into outer space with fleet of tiny American satellites on board.

Fact is, students from Cal Poly and other universities have actually designed and built the satellites — called CubeSats because they're small cubes — and some of the students will travel this fall to the former Soviet republic of Kazakhstan in Central Asia to launch the CubeSats.

Helping to coordinate the launch is Armen Toorian, a fifth-year Cal Poly mechanical engineering major. Earlier this year he went with Cal Poly graduate student Simon Lee to the Ukraine to make sure their equipment would be compatible with the rocket that will travel 400 miles into space. They plan to attend the actual launch with their faculty advisor, Jordi Puig-Suari, in Kazakhstan in October.

The launch will take place outside the United States, Toorian explained, because launch opportunities here are not only expensive but hard to find. A Russian company, Kosmotras, has contractual agreements to launch the rocket — one of many Cold War missiles Russia decommissioned as part of a disarmament treaty with the United States.

Dealing with a foreign company, sometimes through interpreters, has given him a global perspective, Toorian said. "The
He recalled one teleconference with the Russians when the conversation was really dragging. The translation was difficult and very slow over the phone, he said, and they were laboring over the agenda, point-by-point. “All of a sudden, the Russians got very serious. ‘Okay, for the next point, we must discuss the designation of the P-PODs,’” the translator said, referring to the small device that deploys the CubeSats from the rocket. “Will you use dash or slash?”

The Cal Poly contingent was totally confused at first, Toorian said, but then realized the P-PODs are labeled A through E, and the Russians wanted to know if they were spelled “P-POD-A” or “P-POD/A,” and so on.

“I remember looking up at everyone sitting around the table. The seriousness of the Russians’ tone had everyone about ready to burst into laughter. I took a deep breath and said, ‘I think we will use the dash.’ After they talked it over for a few minutes in Russian, and after a delayed silence, the translator came back with, ‘Okay, let it be dash. Now for next topic.’

“To this day, we’re not sure if they were serious, or if they were just messing with us,” Toorian said.

Cal Poly and Stanford University teamed up in 1999 to pioneer the CubeSat program. At that time, Bob Twiggs, director of Stanford’s Space Systems Development Lab, and aerospace engineering Professor Puig-Suari were looking to come up with a satellite project that students could complete during their college careers.

Previous student projects focused on much larger satellites, which are extremely expensive and take more than five years to build, Puig-Suari said. “Because they take so long to develop, and then more time to launch, our students didn’t get to work on them start-to-finish and see them fly. We found a way to make them simpler, smaller and lighter.”

CubeSats measure just 10 centimeters—about four inches—in size and weigh one kilogram, or 2.2 pounds. Their standardized shape makes them cheaper to produce in a much shorter period of time. While the students are still in school, they can design, build, test, launch and operate the satellites. “That’s important,” said Puig-Suari, “because it allows them to learn about systems integration. And it’s just a great experience for them.”

CubeSat electronics include a computer, a battery and/or solar power system to generate energy, and a radio and antenna for sending and receiving data to and from the ground.

The students who put it all together represent a diverse group of majors, including computer science and electrical engineering among others, along with the aerospace students. “They all come in with completely different perspectives, and they learn early on that they have to work together to get the job done,” the professor said. “That just multiplies the learning.”
Cal Poly developed the P-POD deployer that releases the small satellites from the rocket. Like the CubeSat, P-PODs are “very simple by design,” said Toorian, the student in charge of deployment. He described them as metal boxes with spring-loaded doors that open like a jack-in-the-box. Each box gets bolted inside the rocket and holds three CubeSats snug “like peas in a pod” until a signal is given to release them.

When the boxes open, switches release the satellites, and the satellites “power up” once they are deployed into space. They are programmed to delay opening their antennae until they have separated a significant distance. Once they are released, the satellites go into “beacon mode,” Puig-Suari said, beeping every few minutes “so we know they are working. Then they switch to whatever operational mode we choose.”

A satellite in a previous launch tested equipment for predicting earthquakes. For the October launch, one of the Cal Poly satellites will contain an experimental sensor that will take readings from the sun to report the direction the satellite is heading. The other will test an energy-storage device.

The total budget for the launch is $500,000. The Russian company, Kosmotras, charges $10,000 per kilogram for the rocket launch, and Cal Poly will charge the schools $40,000 for each CubeSat the P-PODs send into space.

Sponsors include the California Space Authority and the Department of Defense, as well as aerospace firms like Boeing, Lockheed, Raytheon and Northrop Grumman, which provide much more than funding. They also provide technical assistance and hands-on opportunities for students hoping to enter the aerospace field after they graduate.

“Cal Poly is a natural choice for this program,” said Ray Haynes, a former Cal Poly professor who now works as director for university technical alliances at Northrop Grumman. “With its learn-by-doing philosophy, Cal Poly combines well with Stanford and other top research universities. Theory and practicality – it’s a nice mix.”

The benefit for companies is twofold, he added. “When graduates show up for a job, they have hands-on experience. They’ve been trained in building, launching and tracking satellites, and that’s a big deal.”

The students also have innovative ideas that they share with industry, he said. “Our engineers get involved in campus activities. They spend time with the students and gain fresh perspectives. Sometimes the students have ideas that we’d never imagined. Besides it’s just great fun.”

Professor Puig-Suari gets his satisfaction from watching his students develop as professionals. “The learning experience is so amazing. They are getting so much more than we could ever teach them in the classroom.”

Not the least of which is traveling to Central Asia and watching their CubeSats blast into space. With that, Puig-Suari pointed out one final benefit: “Those Soviet rockets. They used to be pointed at us.”

Clockwise from left: Professor Jordi Puig-Suari, Emily Blundel, Roland Coelho, Armen Toorian, Simon Lee, Parin Patel, Derek Huerta, Carl Clausson, Spencer Studley and Chris Noe

Each satellite’s mission is often accomplished in just a few weeks, but they can continue to function hundreds of miles from Earth for six months to a year.

Since the birth of the CubeSat program six years ago, more than 40 universities and high schools from around the globe have developed their own small satellites. The October launch in Kazakhstan will carry a total of 14 satellites – two from Cal Poly and 12 from other schools. Cal Poly provides all the P-PODs for the program.

Participating institutions often look for funding from sponsors before choosing an experiment, including corporate sponsorships for items such as flying cameras and communications equipment.

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Deep Throat: Hero or Villain?

BY GEORGE RAMOS

Cal Poly Journalism Department Chair George Ramos is a Pulitzer Prize-winning newspaper reporter. Here he weighs in on the controversy surrounding W. Mark Felt's disclosure that he was Deep Throat, the anonymous source who helped Washington Post journalist Bob Woodward uncover the truth about the now-infamous Watergate scandal, effectively ending President Richard Nixon's administration.

The biggest journalism mystery in my 33 years as a newspaper reporter and a journalism educator has been solved.

There really was a Deep Throat, after all. I was happy to learn that a former No. 2 man at the FBI, W. Mark Felt, admitted that he was the key source for Washington Post reporter Bob Woodward's stories about the break-in at Democratic National Headquarters at the Watergate hotel complex and the misdeeds committed inside the White House. Felt's invaluable assistance eventually led to the resignation in 1974 of President Richard Nixon.

I considered Deep Throat a hero. So, imagine my surprise when I walked into my reporting contemporary issues class on the day of Felt's disclosure and discovered that my students didn't share my enthusiasm. Few knew who he was or what he did. After all, I learned later, they had been born well after Watergate.

The kids did seem taken by the news channels' instant treatment of Deep Throat: Was he a hero or a villain? Rather than lose my temper, a bad habit that I readily admit to, I decided to discuss the real lessons of Deep Throat and the lasting effects he's had on today's journalism.

A reporter, I began, is only as good as the sources he or she has. The more sources a reporter can cite, the more reliable the story will be. The bane of any reporter, even one for the Mustang Daily, is to rely on just one source. "Just because one guy talks, doesn't make it so," I told the class. "You gotta get backup, more sources."

Woodward and Post colleague Carl Bernstein certainly did that. They used information supplied by Deep Throat and had it confirmed by multiple sources. That procedure prevented the Post from publishing inaccurate or untrue stories. And the pair drove that point home repeatedly in their book about their Pulitzer Prize-winning exploits, All the President's Men.

The students were silent when I delivered the bottom line to my impromptu lecture: Reporters nowadays take what Woodward and Bernstein did in their reporting for granted and have gotten lazy in the process.

In today's 24/7 rush to be first with the news, reporters ignore the need for multiple sources. They trumpet some scoop with only one source. That's how Newsweek found itself a target for scorn when it cited only one high-ranking Washington source in reporting that the Koran had been flushed down a toilet at a facility for Islamic prisoners at Guantanamo Bay, Cuba. In publishing the item, critics said the magazine was responsible for the deaths of more than a dozen people who died during unrest to protest Newsweek's reporting.

By the end of class, the students had caught my enthusiasm for Deep Throat. "Now I get it," said one student. "But how did he get his name?"

That's a lecture for another time.
Aesop would be pleased to know that community service and the newer concept of service learning are thriving at Cal Poly.

Some students perform community service as part of extracurricular activities; some do it to fulfill course requirements. All seem to come away from the experience feeling they “got more than they gave.”

Like nutrition senior Jessica Zucca and recent graduate Natalie Denning (NUTR ‘05). As part of the course on nutrition in aging, they volunteered at an Alzheimer’s care facility. Both say they learned much more than the nutritional needs and eating habits of the elderly.

They helped set up tables, talked to the residents, got them juice and coffee. “If someone was having a difficult time, I helped them eat,” Zucca says. “I was able to get to know the residents. I listened to stories about their lives and childhoods. I always left in a better mood than when I came in. They made my day a little better.”

Denning worked alongside the personal care assistants during mealtimes and during activities, reading newspapers to residents, playing cards, and participating during exercise hour.

“I am so grateful to have had that opportunity. The seniors were absolutely wonderful. I believe that I learned and got more out of volunteering and helping the residents then they got from me. They taught me so much about the importance of life and how special family is,” Denning said.

The nutrition in aging course offers a wide range of organizations and services in which students can help, says Professor Louise Berner. They include delivering meals to homebound seniors, conducting food and nutrition activities at senior housing and adult daycare locations, and assisting people with Alzheimer’s disease in a skilled-nursing facility at mealtime.

Both the student community services program and the community-based learning initiative fall under the domain of Cal Poly’s Community Center, directed by Stephan Lamb. Student community services pairs student volunteers with organizations that aid the homeless, help beautify the environment, work to create a safer campus, mentor and motivate at-risk teenagers, and aim to enhance the life of adults with mental disabilities.

Community-based learning, or service learning, is a natural fit with Cal Poly’s learn-by-doing philosophy. As part of their course work, students work with agencies that are compatible with their academic goals.

Theoretically, service learning enables
students to gain experience and glean information that enhance classroom learning, says Professor Jean Williams, who teaches the politics of poverty class. Students learn about poverty and responses to poverty in the classroom and through service. Each learning component helps students to make sense of and analyze what they read, see, hear and experience in others.

Williams started the class to give students an opportunity to hear diverse views on the causes and consequences of poverty. "By interacting with homeless people, students gain an understanding of homelessness and poverty from a variety of perspectives. At the same time, community organizations are gaining through the work of students," Williams says.

As part of the course, Leilanie Bruce, a graduate student studying public policy, spent the night at El Camino Homeless Organization (ECHO), an all-volunteer agency providing shelter to the homeless in participating Atascadero churches on a revolving basis. The night Bruce volunteered, 26 beds were available at the United Methodist Church.

Until lights out, the people staying the night can watch TV, play cards and just hang out, according to Bruce. Two Cal Poly students spend the night, taking turns staying awake.

"It was a great experience because I actually had a chance to interact with the homeless on a personal basis," Bruce says. "I listened to their stories and found that they all are not how people perceive them to be. They were all ages and came from all backgrounds. Some were in school and were just trying to find a way out of their plight."

Professor Williams hopes that the theoretical underpinnings of service learning are, in fact, working in practice. "My hope is that ECHO benefits through the assistance of student volunteers as much as students benefit through learning about homeless shelters and working with homeless people," she says.
Growing up in Santa Maria, elementary school teacher Jaime Cuello (LS '93; MA, EDUC '98) didn’t expect to wind up a role model, a mentor or an award-winning teacher. He was eager to finish high school and join the military.

Some chance encounters changed all that. Several people “popped into” his life and helped him, he says. The first was Pedro Olvera, a counselor at Allan Hancock College. “I was a senior in high school; he was Mexican, like me. He was dark skinned, a big guy, wearing a suit. That impressed me. I decided I wanted to wear a suit, too,” Cuello says.

The fourth of five children, Cuello was the first in his family to go to college. His parents are Mexican immigrants who never made it to fourth grade – the grade that Cuello teaches at Mary Buren Elementary School in Guadalupe.

A great deal goes on inside Cuello’s classroom. He doesn’t just teach the standard fourth-grade curriculum. He energizes, empowers and excites his students. The enthusiasm is plainly audible as the students await their next assignment. “Algebra!” Cuello announces, turning to write a set of problems on the board. Surprisingly the statement is met with loud cheers. “Pick me! Pick me!” the students shout, hands waving frantically. Algebra in the fourth grade? When you challenge students, he claims, it makes them accountable, makes them participate, creates enthusiasm.

Those are important traits to establish in children at a school like Mary Buren, where students typically might not consider college an option. Mary Buren is one of two schools in the Guadalupe Union School District. Both schools are designated a Title I school, meaning many families are below the poverty level, Cuello explains.

Rocky Pasche, a 10-year-old Vietnamese boy who barely spoke English when he arrived in the United States a year ago, says with conviction, “I'm going to UC Berkeley and become a doctor.” Rocky’s college plans are not unique among Cuello’s students. He lets them know college is accessible: “I know about the potholes, the obstacles. I try to educate people about leaping over the potholes, to keep moving forward.”

In his classroom, college and university banners line the walls. Several students wear sweatshirts emblazoned with the name of their favorite college or university.

Cuello sometimes gives “college credit” instead of A’s, B’s and C’s. Early in the academic year, students pick the college of their choice. When they complete an assignment, Cuello writes the name of that college in bold letters across the top of the paper. “Stanford is waiting for you!” he exclaims, encouraging them, letting them know a college education is within reach.
"He gives us a chance to express our dreams," says nine-year-old Iris Chavez.

His classroom is a place where students can also express who they are and learn about their heritage. Many of his students have no sense of pride in their own culture, so Cuello teaches them about their heritage, and by extension about themselves.

Cuello reaches out to students in unorthodox ways. He plays football with them; he and his wife take them out to dinner. "I give them time. I listen to them. I didn't have a teacher who gave me any time beyond school hours."

But he did have "great parents" who, although they couldn't read very well themselves, pretended to read in front of the children because they knew it was important. And, it was his parents who convinced Cuello to go to college.

In fact, he keeps coming back to Cal Poly. In addition to all he does for his fourth-graders at Mary Buren, he also leads workshops on mentoring for aspiring teachers, giving them the tools to inspire future generations of children.

He urges future teachers to connect with their students. "First, we are listeners," he tells an audience of Cal Poly teacher education students. "Our job is to monitor, modify and adjust to each student’s ability. We make sure everyone has an equal opportunity."

Great teachers must know their students. Cuello instructs. But that’s not enough. They must also know who their students are. Mentoring is a two-way street. "Sometimes I’m the listener."

Sue McBride, a professor in Cal Poly’s College of Education, says that Cuello has earned a reputation as a dedicated, talented teacher. His students go on to high school, stay in school, and recognize the importance of Cuello’s influence in their educational success. His students realize that he knocks himself out all week to make learning the most exciting thing in their lives, and then he spends weekends taking them to visit college campuses, McBride says. "They know they have a person of exceptional quality pulling for them."

Cuello, a published author and poet, was named the 2005 Honored Alumnus for Cal Poly’s College of Education. He has been listed three times in Who’s Who Among American Teachers, proof that his students hold him in high regard.

He says it takes about 10 years to reap the benefits of teaching. "I hope in the years to come, my students will come back and tell me they are going to college. My students are awesome. They are always craving more knowledge. Their eagerness allows me to go above and beyond with them."

Cuello believes becoming a teacher was his destiny. His mother must have suspected: she named him after her third-grade teacher.
The monarch butterfly is not just another pretty insect. The delicate-looking insect is also quite robust by butterfly standards, according to ecology professor Dennis Frey. And he should know.

A butterfly that was tagged as part of a research project that Frey and third-year graduate student Shawna Stevens are conducting along the California coast was captured alive east of the Rocky Mountains, once thought to be an impenetrable barrier for monarch migration.

It's all part of Frey's research to better understand and protect the bright orange, milkweed-eating, super-migrating insect known as the North American monarch butterfly.

The existence of this beautiful winged insect is threatened by the destruction of its natural habitats and the milkweed plant its larvae feed on. New roads, housing developments, even agricultural expansion, create an inhospitable living environment. In addition the insect faces recurrent threats of nature, such as disease and extreme weather.

What's an ecologist to do?

With the help of Stevens and the generosity of Salinas resident Helen Johnson, a monarch advocate, Frey is working to help protect the species. But before he can suggest appropriate conservation efforts, he and his team first must unravel some of the mystery surrounding its migration patterns and origins.

This much he knows: Migration is essential to survival. These spectacular butterflies make annual fall migrations across America to wintering grounds to avoid freezing temperatures. In late winter and early spring they migrate again to find nourishment — milkweed — for their larvae. They must travel because milkweed does not grow in the butterflies' "overwintering" sites, Frey says.

The insects' incredible journey can extend up to 2,000 miles, as they head to more temperate climes along coastal California and in the mountain regions of central Mexico.

Once they reach their fall destination, observers say, the butterflies create a stunning picture. They form dense clusters, each one hanging with its wing down over the one below it, creating a shingle effect. The weight of the cluster may protect them from being whipped in the wind.

Fellow Cal Poly entomology professor Kingston Leong, also a leading monarch butterfly expert, calls the Pismo Beach colony "a wonderful site to behold: huge pods of thousands of colorful butterflies gather in a eucalyptus tree grove. Hundreds more happily flitter about in the sunlight."

In trying to understand migration, the intrepid Cal Poly butterfly detectives have themselves taken on an arduous journey: Project Monarch Alert, sponsored by "citizen-scientist" Johnson since 2002. A primary goal of the project, and the first step, is tracking the butterflies.

It begins with the simple yet painstaking task of hand-tagging them. Thousands of the team, along with a host of volunteers, has tagged insects in Monterey, San Luis Obispo, Marin and Santa Cruz counties. The tags — tiny stickers about one-third of an inch in diameter — are affixed to the underside of the hind wing.

Each tag includes a toll-free phone number and an identification number. "If people call us when they find one of the tagged monarchs, it will help us better understand migration and population dynamics," Frey says.

Over 26,000 butterflies between Pismo Beach and Marin County have been tagged since the project began in 2001. Roughly 130 people have so far reported finding a tagged butterfly.

While the number of monarch butterflies, like many insect populations, varies greatly from year to year, Frey and Stevens are getting closer to understanding why. There appears to be a correlation between the drought cycle that began with El Nino in 1998 and a decreasing abundance of monarchs in western North America. The drought created a "climate variation fingerprint" throughout the West, allowing the Cal Poly researchers to identify areas where milkweed growth and availability would be affected.

The research team also knows that monarchs require a specific number of "degree-days," an amount of heat, warmth and time for optimum larval development. Stevens has studied the pattern of late summer degree-days for each region in the West and has begun to pinpoint the areas that have the greatest potential to produce migrating butterflies. With this new information, the team hopes to identify critical breeding areas of western monarchs, an important key to conserving the species.

Frey points out that another important goal of Project Monarch Alert is to generate long-term data on the dynamics of western monarch populations. A large part of their effort for the past three years has been to monitor weekly "monarch abundance" at eight wintering habitats in San Luis Obispo and Monterey counties.

"Only with large-scale, long-term data like these will we be able to filter out the noise from significant trends," and unravel more of the monarchs' mysteries, he concludes.
The following 22 pages of the Cal Poly Magazine are devoted exclusively to the university's remarkably successful Centennial Campaign. In a series of short vignettes, the results and outcomes of the campaign come alive when viewed through the eyes of those who have benefited from our donors' generosity.

WE BEGIN BELOW WITH A LIST OF DONORS WHO HELPED MAKE THE CENTENNIAL CAMPAIGN THE LARGEST CAMPAIGN EVER FOR A PUBLIC MASTER'S UNIVERSITY IN THE UNITED STATES.

CAL POLY CENTENNIAL CAMPAIGN • CENTENNIAL CAMPAIGN LEAD DONORS

The following donors made gifts, gifts-in-kind or pledged $100,000 or more between January 1, 1998 and December 31, 2004. *Deceased
AMAZING ACCOMPLISHMENTS

You are reading a journal of amazing accomplishments.

These pages tell the remarkable story of the Cal Poly Centennial Campaign, successful not only in terms of the dollars raised, but also in terms of the people those dollars benefit.

You are about to meet a few of them. They represent the many students, professors, alumni and donors who are really what this campaign was all about:

- The students who will thrive professionally because of the new technology, state-of-the-art facilities and teaching innovations you helped develop . . .

- The dedicated faculty and staff who now have a greater array of tools for preparing young people for the future, thanks to your generosity . . .

- The alumni and donors whose dreams will live on because you have chosen to share your success with new generations . . .

In 1998 we boldly set out to raise $225 million, and I am delighted now to report that we surpassed that goal by about $40 million. Cal Poly’s endowment, now valued at approximately $140 million, tripled during the campaign and is the largest in the CSU system. And, for every dollar earned, just a dime was spent on fund raising, which is lower than the national average.

I knew we were going to exceed our goal even before we launched the public phase of the campaign. We have a good story to tell and quality faculty and staff to back it up.

My deepest gratitude goes to each and every one of you who have contributed to the success of this historic effort.

We have celebrated the century of achievement that inspired the theme for our Centennial Campaign. Now it is time to look ahead to the next 100 years. Will we have the resources to continue providing scholarships and faculty support, improving our facilities and taking advantage of new technologies?

To ensure that the Cal Poly learn-by-doing educational approach we all believe in will be available for generations to come, we must now endeavor to continue the momentum of the Centennial Campaign.

Warren J. Baker
For business  Professor Brian Tietje, leaving a lucrative career with Johnson & Johnson to become a professor has brought him rewards of a different nature.

As the inaugural recipient of the Richard and Julie Hood Endowed Professorship for Marketing, Tietje is living his dream of teaching at Cal Poly, with the ability now to make an impact where it means the most to him – shaping the business and marketing leaders of tomorrow.

"I love teaching at Cal Poly," says Tietje, who is originally from Ohio. "The learn-by-doing philosophy allows me to be innovative, and the quality of students and their willingness to try new things motivates me daily."

After he left the corporate world, Tietje earned an MBA from the University of Hawaii and a Ph.D. from the University of Washington. At Washington, he was part of a "secret society" of Ph.D. students who were different from the usual candidates, he says.

His group of friends was not interested in teaching at large research universities where performance is mainly judged on the number of papers published. They wanted to teach where they could focus on producing business graduates prepared to succeed in the marketplace of the future.

Tietje appreciates the fact that he is afforded the time to teach classes and to help design a new curriculum for the marketing program. Developed with a colleague and based on feedback from industry constituents, the new curriculum focuses on innovation and information competency. Debuting this fall, it employs hands-on, interactive learning instead of traditional textbook teaching.

"I am honored and extremely appreciative of the positive affirmation this award provides," he says. "The support of the Hood Endowment has helped my family and me fulfill a dream."

Private support established 20 new chairs and professorships that will help Cal Poly recruit and retain world-class faculty with industry savvy.

investing in future busin
Renovations to the Alex and Faye Spanos Theatre, made possible by contributions to the Centennial Campaign, inspire performers who are thrilled to work in a professional venue.

The fresh paint, new seating and other improvements are not lost on the audience either. Comfort definitely adds to the enjoyment of the performances.

For students like accomplished dancer Camille Bildé, the theater is “an uplifting place to perform.”

Dancing in front of 500 people is about as natural as breathing for Camille. Not surprising when you consider the 21-year-old from Monterey has danced onstage since she was three, including “about a million Nutcrackers.”

She has played nearly every part in the classic Christmas ballet, Camille says, including the Prince when she was nine. She has studied and mastered most forms of dance — ballet, jazz, hip-hop — everything except tap.

When she came to Cal Poly in 2001, Camille immediately joined the Orchesis Dance Company and found a new love — lyrical dance — a fluid combination of jazz and ballet. This winter was her fourth appearance in the company’s annual show. “I love performing, and I love to dance,” she says. “I can’t imagine ever giving it up.”

That is Camille’s artistic side. She is also practical. In December, she graduated with a degree in business — and a minor in dance — after just three and one-half years. Even more remarkable, in those few years, along with intensive studying, she joined a business honor fraternity, served as dance company president, worked as a nanny and, of course, danced.

She’s now studying for her CPA exam, hoping someday to combine her artistic and management skills through owning her own dance studio or working in New York on the business side of a dance company.

“Camille has a strong choreographic voice,” says Maria Junco, the director of Cal Poly’s dance program. “She is a passionate and very physical dancer, and very, very talented. She has been one of the most dedicated members of our dance company and a joy to work with.”

Camille credits her success to the time-management skills she learned as a young dance student taking classes most days after school. “I’d do a lot of my homework in the car.”

Leaving Cal Poly is bittersweet. “I’ve loved it here,” she says. “We have so much support. It feels good.”

The university raised funds to improve the Cal Poly Theatre, now the Alex and Faye Spanos Theatre, the main stage for most student performances in the Theatre and Dance and Music departments. About 85,000 campus and community members each year attend one of the 50 theatrical performances or other events held there.
Industry support for the Centennial Campaign helps bring top faculty to Cal Poly.

One rising new teacher and researcher is poultry science Professor Elizabeth Koutsos, a specialist in avian nutrition and immunology whose faculty position is annually funded by Foster Farms. Her research – which is creating hands-on learning experiences for both undergraduate and graduate students – may one day help improve health and nutrition for humans.

Because the physiology of avian digestive systems parallels that of mammals, birds make excellent research subjects for nutrition and health studies. Findings from such studies can frequently apply to a host of mammalian species – one of the reasons Koutsos was attracted to avian science.

“Once you understand avian digestive physiology, you understand just about every animal’s digestive system. Birds have almost every kind of digestive system – carnivore, omnivore, herbivore,” she explained.

Koutsos, 29, holds a Ph.D. from UC Davis. Currently her chief research interest is carotenoids – compounds that impart pigments, but also carry antioxidant benefits. Learning how they help birds fend off diseases and thrive could play a role in helping humans or other mammals do the same.

At Cal Poly, Koutsos teaches junior- and senior-level classes, works with graduate students, and oversees the Foster Farms broiler enterprise project, which teaches students every quarter how to raise 6,000 chicks from hatchlings to fryers. She also conducts research projects on turkeys, ducks and Japanese quail.

“The point of the research is to benefit industry and the consumer by learning how to grow chickens healthier, faster and stronger. But it’s exciting to know that what we learn may help other species as well.”

For Koutsos, avian research is a family affair. Her father, a poultry science professor, is associate dean in the College of Agriculture and Natural Resources at the University of Maryland.

“As a child, I helped him. I picked up birds, I brought him baskets of chicks, I weighed them,” she said.

Now, they both attend the same professional and research conferences. “It’s very nice to be away on business and be able to be with my father,” she said.

The campaign surpassed the goal of $40 million – a total of $51 million was raised – for professorships and faculty development programs. That accomplishment ensures that the university’s faculty will continue their enthusiasm for teaching and keen interest in discovery through applied research and creative scholarship.

fostering young fac
With the support of the Disability Resource Center, Scott Barton is navigating his studies toward an international career.

He credits the DRC with helping him overcome his challenges with reading comprehension, making it possible for him to graduate in June with a degree in industrial technology.

Scott figures his future career will involve research and development — "I like it because it's hands-on" — possibly for an overseas company because he loves to travel. He has spent two semesters-at-sea and has traveled to Kenya with a church missionary program. "I know I will end up in a field that involves international travel," he says.

Success in his studies at Cal Poly has been challenged by his learning disabilities, says the 23-year-old from Anaheim. Because he is easily distracted and has trouble understanding what he reads, he is allowed extra time for tests, which he takes in a "quiet" facility monitored by a proctor. He also gets help with his studying from books-on-tape and specially equipped computers.

The DRC has recently acquired eight new computers with scanners that make studying easier for Scott and other students with learning disabilities. Scott is also one of eight student assistants hired to scan textbooks into electronic form so students can read and hear them on their own computers.

"Looking at the material on the screen and hearing it at the same time makes a longer-lasting impression for me," says Scott. He can also conduct word searches to find terms and names, as well as use other computer functions to improve comprehension. About 80 students per quarter, with two to three textbooks each, use the service. It takes nearly 12 hours to process each book.

Part of the Student Affairs Division at Cal Poly, the DRC receives funding from Centennial Campaign donations, such as gifts from Sheila and the late Yosef Tiber. Sheila Tiber has been a volunteer reader for the center for more than 16 years.

Scott earned the DRC Student-of-the-Year award this year for "his exceptional school spirit and his cheerful willingness to take on any project as a DRC employee." He has been the keeper of the Cal Poly hillside "P" and is a member of the Rolling Thunder spirit group. He was Homecoming King last year and performs as a school mascot. In addition, he was a WOW leader for two years and is a member of the Alpha Phi Omega community service fraternity.

"Every day of the week, I have a meeting," he says. "I like to have fun; I have to stay busy. The busier I am, the better.

The Centennial Campaign raised $44 million for academic and extracurricular programs that support students through unparalleled learn-by-doing opportunities.
Ever since his first visit to an architecture firm in sixth grade, Mark Montoya dreamed of becoming an architect. "It's crazy," he says 30 years later. "I saw the drawings and the plans and the models, and I just sort of fell in love that day."

Things changed slightly when he came to Cal Poly in the 1980s. His interest veered more toward building than drawing, so he switched majors and began studying construction management.

The son of a longshoreman who worked on the docks in Los Angeles, Montoya is the first in his family to graduate from college.

Now he helps others make their dreams come true.

Montoya has worked the past 21 years for Morley Builders in Santa Monica, where he is currently a company vice president. With annual earnings near $300 million, the firm has 180 employees – including 20 other Cal Poly graduates.

He earned his construction management degree in 1984. With his encouragement, his company was the first to contribute to the proposed Center for Construction Excellence in the College of Architecture and Environmental Design. Chair of the CAED Advisory Council and a member of the Construction Management Industry Advisory Council, he was named the CAED Honored Alumnus in 2004. He also lectures on campus and recruits Cal Poly graduates for Morley Builders.

What is he looking for in an employee? "Grade-point average," he answers without hesitation. "I'm old-school. I believe you have to work hard to get good grades. I want people who are committed to working hard – bright, energetic men and women – and committed to working together."

He believes strongly that the key to a successful construction project is collaboration.

To build the best structures, people need to know how to communicate with each other – architects, general contractors, landscape designers, and even the workers who pour the concrete and pound the nails.

That is one reason why he is committed to completion of the Center for Construction Excellence. The proposed state-of-the-art facilities and laboratories will create a "wonderful synergy" between students and faculty from all five departments in the CAED, he says. "All the majors will be working together – to me that's real life."

From a youngster's dream to his real-life dream job, Montoya says he gives back because of all that his college education has given him.

"Without Cal Poly, I'd probably be working on the docks instead of in the job I truly love."

\{ With $169 million raised for improvements to student-learning environments and resources, current and future students benefit from access to state-of-the-art facilities. \}
Richard Moran gave himself a test before deciding to go back to school for a teaching credential. He would teach high school science for the Upward Bound summer program. If he immediately felt a connection to the students, he would know teaching was in his blood. But if he did not feel it click, it was not for him.

His decision? "I left that classroom and I felt wonderful," says the 31-year-old Moran, who is now working on his credential at Cal Poly.

The recently wed Moran plans to stay on the Central Coast. He grew up in Hanford and took family vacations to Morro Bay, where he now lives – and surfs as often as he can manage.

He graduated in 2003 from Cal Poly with a bachelor's degree in biological sciences after working toward the degree for 12 years. Now he's committed to teaching middle school or high school science, a subject he believes can spark a student's desire to learn.

"You can show up with a sea urchin or sea cucumber, and kids go nuts," he says, adding his single goal is to help his students hone their interests, whether they take to science or not.

His passion alone will not pay the bills. Being a full-time student makes it difficult to hold a job. A scholarship from The Boeing Corp. allows him to devote himself to becoming the inspiring teacher children deserve. Being a teacher, he says, is about more than knowing the material. It is about reaching young people. "I want to be a positive influence on someone out there. Teaching's been the most gratifying thing I've ever done."

Contributions to the College of Education – the seventh college on the Cal Poly campus – provide opportunities for the next generation of teachers through student scholarships, enhanced facilities and the college's first endowed professorship.
entists
When Cortney Stafford broke the Cal Poly triple-jump record at the Mt. San Antonio College Relays last April, the senior political science major had no idea she had made her way into the record books.

“When I jumped, I knew it was probably a personal best, but I didn’t know it was a school record,” she says. “My assistant coach (Danny Williams) said to me, ‘Did you realize you just jumped 44-1?’ I said, ‘I did?'”

Stafford’s second-place mark of 44 feet, 1.25 inches added nearly five inches to her old record and is the fifth-best mark in the nation this year. She also has Cal Poly’s fourth-best long-jump mark of 19 feet, 10 inches. Now she has aspirations of competing in the 2008 Summer Olympic Games at Beijing, China.

Stafford chose Cal Poly over other universities because she wanted to stay in California, but go somewhere that was different from her hometown, Anaheim. “Cal Poly is a good school academically, San Luis Obispo is a small town, and the demographics are totally different here.”

Earning a track and field scholarship has helped reduce financial pressure and gives her more time to devote to study and training, she says.

Stafford earned her first All-American certificate as a Mustang in March with her ninth-place finish in the triple-jump at the NCAA Division I Indoor Track and Field Championships in Fayetteville, Ark.

Stafford’s leadership abilities are as strong as her athletic skills. She has served as president of the Black Student Union on campus and as an officer of the Society of Black Engineers. She is also involved with the Allensworth Mentoring Program, which provides big brothers and big sisters to incoming freshmen.

A political science major, Stafford has earned a spot on the Dean’s List twice at Cal Poly. After she graduates in December, she would like to attend graduate school in pursuit of a career in sports management, sports marketing or sports law.

“I have really enjoyed watching Cortney mature,” says Terry Crawford, Cal Poly’s director of track and field and cross country. “She has stepped up to become a great role model for the athletes as a team leader and has made a huge commitment to be the best athlete she can be. She is a great success story.”

The campaign generated $24.4 million for student scholarships to help the best and the brightest high school students experience Cal Poly’s unique learning environment.
For most people, the idea of taking a statistics class has been on the same level as having a root canal. Necessary, but nearly unbearable.

Enter Beth Chance, a statistics professor who is out to change that notion. She shows students how statistics apply to their own lives. In her classes in the College of Science and Mathematics, students learn how to collect data and engage in real-world projects that interest them.

A favorite for Chance was the student who dressed in three different outfits a suit and tie, then jeans and T-shirt, and finally, dirty old clothes – and then asked passersby for help moving a mattress across a street. He recorded the reactions he got while wearing each outfit.

It is that kind of hands-on creativity that excites students about their classes – even statistics, she says. "There's a lot of engagement and ownership in doing a project. The students learn they can actually do statistics."

For her innovative and effective methods of teaching statistics, the American Statistical Association named Chance a fellow – an honor given to less than one-third of one percent of the ASA membership.

Chance admits statistics wasn't her favorite class when she was an undergraduate math major at Harvey Mudd College. "I always loved math, and I wanted to learn to apply it to solve real problems. The statistics class I didn't like so much. I couldn't always see the applications."

She warmed to the subject in grad school at Cornell University, where her statistics classes used mathematics to solve practical problems. At the time she was thinking she might want to apply statistics to cancer research. But teaching caught her interest. "I saw so many students who struggled with math, I wanted to find a better way to teach it. I wanted them to feel the same love for math that I do."

After earning a Ph.D. at Cornell, Chance taught for five years at the University of the Pacific and then came to teach at Cal Poly in 1999. Her Web site introduces her to students. Many ask about a photo of Chance holding a chubby, gray furry animal that looks like a koala. "It's a wombat," she says about the marsupial she encountered on a visit to an Australian zoo. "I like to throw it in as an extra-credit question on tests."

Chance has recently developed new class content geared for math majors – "They like flaunting their math skills, as well as finding real-world uses." And what's more real-world to a student than sleep? In one study on sleep deprivation, students not only learn about immediate detrimental effects of sleep loss, but also analyze the data to see that the negative effects continue for three days.

When the proposed Center for Science and Mathematics is built, it will be tailor-made for her classes, Chance says. "We'll have new computer classrooms that will create an enhanced environment for interactive learning. I can give the students a new technique and say, 'Now apply it. Let's test it out.' It's really exciting."

The College of Science and Mathematics raised more than $48 million – 127 percent of its campaign goal – including $11 million thus far for the proposed Center for Science and Mathematics.

continuing the mom
...it's critical
“Compromise” is not part of Paul Bonderson's vocabulary.

So, when costs for a new engineering center increased $3.2 million after four years of planning, he simply signed a pledge to cover the extra costs.

The surprise gift came at a press conference in March announcing the unprecedented success of the Centennial Campaign. Bonderson, a 1975 engineering alum who had already given $6 million during the campaign, had worked steadily with faculty and students to design what will become the Bonderson Engineering Projects Center. "I was an active participant," he explains, "and that was a lot more fun than providing the funding. I actually like to build things."

The new facility will house labs where students can use computers, electronics and robotics to research their senior projects. "We broke a lot of traditions and came up with some new ways to do things," Bonderson says. "We made some changes to the plans and got down to the basics of what we really needed. But I refused to compromise."

His entrepreneurial spirit was sparked by Cal Poly, he says. For his senior project, he developed a hand-held queuing meter for Caltrans. "They were going to pay me a couple hundred dollars for the prototype," he says with a chuckle. Instead, he sold the device to a small company for $1,500. "Man, that was really big bucks."

The company then hired him as its first full-time engineer. Later he worked for Intel, where he met his wife, Sandy. In 1995, he started his own company, Brocade Communications Systems Inc. "I was just crazy enough to jump off the cliff and start my own business," Bonderson says. "Fortunately, we were at the right place at the right time."

His daughter, Trisha, provides another incentive for his commitment to the university. She transferred from Cuesta College this year to Cal Poly and is a third-year graphic communication major who "will get the same hands-on experience that I received," Bonderson says.

Her parents are "always doing the greatest things," says Trisha. "It's never about them; it's always about someone else. I hope to be like them someday."

During the seven-year campaign, 45 gifts or pledges for $1 million or more were received.

giving back to
It has been nearly 57 years since Boyd Chee graduated from Cal Poly; he has not been on campus in at least 15 years.

But that does not mean he has forgotten his alma mater.

“I have appreciated everything that Cal Poly has done for me,” he says from his home in Hawaii, “and one way I say thanks is to send a little something, every quarter or every month.”

And he has been doing this regularly – for about the past 40 years, he thinks.

Chee, 79, and his wife, Dorothea, send personal checks for $20 or $40 whenever they can. A 1948 graduate of air conditioning and refrigeration – one of the first engineering programs at Cal Poly – the Hawaiian native credits attending Cal Poly with shaping his life.

He researched air conditioning programs and found just three schools in the nation. Of those, Cal Poly was the only one with a four-year program. Plus, he knew a hands-on education was what he was looking for.

“Obviously Cal Poly was it,” he recalls, “And the whole concept fit my plans perfectly.”

After graduation, he worked in engineering for a few years before starting a career in sales.

“After I got back home, I was never unemployed. In fact, I had a job before I graduated,” he says.

“I really enjoyed what Cal Poly did for me: the education it gave me, the experience it gave me, the concept of learn-by-doing. Everything.”

Alumni contributed $68 million to the Centennial Campaign. That is 26 percent of the total amount raised. The contributions came from 25,000 alumni households.
81,252 donors
188,960 gifts
$264.4 million

Who gave?

- Alumni and other individuals
  $131 million; 49.5 percent
- Corporations
  $100.2 million; 37.9 percent
- Foundations
  $29 million; 11 percent
- Other
  $4.2 million; 1.6 percent

Endowments

- 1997: $43.1 million
- 1998: $48 million
- 1999: $56.5 million
- 2000: $64.4 million
- 2001: $78.8 million
- 2002: $93.5 million
- 2003: $119.9 million
- 2004: $140.1 million

Momentous results

Student success $44.2 million
Scholarships, internships, programs and student activities provide an unparalleled learning experience for students.

Faculty of distinction $51.2 million
Twenty new chairs and professorships strengthen the ability to recruit and retain outstanding faculty.

Enhanced learning $59.3 million
Cutting-edge programs expand the polytechnic emphasis in seven colleges and more than 50 departments.

State-of-the-art facilities $79.6 million
Investments in teaching and learning labs and studios, classrooms, theater, sports complexes and outdoor learning spaces ensure our learn-by-doing legacy continues.

Enhanced technology $30.1 million
Research labs, equipment, computers and a vital library continue the tradition of being "ahead of the curve."

The Centennial Campaign was the largest campaign ever for a public master's university in the United States.

Cal Poly raised nearly $40 million above the original campaign goal of $225 million.

Cal Poly leads the CSU in alumni giving, parent giving and size of the endowment.

Cal Poly's endowment tripled during the campaign, from $43.1 million to $140.1 million.
College of Agriculture
$47.3 million raised
Dean: David Wehner
- Provided nearly $5.5 million for student scholarships
- Endowed three professorships in horticulture and crop science, agribusiness
- Annually funded professorship in poultry science
- Annually funded two staff positions in horticulture and crop science, dairy science
- New and expanded state-of-the-art teaching facilities provided by E&J Gallo Winery, Mission Produce and the California Dairy Research Foundation

College of Architecture and Environmental Design
$9.8 million raised
Dean: R. Thomas Jones
- Provided more than $1 million for student scholarships
- Created the college's first endowed chair, the George Hasslein Endowed Chair for Interdisciplinary Studies
- Established the public/private partnership to build the Center for Construction Excellence, including the interdisciplinary Materials Demonstration Laboratory
- Built three major Poly Canyon projects: Concrete Sculpture, Fratessa Tower, Tensile Structure

Orfalea College of Business
$29 million raised
Dean: David Christy
- Provided nearly $660,000 for student scholarships
- Paul and Natalie Orfalea provided the largest gift of cash or securities in the history of the CSU system
- Named the Orfalea College of Business
- Created a community development professorship
- Created an endowed professorship in marketing
- Gifts of equipment allowed the upgrade of computer laboratories, completion of the Financial Analysis Resource Center, and integration of state-of-the-art packaging techniques in the classroom

College of Education
$7.3 million raised
Dean: Bonnie Konopak
- Provided nearly $1 million for student scholarships
- Achieved college status, becoming the seventh college on campus

- New polytechnic emphasis will link the college with the Center for Excellence in Science and Mathematics
- Created the college's first endowed professorship
- Named the Cotchett Education Building
- Transformed existing classrooms into “smart rooms” with wireless connections
- Supports K-12 partnerships for pre-service and in-service teachers

College of Engineering
$64.8 million raised
Dean: Peter Y. Lee
- Provided $7.7 million for student scholarships
- Funded six professorships and a mechanical engineering center directorship
- Broke ground in March on the Bonderson Engineering Projects Center for project-based learning and faculty research
- Provided laboratory upgrades for computer science, computer engineering and electrical engineering
- Aerospace wing of Engineering III named for Baldwin and Mary Reinhold
- Enhanced capabilities of the Parsons Infrastructure and Technology Group Earthquake and Geotechnical Laboratory
- Upgraded the Metallography Laboratory, the core of the materials engineering program
- Engineering IIIA named for the late Grant M. Brown
- Established the Bert and Candace Forbes Center for Engineering Excellence

College of Liberal Arts
$18.2 million raised
Interim Dean: Linda Halisky
- Provided $1.5 million for student scholarships
- Renovated the H.P. Davidson Music Center and the Alex and Faye Spanos Theatre
- Funded the Capstone Project student publication
- Created the Early Childhood Development Laboratory
- Re-equipped the Rendering and Animation Laboratory
- Established a photography endowment
- Provided the Heidelberg press, bindery machine, digital presses and other equipment for Graphic Communication
College of Science and Mathematics
$48.1 million raised
Dean: Philip Bailey
• Provided $1.8 million for student scholarships
• Established the first two endowed chairs at Cal Poly
• Funded two professorships
• Established research fellowships
• Unocal donated Avila Pier for the Biological Sciences Department's Center for Coastal Marine Sciences
• Initiated fund raising for the proposed Center for Science and Mathematics

Athletics
$18.5 million raised
Athletics Director: Alison Cone
• Earned more than $1.8 million for student scholarships
• Established Alex G. Spanos Stadium renovation fund
• Funded Mott Gym remodel
• Provided Ozzie Smith statue in the plaza between Baggett Stadium and Bob Janssen Field
• Contributed to the Stampede Club
• Funded Golf facilities Swing Laboratory
• Named the Anderson Aquatic Center

Student Affairs/ASI
$4.9 million raised
• Earned $1.8 million for student scholarships
• Funded faculty and staff development
• Funded Chandler Award for Service to Students and the Profession
• Provided resources for student activities and organizations
• Provided resources for the Disability Resources Center
• Renamed the children's center The Orfalea Family and ASI Children's Center

University Programs & the Kennedy Library
$16.5 million raised
• President's Cabinet established the Baker Forum honoring President and Mrs. Warren J. Baker
• Earned $1.3 million for general student scholarships
• Provided improved technology for the Robert E. Kennedy Library
• Established a program for retired faculty and staff to support student excellence
• Supports educational equity

Thank you to our volunteers
Success of the Cal Poly Centennial Campaign is due to the commitment of hundreds of volunteers and to the members of the Campaign Support Committee who worked tirelessly to reach out to alumni and friends. Because of their guidance and involvement, Cal Poly exceeded its original goal.

Cal Poly Centennial Campaign Support Committee
Jim Considine, Chair
Robert Cordoza, Co-Chair
Richard Allen
Richard Andrews
Rick Antle
Allyn Arnold
Lee Arnold
Dana Bezerra
Dick Bradshaw
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Barry Prince
Robin Rossi
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Christine Young
Conrad Young

Cal Poly and the Campaign Support Committee gratefully acknowledge the leadership of the late Robert Cordoza, who served as campaign co-chair.
On the Ball:
Student-Athlete Margaret Donoghue Excels in Class and on the Court

BY STACIA MOMBURG

Margaret Donoghue pursues her goals with passion, whether she's racking up kills on the volleyball court or making the Dean's List as a history senior in the College of Liberal Arts.

Her love for volleyball blossomed in junior high. Margaret was already 6- feet, 1-inch tall, and a coach convinced her to give the sport a try. Later she excelled on her high school team, and college recruiters filled her mailbox with scholarship offers. The University of Arizona, Oregon State University and others wanted her to play for them.

At one point, she put the names of the schools on 3-by-5 cards and tacked them on her wall. As her mind changed daily, so did the location of the various cards. When recruiters got wind of the "wall," they began sending their own 3-by-5 cards.

Margaret remembers the day she heard from Cal Poly with an offer of a four-year scholarship. "My dad was standing behind me as I read it. I turned to him and said 'I did it!' The look on my dad's face - nothing will beat that."

She was team captain last year. Volleyball coach Steve Schlick praises her "strength of character and phenomenal work ethic." Athletic Director Alison Cone agrees: "Margaret is a great representative for Cal Poly. During her four years here, she has consistently and successfully pursued excellence in both the gym and the classroom. She is well-balanced and goal-oriented, and she also cares a lot about others."

Off the court, Margaret’s passion veers toward the liberal arts, specifically cross-cultural learning and communications (her minor is French), as well as fair trade issues. She wants to intern next year at a fair trade organization in Oakland, and after she graduates, plans to apply for Rotary and Fulbright scholarships to continue her studies overseas.

"I want to bridge cultures, whether it's by working to promote local farmers in Africa, Asia or South America, or by doing research," Margaret says. "It doesn't matter; I just want to throw myself into the wondrous mess of it all."
You may not realize it, but every time you eat a salad or a slice of fresh blackberry pie, whip up some guacamole or sample a strawberry, you’re enjoying a specialty crop. And when it comes to specialty crops, California is king: specialty crops make up more than 80 percent of the value of the state’s agricultural production.

But it isn’t all baby arugula and organic blueberries. Specialty crops include timber, lettuce, grapes, nuts, avocados, fruit and more—any crop not subsidized by the U.S. Department of Agriculture.

And just how is the specialty crop industry doing in California these days?

That’s what the California Institute for the Study of Specialty Crops at Cal Poly is charged with finding out. The institute, headed by agribusiness Professor Jay Noel, was founded in August 2003 with a $2.8 million grant from the California Department of Agriculture.

The basic mandate of the institute is to research public policy and economic issues that affect the competitiveness of California specialty crops and conduct education and outreach efforts about specialty crops, Noel explains.

To that end, the institute has funded 18 research projects through grants ranging from $16,000 to $140,000. Results from several are online at the institute’s Web site (www.cissc.calpoly.edu), and the rest will be published there at a later date.

Some of the institute’s research has already made headline news. Its study on farm-labor costs has been cited in regulatory debates in California and Florida. A recently released study on a dramatic rise in timber harvest costs in California is being discussed from Sacramento to Boston, where the state of Massachusetts is looking to revamp its forestry policy.

YOU WIN SOME; YOU LOSE SOME

The attention has subjected the Cal Poly professors’ research to a few less-than-flattering comments in newspaper articles quoting some lobbying groups unhappy with the research findings. But the institute also receives requests from groups seeking public policy research support.

The researchers have to remind all callers that their mission is to conduct unbiased academic research. “The No. 1 imperative at an academic institution is to make sure your research is unbiased. You make sure you use the best methodology, and you try to gather the best data. Then your results are...
what your results are, and where the chips fall is where the chips fall," Noel says.

Sometimes those chips settle onto a public policy or regulatory debate that's already highly charged — emotionally as well as economically. Timber policies in particular fall into that category, Noel notes.

"We're studying issues where the stakes are high. You're talking about millions of dollars, in some cases, billions of dollars," Noel says. "What we're trying to do is to add information that's useful and relevant to the public policy debate."

The bulk of research funded by the institute is done by Cal Poly professors. A small number of UC Davis professors have also received CISSC funding for their projects, and the institute has funded master's thesis research by Cal Poly students, as well as a few senior projects.

The double buck, choker race and caber toss. Sounds like games in a prehistoric Olympiad. Then there's birling, axe throwing and chain sawing.

Definitely not for the faint of heart, these activities are just some of the traditional events that Cal Poly's Logging Team competes in during a typical three-day conclave.

The intercollegiate team consists of 12 men and eight women who take great pleasure in the heart-pounding excitement of forestry field skills — demanding skills that require not only the physical attributes of strength, balance and technique, but also the mental acuity to read a compass, identify dozens of plants and trees by both their common and Latin names, and employ the laws of trigonometry in estimating tree height and diameter, no tools allowed.

Students compete in both technical events, like those just mentioned, and lumberjack events, including the more-physically challenging water sports, such as birling (log running) and the limber pole.

For the limber pole event, a debarked, slippery log is suspended over a pond, supported only at the base and extending about 25 to 30 feet at a 45-degree angle. Contestants start at the base, trying to get as close to the end as possible as the log moves and wiggles. "It's like running on jelly," says Steve Oriol, team president. "It feels like you're dancing all over the planet."

The conclaves also include several events on land and limb. The land-based contests include sawing, chopping, pole climbing, ax throwing, log tossing and running an obstacle course, while towing a large steel cable, of course. All in a day's work.

In addition to the three conclaves the students compete in annually, the team puts on several exhibitions a year. Last spring they were filmed entertaining the crew of the Discovery Channel's "Monster Garage," showing off their skills in axe throwing and single and double bucking.
FACILITIES UPDATE: HOUSING DEVELOPMENTS PLANNED FOR FACULTY, STAFF, STUDENTS

BELLA MONTAÑA
The Cal Poly Housing Corp. is investing in affordable housing to help in the university's efforts to attract and retain quality faculty and staff to San Luis Obispo. Work is under way on a 69-unit housing development, named Bella Montaña, located across the highway from the Highland Drive entrance to campus.

“Our recruiting efforts have increasingly been hampered by high costs in the local housing market,” said Cal Poly President Warren J. Baker. “We know that young faculty and staff with families find it particularly difficult to come to Cal Poly. This project will allow us to continue to attract and retain the highest caliber faculty and staff.”

The location of this project will enable faculty and staff to be close to campus and provide them with the opportunity to use alternate methods of transportation, noted Executive Vice Provost and Chief Planning Officer Linda Dalton, chair of the nonprofit Cal Poly Housing Corp.

Marketing of the first phase of the project to eligible faculty and staff is scheduled to begin in spring 2006, in anticipation of scheduled completion and availability for occupancy of phase-one units in late fall 2006.

POLY CANYON VILLAGE
The CSU board of trustees approved a 2,700 student housing complex, the largest single construction project in the history of the CSU. The project, dubbed Poly Canyon Village, will include three residential neighborhood areas on 30 acres, two parking structures, commercial retail and food outlets, and a recreation center with a swimming pool.

Poly Canyon Village has the potential to transform the campus through the creation of a new community that connects residential living with teaching and learning in a way that builds on Cal Poly's distinctive mission, according to Preston Allen, director of housing.

The contractor for Poly Canyon Village has registered the project with the LEED (Leadership in Energy and Environmental Design) program, which certifies buildings that demonstrate responsiveness to sustainability issues. This will be Cal Poly's first effort at achieving LEED certification. Construction is expected to begin this fall, with the complex opening in two phases in 2008 and 2009.
Cal Poly's Rodeo Team took top honors at the 2005 National Intercollegiate Rodeo Association championships in Wyoming, earning both the Men's All-around and Women's All-around champion spots.

Competing against students from 62 universities, they finished as the No. 2 Men's Rodeo Team in the nation. The Women's Rodeo Team placed sixth in the nation out of 35 teams.

"No other intercollegiate rodeo program in the nation continues to produce more individual champions and team championships than Cal Poly," said Coach Frank Mello. "I'm proud of our student-athletes and our tradition."

The 2005-2006 state budget signed in July fully funds the compact for higher education, ensuring enrollment for an additional 10,000 California State University students.

The budget provides $134 million in new revenue, representing the first increase after three consecutive years of budget reductions.

At Cal Poly that means a 2.5 percent increase for enrollment growth. "We will now be able to offer a Cal Poly education to more of the state's brightest students," said Larry Kelley, vice president of administration and finance.

The governor has been steadfast in his support for higher education and the CSU appreciates his support, said CSU Chancellor Charles B. Reed. "This budget shows the state's commitment to begin to restore the cuts from the recent budget crisis in California, which severely underfunded the CSU."

Two environmental engineering students traveled to Thailand last spring to collect water samples at a mountain village where residents were concerned about the possibility of water-borne illnesses.

Working as volunteers for Cal Poly's chapter of Engineers Without Borders, Eileen Mick and Michael Borger collected samples from the village of Mae Nam Khun and ran a variety of tests to characterize the drinking-water quality. They also checked out the community's water source and distribution system, looking for potential sources for contamination to the community's drinking water supply.

The Cal Poly project was part of a larger EWB effort in Thailand. Students and professionals from Seattle University built primary school dormitories, and a team from UC Santa Barbara built an adjoining septic system.

New at Cal Poly, EWB is a national organization dedicated to designing and building projects that bring sustainable, long-term benefits to impoverished communities around the globe.

"What I've found is that EWB offers a great opportunity for personal growth and leadership," Mick said. For more information, visit www.ewb.calpoly.edu.
MUCH MORE THAN 3,600 STUDENTS TOOK PART IN SPRING COMMENCEMENT CEREMONIES IN JUNE, AND THREE LONGTIME FRIENDS AND ALUMNI OF THE UNIVERSITY RECEIVED SPECIAL RECOGNITION AS WELL.

Cal Poly President Warren J. Baker awarded William H. “Bill” Swanson (IE ’73), chairman and chief executive officer of Raytheon Co., an honorary Doctor of Science degree and California Secretary of State Bruce McPherson (JOUR ’65) an honorary Doctor of Humane Letters degree.

President Baker also awarded the university’s highest honor, the President’s Medal of Excellence, to Richard J. O’Neill (AH ’48). A celebration was held to name the three-acre rolling lawns and gardens in front of the Business Building the Richard J. O’Neill Green. That day, O’Neill became the most decorated individual in the history of Cal Poly and only the third person in the university’s history to receive the President’s Medal of Excellence.

RICHARD J. O’NEILL

“Richard O’Neill has provided five decades of faithful and generous time, expertise and wisdom in support of Cal Poly,” President Baker said. “He is an outstanding role model, working tirelessly to steward others into volunteer leadership capacities.”

A longtime supporter of Cal Poly Athletics, O’Neill’s advocacy became the catalyst for Cal Poly’s inclusion in Division I intercollegiate athletics in 1994. He was inducted into the Cal Poly Athletics Hall of Fame in 1987 and is one of four alumni inducted into the Cal Poly Athletics Hall of Distinction. In 2000, he received the Cal Poly Alumni Association’s Distinguished Service Award.

Through his leadership, $1 million is generated each year for student-athlete scholarships. He also helped generate momentum to renovate Mott Gym, build the Cal Poly Sports Complex, and renovate the Alex G. Spanos Stadium.

O’Neill is a benefactor to education, humanitarian and conservation causes. A sixth-generation Californian, he was born in 1923 and was raised on the 230,000-acre Rancho Santa Margarita, spanning San Diego and Orange counties. Part of the property later became Camp Pendleton; on the remainder, O’Neill and his sister, Alice, founded the community of Mission Viejo.
TO CELEBRATE

WILLIAM SWANSON
Swanson, a 1991 Honored Alumnus, serves on the Cal Poly President's Cabinet and the College of Engineering Advisory Council.

As a member of the Business-Higher Education Forum, he co-chaired a BHEF initiative, "A Commitment to America's Future; Responding to the Crisis in Mathematics & Science Education," which outlines a plan of action for business, education and policy leaders to strengthen mathematics and science education in all 50 states.

"Bill Swanson's leadership in industry and education is helping our country address a critical problem: the erosion of its science and technology talent base," said Baker. "We are pleased to honor him for his service and contributions, not only to Cal Poly but to the nation at large."

Swanson's leadership is based on management rules he developed during his more than 30 years at Raytheon. "Swanson's Unwritten Rules of Management" are straightforward directives that also provide insight into what it takes to be successful. He has established Raytheon's guiding business values, based upon the highest ethical standards, integrity and trust, and a strong commitment to inclusiveness.

BRUCE MCPHERSON
California Secretary of State McPherson was honored for his service to California, including service in both houses of the California State Legislature, where he made support for education a cornerstone of his tenure.

"Bruce McPherson's firm belief in quality public education echoes and supports the mission of The California State University," Baker said. "He has been a tireless supporter of this university, through legislative advocacy and strong leadership as a dedicated public servant."

He served two terms as a state assemblyman, representing the 27th District from 1993 to 1996. In 1996 he was elected to represent the 15th Senate District in the California State Senate and was re-elected in 2000. He retired from the Legislature in December 2004.

McPherson became the 30th Secretary of the State of California in March 2005, after being nominated by Gov. Arnold Schwarzenegger and unanimously confirmed by both the Assembly and Senate.

A longtime advocate of public education, he has been a leader in shaping new policy in such areas as reducing class size, updating core curriculum, establishing graduation standards, providing additional funding for textbooks, and passing nearly $40 billion in state school bonds.

He has authored legislation increasing the number of school nurses and counselors, establishing high school after-school programs, and focusing attention on grade-level reading.

In 2002 he was selected by Cal Poly's Associated Students Inc. as its inaugural Legislator of the Year.
Rejoice & Rejuvenate:
Homecoming & Parents' Weekend Set For Nov. 4-6

"Homecoming 2005: Green and Gold Forever" is scheduled for Nov. 4-6 in San Luis Obispo. Homecoming is the perfect opportunity to return to your alma mater and rejoice with old friends and fellow alumni.

Enjoy the Honored Alumni Awards & Reunion Banquet, Homecoming Parade, and Mustang Corral Tailgate Barbecue and Wine Tasting. Cheer the Mustangs to victory as they take the field against the Eastern Washington Eagles on Nov. 5.

Also scheduled during Homecoming Weekend is Cal Poly's Grand Reunion, welcoming all alumni from 1955 and earlier. A special recognition is planned for this years' 50th anniversary Class of '55.

WEEKEND EVENTS INCLUDE:

NOVEMBER 4th
Reunion Activities • Parents' Weekend Activities / Honored Alumni Awards & Reunion Banquet, 6 p.m. in Chumash Auditorium

NOVEMBER 5th
Homecoming Parade, 10 a.m., Downtown San Luis Obispo / Mustang Corral Tailgate and Wine Tasting. 1 p.m., O'Neill Green (the lawn in front of the Business Building) / Parents' Weekend Activities / Homecoming Football Game Kick-Off, Mustangs vs. Eagles, 4 p.m., Spanos Stadium

Plan to attend Cal Poly's Grand Reunion, celebrating all alumni who attended Cal Poly prior to 1955 and honoring the golden anniversary Class of 1955. Join fellow Mustangs during Homecoming for a weekend of fun, learning and memories. A variety of activities are planned to welcome you back to Cal Poly and San Luis Obispo in style. For more information, please contact the Alumni Relations office toll free at 1-888-CAL-POLY (1-888-225-7659).
Great food, fun companions, stunning scenery and some of the world’s best wine. “What else would you expect when traveling with a group of Cal Poly alumni and friends?” asks Rosie Parks, associate director of alumni relations and coordinator of a recent trip to Provence, France.

“I had a great time when I was at Cal Poly, but I never had a time like this,” said Allan Wallace (EET ‘57), who traveled with the group to such sites as the Palace of the Popes in Avignon, the ancient amphitheater in Arles, and the spectacular Pont Du Gard.

Aix served as home base, and side trips included a visit to Le Luberon, the picturesque mountain region of forests and vineyards made famous by artist Paul Cezanne. Sponsored by the Cal Poly Alumni Association and Cal Poly Continuing Education and University Outreach, the trips to Provence and other destinations combine the right mix of planned excursions, free time and educational programs, says Parks. “And the friendships that form are unique. Traveling with a collegiate group adds a dimension to the trip not found in other group travel.”

Next up are tours of the Greek Isles and a trip to Tuscany. Travel programs are open to Cal Poly alumni and friends.

For a brochure and information on future excursions, call or e-mail Parks at 1-888 CAL-POLY, 1 (805) 756-2586, rparks@calpoly.edu, or visit the Web at www.alumni.calpoly.edu and click on “Travel Programs.”

Experience the magic of the Greek Isles, with accommodations at the Hotel New Aegli on the Island of Poros. Excursions to the renowned Greek Islands of Aegina and Hydra, and the World Heritage sites of Epidaurus, Mycenae and the Acropolis are also planned. The trip includes two nights in Athens, with a special visit to the Parthenon. ■

Stay in the beautifully restored Villa Tavolese in the medieval village of Marcialla, located in the heart of the Chianti region, overlooking the breathtaking Elsa Valley. Trips to the ancient towns of Pisa and Lucca, San Gimignano, Florence and Siena, as well as to neighboring hill towns are included. Wine tasting and educational seminars are also part of this seven-day vacation. ■
And after finishing third in the USA Outdoor meet, she was once again all smiles. "I'm very pleased with it," she said of her breakout season.

Day, an all-around star athlete in her high school days in Costa Mesa, was an all-Big West Conference pick in soccer last season at Cal Poly. Yet she talks with a healthy dose of modesty. So does Wagner, who looks forward to regaining her top form.

"I think I did so well last year that I expected a lot from myself this year," said Wagner, from Goleta. "I've learned a lot."

As they seek new heights, Day and Wagner remain supportive of each other.

"It's awesome having someone at the same level with the same hopes and desires," Wagner said.

"There's always someone to push you higher, so it's really good for us."

And really good for Cal Poly.

"We're very fortunate to have them," said Terry Crawford, Cal Poly's head track coach. "These are two outstanding young ladies."

One comes from Costa Mesa, the other from Goleta, two laid-back ladies soaring high in their days at Cal Poly.

Meet Sharon Day and Kaylene Wagner, a pair of 20-year-olds who keep raising the bar in their high-jumping careers with the Mustangs.

Day won the NCAA Division I Outdoor Championship in Sacramento in June, setting a school record with a personal best 6-foot, 4-inch clearance. She then jumped 6-2 3/4 to finish third at the USA Outdoor Championships in Carson.

Wagner, third in the 2004 NCAA Division I Outdoor Championships and fifth in the U.S. Olympic Trials last year, struggled down the stretch in 2005. She placed 10th in the NCAAs and finished eighth in the USA Outdoor Championships, her 5-10 3/4 clearance in both meets well off her personal best of 6-3 1/2 set last year.

The good news is both plan to jump again for Cal Poly, with the 6-foot-1-inch, 135-pound Wagner heading into her senior year, and the 5-foot-8-inch, 145-pound Day preparing for life as a junior.

"I can't be any happier: a win and a personal record," Day said after winning the NCAA title. She then celebrated with a Cal Poly tradition, apple pie.

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Both kinesiology majors fit their track workouts around their class schedules. When not studying or working out, Wagner enjoys outdoor recreation; Day likes to shop, dance and hang out with friends.

THE NEXT STEP FOR BOTH WILL BE ZEROING IN ON THE 2008 U.S. OLYMPIC TRIALS, WITH THREE SPOTS AVAILABLE FOR THE OLYMPICS IN BEIJING.

The next step for both will be zeroing in on the 2008 U.S. Olympic Trials, with three spots available for the Olympics in Beijing.

"It's certainly worthy of pursuing because they are capable," Coach Crawford said. "That's a very realistic goal for those two jumpers."
"The growth of our endowment is an important step forward as Cal Poly looks toward its next century," said President Warren J. Baker. "Our endowment provides program support, allows us to fund endowed chairs and professorships, and helps to assure learn-by-doing experiences for our students. I am deeply grateful for endowed gifts because they are an investment in our future that comes with a tremendous vote of confidence."

Sound financial management provided a return of 18 percent last year, better than the national average endowment return of 15 percent. By pooling resources and using industry-leading advisors, the university is able to enjoy an important economy of scale.

"Our investment consultant is one of the most respected firms in the nation. Our partnership with them and the counsel of our Investment Committee have laid the groundwork for a model of fiscal responsibility and continued growth," said Frank Mumford, executive director of the Cal Poly Foundation, which manages the university’s endowment.

The combination of donors and investment returns has made Cal Poly’s endowment the largest in the California State University system.

"It is such a pleasure to see how the Cal Poly family has begun to recognize the power of a strong endowment," said Sandra G. Ogren, vice president for university advancement. "It signals they have faith in our ability to manage the funds and faith in the mission of our campus."

Endowed funds are gifts made to the university that are invested to provide income to Cal Poly forever. They are a critical form of private support, as they allow the campus to implement new programs and plan new facilities.

During the Centennial Campaign, the university’s endowment more than tripled, growing from $43.1 million at the beginning of 1998 to $140.1 million at the end of 2004. The last 25 years are also impressive: a quarter-century ago, the endowment was valued at $1.7 million.

Like a tandem bicycle, Cal Poly’s endowment requires two sources of momentum to keep a steady pace forward. It’s a careful blend of donor generosity and protection of their investment.

**THE GROWTH OF OUR ENDOWMENT IS AN IMPORTANT STEP FORWARD AS CAL POLY LOOKS TOWARD ITS NEXT CENTURY.**

— WARREN J. BAKER
November 4th

- Reunion Activities
- Parents’ Weekend Activities
- Honored Alumni Awards & Reunion Banquet, 6 p.m., Chumash Auditorium

November 5th

- Homecoming Parade, 10 a.m., Downtown San Luis Obispo
- Mustang Corral Tailgate and Wine Tasting, 1 p.m., The Richard

November 6th

- All-Alumni Breakfast, 9 a.m., Chumash Auditorium

Nov. 5th cont...

J. O’Neill Green (formerly the Orfalea College of Business Lawn)

- Parents’ Weekend Activities
  Homecoming Football Game Kick-Off, Mustangs vs. Eagles, 4 p.m., Spanos Stadium