2007-2008 ANNUAL REPORT
COLLEGE OF ENGINEERING
CAL POLY, SAN LUIS OBISPO

THIS IS NOT YOUR DAD'S ENGINEERING SCHOOL!

Dad's College Days At Techno Tech

Band Aid
We are converting algae to bio-diesel

We are creating lightweight antennas with heavyweight reception

We are building and programming robotic limbs

With transcontinental cooperation we built and launched a satellite

This is not your father’s engineering college. This is hands-on learning, real world projects, industry clients, student diversity, high caliber faculty and facilities equipped for the challenges of today... and tomorrow. This is Cal Poly Engineering.

Our less invasive medical devices promise patients better quality of life
WE ARE PACKING EXPANSIVE COMPUTING POWER IN TINY COMPONENTS

WE ARE CREATING SOLAR-POWERED SIGNAGE FOR PUBLIC TRANSPORTATION ROUTES

WE ARE DEVELOPING FILTRATION SYSTEMS FOR WATER SUPPLIES

WE ARE WORKING WITH SUPER ENERGY EFFICIENT LED LIGHTING

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Message from the Dean
I am delighted to share the 2007-2008 accomplishments of the College—there are many!

Perhaps the college’s most important achievement has been the adoption of a new vision: “Leading engineering education and innovation to serve humanity.” That simple phrase has large implications, setting the stage for new benchmarks in engineering education leadership, faculty development, outreach, and student success.

Here are a few examples of how we put that vision into practice:

- Service Learning became a standard of the curriculum, with multidisciplinary projects that benefit the local community. In fact, our materials engineering faculty members received a President’s Service Award for their service learning leadership.
- A faculty task force initiated a pilot program for a Multidisciplinary Senior Design/Capstone Sequence to begin Fall 2008, the first such program at any major university.
- The Project Based Learning Institute was launched with 31 industry-sponsored projects.
- We increased the percentage of female engineering freshmen by almost 22% from 2005 to 2008; we similarly increased the percentage of Hispanic freshman by 21%.
- Faculty research flourished, with almost $5M in externally funded grants, an increase of 67% from last year. Two AERO professors, Dr. David Marshall and Dr. Rob McDonald, received multi-year, million-dollar grants from NASA and several faculty members received NSF grants.
- We enhanced outreach, especially to underrepresented groups, by hiring an Outreach Coordinator and hosting activities that reached 600 students in Spring Quarter alone.
- Alumni and friends stepped forward with incredible support, from hosting alumni events to founding a scholarship drive for a $1M endowment. We also raised $4.4M in cash and equivalent, a 37% increase from last year.
- We increased our freshman scholarships from $197,000 last year to $314,000 this year.
- As always, our students did us proud, earning national and regional titles, including the Society of Women Engineers, Supermileage Vehicle, Human Powered Vehicle, Concrete Canoe, and many more.

These and all the other highlights listed in this publication are the reason that the College of Engineering was named the nation’s No. 1 public, non-doctoral engineering school.

We are energized by these accomplishments and have many more plans for teaching, scholarship and service on the drawing board. Of course, we have many to thank: loyal alumni and friends, dedicated faculty and staff, and outstanding students. Moreover, we have the good fortune to be part of Cal Poly, an institution that—at the College of Engineering—is on the rise.

Mohammad Noori, Dean
I have served as chair of the Dean's Advisory Council for almost six years. It's been a lot of fun, but now it's time for me to work in different ways to support Cal Poly Engineering.

Over the course of my tenure, I've learned that although academic institutions change slowly, a committed group like the Dean's Advisory Council can help effect meaningful development.

I think the most important advancement I've seen at College of Engineering has been the move toward increased project-based learning, with an emphasis on multidisciplinary teamwork. The little car I sponsored this year is a great example.

I worked with a group of guys, who retrofitted a Polaris Ranger ATV from gas to electrical. The team did a tremendous job—a lot more than I expected. The vehicle met all the agreed-upon design criteria, but I decided there was too much noise generated by the original constant velocity transmission, so we decided to eliminate it and use direct drive from the motor. These modifications should be completed soon.

This vehicle conversion project and many others I've seen are larger in scope than most of the senior projects we did in the early '70s. In fact, some of the projects we reviewed this year for the Innovation Quest contest merit continued work and perhaps eventual commercialization.

In addition to the increasing sophistication of student projects, more and more engineering faculty members are undertaking important applied research. It's imperative that these professors receive support and release time to do their research. That's why we need to establish endowed professorships.

Student scholarship endowments are also vital. Cal Poly's national ranking puts us in the big leagues with private and "R1" universities, such as UC Berkeley or Stanford that offer "full ride" student scholarships. To compete at this level, attract the best students, and continue our important leadership in engineering education, we need more scholarship endowments like the Loyal Order of Propellerheads, the brainchild of fellow DAC member Dick Hartung.

So, my plan is to turn my attention to building endowments, and turn the reigns of the DAC over to Geoff Tate, former CEO of Rambus and a highly capable, enthusiastic leader. As always, I'd like to thank all the donors listed in this publication and encourage others to join me in supporting a great institution: Cal Poly College of Engineering.

Paul R. Bonderson, Jr., Chair, Dean's Advisory Council
President, Lone Oak Ventures LLP
Paul Bonderson at the wheel of the Ranger that he sponsored as the senior project of students (left to right) Ryan Nikkel, Chuck Althausen, and Demetrios Pettes. The mechanical engineering students converted the vehicle from gas power to an electric drive system.
CENG Highlights

- The College of Engineering was named the No. 1 public engineering program for schools whose highest degree is a bachelor’s or master’s by U.S. News & World Report. Cal Poly’s computer, electrical, industrial/manufacturing and mechanical engineering programs were each ranked as the top program at a public university. Both civil and aerospace were ranked No. 2.

- In Fall 2007, CENG welcomed 1,616 new, first-time engineering freshmen, the largest freshman class in the history of the college.

- Seven of the 2007 freshmen were National Merit finalists and five were National Hispanic Scholars. The percentage of female engineering freshmen increased from 13.0% in 2006 to 15.7%, and the percentage of non-white, underrepresented students in CENG’s total enrollment increased to 35.9%.

- In total undergraduate engineering enrollment, Cal Poly ranked 6th in the U.S.; 10th in number of B.S. degrees awarded; and 16th, 13th, and 12th in degrees awarded to women, Hispanics, and Asian Americans, respectively.

- The Project Based Learning Institute got underway with 31 industry-sponsored projects for students and faculty.

- Cash gifts to the college increased by 37% over last year.

- John and Connie Nielsen established the Student Projects - Lab Upgrade Challenge Fund. The $240,209 challenge grant provides funds for labs that support more than 30 majors and 500 students per quarter.

- Curriculum development included the infusion of Service Learning across the college.

- A pilot program for a Multidisciplinary Senior Design/ Capstone Sequence was initiated. To the best of our knowledge, this is the first multi-disciplinary senior project program at any major university.


- CENG enhanced communication with alumni through college and department e-newsletters and through seven alumni events held in Washington, D.C. and throughout California.

- The college increased outreach efforts by hiring an Outreach Coordinator, holding a special bilingual event for parents, and leading many K-12 activities. These efforts reached 600 students in Spring Quarter alone.

“We knew hardly anything about carbon fiber material going into this project. It was definitely a learn by doing process, but now that it’s finished we think we’ve given our client an advantage over his competitors.”

-Tony Guntermann, mechanical engineering senior, Adaptive X-Country Ski Assist

- Cisco, Google, and Raytheon provided funds to launch host Engineering Days at Cal Poly, a summer 2007 “day camp” to introduce engineering to local students.

- A Cal Poly chapter of The Order of the Engineer, the nation engineering ethics society was established.

- An enthusiastic engineering student body organized the most impressive National Engineers Week ever, which included student forums, a Sustainability Day, outreach in local schools, and industry participation.
Student Success

- Materials engineering graduate student Brian Stahl was the first recipient of a Bonderson Fellowship for Master’s-Ph.D.

- Mechanical engineering majors Paula Gijon and Chittayong (Jao) Surakitbanharn won the $20,000 NISH National Scholar Award, which recognizes the design of devices to improve access to the workplace for persons with disabilities.

Alumni Success

- NASA astronaut Gregory Chamitoff (EE ‘84) served as a mission specialist on Space Shuttle mission STS-124, which dropped him off at the International Space Station for a five-month stay.

- Kevin Neifert (ME ’84) was named by the College of Engineering as its 2007 Honored Alumnus. Neifert is vice president and chief engineer for Raytheon’s Space and Airborne Systems (SAS) Division.

- Stephanie Brown Trafton (IE ’04) won the gold medal for discus at the 2008 Summer Olympic Games in Beijing.

Faculty Achievements

- Faculty secured almost $5M in applied research grants and contracts. This represents an increase of 66% over last year and 150% increase since 2005-06.

- Materials engineering faculty members Drs. Kathy Chen, Linda Vanasupa, Will Hughes, Trevor Harding, and Rich Savage received a President’s Service Award for incorporation of service and project-based learning in the curriculum.

- AERO professors Dr. David D. Marshall and Dr. Rob McDonald received multi-year, million-dollar grants for research related to NASA’s umbrella plan to develop future generation aircraft.

Student Team Achievements

- Cal Poly’s Society of Women Engineers (SWE) took first place in the national Boeing Team Tech Competition.

- The Cal Poly Supermileage Team took 2nd Place at the U.S. Shell International Eco-Marathon. The returning champions increased their mpg to 2752.3 mpg.

- With first place wins in six events, Cal Poly again dominated the American Society of Civil Engineers (ASCE) Pacific Southwest Regional Conference. Cal Poly took first place overall for the eleventh time out of the past 12 years.

- The Cal Poly Concrete Canoe team took first in the Pacific Southwest Regional Conference and raced to fourth place at the national competition in Montreal.

- For the second time in three years, AERO students swept the Undergraduate Team Aircraft category with first, second and third place wins at the 2007 AIAA Student Design Competitions.

- Cal Poly also won the AIAA Undergraduate Team Engine category.

- The Cal Poly Human Powered Vehicle Club (HPV) took first place in Men’s Sprint at the American Society of Mechanical Engineers (ASME) Human Powered Vehicle Competition Western Division and swept all categories in the first-ever International HPV Competition.

- Senior Kate Van Dellan (AERO) and graduate student Jessica Kiefer (EE) received “Outstanding SWE Collegiate Member” Awards by the Society of Women Engineers, the highest honor presented by the national group to student members.

- Mechanical engineering major Chi-Yeh Hsu and electrical engineering major Xian Wang won first prize in the undergraduate engineering and computer science division at the 22nd Annual California State University Student Research Competition.
AERO
Aerospace Engineering

- U.S. News & World Report named Cal Poly AERO second in the nation for public, non-doctoral programs.
- Dr. Rob McDonald received the two-year Lockheed Martin Endowed Professorship.
- David Esposto joined the department as a lecturer. The 1973 alumnus retired from a 35-year career with Boeing, most recently serving as Chief Engineer for the Measat 3 Program & BS702 Structures.
- The Boeing Company, Edwards AFB, JPL, Lockheed Martin, Northrop Grumman, and Raytheon provided generous support for the CubeSat Project and senior design courses.
- Dr. David D. Marshall and Dr. Rob McDonald received multi-year, million-dollar research grants from NASA for research that will help develop future generation aircraft.
- Faculty undertook projects sponsored under the aegis of the Project Based Learning Institute (PBLI) for Edwards Air Force Base, Northrop Grumman, and BAE Systems.
- Along with Boeing, Lockheed Martin, Northrop Grumman and Raytheon, the department hosted the Fifth Annual CubeSat Developer’s Workshop. The workshop was the largest to date with participants from 38 universities, 32 companies, and 14 countries.
- For the second time in three years, AERO students swept the Undergraduate Team Aircraft category at the 2007 AIAA Student Design Competitions. Team Arete Aeronautics took first place with a design for an inter-theater tactical transport, while Teams Awesom-O and Sleipner Aerospace took second and third.
- Cal Poly also won the AIAA Undergraduate Team Engine category with “The Mosquito,” an air breathing propulsion system for an limited life Mach 3 vehicle.
- An Unmanned Aerial Vehicle Club was established.
- As a founding faculty member for Engineering Days at Cal Poly, a summer day camp, Dr. Dianne DeTurris taught campers to design, build and launch rockets.
- Senior Kate Van Dellen served as president of the Cal Poly Society of Women Engineers. She received the Outstanding Woman in Engineering & Technology Award and was also named “Outstanding SWE Collegiate Member,” the highest honor presented by the national group to a student member.
- The newly-established Lockheed Martin Freshman Scholarships were awarded to incoming students Ian Painter, Steven Flores, Brian Marchini, and Adrienne Masterson.
- Alumna Teana Fredeen (AERO ’91) was appointed the College of Engineering’s first Outreach Coordinator responsible for programs that expose underrepresented K-12 and community college students to the field of engineering.

“The senior design project was an outstanding experience for our engineering personnel at the Air Force Flight Test Center (AFFTC). Our relationship has started to pay real dividends in hiring high quality engineers into the AFFTC. We look forward to our continuing relationship with the Cal Poly Engineering Team.”

Anthony J. Rubino, YD-3, DAF F-22 Chief Engineer, Edwards Air Force Base
BMED/GENE
Biomedical & General Engineering

- Dr. Robert Crockett, interim department chair, was named one of the “100 Notable People in the Medical Device Industry” by Medical Device & Diagnostic Industry (MD&D) magazine.
- The growth surge of the Biomedical Engineering Program brought the enrollment to 400 and included the hiring of four new faculty members: Drs. Kristen Cardinal, Trevor Cardinal, David Clague, and Lily Laiho.
- A new cadre of 24 master’s degree students enrolled in the distance learning program via St. Jude Medical.
- A growing percentage of BMED and General Engineering students earned M.S. degrees through the 4 + 1 program.
- GENE had an increasing number of transfers, particularly students who wish to create their own multidisciplinary course of study: examples include audio engineering and renewable energy, with a focus on biofuels, wind energy, and ocean energy.
- More and more GENE students are interested in becoming teachers.
- Three teaching labs in Engineering IV opened, including a wet lab, dry lab, and a distance learning/computer lab.
- The BMED/GENE faculty initiated a wide range of applied research in areas including: bone mechanics, laser imaging, microfluidic devices, tissue engineering, healing response, and neural modeling. Research sponsors include the National Institute of Health, Abbott Vascular, Espon, Meditec Technology, and the California Central Coast Research Partnership (C3RP).
- Boston Scientific and Abbott Vascular joined Meditech, the Cal Poly biomedical engineering consortium. The other industry partners include St. Jude, Edwards Life Sciences, and Advanced Bionics. The strong and growing consortium provides an industrial presence on campus, providing a prime source of senior and master’s student projects as well as serving as the entry point for student co-ops. Meditech is also the single largest source of funds to support faculty and student applied research.
- Dr. Kristen Cardinal was the first speaker for the new Freshman Seminar Series and she was also featured in Cal Poly On the Road.
- Graduating engineering master’s students led the college with perfect 4.0 GPAs. They include: Roger Chen, Eden Cruz, Erin Cruz, Eric Rowson, and Rudolph Zacher.
- Lindsey Bauer was named college-wide Outstanding Graduating Senior for Contributions to the College of Engineering.
- The BMED Society expanded its membership and increased interaction with industry by hosting on-campus events and arranging off-campus tours to Boston Scientific and Edwards Life Sciences. The group also served as tour guides for admitted students during Open House and participated as a team in Relay for Life.
CE/ENVE
Civil & Environmental Engineering

- U.S. News & World Report ranked Cal Poly’s civil engineering program second in the nation for public, non-doctoral universities.
- The department ranked #3 in the nation for graduates; and the CE master’s program grew from 13 to 25 students.
- Dr. Shikha Rahman, an expert in water resources and hydraulics, joined the department.
- Dr. Ed Sullivan received the Frank M. Masters Transportation Engineering Award from the Transportation and Development Institute.
- The Industrial Advisory Board initiated the LabQuest Campaign and raised $50,000, to date, to upgrade department labs and facilities.
- With first place wins in six events, Cal Poly again won overall for the twelfth time in 14 years at the American Society of Civil Engineers (ASCE) Pacific Southwest Regional Conference.
- Cal Poly Society of Civil Engineers (SCE) won the 2008 ASCE Governors Award as the Best Student Chapter in Region 9. SCE was also one of six Robert Ridgway Award Finalists this year.
- Cal Poly placed 4th in the international Concrete Canoe Competition in Montreal. ASCE featured the Cal Poly canoe at the World of Concrete Expo in Las Vegas.
- The CE Senior Design capstone course with 173 students—the highest enrollment ever—focused on the design of a low impact residential development in Paso Robles, CA.
- Engineers Without Borders installed a water system for a health clinic in Nueva Vida, Nicaragua. In addition, the team traveled to Camilo Ortega, Nicaragua to investigate project opportunities, and also returned to Thailand to plan a sand filtration workshop.
- CE student Chad Pruett was the Outstanding Graduating Senior for Academic Excellence for the College of Engineering.
- 4 + 1 student Daniel Frost led the college for Academic Excellence with a perfect 4.0 GPA and was named the college-wide Outstanding Graduating Senior for Community Service.
- Graduate student Tricia Compas collaborated with business and ENVE students to win the $4000 Ray Scherr Business Plan Competition for a program to provide water treatment for disaster relief.
- Students Lisa Clark and Ryan Cahill were awarded scholarships from the American Council of Engineering Companies-California (ACEC).
- Brennan Shea Goltry (CE ’04) was awarded a Silver Star for gallantry in combat.
- Randell Iwasaki (CE ’82) was elected chairman of the Intelligent Transportation Society of America Board of Directors.
- Kay Kibbe, who provides administrative support to the department’s 40 faculty members and 1000 students, received the 2008 College of Engineering Outstanding Staff Award.
“My senior project is designing a hydraulic lift for the Cal Poly Rose Float. I knew about hydraulics from class, but it’s been interesting learning how to use them practically. Like, I discovered that pumps don’t usually work upside-down.

“A highlight at Cal Poly has been the Society of Women Engineers—actually, a SWE event sold me on attending Cal Poly—and participating in ASHRAE, the American Society of Heating, Refrigerating and Air-Conditioning Engineers. ASHRAE has made me realize that I want to work developing more energy efficient technologies in the HVAC&R industry.

“I’ve loved my time at Cal Poly—I’m so sad to leave! I’m already planning to come back to visit. The scholarships I’ve received have allowed me to dedicate more time to studying. I know it’s not always easy for donors to give money, but those donations are so helpful and it’s great to see people who are willing to help students achieve. It’s encouraging.”
CPE
Computer Engineering

- U.S. News & World Report named Cal Poly’s computer engineering program first in the nation for public undergraduate universities.
- Dr. James Harris (CPE/EE) was appointed program director.
- Dr. John Oliver (CPE/EE) joined the program.
- Dr. Al Liddicoat (CPE/EE) was named by the university as Assistant Vice President for Academic Personnel.
- Linda Smith served as the CPE Administrative Assistant from January to June.
- Director Jim Harris received the 2008 Meritorious Service Award from the Electrical and Computer Engineering Division of the American Society for Engineering Education.

Dr. Lynne Slivovsky (CPE/EE) and colleagues in the Mechanical Engineering and Kinesiology Departments received a five-year $125,000 NSF grant to promote the design of adapted physical activities for the disabled.

- Dr. Chris Clark (CPE/CSC) traveled to Malta to explore ancient cisterns with an underwater robot equipped with a mapping system he developed.
- CPE students developed an autonomous robot that will serve as a Poly Rep guide for campus visitors. The project is directed by Dr. John Seng and sponsored by Intel, Raytheon, and the CPE Student Fee Committee.
- The 14th annual RoboRodentia featured 12 teams and hundreds of onlookers at Open House.

“As computer engineers we are well-versed in all aspects of problem solving. The low-vision man who tested our project doesn’t usually trust technology, but he was very responsive when he realized it would help simplify his daily life.”

Brian Blonski, computer engineering senior
Personal Obstacle Detection System (team name - Aperture Science)

- Dr. Chris Clark (CPE/CSC) received the Northrop Grumman Excellence in Research & Development Award.
- The new Capstone Laboratory opened, containing nearly $100,000 worth of cutting-edge technology. Allocations from the Bert and Candace Forbes Endowment and the CPE Student Fee Committee funded the facility.
- Capstone students undertook numerous service learning projects, including system upgrades to a Red Cross emergency communications trailer, a closed circuit TV system for individuals with low vision, two exhibits for the San Luis Obispo Children’s Museum, and an interactive device to help low vision adults with sensory integration.
- CPE students named Dr. Chris Clark “CPE Professor of the Year,” Dr. Phillip Nico “Most Inspirational CPE Professor,” and John Seng “Best Class Project Professor.”

- The 2008 Outstanding Seniors included Thomas Norrie (Academic Excellence), Ameen Akel (Service to the University), Joanne Hontiveros (Service to the Community), and Han Bui (Service to the College).
CSC/SE
Computer Science & Software Engineering

- U.S. News & World Report named Cal Poly’s computer program first in the nation for public, non-doctoral universities.
- Dr. Alexander Dekhtyar joined the department. His research interests range from databases to artificial intelligence.
- Dr. Chris Clark received the Northrop Grumman Excellence in Research & Development Award.
- Dr. Michael Haungs received a competitive HP Technology for Teaching grant to undertake a project to expose high school students to computer science.
- Dr. Hasmik Gharibyan received “Most Supportive Professor” award from Cal Poly’s Society of Women Engineers.
- Multidisciplinary interest in the Interactive Entertainment Technology (IET) curriculum continued to grow, particularly among students from Graphics Arts. The area focus has been developed in partnership with DreamWorks, Disney and other gaming companies.
- Dr. Chris Clark recorded ancient cisterns in Malta using an underwater robot equipped with a mapping system he developed. He also developed new courses in Autonomous Robot Navigation and Multi-Robot systems.
- Students in Dr. David Janzen’s year-long SE capstone course presented their designs to their client, Amgen. The students built a web-based forecasting tool using internet application frameworks.
- In conjunction with the College of Engineering Distinguished Lecture Series, the Association for Computing Machinery (ACM) club hosted a presentation by Jim Mainard, head of Production Development for DreamWorks Animation.
- Graduate student Brett Bojduj attended the 20th International Conference on Industrial Engineering and other applications of Applied Intelligent Systems at the University of Kyoto in Japan, where he presented two papers.
- Greg Porter joined the department as an operating systems analyst and administrator. In his previous career with the California Army National Guard, Porter volunteered to go to Louisiana after Hurricane Katrina to help rebuild the LA National Guard’s computer center.
- The ACM club worked with Yahoo! to host a talk on Hypertext Preprocessor (PHP) scripting language featuring senior executive inventor Rasmus Lerdorf. In addition, ACM hosted info sessions with companies such as Adobe, Amgen, and Intuit, and collaborated with Microsoft to present social events and promote job opportunities.
- Aaron Peckham (B.S. CPE ’05, M.S. CSC ’05) launched UrbanDictionary.com in 1999 while a freshman and the site is still going strong, with a half million hits a day.
EE
Electrical Engineering

- For the fourth year in a row, U.S. News & World Report named Cal Poly’s electrical engineering program first in the nation for public, non-doctoral universities.
- Dr. John Oliver (CPE/EE) joined the program. His teaching and research interests include computer architecture, and energy efficient and sustainable computing.
- Enerpro, Texas Instruments, Venable Instruments, and San Diego Gas and Electric donated thousands of dollars worth of equipment to the EE Department.
- Cal Poly IEEE contributed to the department by hosting numerous events for incoming students, current students and faculty. The group also co-sponsored the annual EE Department & Industry Awards Banquet.
- EE students Patrick Beck, Jessica Kiefer, and Roland Quiros were awarded scholarships from Cal Poly Society of Women Engineers (SWE).
- Jessica Kiefer was named “Outstanding SWE Graduate Collegiate Member,” the highest honor presented by SWE National to a graduate student. She also won the Vicki and Darrell Farrer Scholarship because of her leadership in promoting women’s rights.
- 4 + 1 student Shane O’Connor led the college for Academic Excellence with a perfect 4.0 GPA.

“This project provides Intel’s Embedded and Communications Group with a great opportunity to hear from new developers. The fresh perspective that the students offer provides us with opportunities to enhance our products and capture new ideas.”

Edwin Verplanke, Intel Platform Solution Architect, Autonomous Robot Project
Sponsors: Intel, Raytheon, Cal Poly IEEE-CS

- The department adopted the Promise Keeping Program, a system to help students graduate in four years via a yearly course flow of guaranteed courses.
- PG&E helped sponsor a Renewable Energy Lab to expose students to cutting-edge technology that will help make the U.S. independent of fossil fuels.
- The Photonics curriculum and lab facility expanded, enabling the teaching of larger sections.
- The EE Industry Advisory Board aided the department’s fundraising program and were heavily engaged in preparing for the upcoming ABET accreditation review.
- EE student Xian Wang and ME undergraduate Chi-Yeh Hsu won first prize in the undergraduate engineering and computer science division at the 22nd Annual California State University Student Research Competition.
- NASA astronaut Gregory Chamitoff (EE ’84) served as a mission specialist on Space Shuttle mission STS-124, which dropped him off at the International Space Station for a five-month stay.
- Sam Waldbaum (EE ’05) won RoboRodentia with a robot that scored point after point with incredible precision.
“My mother escaped Vietnam by boat after the war. A single mom with no education, she was overwhelmed by the idea of sending me to college. But I was chosen to receive the Bloom Scholarship as a freshman and other grants since then. Scholarships and financial aid are the only reason I am at Cal Poly.

“I’ve had great project experiences, especially TeamTech. We won first in the nation for designing an inspection device. It was awesome working with Walt Disney Imagineering on a real-life project. For my software engineering capstone project, I worked with a multi-disciplinary team on a web-based forecasting tool for Amgen. The project helped me learn management skills, how to ask the right questions, and how to cope with team dynamics. I think our project surprised and impressed our client because we used such a wide variety of tools.

“My goal? I want to get a great job, move up the corporate ladder, and give back to my mom, especially, and to Cal Poly, and I want to serve as a role model.”
IME
Industrial and Manufacturing Engineering

- U.S. News & World Report named Cal Poly’s industrial and manufacturing engineering program first in the nation for non-doctoral universities.
- Dr. Roya Javadpour received the Northrop Grumman Excellence in Teaching Award.
- Dr. Jianbiao Pan was featured as the Member Spotlight of International Microelectronics and Packaging Society (IMAPS).
- Dr. Roya Javadpour was one of three finalists in the international "Innovations in Curriculum Award" competition sponsored by the IIE.
- From freshman year through the master’s thesis, curricula became more project-focused. Projects include service learning experiences and industry sponsored problems offered with the assistance of IAB members or in conjunction with the Project Based Learning Institute.

“As a polytechnic university, we’re uniquely positioned to accomplish sustainability curriculum objectives and reduce our ecological footprint by using our campus as a living laboratory for sustainable technologies.”

Chad Worth, Industrial Engineering
Empower Poly Coalition

- The IIE student club hosted the IIE Student Regional conference with students and faculty from universities from Arizona to Washington. IME Industrial Advisory Board (IAB) members also participated on a special panel.
- Students raised more than $100,000 for PolyHouse, the annual project undertaken by Dr. Roya Javadpour’s project management class. The class made major home improvements to provide accessibility and safety for a disabled gentleman.
- Dr. Liz Schlemmer’s IME 443 class worked with the People’s Kitchen, the SLO South County Food Bank, and the Good Samaritan Shelter to design a homeless shelter. The plan was presented to area mayors and supervisors.
- A multi-disciplinary team directed by Dr. Jianbiao Pan won second place in the Student Chapter Booth Competition at the 40th Annual International Symposium on Microelectronics.
- With almost 20 students participating, Cal Poly sent more students than any other university to the IIE Annual Conference & Expo in Vancouver, Canada.
- Undergraduate Claire Dooley won the International Student Technical Paper Competition at the IIE Annual Conference.
- Jessica Eggleston received the Outstanding Women in Engineering & Technology Award from Cal Poly Society of Women Engineers.
- Senior Bobby Peterson was awarded the Edward S. Roth Manufacturing Engineering Scholarship from the Society of Manufacturing Engineers.
- IE students Chad Worth and Eric Veium led campus sustainability efforts as presidents of the Empower Poly Coalition and Cal Poly Biodiesel Club and helped organize Cal Poly’s Focus the Nation event.
- David Hampton (IE ’86), vice president for Customer Delivery Systems at FritoLay, succeeded Dwight Miller as chair of the IAB.
- Alumnus Michael J. Hammons (IE ’94) was named President & CEO of Nexiant.
- Stephanie Brown Trafton (IE ’04) won the gold medal in women’s discus at the 2008 Summer Olympic Games in Beijing.
MATE Materials Engineering

- MATE faculty members Drs. Kathy Chen, Linda Vanasupa, Will Hughes, Trevor Harding, and Rich Savage received the President’s Service Award in recognition of their work to incorporate service learning into the curriculum.

- For the Freshman Sequence, MATE freshman undertook projects for local clients, including: San Luis Obispo Botanical Garden; Oak Park Recreation Center; Life Steps Foundation; Growing Grounds Farm; Maxine Lewis Memorial Shelter; and SciTechatorium.

- Olympus Integrated Technologies continued its support of the Micro Systems Technology Group headed by Dr. Rich Savage.

- Dr. Richard Savage was inducted into Alpha Sigma Mu, the Materials Engineering honor society.

- Dr. Linda Vanasupa partnered with Tongji University (Shanghai), Stanford and Yale to initiate a project to design a first-of-its-kind, fully-functional model sustainable village for 800 people on the Chinese island of Chongming.

- MATE partnered with the Bellevue Charter School to hold NanoDays, part of a nationwide effort to raise public awareness of nanoscale engineering.

- MATE students won 2nd Place in the ASM Materials Education Foundation 2007 Undergraduate Design Competition with a design for a prosthetic hip component.

- MATE graduate student Brian Stahl was named the first recipient of a Bonderson Fellowship for Master’s-Ph.D. offered in collaboration with UC Santa Barbara.

- Junior Nicholas Vickers won Best Student Poster at the Society of Vacuum Coaters Technical Conference, and received scholarships from the SVC Foundation and the Surface Mount Technology Association (SMTA), Silicon Valley Chapter.

- Graduate student Dan Marrjuo led the International Microelectronics and Packaging Society Student Chapter to 2nd place in the Student Chapter Booth Competition at the 40th International Symposium on Microelectronics.

- Graduate student Aaron Guerrero was awarded a scholarship by the Los Angeles Section of NACE International, an association of corrosion engineers and scientists.

- In MATE 310/350, a class focused on improving materials in human implants, alumni presented real world experiences in the biomedical industry. Speakers included Bret Ballou ('04), Lisa (Christensen) Ballou (B.S. ’02, M.S. BMED ’04), Masao Drexel ('02), and Chuck Raggio (MET ’74). Alums, Carl Nail ('94) and John Stephens ('07) spoke to the Materials Engineering Student Societies.

- Alumnae hosted MATE female students at the first Materials Girls Mixer.

- 1999 grads Steve Schueneman and James Martin were named chairs of the Puget Sound and Baltimore-Washington sections of NACE.
**ME**

**Mechanical Engineering**

- U.S. News & World Report named Cal Poly’s mechanical engineering program first in the nation for public, non-doctoral universities.
- John (ME ’65) and Connie Nielsen established the Student Projects - Lab Upgrade Challenge Fund with a $230,000 grant. The Nielsens challenge other grads to add their contributions to improve shops and labs.
- Visiting scholars included Dr. John Dunning, an expert in battery and fuel cell technology; Dr. James Tobias, founder of a chip emulation program; and Dr. Keli Zhao, visiting from Jilin University in China.
- The Bay Area Sheet Metal and Air Conditioning Contractors’ National Association (SMACNA) established a $350,000 challenge grant for the HVAC&R program. Alumnus John H. Wingate, Jr. provided the first matched gift of $50,000.
- Dr. William Murray received the Raytheon Excellence in Teaching & Applied Research Award.
- Dr. Tom Mackin served on an Advisory Panel to the NSF Office of Integrative Activities to Review the Institute for Defense Analysis Science and Technology Policy Institute.
- The Projects Expo expanded to include Computer Engineering and Biomedical Engineering; almost 100 industry sponsored student projects were showcased.
- Dr. Brian Self and colleagues from other universities received a $2 million collaborative NSF grant for a project to improve students’ learning strategies.
- The Supermileage Team took 2nd at the Shell International Eco-Marathon. The returning champs achieved 2752.3 MPG.
- The Cal Poly Human Powered Vehicle Club (HPV) won the International HPV Challenge in Maracaibo, Venezuela.
- Andrew Ouellet pedaled the HPV to 1st in Men’s Sprint at the Western Challenge with a top speed over 6 mph.
- For the first time, Cal Poly Formula SAE competed in Europe’s premiere Formula competition held in England, with 3000 students from 22 countries.
- Majors Paula Gijon and Chittayong (Jao) Surakitbanharn won the $20,000 NISH National Scholar Award with a device to aid disabled workers.

“For the last 18 weeks, we’ve been doing nothing else. Overall, we envisioned something with more features, but stuff happens. The project brought together everything I’ve learned, while also giving me the chance to learn from other majors. It helped me to be more multidisciplinary.”

Audrey Steever, Mechanical Engineering Robotic Finger Spelling Hand for the Deaf-Blind Sponsor: Smith-Kettlewell Eye Research Institute

- ME student Chi-Yeh Hsu and EE major Xian Wang won first prize in the undergraduate engineering and computer science division at the California State University Student Research Competition.
- Todd Maki was named the college-wide Outstanding Graduating Senior for Contributions to the University, and 4 + 1 student David Imaratto led the college for Academic Excellence with a perfect 4.0 GPA.
- Senior Lisa Dakis was named an Outstanding Women in Engineering & Technology.
- Alumnus Frank J. Levy (ME ’57) received the International Energy Globe Award for co-developing Post Consumer Carpet (PCC) Processing Technologies. PCC was selected out of 853 projects from 109 countries.
Scholarship Recipient
Nicholas Vickers
Materials Engineering

~ W.D. Forgeng Award
~ National Science Foundation Scholarship
~ Society of Vacuum Coaters Foundation Scholarship

“I stayed close to home after high school because I wasn’t sure what field I wanted and because my mom had gotten very sick. I was lucky, though, because when I told my community college advisor that I loved chemistry and physics and that I liked building things that help people, he steered me to MATE. It’s been a perfect fit, and I’ve loved working with Dr. Savage, who’s a great guy who knows a huge amount.

“I’ve dreamed of graduating from college with honors, and Cal Poly has an Honors Program that sponsors research projects. When I was notified by Dr. Alptekin that I had gotten into the program, I was never so excited in my life. I’m working on a resistant switching memory cell made out of chalcogenide glass. That sounds fancy, but it means ‘ore former’ and is found in rocks that we smelt down to form metals that we can use for re-writable media. The switching cells are more durable and that means more sustainable.

“Mom is fine, now, alive and kicking, and really proud of me. It was her recovery that made me realize how technology helps people.”
MEP
Multicultural Engineering

- MEP served over 300 Cal Poly students and 300 pre-college students from four area high schools and three middle schools.
- Maria Manzano brought her bi-lingual skills to MEP when she joined the program as the pre-college coordinator and recruiter/counselor.
- The College of Engineering received a $45,000 gift from the S.D. Bechtel, Jr. Foundation to fund scholarship aid for students with demonstrated need.
- MEP director David Cantu, served as the campus coordinator for PIQE, the Parent Institute for Quality Education, which held an eight-week course for first-generation parents on how to support their children’s educational efforts.
- Cal Poly Society of Hispanic Professional Engineers (SHPE) was named Region 1 Chapter of the Year. The group worked to establish a SHPE-Junior chapter at Santa Maria High School.
- $75,000 in corporate sponsored scholarships were awarded to approximately 30 students at the MEP Corporate Social and Academic Recognition Banquet. The event was made possible through contributions from Chevron, Hewlett-Packard, Lockheed Martin, Northrop Grumman, PG&E, Raytheon, and Xerox.
- The officers of SHPE, the Society of Black Engineers and Scientists (SBES), the American Indian Society of Engineers & Scientists (AISES), and the Society of Women Engineers (SWE) participated in a Leadership Workshop hosted by Northrop Grumman, Lockheed Martin, Disney Imagineering, and Frito Lay.

“The benefits of working with our Amgen customer in our capstone course included the experience of communicating with industry representatives and working in teams. The difficulties I faced as Team Leader and the chances that I got to improve my leadership skills were very valuable to my personal growth. I feel that being able to apply these skills is an essential part of the education we receive as Engineers at Cal Poly.”

Michele Mayorga, Software Engineering
Web-based Forecasting Tool, Sponsor: Amgen

- MEP’s 89% retention rate for first-year students matched the average for the College of Engineering.
- Exploring Engineering debuted in Spanish and English during Open House; the program caters to parents of talented, economically disadvantaged prospective students.
- Cal Poly hosted the MESA Day Preliminaries, an engineering competition for middle and high school students, with winners advancing to the regional contest. Cal Poly took over 100 students to the Regional MESA Day hosted at UCSB.
- 20 SHPE members participated in the NTCC conference in Philadelphia; SBES sent 12 members to the National Society of Black Engineers (NSBE) conference in Orlando. In addition, Cal Poly hosted the AISES regional conference.
- MEP alumni Martín Curiel (ME ’98) and his Cal Poly roommate, Samuel Ulloa (EE ’99), former president of Cal Poly SHPE, continued their work for the Rising Farmworker Dream Fund, a nonprofit venture philanthropy firm, which provides scholarships and grants to children of farm workers.
Cal Poly’s Society of Women Engineers (SWE) took first place in the national Boeing Team Tech Competition. Working with Walt Disney Imagineers the team submitted a winning design for a roller coaster weld point inspection device.

SWE won the Boeing Multicultural Award for the best diversity advancement and most inclusive program, placed 2nd for the Best Website Design, and 3rd Large Outstanding Student Section in the nation.

WEP/SWE outreach and recruitment efforts helped boost the percentage of female engineering freshmen at Cal Poly from 13.0% in 2006 to 15.7%.

The first Engineering Days summer camp was held with support from Cisco, Google, and Raytheon to provide a week-long exposure to collegiate engineering for high school students from local underserved communities.

SWE awarded over $50,000 in scholarships at Evening With Industry, a record amount. Thirty-seven companies attended the event.

In cooperation with Hewlett-Packard, SWE named five Outstanding Women in Engineering and Technology, including Lisa Dakis, mechanical engineering senior; Jessica Eggleston, industrial engineering senior; Kate Van Dellen, aerospace engineering senior and SWE president; Leah Meeks, bioresource and agricultural engineering senior; and Hayley Soderlund, architectural engineering senior.

Big Sib, Little Sib Potluck was a hit, with 70 attendees, including 50 freshmen. The event is part of SWE’s program to support new students and boost retention of female engineering students.

WEP/SWE hosted 30 students for High School Shadow, a day that included campus and lab tours, engineering club and department fair, and a night in the dorms with SWE hosts.

SWE’s outreach program included Building An Engineer attended by 140 students and parents, 4th Grade Outreach during National Engineers Week, and Girl Scout Engineering Day.

WEP/SWE co-coordinated High School Outreach to MESA (Math, Engineering, Science Achievement) programs during National Engineers Week with the Engineering Student Council. Cal Poly student representatives met with 170 students in Paso Robles, Shandon, Arroyo Grande, Pioneer Valley, Morro Bay and Santa Maria.

SWE graduating seniors attended a reception by the local SWE Professional Section, which SWE helped found, to celebrate the group’s fifth anniversary.

Graduating seniors advertised their SWE pride by wearing Society of Women Engineers stoles at Commencement.
Geoff Tate was the founding CEO of Rambus, the world’s leader in high performance chip to chip interfaces. He has been a member of the Dean’s Advisory Council since 2006.
A Message from Geoff Tate

Unlike many members of the Dean’s Advisory Council (DAC), I am not an alumnus. But my son is. Ross picked Cal Poly over several top UC schools, and tells me he continues to feel it was the right decision—he loved the faculty’s smarts and approachability, the hands-on experience, and the town of San Luis Obispo. Having graduated with degrees in math and computer science, Ross is now studying for his Ph.D. at UC San Diego.

My wife Colleen and I believe in the importance of public education. Both of us grew up in Canada and attended public schools from Grade One through our undergraduate degrees. And all of our children (sorry – the other two picked UC Davis, but not in engineering) have done the same.

Public education is a key invention for enabling people from all backgrounds to pursue their dreams and better their lives—and in doing so, benefit all of us in society.

So, when asked to join the Dean’s Advisory Council, I was happy to participate. Over the last couple years, I have spent time getting to know the Dean Noori, the department chairs, the dean’s staff, the administration, and many others, and have been consistently impressed with everyone’s focus on the quality of education for the students.

In Fall 2008, I assume chairmanship of the DAC, taking over leadership of the group from the supremely capable hands of Paul Bonderson. I look forward to working even more closely with the council, the dean and the college over the next three years. My personal priorities are to work to continue Cal Poly’s engineering education leadership, to continue to attract and retain great faculty and staff, to understand and see what can be done to improve time-to-degree and graduation rates, and to increase the College of Engineering’s momentum in attracting women and under represented minorities.

More than anything, I am very concerned about the pressures facing public education, including Cal Poly. Colleen and I are doing our part by contributing annually as a thank you for all that they have done for our family and for California. We would encourage all of you to do what you can as well—everything helps.

Geoff Tate, Co-chair, Dean’s Advisory Council

To discuss how to become involved with or support the College of Engineering, call Joe Donahoo or Donna Aiken, 805-756-6870 or 805-756-6601.
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Donald Heikinen
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Douglas & Sonel Marks
Paul & Christine Martin
Frank & Laun Hilling
James Regan
Charles & Kathryn Terhune

$5,000 to 9,999
K. N. & Meera Balasubramanian
Robert Bein
Lori & Michael Bickel
Robert & Julie Bilbro
Ray Elm & Diana Gold
Edward & Eileen Gaiser
Susan Graham & Bruce Mengler
M. Joyce Hoffman
Kathleen & Robert Holmgren
Jami & John Krakowski
Richard & Patricia Melshemer
Phyllis & R. G. Moore
Neal & Diane Openshaw
Stanley & Sheil Sass
Bonne & Ronald Swenson
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Devery & Lawrence Totten
Edward & Marjorie Whitney
Gerald & Sheila Wroblewski
Robert & Kathleen Wulf
James & Elizabeth Young

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Michael Adams
Charles & Karen Adamson
Tracy Anderson
Anonymous Donor
Anonymous Donor
Susan Armstrong & Keith Marzullo
Mary Bain
Daniel & Diane Benjamin
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Mark Bright
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Mary-Helen & Michael Ciesniski
Carla & Tyler Clemer
Ronald Dobbah
Bret Dotts
William Evans
Bert & Candace Forbes
John & Cyril Gable
Chuck & Leslie Gompertz
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Mary King
Jon & Tamara Krause
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Jeffrey & Renee Marrs
Kelly McClure
Jon & Christine Monett
John Nakista
Michael Norem
Steven & Carol Pearson
Dick & Darlene Polder
Phil Quaglino
Sherry Sarmento
Rolland & Isobel Sears
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Hugh Smith & Kathy Schwantz
Stuart Smith
Lawrence Sun
Buttschardt-Viethaler Trust
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Anonymous Donor
Anonymous Donor
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Michael Bevan & Pamela Fink
M. A. Beyster Fund at The San Diego Foundation
Ward Brady
Richard & Justine Brockett
Mark Cameron
Bambi Cask & Stephen Patterson
Sherman Chan
Abigail & Donald Cornelius
Hal & Judy Cota
Jerry Counts
Jonathan Criddle
Salvatore Cristofano & Laura Gasper
Steven Deas
Robin & Steven DeJannett
Joseph & Engelyn del Rosario
Jeffrey & Shelley Depew
Gregory & Miriam Dexter
Steven Dietmann
Thomas & Susan Duval
Charles Duval
Jon Eccleston
Candace Eckert
Lynda Elliott
John & Robin Ellis
Donald & Marguerite Erickson
Michael Errathiere
Anthony & Susan Estada
Marie-Jeanne & Lance Forbes
Jon Glommen
Paul Goodholm
James & Margery Harris
Michael Hughes
Hermon & Sandy Hui
Charles & Linda Kimmel
Ursula Krummel
Charan Langton & Michael Levin
Patricia Laporte
Guy Martin & Lisa Gillette-Martin
Peter & Alexa McAtee
Donald & Laura Midkiff
Glen Mills
Eric Morey
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Richard Munroe
Kendall Murakami
Carl & Gwen Nail
Michael Olsen
Peter Palombi
Gary Parola
Laura & Mike Patnode
David Pedersen
Gudrun & Wolfgang Polak
Charles Pratt
Gene Queenaey
Michael & Marion Quinn
David & Sarah Ricci
Dennis Riddle
Kevin & Marti Rimbault
George Roberts
Michael Roberts
Gordon & Shirley Rock
Joshua Roe
Brad Roldan & Gina Emihl
Roldan
Frank Rollo
Patrick & Amy Rumsey
Darwin & Jeannette Sainz
Manissa Schmidt
John Sexton
Kenneth Shamordola
Elizabher & Warren Shinmada
Louis & Patricia Shrinkle
Wayman St
Guis Sofer
Richard Tapole
Timothy & Janet Thomas
Wayne Thomas
Matthew Tuchinski
Nannette & Bill Van Antwerp
John Vigliecca
Diane & John Villa
Elwood Villa
Michael & Stephanie Walker
John & Roberta Ward
Stephen & Lori Ward
Heather & Michael Weaver
Kathleen & Michael Weaver
Bransby Whitton
Albert Winn
Eric & Yolanda Wong

$500 to 999
Steven & Cindy Aaron
Marc & Bridget Allard
Pablo Alvarez
Casey & Dianna Andrews
Paul & Marguerite Appling
Glade & Sally Bacon
Pamela Bailes
John Bates & Carolin Carvi
S. Keith & Kathleen Belmont
David Bench
Steven Bettencourt & Judith Gardiner
Jean Bilendorf
John & Vinnie Bilendorf
Phillip Biles
James & Susan Berklee
Benjamin & Jennifer Black
Charles Blair
Robert Blair
Stanley Blos
Donald & Donna Brand
Susan Pfeifer Brown & Robert Brown
Barry Bruins
Jeannie Bruins
Keith Brummell
Cheryl & William Bruman
Jacquelin Buratovich
Dennis Burke
Frances & Patrick Burke
George Burnman
Edward Burnett
Eight years into retirement, John Nielsen decided it was time to see how he might help his alma mater.

The 1965 mechanical engineering alumnus made trips to campus and joined the Mechanical Engineering Industry Advisory Council. “I met Paul Bonderson, who built the Projects Center, and George Leone, the ME technician, who does such a great job maintaining the shops and working with student clubs,” says John. “What excited me most was the enthusiasm of the students and the projects they develop—much more sophisticated projects than what we did in the ’60s.”

John’s work in the Cal Poly shops gave him a solid foundation for a successful career. He retired from General Mills after designing, building and managing the engineering functions in several plants throughout the U.S.

When John looked back to Cal Poly, it was the shops that came to mind. So, he and his wife have established the John & Connie Nielsen Student Projects – Lab Upgrade Challenge Fund, committing up to $240,000 as a challenge to fellow alumni and friends. The fund will match all unrestricted gifts to complete shops in the Bonderson Projects Center and the Aero Hangar, where students design and build their award-winning projects. He hopes this will encourage others to give as well.

In recognition of John and Connie’s generosity, the college offered to name a shop after them. But the couple wanted to instead honor the memory of those who lost their lives in the football team plane crash on October 29, 1960. “I was a freshman when the plane went down; it was an emotional time,” notes John. “Connie and I felt that dedicating a ‘Mustang ’60 Student Projects Shop’ would be a way to remember those fallen students.”
“IE has opened doors. I’ve had great internships, one with Smuckers. I was a production supervisor in charge of fifteen employees, which was a new experience because they were much older than I am.

“My favorite internship was with Lockheed Martin. I did internal auditing on the shop floor and got to climb right to the top of the new bomber. I also did an audit with the customer, the Department of Defense. I was a little nervous because I knew that they’re the ones we need to keep happy, but it was a neat experience.

“I’m the first in my family to go to college, so sometimes there’s a gap in my folks’ understanding about what I do. My three little brothers really look up to me. I’ve been giving them Cal Poly tee shirts, trying to suck them in to coming here.

“The Society of Hispanic Professional Engineers helped me feel comfortable and provided a family. The vice president of the club took me under his wing. Also Gamma Zeda Alpha, the Latino interests fraternity.

“I’m getting through college on money from internships, financial aid, loans, and scholarships. Everything helps.”
Ward Brady made his first gift to Cal Poly because he got a call from a student working the Annual Fund phone bank. The call made him realize that the benefits he received from his education far outweighed the costs.

“Cal Poly and especially the focus on labs helped me develop a strong work ethic,” says the 2001 mechanical engineering graduate. “The hands-on, problem-solving aspect of the lab work also stayed with me. Now, out in industry, I find I have that down.”

Ward is a territory manager for US Air Conditioning Distributors, the world’s largest privately owned HVAC distributor and a company that recruits almost exclusively from Cal Poly. “My Cal Poly pedigree gave me a great foothold in my company,” he says; “in fact, I first made contact with US Air at the Career Center on campus.”

Even before he graduated, though, Ward’s Cal Poly professors helped him anticipate the professional environment: “When I was in school, I felt connected to Dr. Davol. He was fresh out of the industry and he related that experience to his students. He gave us a glimpse of what it was like in the real world.”

As a donor, Ward wants the money he gives to the College of Engineering directed back to the labs, where his own education took shape. “To me, the labs comprise the ‘meat’ of the Cal Poly education; the lab experience is what distinguishes Cal Poly from other schools,” he says.

“Donating to the college is a way to help make sure that the college’s high national rankings continue and that the Cal Poly ‘brand’ retains its quality.”
“Receiving scholarships has meant that I could focus on the Engineering Student Council (ESC). This year, I served as Senior Vice Chair and was very involved in organizing National Engineers Week. It was great to see how in one year, we could change this event and make it better. Actually, planning a really big event fits right in with my major and Dr. Javadpour’s project management class.

“ESC has given me great opportunities to work with industry and to develop leadership skills. I’ve learned that something always goes wrong, but you learn how to handle the unexpected. The best thing I’ve learned is how to work with people in a team—by surrounding yourself with good people, you can make something important happen.

“My parents always said that they emigrated to the U.S. from the Philippines in order to provide more opportunities for my sister, brother and me. My sister graduated from UC San Diego and now works for Google; I hope to use my engineering background to go to medical school.”
When Will Wertenberg (B.S./M.S. BMED ’05) served as Engineering Student Council chair in 2002, he spearheaded the student vote for the Academic Student Fee. The funding proposal, unique in the CSU and the nation, stipulated that the students would actually decide how the money would be spent.

Since 2002, student allocation committees have voted to provide funds to keep class size small, to support clubs and student projects, E.I.T. exams, equipment and lab upgrades, additional course offerings, and other needs. Will, now a technical supervisor for Edwards Lifesciences, feels good about the benefits the fee has provided for Cal Poly.

“Key in my own decision to come to Cal Poly was class size—20 to 30 students versus several hundred at the UC’s. Keeping classes small was one of the main reasons I felt so strongly about passing the Student Fee Proposal. Now, when I come back to campus to recruit for Edwards, I also see the state-of-the-art equipment that students are using, which affirms the long-term impact of the fee for myself, for my sister, Lisa, who graduated in 2007, and for future students,” says Will.

“The fees I gave as a student were an investment in the Cal Poly ‘Learn By Doing’ mission.

“I have continued to invest in Cal Poly out of a mixture of pride in the institution and wanting to give back in thanks. From a professional perspective, Cal Poly gave me the foundation to kick-start my career. But personally, I loved my time there. In addition to the ESC, highlights were founding the Biomedical Engineering Society along with Dr. Walsh, Kristen O’Halloran (who now teaches in the department) and Ishai Erez, as well as giving tours as an Engineering Ambassador.

“Cal Poly felt like a family.”
“My family came from Korea when I was a freshman in high school. I learned English as quickly as possible because I knew I had to go to college. My sister has learning disabilities, so I’m the one who will eventually take care of the family financially.

“I’d like to personally thank President Baker, Dan Howard-Greene, and my chair, Dr. Tom Mackin for their help in getting me an international student waiver, which meant I could continue at Cal Poly after my parents’ restaurant failed and I started paying all on my own. Plus, I’m very grateful for the scholarships; the Wingate grants changed my life and career goals. They were a string I could hold on to.

“The HVAC&R program really helps students connect with industry; the industry advisory board cares a lot about us. My plan is to go to grad school and then get into the business and get to the point where I can help other people like me. I’m excited about the field, especially its emphasis on sustainability. I’m going to get my LEED certificate because I know that going green will benefit everyone.”
The “Loyal Order of Propellerheads” don’t just want to provide funds to the College of Engineering. They want to establish an endowment that will live beyond them, make a difference in students’ lives, have a hand in generating engineering leaders . . . and have fun.

Known as “LOOP,” the endowment was originally conceived by Dick Hartung, a long-time supporter of the college and member of the Dean’s Advisory Council (DAC), and three other dedicated donors and DAC members, including Paul Bonderson, Paul Martin, and Chuck Terhune. Four others have also signed on: Stephen Ciensinski, Bob Leach, Geoff Tate, and Wes Witten. Each LOOP member has committed a minimum $100,000 over the course of ten years.

Their commitment, however, involves more than just writing a check. “Our intent is to be personally involved with the students, both in the selection process and afterwards,” says Dick Hartung. “The Propellerheads will guide the awardees in preparing the renewal report, and we will be available as mentors while they’re in school and after they graduate.”

“As old hands, we want to help provide the professional development required to fully function as an engineer,” notes Bob Leach. “And besides, we like the students that Cal Poly turns out and would like to help them succeed.”

The LOOP plan is to flesh out the group to an even ten “compatible, responsible, successful, lighthearted souls, who share a desire to give an enduring gift to Cal Poly and to some of its promising students.”
<table>
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<tr>
<th>Endowment</th>
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Pessimist: "The glass is half empty."
Optimist: "The glass is half full."
Engineer: "The glass is twice as big as it needs to be."

If it ain't broke, add more features!

Engineers never die...
...they just lose their bearings.

A scientist can discover a star, but he cannot create one. For that, you need an engineer.