CAL POLY RECOGNIZED AS SUSTAINABILITY LEADER

CAL POLY WAS RECENTLY RECOGNIZED as the Leading School for Environmental or Sustainability Goal-Setting by the National Wildlife Federation in their “Campus Environment 2008, A National Report Card on Sustainability in Higher Education.”

The NWF and Princeton Survey Research Associates International reviewed trends and new developments in environmental performance and sustainability at more than 1,000 colleges and universities. According to the NWF, the purpose of Campus Environment 2008 was to “explore the extent to which college and university leaders value environmental performance and sustainability and are putting these values into practice.”

The publication recognizes colleges and universities for exemplary efforts and awards academic letter grades for collective performance by region on environmental literacy, energy, water, transportation, landscaping, waste reduction and more. The individual campuses were not graded.

Cal Poly was also recognized by NWF as a Leading School for Employing Environmental and Sustainability Personnel. “I am pleased that Cal Poly was named a leader in sustainability by the NWF,” said Larry Kelley, vice president for administration and finance. “While we have much more work before us, we are honored to be recognized by an independent, national review as an example of best practices in these two categories.”


KENNETH HOFFMAN PUBLISHES RESEARCH ON EARTH’S MAGNETIC FIELD

THE EARTH’S MAGNETIC FIELD may be more complex than we originally thought. That’s according to research by Cal Poly Physics Professor Kenneth Hoffman and colleague Brad Singer, who published an article on their evidence recently in Science Magazine.

According to Hoffman and Singer, two independent sources of Earth’s geomagnetic field—one generated deep within the outer core of the planet and the other generated in the shallow core—are responsible for the ever-changing magnetism of our planet.

“TWO INDEPENDENT SOURCES OF EARTH’S GEOMAGNETIC FIELD . . . ARE RESPONSIBLE FOR THE EVER-CHANGING MAGNETISM OF OUR PLANET”

are responsible for the ever-changing magnetism of our planet. “This hypothesis addresses the long-standing problem as to how the source of Earth’s strong, axial dipole field—which runs north-south through the planet—reverses its polarity,” said Hoffman.

Hoffman and Singer compared historic observations of the Earth’s magnetic field at two geographically separate sites, Germany and Tahiti, along with paleomagnetic data obtained from ancient lava flows that had erupted some 780,000 years ago. These flows erupted during times when the axial dipole was especially weak and underwent apparently unsuccessful attempts to reverse.

Both scientists concluded that a “flip” of Earth’s polarity first involves the demise of the deeper source generating the axial dipole, leaving behind the source of magnetic field generated in the shallow core—a complex field pattern controlled by the physical variability of the lowermost mantle.

“ThIs dichotomy of field sources may be the key to understanding what triggers an attempt by the axial dipole to reverse,” said Hoffman.

Singer is a geology professor at the University of Wisconsin-Madison. Read the entire paper online at http://www.sciencemag.org/cgi/content/full/321/5897/1800.

ARCHITECTURE STUDENTS PLACE IN LEADING EDGE COMPETITION

CAL POLY ARCHITECTURE STUDENTS Reece Evan Satara and Oscar Zarate took home two of three top awards in the 2008 Leading Edge Student Design Competition/Challenge Two.

The challenge was to design a 4,500-square-foot, three-unit townhouse-style residence for student equestrians with horses on-site. Successful entries satisfied unique environmental concerns while addressing advanced energy efficiency and sustainable building issues.

More than 500 entries were received from across the globe including China, Iran, New Zealand and Spain. Satara won second place and Zarate earned a merit citation. The projects had to pass through technical screening, calculating and demonstrating energy consumption, sustainable features and water use before they were juried for design.

In the judge’s remarks, Satara’s entry “displayed good integration of the inside and outside, and the renderings were very compelling,” Zarate’s entry was praised for its “... use of the cylindrical form. It created a strong tie to the precedence of the site... The designer succeeded in creating fun places to hang out.”

The faculty advisor was Howard Wiesenthal. For more information, go to www.leadingedgecompetition.org.

ALUMNI ASSOCIATION RECOGNIZES 2008 HONORED ALUMNI

AN ASTRONAUT, AN ARCHITECT, and the nation’s top printer are among this year’s Honored Alumni at Cal Poly.

Receiving the Honored Alumni award this year are: Joe Bannnon (AGB ’76) of Carmel, Ind., for CAFES; Rebekah Gladson (ARCH ’77, MA ’80) of Corona del Mar for CAFED; B. Quentin Lilly (BUS ’84) of Malibu for OCOOR; Christina McCroes (CRD ’00) of Buellton for COE; Gregory Chumloff (EE ’84) of Pearland, Texas, for CENG; Robert C. Tapella (GRC ’91) of Alexandria, Va., for CLA; and Anne Marie Bergen (BIO ’85) of Corona del Mar for CAED.

This year’s Cal Poly Alumni Association Distinguished Service Award Winner is Nancy McCracken (HE ’70) of San Jose.

The alumni were honored during Homecoming 2008 at the Honored Alumni Banquet on Nov. 7, and again during halftime at the Mustang’s Homecoming Game on Nov. 8.

CAL POLY WINES AVAILABLE FOR PURCHASE

ADD TO THE HOLIDAY CHEER with a bottle (or two) of Cal Poly wine, available for purchase online at www.calpoly.com.

Cal Poly wines also can be sampled and purchased at “TASTE,” a wine-tasting room operated by the San Luis Obispo Vintners Association in downtown San Luis Obispo.

The 2016 vintages are the first made by the university’s

WITH NEARLY 300 STUDENTS, IT IS THE LARGEST UNIVERSITY PROGRAM OF ITS KIND IN THE STATE

Wine and Viticulture program, which allows students hands-on experience in every step of the process, from the vineyards to sales and marketing.

Among the wines are a pinot noir and a chardonnay made by student winemakers Luke Holcombe and Kathryn Allegre from fruit grown at the Trestle Vineyard on Cal Poly’s campus, under the guidance of Christian Roguenant at Baileyana Winery in Edna Valley.

A third wine, called “Mustang Red,” is a blend of Paso Robles zinfandel and Edna Valley syrah made by students from grapes grown off campus.

Proceeds benefit Cal Poly’s Wine and Viticulture program. With nearly 300 students, it is the largest university program of its kind in the state.

Cal Poly’s 2007 vintages will be unveiled in the spring, and 2008 wines are in production.

Early orders are encouraged. The wines are in limited quantity, with total production of about 800 cases.

U N I V E R S I T Y N E W S
MARS COMES ALIVE
WITH IMAGES AND MUSIC AT KENNEDY LIBRARY

EXPERIENCE ANOTHER WORLD in a unique and engaging way with “Mars Within Reach: Arctic Melodies and Science from the Red Planet,” an interactive exhibit at Cal Poly. The free public exhibit is scheduled to run through Jan. 12 in the Kennedy Library Gallery at the Commons.

The exhibit allows visitors to touch, hear and interact with data from several recent Mars missions. It blends planetary science, engineering and music to demonstrate scholarship related to the exploration of the Martian Arctic, with special attention to making the content accessible to visually impaired people.

Visitors can explore Martian volcanoes, valleys and craters using tactile models and are able to touch rock samples that have been drilled into by an abrasion tool identical to those found on the Mars Rovers Spirit and Opportunity.

The exhibit allows visitors to hear data from Mars through a process known as sonification, a musical composition created by coding data from the Mars Odyssey spacecraft from water ice and dry ice in the arctic regions of the planet.

“Mars Within Reach” also will feature scale models of the Phoenix Mars Lander, high-resolution images of Mars, and materials from Mars in science fiction, such as original copies of books by author Edgar Rice Burroughs.

The exhibit is possible thanks to the collaborative efforts of Keller Quinn, the NASA Mars Exploration Program at JPL, the NASA Phoenix Mars Lander Mission at the University of Arizona, and Cal Poly’s Disability Resource Center and Kennedy Library.

For more information on “Mars Within Reach,” visit the Library’s Web site at www.lib.calpoly.edu or call 805-756-2305. The exhibit will be open during normal library hours, which can be found online at www.lib.calpoly.edu/about/hours.

USC GRAD IS NEW CAL POLY ARTS DIRECTOR

CAL POLY ARTS HAS HIRED Steven T. Lerian as its new director. Lerian was selected to oversee programming and donor development for Cal Poly Arts after an extensive nationwide search.

A graduate in drama from USC with a master’s in fine arts in directing from Michigan’s Wayne State University, Lerian spent the past 15 years as executive director of Washington’s Kirkland Performance Center, one of the Seattle area’s leading arts presenters.

In addition to being the founding executive director of KPC, Lerian led that organization through its $5.8-million capital campaign and facility construction in the mid-1990s and has served as CEO through 10 years of the operational history of the theatre.

Lerian steps in to helm the current Cal Poly Arts 2008-09 series, featuring almost 50 performances by professional touring artists from around the globe. For more information, check out www.calpolyarts.org.

COLLEGE OF ENGINEERING’S 2008 HONORED ALUM IS OUT OF THIS WORLD

MORE THAN 100 local school children, along with Cal Poly students and faculty, had a once-in-a-lifetime experience recently: they had a live, face-to-face conversation with NASA Astronaut Gregory Chamitoff (EE ’94).

Pretty exciting, but the kicker was that Chamitoff was 220 miles above Earth aboard the International Space Station (ISS).

Chamitoff, a 1994 Cal Poly electrical engineering graduate and the College of Engineering’s 2008 Honored Alum, flew to the station as a mission specialist on the STS-124 shuttle mission. He took up his six-month residency on June 2 and has been busy serving as a flight engineer and science officer.

What does he do in his free time? In answer to that question and others from the students attending the October campus lecture, Chamitoff revealed that he plays guitar and chess, catches Star Trek and Battlestar Galactica episodes, “jogs” on the ISS treadmill, and enjoys the reconstituted meals.

He received a master’s degree from Cal Tech, a Ph.D. from the Massachusetts Institute of Technology, and an M.S. in Space Science from the University of Houston Clear Lake. He is an American Institute of Aeronautics and Astronautics Associate Fellow and received the AIAA Technical Excellence Award, NASA Silver Snoopy Award, and NASA/USA Space Flight Awareness Award.

Chamitoff developed a self-guided robot while he was a student at Cal Poly. He worked on several NASA projects during his time at MIT. He performed stability analysis for the deployment of the Hubble Space Telescope, designed flight control upgrades for the space shuttle autopilot, and worked on the attitude control system for the space station.

In 1995 Chamitoff joined the Motion Control Systems Group in the Mission Operations Directorate at the Johnson Space Center. He was selected by NASA for the Astronaut Class of 1998 and qualified for flight assignment as a Mission Specialist in 2000. Since then he has worked in the space station robotics branch and has assisted several ISS expeditions.

UNIVERSITY POLICE RECEIVES TOP AWARD

CAL POLY IS A SAFER PLACE to get around, thanks to our very own University Police Department. The UPD was recently awarded top honors for excellence in community traffic safety programs.

The Commissioner’s Award was presented to the UPD at the sixth annual California Law Enforcement Challenge – a daylong traffic safety symposium – in Sacramento. The Cal Poly UPD was recognized out of more than 500 agencies.

Original artwork for this poster was created by Cal Poly graphic design student Eric Neemy.

UNIVERSITY NEWS

 Steven T. Lerian

(Left) Gregory Chamitoff talks to local school children from the International Space Station. (Photo by Donna Sparrow)

(Above) Greg Chamitoff talks to local school children from the International Space Station. (Photo by Donna Sparrow)
THE YEAR WAS 1937. Aviator Howard Hughes made headlines and set records by flying from New York to Los Angeles in under eight hours. A few months later, Amelia Earhart disappeared over the Pacific trying to become the first woman to fly around the world.

An inventor filed a patent for a little thing called nylon. Walt Disney released the first feature-length cartoon with sound: “Snow White.” It was a smash hit. Franklin Delano Roosevelt was sworn in for his second term as President of the United States.

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“I check my e-mail every day,” he said. He’s looking to connect with more of his 1936 and 1937 classmates online in PolyLink.

Any alumni who are interested in learning more can look up Clement’s PolyLink page (look up Frank Anthony Clement) and send him an e-mail or find out about his books. His first is about the story of the Spruce Goose.

“I didn’t get to know him, no,” Clement said. “He was kind of reclusive. He really didn’t have much to do with anybody but the chief engineer – who was a very bright fellow.”

Clement was hired to be on a team of nine engineers designing the Spruce Goose for Hughes. World War II was on, and the government wanted a giant military cargo plane to fly supplies to Europe. The catch? It couldn’t be made out of metal. Supplies were scarce. Clement and his fellow engineers were asked to create the airplane using wood.

At one point in the project, Clement headed a special team assigned to engineer solutions to problems posed by super-gluing super-pressed plywood to make a flight-worthy airplane – and report their findings to the U.S. government in order for Hughes to keep its contract.

Watch the Oscar-winning film “The Aviator” for the whole story – but, as Clement points out with pride, “The Spruce Goose did fly.”

And, about that aviator guy – Howard Hughes? “I didn’t get to know him, no,” Clement said. “He was kind of reclusive. He really didn’t have much to do with anybody but the chief engineer – who was a very bright fellow.”

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“There’s only one of us left that I know of from the Class of ’37 electrical engineering program – the rest have gone on to Valhalla, I think.”

At 91, he’s had quite a life. As Clement notes: “I’m kind of a poor-boy-made-good story.”
Tricia Compas (far left, standing on podium) is honored with other students by former President Bill Clinton for efforts to improve world communities.

than standard hand-pump water filters, and it can be deployed quickly over wide areas to produce clean water,” said Compas.

“With tens of millions of people affected by floods and other water-related disasters each year, there is a huge potential for the device to save lives,” she said.

Improving lives with just such simple innovations is the premise of Appropriate Technology for Improved Communities.

The three-module class series, introduced last fall by Physics Professor Peter Schwartz and Honors Program Director Sema Alpteken, challenges students to come up with innovative technological solutions to the age-old problems of poverty. The multidisciplinary class promotes design as a major tool of social good.

And the students get it.

The interdisciplinary nature of the course was evident in its initial launch, which involved faculty from seven disciplines, as well as guest lecturers from UC Davis, MIT and the private sector.

“The problems of world poverty are too big for any single approach or solution,” Schwartz said. “Students from all backgrounds have something to offer.”

While engineering often leads the technical aspects of the design, other disciplines bring valuable skills and perspectives.

Business, for instance.

Designing appropriate technology is only part of the equation, said Schwartz. “Business permeates everything we do. We’ve got to communicate in a way that will be understood by the team, the customer, investors, partners and other stakeholders.”

Just as the class forces a rethinking of design, it also puts business in a new light.

It’s what Cal Poly accounting instructor Kate Lancaster calls “business unusual.”

“In this class, students represent many disciplines and learn to examine problems through various lenses and to converse with each other to identify solutions that consider the social, environmental and economic consequences,” said Lancaster.

From the beginning, the business side of the project “was a real eye-opener” and catalyst, said Compas. Early funding came when the water bag concept won first place in the Innovation Quest 2007 competition.

“That was before I was involved with the project,” noted Compas, “but ENVE students Dan Frost and Steve Barr and project advisor Tryg Lundquist used the award winnings to help continued on next page…
fund my thesis to turn the Polytech Waterbag into reality.

Compas gained an international perspective at a young age, growing up in Seoul, South Korea, where her father worked as a nuclear engineering consultant. Living in another part of the world, she saw conditions that were not what she was used to. "It was always on my mind: 'How come some are living this way?'"

At the three-day Clinton Global Initiative Annual Meeting in New York in September was a humbling and inspiring experience for Compas. She had the opportunity to hear talks by President Bill Clinton, President-elect Barack Obama, John McCain, Bono, Lance Armstrong, Al Gore, Tom Brokaw, Madeleine Albright and Muhammad Yunus, among many others.

"My entire experience at Cal Poly has really changed my view of the world," said Compas. "In my five years here I have had the opportunity to travel to Thailand three times working on improving drinking water, to travel to Alabama to help post-Katrina disaster victims rebuild their homes, and now the water bag is opening more doors."

"Tricia was already an accomplished student and had co-founded the campus chapter of Engineers Without Borders early in her student career," said Lundquist. "The award from attending the three-day Clinton Global Initiative Conference in New York...was a humbling and inspiring experience for Compas, the Clinton Global Initiative will only further her professional and public service interest in improving world conditions."

"We expect the Polytech Waterbag to be only one of many life-changing appropriate technology inventions to come out of Cal Poly over the next few years," said Schwartz.

"The global initiative’s message is the same we’re hearing in the appropriate technology class," said Compas. "It was summed up beautifully by former President Clinton at the award presentation. He said, simply, ‘turn your ideas into action.’"

"It is clear to those who have seen the work of Compas and her team that Cal Poly is among a vanguard of universities who are turning that message into action."

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THAT PROFILE IS HARD TO IGNORE  ... the Mohawk, the Asian tattoo on the side of the skull, the steely eyes especially against a backdrop of thousands of screaming fans. Their volume intensifies into a roar when their favorite warrior enters the arena and methodically approaches the center ring, prepared to do battle.

Chuck “The Iceman” Liddell (BUS ’95) makes quite an entrance at the MGM Grand Arena in Las Vegas, a fitting prelude before a fight with an other fearsome opponent, played out in front of an audience that includes countless celebrities in the arena and hundreds of thousands of television viewers at home.

The 6-foot-2-inch, 220-pound accounting major held the title of Ultimate Fighting Championship (UFC) light heavyweight champion for two years, using skills he perfected on the Cal Poly wrestling team to take down opponents. He continues to be a huge draw for UFC’s live, multi-million dollar pay-per-view events.

But his professional world is quite a contrast from domestic life in San Luis Obispo, where the 38-year old father of two still resides and is often seen around town. You may bump into him at the local Starbucks one morning, grabbing a cup of coffee.

The Central Coast has always been home for Liddell and, for the most part – life has always been a battle.

Liddell came to Cal Poly on a financial aid scholarship, after serving as a starter on the San Marcos High School football team in Santa Barbara where he grew up. He was raised by a single mother with three siblings. The family was on assisted living. Money was scarce.

That continued when he got to Cal Poly. “I worked full time and went to school, sneaking into the dorms to eat because food was kind of a luxury

continued on page 16...
It's not a stretch for Liddell, who friends and fans describe as "mellow" and "laid back." Retired Cal Poly wrestling coach and close friend Lennis Cowell said he is amazed by his former student's success and the fact that it has never gone to his head. "People don't realize how generous and humble Chuck is," said Cowell. "He will always be a permanent part of the Cal Poly wrestling legacy!"

However, one of the biggest challenges of Liddell's professional career has been fame. He regularly gets hit up, sometimes aggressively, for autographs and photos wherever he goes, whether it's downtown Manhattan or a small Midwest town.

"It's like that classic Joe Walsh song — everybody's so different, I haven't changed," said Liddell. "One of the biggest reasons I'm still ground is because I have friends in San Luis Obispo who have known me for 15 years, when I was an average guy working at a bar. Making $50,000 a year was the end of the rainbow back then."

Now, Liddell is the most recognized face of UFC. He has appeared in the HBO show "Entourage" and the reality show "Ultimate Fighter," along with other minor roles in television shows and movies. Liddell's autobiography, "Liddell: My Fighting Life," was on the New York Times bestseller list earlier this year. He is even a character in a video game.

"I have plenty of fights left in me," said Liddell. "But I love acting and the process that goes into it."

Liddell's experience with clients they couldn't get any other way, "Swanson said. Students would never experience the challenge that clients bring to the equation.

"CCPR has allowed them to have the interpersonal experience with clients they couldn't get any other way," Swanson said. "Some clients want things that simply aren't realistic, aren't possible ... they don't understand public relations. So we work with them to understand PR and how they can use it to help their organization grow."

The students are providing a valuable service to the community, "These nonprofits don't get this help anywhere for free," Swanson said. The students help these agencies in a variety of public relations functions, including locating funding, creating visibility and enhancing accessibility.

"It's a really fun partnership because we get to help develop student skills, and they in turn offer a fresh perspective," David said. "Plus we're a local nonprofit, so it's really great to have these relationships."

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Megan Korbel (JOUR) student manager of CCPR, volunteers at least 12 hours a week overseeing the agency, meeting with clients to find a good fit with students, making sure students stay on track, running a weekly staff meeting, generally tying up any loose ends.

"I thought the position would help me develop good managerial, leadership and public speaking skills," Korbel said. "It looks good on a resume."

"We plan to graduate in spring 2009 and attend law school," she continued. "I've already completed all my public relations classes, so managing CCPR keeps me involved."
STRAPPED INTO THE COCKPIT of his F-18 Hornet, Lieutenant Victor Glover (GENE ’99) studies the controls as the scorching Mojave sun glints off his crash helmet visor, reflecting the open runway before him. The desert horizon simmers as clearance is given.

You can almost hear Kenny Loggins beneath the roar of the jet’s thrusters as Glover accelerates down the runway, soaring into the oven-baked air at supersonic speeds, tilting his jet fighter as he blasts through barren canyons, above dry open plains and into the blue.

It’s another typical day on the job for Glover, a fighter and test pilot for the U.S. Navy’s Air Test and Evaluation Squadron THREE ONE (VX-31), stationed at the China Lake Naval Air Weapons Station in California. Glover is no stranger to the danger zone – his routine flights over the California desert pale to the 24 combat missions he flew over Iraq.

His first combat mission, flown at night, was extremely memorable. “I was soaring over a country I had never been in, looking down on the moving map in my jet,” recalls Glover. He could see the Tigris and Euphrates rivers, and Babylon near Al Hillah. Fires were burning across the dark landscape and tracer rounds were lighting up the night sky. The mission was concluded with a nighttime landing on an aircraft carrier, “which is always exciting,” Glover said.

continued on page 20...
It’s been a remarkable journey for Glover, who came to Cal Poly as a first-generation minority student. “I always knew I would go to college – it was paying for it that was a challenge,” he said. Glover grew up in Pomona and Ontario. His father was a police officer, his mother was a bookkeeper. “My mother and father are my idols because they managed to get me to adulthood alive and healthy,” Glover said. “Now that I have kids of my own, I realize how amazing that is – especially from their perspective. My parents had it rough.” A former MESA (Mathematics, Engineering, Science and Achievement) student in elementary school, Glover’s PSAT scores earned him the distinction of a National Achievement Scholar – and the full-ride academic offers started pouring in, mostly from East Coast schools. Another offer came from USC.

Glover piloting his F-18 high over Iraq (R) Glover in the cockpit

Graduate degree in engineering, math or science. Athletics taught him the value of teamwork and camaraderie.

Another passion for Glover is diversity in higher education. While at Cal Poly, he played an instrumental role in the creation of a Retention and Outreach Center, a support system for minority students. Glover served on the Coalition for Diversity and acted as a spokesperson to get the center funded through the Associated Students Inc.

The Retention and Outreach Center has evolved into the present-day Partners Program, which assists many minority students through formal partnerships with select high schools. “The students banded together and worked really hard to make that center a reality,” said Glover. “That year was very busy and emotional – but I’m proud of what we did. I feel like we left the campus a better place.”

He also met his wife, Dionna Glover (CFD), while at Cal Poly. They keep busy with their four daughters, Genesis, Maya, Joia and Corinne.

What’s next for Glover? Setting his sights skyward and beyond. He is in the running for the Astronaut Candidate Program, potentially following in the footsteps of other Cal Poly alums, such as Greg Chamitoff (EE ’84) (see page 7). Other more down-to-earth ambitions include living overseas and learning a new language. Perhaps work in the Multicultural Engineering Program at Cal Poly and teach someday.

“I love working with students,” said Glover. In the meantime, a lot of flying is slated for Glover’s future. “My Cal Poly engineering education is directly responsible for the opportunities that I have today,” he said. “I always tell kids ‘engineering is a great preparation for anything’ – it pays countless dividends in the end.”

“My Dad said ‘Let’s check out one more school’ since I wanted to stay in California,” said Glover. They visited Cal Poly and met wrestling coach Lennis Cowell, who offered Glover a wrestling scholarship. Both knew that Cal Poly had an excellent engineering program and they made the decision on the spot. Glover was a freshman Cal Poly wrestler, competing with then team-captain Chuck Liddell (BUS ’95) (see page 14). “Chuck was an intimidating guy even back then,” Glover said laughing.

Engineering was a natural choice for Glover, since math and numbers always came easy. He would go on interactive field trips to Harvey Mudd College while growing up. An elementary school teacher told Glover that he was going to be an engineer someday. “I thought he meant driving trains. So I thought ‘cool!’” Glover said with a smile.

Glover cites his Cal Poly engineering degree and athletic experience as fundamental for what he does today. One of the requirements for flight training as a Naval test pilot is an un...
Keith Ochwat (AGB ’06) probably won’t win any awards for his attempts at traditional Mongolian throat singing, but he is garnering plenty of attention and praise for capturing that and other customs in his first travel adventure film, “Roughing It: Mongolia.”

The New York Times praised the pilot program for its “fascinating material” and the filmmakers’ “good eye for the unusual.” The San Francisco Chronicle noted Ochwat’s “eazy likability and natural presence on camera,” as well as the show’s “infectious curiosity.”

“Roughing It: Mongolia” is the first in an ambitious series of films that Ochwat and his partner, Christopher Rufo, are creating to give viewers a rare glimpse into some of the world’s most beautiful – and isolated – places on earth … places and cultures that most people know very little about.

The series takes its name from Mark Twain’s classic book, Roughing It, documenting his journey through the American Wild West.

Born and raised in Sacramento, Ochwat chose Cal Poly’s agribusiness major because, he says, agriculture is the one thing that all countries have in common. “We’re all linked through agriculture – it’s the foundation of any culture. Geography and climate dictate what will be successful – agriculturally – in that country. That, in turn, dictates the country’s cultural nuances.”

In “Roughing It: Mongolia,” Ochwat and Rufo set out on a 1,600-mile trek through some of the world’s toughest terrain to discover the cultural nuances of nomads. Nearly half Mongolia’s population is nomadic, Ochwat explained.

They were in Mongolia for about eight weeks, “working our tails off,” Ochwat said. “I’ve never worked so hard. When I was a student at Cal Poly, I worked odd jobs to pay my bills, KEITH OCHWAT (AGB ’06) PRORABLY WON’T WIN ANY AWARDS FOR HIS

ATTEMPTS AT TRADITIONAL MONGOLIAN THROAT SINGING, BUT HE IS GARNERING PLenty OF ATTENTION AND PRAISE FOR CAPTURING THAT AND OTHER CUSTOMS IN HIS FIRST TRAVEL ADVENTURE FILM, “ROUGHING IT: MONGOLIA.”


“ROUGHING IT: MONGOLIA” IS THE FIRST IN AN AMBITIOUS SERIES OF FILMS THAT OCHWAT AND HIS PARTNER, CHRISTOPHER RUFIO, ARE CREATING TO GIVE VIEWERS A RARE Glimpse INTO SOME OF THE WORLD’S MOST BEAUTIFUL – AND ISOLATED – PLACES ON EARTH … PLACES AND CULTURES THAT MOST PEOPLE KNOW VERY LITTLE ABOUT.

THE SERIES TAKES ITS NAME FROM MARK TWAIN’S CLASSIC BOOK, ROUGHING IT, DOCUMENTING HIS JOURNEY THROUGH THE AMERICAN WILD WEST.

BORN AND RAISED IN SACRAMENTO, OCHWAT CHOSE CAL POLY’S AGRIBUSINESS MAJOR BECAUSE, HE SAYS, AGRICULTURE IS THE ONE THING THAT ALL COUNTRIES HAVE IN COMMON. “WE’RE ALL LINKED THROUGH AGRICULTURE – IT’S THE FOUNDATION OF ANY CULTURE. GEOGRAPHY AND CLIMATE DictATE WHAT WILL BE SUCCESSFUL – AGRICULTURALLY – IN THAT COUNTRY. THAT, IN TURN, DictATES THE COUNTRY’S CULTURAL NUNCIANCES.”

IN “ROUGHING IT: MONGOLIA,” OCHWAT AND RUFIO SET OUT ON A 1,600-MILE TREK THROUGH SOME OF THE WORLD’S TOUGHEST TERRAIN TO DISCOVER THE CULTURAL NUNCIANCES OF NOMADS. NEARLY HALF MONGOLIA’S POPULATION IS NOMADIC, OCHWAT EXPLAINED.

THEY WERE IN MONGOLIA FOR ABOUT EIGHT WEEKS, “WORKING OUR TAILS OFF,” OCHWAT SAID. “I’VE NEVER WORKED SO HARD. WHEN I WAS A STUDENT AT CAL POLY, I WORKED ODD JOBS TO PAY MY BILLS,
and I studied hard. I graduated cum laude. But I've never worked harder than when we were filming 'Roughing It: Mongolia.'"

Perhaps the toughest part of their trip came as Ochwat and Rufo were searching for the elusive nomadic reindeer herders. The duo found a guide—actually one of the herder's sons—but the man spoke no English. "We were able to communicate somewhat with hand gestures," Ochwat said.

"I had never even been on a horse before," admitted Ochwat, "except for maybe a pony at a state fair. Bagi, our guide, indicated that the ride would take four or five hours on horseback. Chris and I were hesitant, knowing we'd be sore and tired after such a grueling trip, but we decided we had to do this. We were on those horses three, four, then five hours. I was very sore. The sun was starting to set, then Bagi signals that he thinks he's found them."

What he found, to the duo's dismay, was a recently abandoned camping site. "That's the trouble with tracking nomads... they keep moving," Ochwat said.

They hadn't planned for a long journey, didn't pack much food or water, didn't carry a tent, warm clothing or even a flashlight. "But we kept riding," Ochwat recalled. Six, seven, eight more hours go by. Finally, after 10 grueling hours on horseback, Bagi suddenly dismounts, ties up his horse and starts a fire. "What are we doing?" Ochwat asked in disbelief. They were, after all, in Siberia, in October, and they were cold.

"Mongolia is the coldest country on the planet," Ochwat said. "We had put ourselves into what could have potentially been a very serious situation. Chris and I ended up huddling together near the fire to try to stay warm. It was the worst three hours of sleep I've ever had. The moral here is to find an English-speaking guide," joked Ochwat.

The next morning Ochwat and Rufo were "sore as heck" but had no choice except to climb back on their horses and begin their search anew. After three or four more hours, they found them. "That was truly one of the happiest moments of my life," Ochwat said.

The entire trip was a blessing, Ochwat said. "A lot of it was frustrating. I was challenged like I've never been challenged. But I came out with a new respect for the culture and the people."

And yes, he even sang with Mongolian throat singers and wrestled with the "Village Elephant" during the annual Three Sports of Men of Naadam festival.

"Roughing It: Mongolia" was picked up by PBS and has aired in some 150 cities throughout the United States, reaching more than half a million viewers. Ochwat and Rufo have since partnered with PBS for their next project, "Roughing It: The Great Pacific.

This documentary will include eight 30-minute films focusing on Papua New Guinea, Greater Indonesia, Bali and Lombok, Borneo, Singapore, Malaysia, The Philippines and East Timor.

Before they depart on their "Great Pacific" journey, Ochwat and Rufo are busy with preparations, research and fundraising. "Chris and I have great support and the fundraising is going well," Ochwat said, adding that they are especially looking for corporate underwriters.

Their projects match perfectly with the goals of PBS: to inform, inspire and delight. "We want to educate, inspire people, and make it all aesthetically pleasing, entertaining and funny," Ochwat said. "If we do a good job, people will watch, and that is our ultimate goal."
PHYSICS PROFESSOR JENNIFER KLAY and five Cal Poly students are playing a part in heavy-duty scientific experimentation at the world's largest supercollider near Geneva, Switzerland. But you'd do just as well to think of their work as a history lesson. The most ancient of history, in fact -- as in: What happened in the first few moments of the existence of our universe?

That's what Klay, her students and about 7,000 other scientists from around the world hope to get a glimpse of through their work on the Large Hadron Collider.

The facility -- a 17-mile-long, ring-shaped tunnel built 328 feet beneath the Franco-Swiss border -- operated successfully for the first time in September before shutting down for additional work after a malfunction. The supercollider -- built at the European Organization for Nuclear Research (CERN) with a price tag of as much as $10 billion -- is expected to be up and running again in the spring.

Klay, who joined Cal Poly's faculty in January 2007, has been involved for more than seven years in one of the four experiments that will be undertaken at the massive particle accelerator. It's called A Large Ion Collider Experiment, or ALICE, and its aim is no less than to recreate (on a smaller scale) the conditions of the Big Bang by smashing particles together in a vacuum at nearly light speed, then studying the ensuing soup of subatomic particles in the fraction of a second it takes them to cool into more familiar nuclear matter.

Think of it like water, Klay said, which can exist in several states -- liquid, steam, ice. Nuclear matter is the same way, normally acting like a liquid.

"The protons and neutrons in the nucleus, we are trying to boil to create this steam we call quark-gluon plasma," Klay said. "It's the stuff the universe was made of. We want to answer the question: How did it go on to become the normal nuclear matter we know now? From there, we want to understand things about it. How viscous is it? Is it transparent or opaque? We want to study these kinds of observable qualities."

Klay became involved in the Large Hadron Collider along with a group of fellow researchers at the Lawrence Berkeley National Lab in Berkeley, where she was doing post-doctorate work. She continued her work on the collider while working as a staff scientist at the Lawrence Livermore Lab in Livermore.

When she came to Cal Poly, she immediately sought grant funding from the National Science Foundation to hire student assistants and get the university involved in the supercollider project. She received a three-year, $267,000 grant last year then set about finding students interested in taking part.

"That wasn't difficult," Ryan Ward, Alexander Donoghue and Scott Lewis quickly signed on.

"I've always been fascinated with subatomic particles and how things get weird" at that level, said Ward, a third-year physics student who is also pursuing a master's degree in mathematics. "It's the stuff the universe was made of. We want to answer the question: how did it go on to become the normal nuclear matter we know now? From there, we want to understand things about it. How viscous is it? Is it transparent or opaque? We want to study these kinds of observable qualities."

Continued on next page...
In October 2007, Klay took Lewis, Donoghue and Ward to CERN to test a prototype of the EMCal. The prototype was placed into the beam line of a lower-energy accelerator, and the students helped collect data for one week. The test was a success. CERN published a paper on the research, co-authored by the students.

Physics students Christopher Brown and Brandon Boswell later joined the group. Over the summer, they went with Ward and Klay to CERN to work on the EMCal and undergo training on a complex computer program that will analyze the massive amounts of computer data collected in ALICE.

Brown, Boswell and Ward presented some of their research on the project at the annual meeting of the American Physical Society’s Division of Nuclear Physics in Oakland in late October.

And Klay said Cal Poly’s involvement in the Large Hadron Collider and ALICE will continue. He hopes to add more students to the group and already is planning a trip to the collider in summer 2009.

“T don’t think Cal Poly has ever been involved in an experiment of this magnitude,” Klay said. “What it says is, ‘We can do it here at our institution.’”

CAUTION IN WONDERLAND

BY MATT LAZIER

SOME PEOPLE FEAR the uncertainty of the Large Hadron Collider and its aim to recreate the aftermath of the Big Bang — with a few hypothesizing that the device will create microscopic black holes that could, possibly, swallow up the Earth.

Patrick Lin, a visiting professor of philosophy at Cal Poly, thinks a doomsday scenario is highly unlikely. He just wants to be sure the possibility isn’t ignored.

“It feels like some scientists are underplaying the possible risks,” Lin said. “Even if the risk of catastrophe is one in 50 million, the world is literally at stake.”

It’s an opinion Lin holds of all science and technology — a belief that led him to co-found The Nanoeithics Group, a nonpartisan collection of experts from around the world promoting discussions of ethics and emerging technologies.

Lin stressed that the group, based with him at Cal Poly, is not anti-technology. “We like to think of ourselves as being in the middle of the spectrum,” Lin said. “Technology is developing at such a rapid clip that we’re inventing things faster than we can consider their impacts. We want to raise issues of possible concern with the advance of technology, to try to look at issues in a more measured, sensible and grounded way.”

Lin earned a doctorate degree in philosophy from UC Santa Barbara in 1997. He formed The Nanoeithics Group in 2003 with professors from Dartmouth College and Western Michigan University. He is the group’s research director. Its advisory board includes 36 professors, researchers and other experts from around the world.

So far, the group has published two anthologies of papers and has presented research at several conferences. As well, its research team received $250,000 in grants from the U.S. National Science Foundation in 2006 to study human enhancement and nanotechnology. The studies are being done at Dartmouth and Western Michigan University. As the group moves forward, Lin hopes to strike a better balance between academic work and a broader presence — getting the word out in mainstream media.

“I’m not sure how much good it does to write a paper if only 10 other people are going to see it,” he said. “The ultimate goal is to get people to think and engage.”

Meanwhile, he is working with about 30 other professors in several disciplines at Cal Poly in the Ethics and Emerging Technologies Working Group. The group is working on Navy-funded research with collaborators at Yale, Rutgers and Indiana University on the military’s use of autonomous robots.

Lin hopes the group can put on conferences and start a lecture series at Cal Poly. And he is teaching a new course in the upcoming winter quarter on nanoethics. The studies are being done at Dartmouth and Western Michigan University. As the group moves forward, Lin hopes to strike a better balance between academic work and a broader presence — getting the word out in mainstream media.

“T don’t think Cal Poly has ever been involved in an experiment of this magnitude,” Klay said. “What it says is, ‘We can do it here at our institution.’”

YOUR STUDENTS, YOUR CHILDREN, EVERYONE’S FUTURE

PARENTS PHILANTHROPY COUNCIL DRIVES SUPPORT FOR EXCEPTIONAL EDUCATION

BY SCOTT ROARK

THE CAL POLY STUDENT BODY is a critical piece of our society’s potential, shaping the leaders, innovators and world citizens of tomorrow.

Parents more than anyone understand this. Many have joined the effort for critical private support as members of the newly formed Parents Philanthropy Council, with a focus on maintaining and increasing the exceptional value of a Cal Poly education.

“The Parents Philanthropy Council was formed to educate parents about the importance of private support for Cal Poly and how it enhances their students’ education,” said Cal Poly Vice President of Advancement Sandra Ogm. “It also provides an opportunity to raise funds that support the student experience at Cal Poly, engaging parents as key volunteers for the campus.”

Approximately 10 percent of the university’s budget comes from private gifts and donations, a percentage that is expected to rapidly increase in the coming years due to dwindling state support. This comes as the global marketplace becomes increasingly competitive.

Last year, parents gave approximately 7,800 gifts to Cal Poly totaling just over $1.8 million. Cal Poly has the highest giving level from parents of any of the 23 CSU campuses.

Our council hopes to reinforce and expand on that record. During their student’s time at Cal Poly, parents will receive letters and phone calls from students and parents, seeking support for the Cal Poly Parent Fund.

One parent and council member is Leslie Daniels, who currently has two sons, Thomas and Daniel Logue, attending Cal Poly. “More than state funding is needed to cover the entire cost of educating our students,” said Daniels, who serves as the council’s regional chair for the Bay Area. “Generous donations help fund scholarships, programs, laboratories and other resources for our students.”

Another council member is Karen Fisher, the council’s regional chair for the Central Valley. Fisher’s husband, Ron, earned his bachelor’s and master’s degrees from Cal Poly. Their son, Blake, and daughter, Becca, are current students. “Cal Poly is very special to my family. I hope that it will become, or continue to be, an important part of everyone’s family as well,” she said.

The formation of the parent’s council comes on the heels of the also newly formed Student Philanthropy Council, the first organization of its kind in Cal Poly’s history. It involves student leaders in philanthropic projects, educates students about the benefits of private support, and promotes an awareness and appreciation of philanthropy among students. The student philanthropy council establishes a line of communication between Cal Poly Foundation Board members, alumni and students.
TRAVEL WITH ALUMNI IN 2009

IN 2009, the Cal Poly Alumni Association will be traveling to two equally beautiful and fascinating countries, China and Italy. These travel opportunities are open to Cal Poly alumni, parents, family members and friends.

CHINA AND THE YANGTZE RIVER DISCOVERY
April 29 – May 11, 2009
NO LONGER THE “SLEEPING GIANT” described by Napoleon, China continues to hold its rightful place as one of the most fascinating countries in the world. Discover its finest cities, exotic countryside and storied history on this unique travel opportunity that showcases the many treasures of a fascinating land at an exceptional value.

TUSCANY–CORTONA
September 16 – 24, 2009
FROM THE INNOVATIONS of the Etruscans to the enlightenment of the Renaissance, Tuscany is a region steeped in history and human achievement. The inspiration for Frances Mayes’ book, “Under the Tuscan Sun,” Cortona captures the charm of Italian country living. We’ll visit Siena and Umbria as well as the “Cradle of the Renaissance,” Florence.

LOOKING FOR THAT PERFECT HOLIDAY GIFT?
Longing for the beautiful Central Coast scenery? “The Art of Robert Reynolds: Quiet Journey,” a 176-page hardbound book by noted artist and retired Cal Poly Art Professor Robert Reynolds, showcases paintings of scenes from the Central Coast as well as the California Sierras. Alongside the paintings are written musings by Emeritus Journalism Professor Jim Hayes and Reynolds. The artwork of “Quiet Journey” truly transports the reader into the beauty and landscape of California. “Quiet Journey” is available at El Corral Bookstore or Cal Poly Downtown or can be purchased online at www.elcorralbookstore.com/books or by phone at 805-756-1161.

To find out more about these trips and future travel programs with the Cal Poly Alumni Association, contact Richard LeRoy at rleroy@calpoly.edu, 805-756-5747.
Cal Poly’s five Beijing Olympians were honored during a halftime ceremony at Homecoming 2008. These included Discus Gold Medalist Stephanie Brown Trafton (IE ’04), Equestrian Silver Medalist Gina Ostini Miles (CRSC ’97), Olympic Track Team member Sharon Day (KINE ’08), Team Canada 2008 Baseball Olympian Jimmy Van Ostrand (KINE) and current Cal Poly student and Paralympic swimmer Mark Barr.

Cal Poly alumna Deneen Smith (OH ’89) won the PolyLink Meet the Mustang Olympians contest and got her photo taken with the medalists at the close of halftime – along with her husband, UCSB Professor Stuart Tyson Smith.