From the Department Head

“Vision without execution is a daydream. Execution without vision is a nightmare.”

Japanese Proverb

We have cast the seeds for a robust learning environment to truly develop whole-system thinkers.

Eight years ago the Animal Science Department was asked to relocate the existing beef feed lot, bull test facilities, the abattoir; and the old feed mill to allow the Poly Canyon Village housing complex to be built at the site. While this was a challenge to our program at the time, we decided to dream big and partner with industry and donors to leverage our limited state funding.

Today, through much hard work and close involvement with industry, alumni and donor partners, we have completed our state-of-the-art facilities including a new meat processing center. We are extremely grateful to all the wonderful donors who believed in our vision to design and build a center that would allow our students to understand and implement the most current technologies used in the food system.

This new teaching and research facility will position our students to better understand food safety challenges and will engage them to provide solutions for a safer food supply. Its entrepreneurial environment includes processing rooms, a commercial kitchen, and a packaging innovation lab—all at one campus location. The facility will promote multidisciplinary experiences in the departments of animal science, food science and nutrition, agricultural business management, graphic communication and industrial technology as students develop ready-to-eat, wholesome food products; design the packaging; develop the artwork for the labels; and define the marketing plans.

Our students are engaged in a culture of support, philanthropy and community engagement.

I continue to be amazed at the interest our students have in helping others and giving back to community. And our students’ service doesn’t stop at the local animal shelter or veterinary clinic. Each year our young men and women take their skills and their desire for helping others to foreign lands like Africa, Mongolia and South America. Many animal science students travel internationally and enjoy life-changing experiences while gaining an international worldview and helping others. These generous students are shining ambassadors of Cal Poly Animal Science, and we revel in highlighting some of their many stories in the pages of Stock Report. In this issue, you can read about Tara Dorshorst’s travels to assist in Nicaraguan villages and Melissa Foucar’s internship at a meat processing facility in Mexico that works closely with the local orphanage. Our students’ international travels and their spirit to help those in need are areas we embrace as a department, and it is a personal mission of mine to garner support to help them. Despite the increasing costs to attend California universities, our students continue to pay their own expenses to participate in international internships.

I am very grateful to all the parents, families and donors who support these students to participate in these international experiences. If you want to help, check the box for the “Excellence in Animal Science” endowment found in the giving envelope of this issue. As always, we sincerely appreciate your generous support to ensure these wonderful student experiences.
Fresh Faces:
The Animal Science Department Welcomes Two New Team Members

Fernando Campos-Chillon, a nationally recognized leader in equine and bovine reproduction science, is teaching Applied Animal Embryology and serving as a student advisor and senior project advisor. Campos-Chillon, a diplomate of the American College of Theriogenologists, earned a Ph.D. in biomedical sciences in 2009 and a Doctor of Veterinary Medicine degree in 2004, both from Colorado State University. At Cal Poly, he plans to bring the latest assisted reproductive technologies to students, including such processes as in-vitro fertilization, embryo transfer, genetic banking, and outpatient reproductive services including infertility diagnostics, reproductive exams and breeding procedures. He also plans to establish a large-animal clinical fertility services program. His teaching integrates the concepts of physiology and molecular mechanisms with the procedures performed in the lab. “The combination of learning by doing and understanding what we are doing is extremely important,” he said. “We also review scientific articles, not only so students learn to comprehend the literature, but also to challenge their curiosity to learn more.” So far Campos-Chillon is enjoying the Central Coast and the warm hospitality. “And the wine is great, too!”

Alaina Parsons, Michigan State University’s 2010-11 Graduate Student Teaching Award recipient, is supervisor of the Cal Poly Equine Center and is teaching the Mare Care Enterprise and Equine Behavior and Training classes. She brings vast equine experience to her role at Cal Poly. An accomplished horse trainer and riding instructor, Parsons has accrued 22 world championship, 52 national championship, and 31 reserve national championship titles from horses she has trained and riders she has taught. She recently earned a master’s in animal science from Michigan State. “I want to help students discover their passion and talent and show them how to apply that after graduation.” She would like to help the Equine Program continue to grow, offering new or improved educational opportunities to students and the public. Parsons is a big fan of hands-on learning. “I have found that Cal Poly’s Learn by Doing method is the best way to engage students and spark genuine interest,” she said. “With engaged and interested students, a more positive learning environment ensues, and all parties involved have a more positive and valuable experience.”

Animal Science Grad’s Research Earns Outstanding Thesis Award

Tasha Johnson (Animal Science, M.S. ’10) won the university’s Outstanding Thesis Award in 2011 for research that could lead to improved milk production in cows. At spring commencement, she received special recognition, a framed certificate and $500. Each year, the Research and Graduate Programs office, in conjunction with Alumni Relations, presents an award for the outstanding thesis, based on creativity and originality, depth, significance, clarity of expression, methodology and overall quality.

Now working in the Molecular and Pharmacology Department at UC San Francisco, Johnson said she was deeply honored to receive the award. “My thesis was the culmination of my time at Cal Poly. It integrates my research with previous research to describe possible implications of growth hormone on the development of the mammary epithelial cells, which is important in understanding cellular development and might lead to future improved milk production in cows.”

Her thesis advisor, Animal Science Professor Dan Peterson, said her thesis was selected simply because “it was outstanding!”
After years of planning, fundraising and much anticipation, the new state-of-the-art J and G Lau Family Meat Processing Center opened to great fanfare the weekend of Oct. 21-22. Under an enormous tent, an invited crowd of more than 350 gathered Oct. 21 to celebrate the milestone. Cal Poly President Jeffrey D. Armstrong; David Wehner, dean of the College of Agriculture, Food and Environmental Sciences; and Andrew Thulin, Animal Science department head, welcomed the group and personally thanked dozens of individuals who helped the dream become reality. After the remarks and recognition, guests dined on beef, lamb, pork and turkey, and later toured the facility, which will provide students from many disciplines hands-on experience harvesting, processing and packaging meat.

The center will also allow companies to conduct meat processing research and ready-to-eat product development. “With our ‘farm to fork’ vision, Cal Poly graduates will enter their professions as leaders, innovators and experienced problem-solvers for safe, wholesome food,” Thulin said.

The center is the first university teaching and research meat processing facility in the country to be built primarily by private donors and industry partners. For those who couldn’t celebrate the grand opening in October, snapshots of the day’s festivities are included here and on the following three pages.
“I could not be more proud to be here and to be at this event, an example of our dedication to industry — and industry’s dedication to us.”

- Jeffrey D. Armstrong
  Cal Poly President
“I never wanted a freeway or an airport with my name on them, but I am indeed thrilled to have my name on this conference room, where the students of this great college will gather to pursue their dreams.”

- Rosemary Mucklow

Director Emeritus, National Meat Association
Internships

Pre-vet Senior Treats Sick Animals in Nicaraguan Villages

It’s hard to imagine petite Tara Dorshorst, weighing less than 100 pounds, wrestling an ill feral boar or containing a wild stallion with just two ropes in remote Nicaraguan villages, but the pre-vet major claims it was all in a day’s work.

The senior spent two weeks in March 2011 in Nicaragua with VIDA (Volunteers for Intercultural & Definitive Adventures), a nonprofit organization that provides basic medical, dental and veterinary services to Central Americans.

Dorshorst was one of about 20 students from across the United States who gave up such luxuries as hot water, electricity and other modern conveniences to help the local people and their pets.

She and three other pre-vet students worked in makeshift clinics, performing up to 12 surgeries and seeing more than 300 animals a day. “We brought our own supplies, such as tables, surgical tools, syringes, medication and gauze,” she said. “We didn’t have much, but we made do with what we had. Animals were anesthetized with just a few injections and tied down with rope. Surgery was performed on a table covered with a garbage bag, and we used zip ties instead of sutures for spaying and neutering. We did it all in conditions people could never imagine.”

The students’ days started well before sunrise. “We woke at 4 a.m., put on our scrubs, loaded the bus with what little supplies we had, traveled to our destination and unloaded the supplies,” she explained. “Long lines of children with their animals were waiting for us by 7 a.m. Their parents had already gone to work.”

“We tried to treat every animal,” she continued. “We stayed as long as was needed. We did everything in those makeshift clinics. I don’t think anything was sterile, but the community needed our help.”

Dorshorst, who is putting herself through school by working three jobs, said her experience in Nicaragua was the opportunity of a lifetime. “You need a license to spay or neuter animals in the United States,” she explained. “I had the opportunity to perform surgery there; I wouldn’t have been able to do that in America.”

Although the days were long and the physical labor was intense, Dorshorst would have stayed “if I didn’t have school to finish.” She sought out VIDA because of her desire to travel and to help people and animals. But the experience proved better than she expected. “It was life changing,” she emphasized. “The people are destitute, yet they are grateful and happy … happy to just be alive.”
One internship, two different jobs, two horses, eight sheep, four dogs and 37 orphans. That sums up Melissa Foucar’s unusual nine-week summer internship in Magdalena de Kino, Mexico, where the desert temperature often climbed to 110 degrees before mid-afternoon thunderstorms provided some relief.

Foucar, an animal science senior, wore many hats during her internship in the Mexican state of Sonora, about 50 miles from the U.S. border:

At the Fatted Calf, a meat processing plant that produces beef jerky and Slim-Jim-type meat snack sticks, she was involved in all aspects of production.

At the Casa Vida y Esperanza orphanage, she organized and ran 4-H-style projects involving horses, sheep and dogs. The projects are designed to give the children hands-on learning opportunities to develop confidence and leadership skills.

And in her spare time, she wrote a leadership curriculum based on Stephen Covey’s best-selling book “The Seven Habits of Highly Effective People.”

She worked six days a week, starting at the Fatted Calf in the mornings and finishing her days at the orphanage working with the children and animals.

“The day the kids competed, I felt like a proud parent. They far surpassed my expectations. It was a great culmination of my work all summer.”

The orphanage housed 37 children, from 10 months of age to 16 years. Under Foucar’s tutelage, the children learned to ride and care for horses, train dogs, and show and prepare sheep for market. “I had no prior experience with sheep,” Foucar recalled. “I hadn’t touched a sheep in my life until my roommate gave me a crash course in sheep showing.” Once in Mexico, Foucar had an opportunity to put Cal Poly’s Learn by Doing approach to the ultimate test in working with the sheep.

For the jerky, she sliced the meat, mixed the ingredients and let it marinate overnight. The next day the meat went into the smoker for four hours then sat overnight before being packaged. For the snack sticks, she ground the beef and pork, mixed in the ingredients, and vacuum stuffed it into casings. They were then smoked and packaged. “They are pretty delicious,” she claimed.

The Fatted Calf, a nonprofit agency that works closely with the orphanage, aims to provide jobs for the kids when they are adults. Foucar’s experience working in the Cal Poly Meat Lab proved invaluable at the Fatted Calf, where she produced the snacks from start to finish.

Her hard work paid big dividends. “The day the kids competed, I felt like a proud parent. They far surpassed my expectations. It was a great culmination of my work all summer.”
Bulls Break Records

Records were set and new technologies were used at this year’s All-Breed Performance Tested Bull Sale held Oct. 2 at the Cal Poly Beef Center. According to Animal Science Professor Mike Hall, more bulls were sold for the highest prices ever paid at the 55th annual event. In all, 123 bulls were sold, fetching an average price of $3,850 — $500 more per head than last year’s sale. “There is a tremendous demand for seed stock,” Hall said. “Production costs are some of the highest we have ever had. To break even, we have to sell the animals for more money.”

In addition, the event attracted one of the largest crowds ever, with 400 people attending including special guest, Cal Poly President Jeffrey D. Armstrong. “We have a big following of people who buy our bulls, which are sold as yearlings,” Hall noted. “An alum — a former bull test manager — bought five bulls for a commercial operation he manages in Nevada.”

This year, for the first time, the bulls had been videotaped in advance, giving people an opportunity to see the bulls “live” online. Two students worked for three weeks to film all 123 bulls, according to Hall. Another first: DNA samples of the Angus breed were used to create genomic-enhanced EPDs. EPDs, or expected progeny differences, are objective measures of genetic prediction for growth and carcass traits. The bulls that have genomic-enhanced EPDs have a higher predictability of their true genetic merit of those traits.

Annual Horse Sale Brings Record Prices

This year’s annual Performance Horse Sale in late August brought in more dollars per horse than last year. Enthusiastic buyers from throughout California were on hand at the Equine Center on campus to bid on 17 horses, which sold at an average price of $3,600 each.

Preparations for the sale began in March, when students were chosen to participate in the Quarter Horse Enterprise project. The project gives students an opportunity to train young horses and prepare them for sale.

In addition to the training, students are responsible for all aspects of the sale, from designing the sale pens to arranging for the food and the barbecue. This year students added a new dimension: a sales catalog they hope will continue for years. Each member of the project found sponsors for the sale, and the sponsors’ ads were featured in the sale catalog along with the available horses. The catalog brought in more revenue for the project and helped spread the word about the enterprise.

Proceeds from the sale help support equine education programs at Cal Poly. The enterprise and sale give students that true Learn by Doing opportunity.
The BEST and the BRIGHTEST: Two Students Win National Meat Association Scholarships

Two fourth-year animal science students won National Meat Association Foundation Scholarships: Carlie Perham was awarded the $2,500 DeBenedetti Scholarship, the highest award, and Brittney R. Scott received a $2,250 NMA Scholarship Grant.

The winners of the merit-based awards represent the best and the brightest undergraduates majoring in meat science, animal science, poultry science and related agricultural engineering.

A combination of academics and demonstrated interest in a career in the meat industry are what set Carlie and Brittney apart, according to Animal Science Professor Bob Delmore, who also served on the scholarship review committee.

Perham applied for the scholarship because of her desire to improve public perspective of the industry. "I believe I was chosen because of my passion to counter the feelings and beliefs about the meat industry — that we don’t care about the humane treatment of animals and that we don’t care about consumers, when in fact, nothing could be further from the truth."

Scott, who has been involved in meat science since her freshman year, claims, "I am a 'meat head' for life!"

The students will be recognized at the 2012 NMA Conference in Tucson, Ariz. "The conference is beneficial, and the opportunities to meet people in the meat industry are outstanding," Scott said.

2011 Commencement

The Animal Science Department proudly graduated more than 100 students last June. This year animal science student Rachel Lyons received the award for Academic Excellence from the College of Agriculture, Food and Environmental Sciences for highest GPA (3.997) and college participation. Other animal science seniors recognized by the department for their outstanding accomplishments and contributions include: Amanda Alford, Brittany Barrick, Beau Black, Josh Borg, Lauren Bowen, Alyssa Conly, Tricia Harlan, Katie Tierney and Grace VanHoy.
Published by Cal Poly's Animal Science Department as a link between the nation's premier animal science program, alumni and friends. The department's doors are always open and questions and comments are welcome.

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