THE MUSTANG WAY
PRIDE, RESPONSIBILITY, CHARACTER

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Looking Ahead

The excitement is building as fall approaches here in the Animal Science Department. We look forward to welcoming the 200 new freshmen and transfer students who will join us, along with several new faculty members, plus our returning faculty, staff and students!

Our students are exceptional, hailing from city and farm, eager to become part of the solution to the formidable challenges we face in agriculture today. Providing food for our growing world is a daunting task. The Food and Agriculture Organization of the United Nations estimates that food production must increase by 70 percent to meet the needs of the global population, expected to grow to more than 9 billion by 2050. They also estimate one of every eight people in the world is hungry, the majority of these in the developing regions, while obesity is making a startling impact on the health of populations in other parts of the globe.

Our young animal scientists will face many other challenges. Perhaps the most critical resource challenge we face globally is water use, followed by mitigating agriculture’s impact on the environment, adapting to climate change, coping with emerging pathogens that threaten our food safety, and meeting the demands for bioenergy. This may seem a bleak picture, but it represents an unprecedented opportunity for our Cal Poly students, who will be immersed in a vibrant, hands-on educational experience geared to helping them become innovative problem-solvers.

Our students are passionate, intelligent and eager to help feed the world, protect the environment, and improve the quality of life for people and the animals we care for.

We are grateful to you, our friends and alumni, for your support. We would love to hear what you are up to, so drop us a line, or stop in when you make it back to San Luis Obispo. We would love to catch up!

Above: The Animal Science Department’s Student Advisory Council, with representatives from each class, gather to wish Danielle Pepping a fond farewell at spring 2014 commencement. Students pictured (from left to right) Carol Wu, Collie Rich, Danielle Pepping, Mieko Temple, Justin Adam and Kirsten Landsgaard.
Best & Brightest

Students Take Home Top Honors from Two Conferences

The freezing temperatures and rare snowfall in January weren’t enough to keep several Animal Science Department faculty members and a group of 10 students from attending the 2014 International Production and Processing Expo (IPPE) in Atlanta, where graduate student Simeen Johal won a competition for poultry nutrition.

Department Head Jaymie Noland knows students benefit when exposed to these types of professional development opportunities. “Not only is it a great networking opportunity, it’s also educational,” she said. “The students also attended the scientific forum so they could hear scientists talk about their current poultry research.”

These professional meetings are invaluable to undergraduates considering graduate school. “They have an opportunity to meet potential advisors and talk to other graduate students,” Noland said.

And for students interested in an internship or job, the IPPE College Student Career Program really delivers. “By the end of the expo, four of the 10 students were offered jobs, and one was offered an internship with Tyson,” Noland said.

Johal was one of three students to win the oral graduate student competition for poultry nutrition. Her presentation, “Evaluation of Calsporin® and IMW50® on Pullets Raised in a Cage-Free System,” was one of about 40 presentations.

“Simeen went up against many doctoral students from all over the world. We were very proud of her,” Noland said.

Johal said attending the conference was a great educational opportunity. “It gave me insight into the world of the poultry industry and opened my eyes to the various jobs that are out there,” she said. “When I found out I had won, I was extremely surprised because this was my first oral presentation.”

A month after the IPPE, Noland and four students traveled to Maui to attend the Pacific Egg and Poultry Association meeting, where Johal and another student won poster competitions.

Johal won the graduate student poster competition for her entry, “Evaluation of Calsporin® and IMW50® on Production Performance in Laying Hens.”

In addition, Devin O’Brien won the undergraduate student poster competition discussing her senior project, “Direct Fed Microbials and Xylanase did not Improve Cobb Broiler Performance from Day 1 to 21.”

Also, students Rebecca Kile and Rose Petros chaired the Scrapbook Committee, which took second place.
This year’s event included seminars by animal science Professor Mark Edwards, who has been working in the field of comparative animal nutrition for more than 20 years, and Fernando Campos-Chillon, an expert in assisted reproductive technologies of cattle and horses.

Also at the event, student trainers gave riding demonstrations so that prospective buyers could learn about the horses’ unique personalities and characteristics.

The preview and silent auction is another great Learn by Doing opportunity for Cal Poly students, who are involved in every aspect of the process and oversee the operations of the entire event — from grooming, conditioning and training the horses to managing the sales, marketing and budgeting.

“The annual Performance Horse Sale is the culmination of the Quarter Horse Enterprise, in which students ride, care and prepare their 2- and 3-year-old horses to be successful with their new owners,” said Natalie Baker, Equine Center supervisor and lecturer. “By hosting this event, students gain knowledge training young horses. This unique opportunity also exposes them to real-world experience in the equine industry.”
Western Bonanza

With the help of more than 130 students, Cal Poly held its 30th annual Western Bonanza Junior Livestock Show in February in Paso Robles.

The event, created as a senior project in 1985, has grown into what organizers say is the largest student-run livestock show in the Western U.S. Participants from 9 to 21 years of age show cattle, swine, sheep and goats.

This year’s event attracted 514 exhibitors, and 2,012 head of steers, heifers, lambs, hogs and meat goats were entered in the shows. “Participants and livestock numbers fluctuate from year to year but continue to rise overall, as have the generous donors and supporters of the program,” said Megan Silcott (B.S., Agricultural Science, 2009). Silcott, a lecturer in the Animal Science and Agricultural Education and Communication departments, served as the faculty advisor for this year’s Western Bonanza, a California Junior Livestock Association-sanctioned event.

Silcott knows from experience what it takes to run a successful livestock show. Her first involvement in Western Bonanza was as an undergraduate at Cal Poly, serving as a committee member, then co-chair of the Entries Committee, then as the media and publicity manager.

As advisor, Silcott oversaw a team of six student managers and 134 students as they prepared for the event. “To celebrate the 30th anniversary, the management team arranged for the grandest prize ever awarded,” Silcott said. “In conjunction with Central Coast Trailers, one lucky student won a one-year lease to a 20-foot goose-neck livestock trailer.

“Western Bonanza provides such a unique experience for students from engineering to liberal arts and construction management,” Silcott continued. “Enabling students to make leadership decisions, implement improvements from past suggestions, and develop new additions to the event is what keeps the show expanding to provide a quality experience to youth livestock exhibitors that’s parallel to none.”

Western Bonanza Junior Livestock Show 30th Anniversary Commemorative Belt Buckles

Cal Poly’s Western Bonanza Junior Livestock Show celebrated its 30th anniversary this year. To mark the anniversary, commemorative belt buckles (pictured left) were awarded to each champion.
CAL POLY’S MUSTANG BAND GROWS
Cal Poly’s new living mustang mascot might soon have some company, according to equine specialist and animal science lecturer Pete Agalos.

The university’s first live mustang mascot, Moonstar, was a gift from alumnus Robin Baggett (B.S., Business Administration, 1973) and his wife, Michelle. It’s too early to say for sure, but that horse might soon be sharing the limelight with two mustangs the Animal Science Department adopted from the Bureau of Land Management’s Ridgecrest facility.

“Animal science juniors Hannah Haeussler and Natalie Harnett, enrolled in ASCI 345-Equine Behavior Modification, are in the process of training them,” Agalos said. “We need to be certain the horses are going to adapt to the situations we will be putting them in; they have to behave in a safe manner.”

The 2-year-old geldings — whom the students have nicknamed Cal and Paulie — have been on campus since January. “They’re wild animals. When they got here, you couldn’t touch them,” Agalos said. “This isn’t amateur hour.”

Harnett agreed that training Paulie was a little scary at first. Although she has started several horses, she’d never before worked with a mustang — a wild horse by definition. Now, after training more than an hour a day, five days a week, Harnett and the once-wild mustang appear to be on very good terms — even showing affection for one another.

“The bond we’ve developed is so much stronger than I’ve had with any other horse,” Harnett said.

Over the next few months, the two new mustangs will be evaluated to see if they will fit into the Cal Poly Mustang Program. Any animals not selected for the program will be used as riding horses for eventual sale to private buyers.

Cal Poly also plans to select a team of outstanding students to train and care for the animals in a mustang mascot training program, giving students another opportunity to Learn by Doing.

“We are excited about the idea of a program not centering on a single animal, but rather encompassing a small band of mustangs, symbolic of our bigger Cal Poly family,” said Jaymie Noland, head of the Animal Science Department and leader of the Cal Poly Mustang Program.
Associate Professor and Veterinary Clinic Supervisor Kim A. Sprayberry might be a newcomer to the Animal Science Department, but she is no newcomer to animals or to science.

She holds a doctorate in veterinary medicine from UC Davis, is a Diplomate of the American College of Veterinary Internal Medicine, and is currently fulfilling the requirements for board certification in veterinary emergency and critical care.

Before coming to Cal Poly full time in fall 2013, Sprayberry spent 10 years working in Lexington, Ky., as one of five board certified internists and one of 45 equine veterinarians at world-renowned Hagyard Equine Medical Institute, the largest and oldest equine practice in the country.

Earlier in her career, she practiced at various Southern California racetracks, worked with show and performance horses, and provided care to horses shipped from overseas that were being held at port-of-entry quarantine facilities.

For a while, she stepped away from the practice of medicine to work for the American Veterinary Medical Association (AVMA) in Chicago as an assistant editor of the Journal of the American Veterinary Medical Association (JAVMA) and the American Journal of Veterinary Research (AJVR).

“I love journalism, especially medical journalism. Like many before me, I wish I could have written the great American novel, but instead I edit scientific journals,” she said, smiling. “I enjoyed it, but I had a hard time with the Chicago weather, and I missed the horses and medical practice.”

She didn’t entirely give up her editor’s pencil, though. Sprayberry is a frequent contributor to veterinary publications and is co-editor of the textbook “Current Therapy in Equine Medicine.” The book is an international bestseller and is updated with new advances every five or six years.

“Dr. Ed Robinson and I decide on the table of contents and select the best authors from all over the world to write the chapters,” Sprayberry said. “At more than 200 chapters and 1,100 pages, it’s a huge undertaking. It takes three or more years to put the book together, but I get to indulge my love of journalism and feel very lucky to have a hand in producing it.”

At Cal Poly, she has put aside her life as a clinician and is learning to look at things from a teacher’s perspective. There is much to think about: lectures and labs, committees, the department’s welfare, evaluations, and pedagogy. “I am interested in learning about the science behind learning,” she said. Toward that end, she is taking Getting a Good Launch, a course for new faculty offered by the university’s Center for Teaching, Learning & Technology.

Sprayberry is buoyed by her students. “They’re wonderful,” she said. “They are so motivated and well-rounded, in no small part because of the department’s enterprise programs.”

And she is thrilled to be able to use her connections to help them. “It’s the best feeling to call someone and get a student an interview or a job at a place that would otherwise be inaccessible to them,” she said. “I have been very fortunate in getting to take care of some of the planet’s most recognizable horses, including Secretariat when I was a veterinary student and, more recently, Zenyatta.”
“The only way that a kid from Sanger, Calif., was able to do that was because I had a mentor who believed in me, took an interest in my career, and opened the door to that world.”

In Sprayberry’s Vet Clinic Enterprise and Vet Technical Skills classes she subscribes to the “show one, do one, teach one” theory. “I’ll show a student how to perform a task, then the student does it, and then I help that student teach it to another,” she explained.

The Cal Poly Veterinary Clinic treats faculty, staff and students’ animals on an outpatient basis. “We treat lumps and bumps and minor injuries and perform spay and neuter services,” she said. They also provide support for the various animal units on campus.

“The enterprise provides students with hands-on experience in the behind-the-scenes’ activities that keep a practice running,” Sprayberry said. “Students learn autoclaving and sterilizing techniques and become familiar with surgical instruments, injection techniques, taking a medical history, and doing physical exams.”

Sprayberry has come a long way from her family’s farm in the San Joaquin Valley. “I was born with the manifest destiny to be a veterinarian, meaning I don’t know where it came from; I just knew. My love of animals, my love of science, and my love of medicine” were impulses too strong to ignore.

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Natalie Baker is off and running as the Equine Center’s new supervisor and one of three animal science lecturers who began teaching in fall 2013.

After a whirlwind summer that included graduating with a master’s degree from Oklahoma State University in July, moving to campus in August, and starting classes in September, she is enjoying a slightly slower pace, though not by much.

Baker is teaching ASCI 265, Equine Behavior and Training; ASCI 214, Beginning Riding; and three ASCI 290 enterprise courses: Foaling, Mare Care and Horse Judging.

In her Mare Care class, she teaches students how to safely handle horses on the ground while instructing students in basic equine care and management practices, including grooming, bathing, and selecting appropriate equine tack.

In Beginning Riding, students learn how to walk, trot and canter, as well as how to properly manage and care for a horse. “They learn to work in harmony with their horse while safely executing foundational riding skills,” she said.
Baker is thrilled to be part of Cal Poly’s Horse Judging Enterprise, learning the ropes from longtime faculty member Pete Agalos. She says the only reason she landed the job at Cal Poly is because of a decision she made as an undergraduate six years ago to join West Texas A&M University’s Horse Judging Team.

“I didn’t want to be on the team because I didn’t want to do oral reasons, which requires public speaking,” Baker said. But she joined anyway.

Then about six months ago, while a grad student serving as assistant coach for the Oklahoma State University Horse Judging Team, Agalos spotted her at a competition. He asked her what her plans were after graduation. She didn’t know it then, but that chance meeting led to an interview at Cal Poly and the job she now holds.

Although only 24 years old, Baker more than compensates for her lack of experience with her passion, drive, enthusiasm — and energy.

In addition to her course load and managerial duties at the Equine Center, she also advises the Intercollegiate Horse Show Association Hunt Seat and Western Equestrian Team and the Intercollegiate Dressage Association Team; manages the sale of Cal Poly's cutting and working-cow Quarter Horses and Thoroughbreds; and organizes boarding for student-owned horses at the Equine Center.

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“Because of Cal Poly’s rigorous admissions requirements, we draw a select group of students who want to come to class and want to work hard. I love how willing they are to work with me, and I can see how eager they are to learn, especially in this Learn by Doing environment.”

And she hopes they will remember the positive impact she has made on their lives, whether it was teaching them horsemanship skills or helping them land a job. “I use my age to my advantage. I have an ability to relate to the students, to make them feel comfortable learning in the classroom. I try to be approachable.”

Top: Natalie Baker visits with student Felicia Dito and horse named Jinx
Second from top: Natalie Baker instructs student Jaclyn Hess, riding Okee, a palomino gelding
Third from top: Natalie Baker works again with student Felicia Dito on proper riding position
Bottom: Student employee Sara Roth with Cashin In Cats, a 2-year-old sale horse, visits with Natalie Baker

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CALL OF THE WILD

undergrad aids in reindeer research
Animal science undergraduate Joyce Pexton found out just how adaptable she was working two summer stints on a reindeer research project in Nome, Alaska, where the sun shone 24 hours a day.

“You lose track of time,” she said, “and it takes awhile to get used to it. I’d stay up very late at night and not realize it was time to go to bed.”

Pexton spent eight weeks in 2012 and six weeks in 2013 working on a reindeer research project being conducted by Professor Greg Finstad of the University of Alaska, Fairbanks. Pexton was one of four Cal Poly student research assistants hired to help.

The study allows students to work as research assistants, broadening and deepening their animal management and ecological skills while also working with the native Inuit people, who herd reindeer on land they lease from the Bureau of Land Management.

The purpose of the research is to set up a long-term — 30-year — grazing study for reindeer. The research addresses the challenges of range management and reindeer nutrition, including assessing range resources. The study is dedicated to the development and promotion of the reindeer industry on the Seward Peninsula and throughout Alaska.

The students’ home base was Nome, a city of about 3,500 people on Alaska’s west coast on the Bering Sea. But work took them to remote areas, where they built exclosure sites to keep reindeer out so they could look at the plants they eat and figure out how many reindeer can be farmed on how many acres.

“We did lots of fence building and assembly,” Pexton said. “We took plant data, built random plots inside and outside the sites. We took pictures of the plants. We recorded species of plants. We spent a lot of time sitting on the ground, hunched over.”

And sometimes they worked 24 hours straight then slept for two solid days. “We worked in such remote areas, getting there could take awhile,” Pexton said. “We commuted by helicopter, four-wheel drive, boat, car, or on foot. In the course of one day, we could take up to three modes of transit.” While working those distant jobs, Pexton and the other students would camp on site instead of heading back to Nome for a longed-for shower and hot meal.

Working closely with the Inuits, Pexton experienced firsthand their culture and primitive way of life. Though the Inuits have intuitively become suspicious of white people from outside their villages, Pexton got to know them as “wonderful people.”

“In Wales, a tiny village of fewer than 200 people on the westernmost point of the American mainland, we camped in front of a 90-year-old Inuit woman’s house,” Pexton said. “She was adorable. She would invite us into her home, where she would sit on the kitchen floor, cutting up meat while telling us stories about how things used to be. So much has changed during her lifetime.”

Most homes in Wales have no running water. Buckets substitute for many things, including toilets. “People do laundry in a bucket,” Pexton said. “Many families keep a plastic trash can in the kitchen filled with water for drinking and cooking. It was surprisingly easy to get used to,” she said.

Pexton fell in love with Alaska. “Everything about it was amazing — the culture, the reindeer, the wildlife.” She saw various species of birds and sea life, bears, wolves and moose — all from a safe distance. “We do carry a 12-guage shotgun for emergencies,” she said, “but we never had to use it.”

For more information on the reindeer research project, go to: reindeer.salrm.uaf.edu/.

Facing page: View from one of the higher Alaskan mountain sites
Top: Joyce Pexton fitting a radio collar on a lead female deer with herders in Stebbins, Alaska
Above: (left) A remote campsite on the Imuruk Basin; (center): Joyce Pexton recording plants being identified by Professor Greg Finstad; (right) Joyce Pexton assembling a site with Cal Poly student Kacey Capuchino
Cal Poly-produced pork loin chops, ham, bacon, Canadian bacon, and a variety of sausages might soon be coming to a neighborhood market in San Luis Obispo.

That’s the plan, said Animal Science Department Head Jaymie Noland. “Our vision is to produce local pork products for the local community. Pork that has been raised by students, processed by students, packaged by students, and sold by students,” she said. “It would be sold on campus, in local markets and restaurants.”

Students have been processing pork on a small scale — about 200 hogs a year — for sale on campus and at the Arroyo Grande Farmers Market. To help with the new demand, senior Rhonda Hull, resident manager of the Swine Unit last year, began using PigCHAMP, a powerful software tool that allows users to collect, manage and interpret data to provide a clear vision of swine production.

“We can tell when the sows were bred, when they farrowed, and how long they were ‘open,’” Hull said. (Open refers to the time between a sow weaning her piglets and being rebred.) “That shows me which sows were the most productive,” Hull said.

Cal Poly’s 45 breeding sows are divided into four groups. “We have sows farrowing every single month,” Hull explained. Even so, Hull expects the breeding herd will need to expand.

Thanks to the J and G Lau Family Meat Processing Center, which opened in 2011, expansion won’t be a problem. “The facility allows more opportunities to produce retail cuts and products,” said Morgan Metheny, a 2014 graduate and current meat processing center manager. Metheny runs the center like a business. “It’s another learning point for the students — knowing how to make a profit while running a company, paying employees, and dealing with a U.S. Department of Agriculture-inspected product.”

The center is regulated by the USDA, and Metheny implements HACCP plans (Hazard Analysis and Critical Control Points), which assure the products are safe.

If current bacon sales are any indication, the Cal Poly-produced pork products will likely be a big hit when they hit grocery shelves. “Our bacon is a little pricier than some of our competitors because we hand slice it,” Metheny said. “But our customers don’t seem to mind; we can’t keep it on our shelves.”
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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