As we reach the halfway mark of our school’s 75th anniversary year, I’ve been envisioning the future. Until recently, the pace of change in veterinary medicine has been mostly incremental. Entire careers could be spent grinding away on single diseases or scientific insights. Discoveries were hard won and served as building blocks for further innovation.

That pace has now accelerated. With the help of growing computing power and artificial intelligence (AI), we are witnessing the early stages of exponential knowledge progression. New approaches are also changing the way that we address research and innovation—both big data and collaboration are becoming essential to success. We increasingly see the urgency of the One Health approach: viewing animal, human and environmental health together.

Fortunately, UC Davis is providing leadership in all these areas, and we are fortunate to have several advantages that position us well for the future. We have an incredible historical patient data trove to anchor our AI research. We have a history of partnerships within UC Davis—one of the nation’s most comprehensive universities—as well as across the world. The One Health approach developed at the school is embedded in our mission. In addition, thanks to donors and public support, we are able to provide affordable education to our DVM students, nurture veterinary scientists, and train the greatest number of specialists in the world.

We are not doing it alone, and more investment is needed in veterinary education and medicine overall. With this issue of Synergy, we offer insight into the future of veterinary medicine—not just to see the path forward, but also to generate excitement for meeting the opportunities and challenges ahead.

A Message from the Dean

Mark D. Stetter, DVM, Dipl ACZM
Dean

*The drone shot, taken on the launch of our 75th anniversary celebrative year, captures some of the change makers in our UC Davis veterinary community. Photo: Vu Dao and Kevin Ulrich

Other events during the launch weekend included class reunions and school tours. Photos: Trina Wood
Combating Rift Valley Fever

Researchers at the school's One Health Institute have been awarded $28 million to lead a novel human vaccine trial against Rift Valley fever virus in Africa. The project aims to work with partners in African countries affected by the virus to assess the safety and immune response of the vaccine in people in most at risk. It is funded by the Coalition for Epidemic Preparedness Innovations and the European Commission’s Horizon Europe program.

Rift Valley fever, or RVF, can cause a severe viral hemorrhagic fever and other disease syndromes that affect both people and domesticated livestock animals. Large-scale outbreaks are often linked to heavy rainfall and flooding when the virus spreads to people either through mosquito bites, or contact with infected livestock and virus-contaminated meat and fluids. In humans, the majority of infections lead to a mild to moderate illness. However, in some cases RVF is much more severe with symptoms ranging from joint and muscle pain, to vision loss and blindness, liver and neurological damage and hemorrhagic fever.

RVF outbreaks in livestock cause the sudden death of large numbers of pregnant animals, and mortality and illness in young ones. Infection can spread to so called “abortion storms” with spontaneous loss or developmental abnormalities that can affect up to 90% of pregnant animals. These losses are especially impactful across rural Africa. In Tanzania, more than 30% of households depend on livestock. Although animal vaccines are available, their use is not widespread. RVF outbreaks decimate family livelihoods through not only direct human health impacts, but also the large-scale loss of livestock, food products and income.

Mountain Lion Mourned Worldwide

When P-22, a Southern California mountain lion, was euthanized last December after suffering a vehicle strike and showing other serious health issues, it became clear how many hearts he had captured around the world. Veterinary pathologists at the San Diego Zoo discovered that P-22 had serious injuries (some fresh and some older) and confirmed that he was underweight, arthritic and had progressive and incurable kidney disease. He also had a severe parasitic skin infection over his entire body, caused by demodectic mange and a fungus, specifically ringworm.

Teamwork to the Rescue

Chouchou became a social media darling after UC Davis veterinary oral surgeons repaired his severe cleft palate. Born with an unfused mouth roof, he faced an uphill battle to survive and landed into the right hands when Hannah Shaw, founder of the Orphan Kitten Club and affectionately known as the Kitten Lady, knew the complexities it would take to get the tiny kitten (only 60 grams) to the point of being able to take tube feedings. Shaw’s Orphan Kitten Club supports many initiatives at UC Davis, including the school’s student-led rescue, the Orphan Kitten Project, and many other student-led research projects.

When cleft palates are exceptionally extensive, they are challenging to repair due to the lack of available tissues and the high risk of failure.

DOSS faculty members Drs. Boaz Arzi and Stephanie Goldschmidt, along with resident Dr. Elias Wolfz created a multi-stage treatment plan that involved removing some teeth and the corrective surgery to rebuild a palate for Chouchou’s mouth to allow him to eat normally. DOSS faculty members Drs. Boaz Arzi and Stephanie Goldschmidt, along with resident Dr. Elias Wolfz created a multi-stage treatment plan that involved removing some teeth and the corrective surgery to rebuild a palate for Chouchou’s mouth to allow him to eat normally. DOSS faculty members Drs. Boaz Arzi and Stephanie Goldschmidt, along with resident Dr. Elias Wolfz created a multi-stage treatment plan that involved removing some teeth and the corrective surgery to rebuild a palate for Chouchou’s mouth to allow him to eat normally. DOSS faculty members Drs. Boaz Arzi and Stephanie Goldschmidt, along with resident Dr. Elias Wolfz created a multi-stage treatment plan that involved removing some teeth and the corrective surgery to rebuild a palate for Chouchou’s mouth to allow him to eat normally. DOSS faculty members Drs. Boaz Arzi and Stephanie Goldschmidt, along with resident Dr. Elias Wolfz created a multi-stage treatment plan that involved removing some teeth and the corrective surgery to rebuild a palate for Chouchou’s mouth to allow him to eat normally. DOSS faculty members Drs. Boaz Arzi and Stephanie Goldschmidt, along with resident Dr. Elias Wolfz created a multi-stage treatment plan that involved removing some teeth and the corrective surgery to rebuild a palate for Chouchou’s mouth to allow him to eat normally.

Chouchou at home in his outdoor catio after his cleft palate surgery at the UC Davis veterinary hospital. Courtesy of @crustmuppet
Steps Toward a Salmonella Vaccine

Salmonella bacteria (only cause up to a million deaths a year worldwide. Credit: Body Mountain Laboratories, MAD, MT

Salmonella infections cause a million deaths worldwide each year. Improved vaccines for both typhoid fever and non-typhoidal Salmonella disease are urgently needed. New work published in Proceedings of the National Academy of Sciences shows how memory T cells, crucial for a vaccine that induces a powerful immune response, can be recruited into the liver in a mouse model.

"Understanding the immunology is key to developing a better vaccine," said Professor Stephen McSorley, Department of Anatomy, Physiology and Cell Biology and senior author on the paper.

A type of immune cell known as "tissue-resident memory cells" appears to be key to Salmonella immunity in mice. Usually, when a pathogen enters the body, the immune system mounts a response, which includes CD4 T-cells that support other responses such as antibody production by B-cells. Post infection, some of the cells specific to that pathogen remain as memory cells, ready to respond quickly, if the same threat returns. In the mouse model of Salmonella infection, those CD4 memory T-cells don’t circulate around the body. They instead stay in the liver as tissue-resident memory cells.

Claire Depew, a graduate student in the McSorley Laboratory, took CD4 T-cells specific for Salmonella and transferred them into mice that had never been infected. The molecules that promote inflammation, especially interleukin-1 and 2, enhanced formation of Salmonella-specific CD4 tissue resident memory cells in the mice. This provides a rapid response that can act quickly against Salmonella infection. These results will help with the design of new vaccines for Salmonella.

Advancing Osteosarcoma Research

A groundbreaking material—engineered bone matrix (eBM)—has the potential to improve treatment for osteosarcoma, a malignant bone cancer with low survival rates. A new study involving UC Davis researchers published in the Proceedings of the National Academy of Sciences describes eBM’s potential. This includes helping researchers learn how bone marrow cells affect osteosarcoma growth, testing cancer therapies, and potentially personalizing treatment.

Osteosarcoma is the most common primary bone cancer in children and adolescents, usually affecting children under age 15. Survival rates are low: less than a 25% 5-year survival rate for children with metastatic cancer. It is also the primary bone tumor in dogs, often requiring limb amputation.

Researchers usually study osteosarcoma in flat, artificial cultures that fail to mimic the tumor environment, or mouse models with many variables that scientists can’t control. This new material will allow researchers to better study how these tumor cells grow and respond to drugs, explained Kent Leach, professor of Orthopedic Surgery and Biomedical Engineering at UC Davis and the corresponding author on the paper.

"This work is very exciting because it lays the foundation for a technology that could be used to help veterinary and human patients alike," said Katherine Griffin, a study coauthor and dual DVM/Ph.D. candidate under Leach’s mentorship through the Veterinary Scientist Training Program at the UC Davis School of Veterinary Medicine.

"By providing a realistic bone marrow niche for study in the traditional lab setting, it opens doors for new discoveries."
By Trina Wood

Exploring Artificial Intelligence to Benefit Animal Health

AI is already ubiquitous in our daily lives—through our smartphones, voice assistants, travel apps, ecommerce and much more. Technology that uses AI is also on the rise in other areas like healthcare. Using a data-driven approach, AI may be able to help doctors diagnose diseases more efficiently.

Dr. Stefan Keller, an assistant professor and pathologist, specializes in diagnosing animal diseases. A large part of his research is directed toward improving healthcare outcomes by using data to make more informed diagnostic decisions. To that end, Keller and colleagues from the school’s Artificial Intelligence in Veterinary Medicine Interest Group are exploring ways to use AI in three different projects.

In the first project, the group is developing a machine learning algorithm (called a “classifier”) that uses historical patient data to reduce errors in the interpretation of blood tests and avoid inaccurate diagnoses. The project—funded by the UC Davis Venture Catalyst Science Translation and Innovative Research grant program in 2022—is focused on identifying disease patterns in animals using laboratory data and AI tools, and helping clinicians consider different diagnoses.

Future

Envisioning the
"We have thousands of standard blood work data from the past decades," Keller said. "If we take all that and run it through our algorithm, we can predict what disease the pets might have and what the prognosis might be."

While the initial application is for dogs, the team sees opportunities to adapt the tool for other species, including cats and horses.

In the second project, the team is investigating inflammatory bowel disease in aged cats to assess inflammation levels. In the current system using microscopes, there’s a discrepancy in how pathologists assess or grade inflammation. Training the classifier to recognize different inflammatory cells will allow standardization of inflammation assessment, which is important because it affects how clinicians treat patients.

This leads to the third project of hosting the classifiers on a platform called Animal Health Analytics and feeding the patient data directly into it so the patterns can be detected in real-time. The project is conducted in collaboration with the school’s Information Technology (IT) service and involves clinicians and colleagues including Dr. Krystle Reagan (pictured to the right), who developed the classifiers.

In terms of AI adoption, Keller thinks veterinary medicine presents an interesting landscape, adding that training data is more easily obtained in veterinary medicine than in human medicine and so far, there are no rules around the use of AI algorithms for diagnostic use. However, the pitfalls of the technology and the attitude of users are very similar in veterinary and human medicine. Thorough testing, feedback, and objective analysis will be crucial to successful adoption of new technologies.

"If you’ve done things the traditional way for decades, you might be reluctant to adopt an AI algorithm, and then believe in the results," Keller said. "Transparency of the method is important but with many AI algorithms there is some black box analysis that comes into play, and that is potentially concerning for users. We have to see how we can address that."

**AI to Improve Client Experience**

While the rise in technological advancements may seem to be occurring at a rapid pace, Reagan said clinicians have been incorporating new technologies into their practice medicine since they started. For example, over the course of 300 years, the stethoscope has evolved from a paper tube to a horn-shaped instrument, to a binaural stethoscope, and finally to an electronic form.

"Now that we have stethoscopes that have AI built into them to amplify the sound of heart murmurs, we’re adopting those because it is the best thing for our patients," Reagan said. "At the end of the day, we’re trying to provide the absolute best care and this is just another tool that we have at our disposal."

As an internal medicine specialist, Reagan’s research focus is in the assessment of novel therapeutics for companion animal infectious diseases such as feline infectious peritonitis, as well as the development of rapid diagnostic tools that may use AI for clinical decision making.

"AI can help veterinarians meet the workload explosion by serving as a scribe in the exam room, scheduling patients, and triaging the urgency of client phone calls. She also anticipates that AI will be used in the future to help take a patient’s medical history before the clinician shows up at the hospital."

"We’re exploring various ways to address client concerns, get to the bottom of an issue more quickly and improve the veterinarian’s satisfaction with history taking," Reagan said. "At the end of the day, we’re trying to provide the absolute best care and this is just another tool that we have at our disposal.”

— Dr. Krystle Reagan

**Precision Medicine**

Precision medicine is also on the horizon for veterinary patients in much the same way it is now being applied in human medicine. This is an emerging approach for disease treatment and prevention that takes into account individual variability in genes, environment, and lifestyle. Clinicians may use precision medicine to help identify people who may be at high risk for particular cancers or it can be used to determine which tests and treatments are best.

Dr. Robert Rebhun, veterinary oncologist, sees this approach evolving in veterinary medicine. He collaborated with Dr. Robert Canter, a human surgical oncologist, to conduct a novel clinical trial on an inhaled immunotherapy drug for dogs with cancer that had spread to the lung.

The dogs were treated with protein interleukin-15 in an effort to trigger the body’s defense mechanisms—T-cells and natural killer cells—to respond and destroy invading cancer.

Tumors shrank dramatically in two of the 21 dogs enrolled in the study, including one that went into complete remission for more than a year. Cancer that had been growing rapidly in five other dogs stabilized for several months.

"We had some amazing responses, but a lot of dogs didn’t respond," Rebhun said.
Precision medicine is an emerging approach for disease treatment and prevention that takes into account individual variability in genes, environment, and lifestyle.

The dogs were treated with protein interleukin-15 in an effort to trigger the body’s defense mechanisms. T-cells and natural killer cells—respond and destroy invading cancer.

Enhanced Learning and Assessment

When the COVID-19 pandemic forced classes to go remote for a period of time, it highlighted the need to adapt technological innovations for engaged remote learning. Dr. Joie Watson, associate dean of professional education, said an anatomy instruction was one of the first things that came to mind in exploring how technology could support the DVM curriculum. Justin Ross, multimedia developer on the school’s IT team, collaborated with Colorado State University—who has been developing 3D virtual learning for the past several years—to create the 3D Virtual Reality Project for UC Davis. With the help of Sketchfab (a 3D modeling platform), the project offers a way to explore assets that are difficult to find and put together.

Some of those assets, like the cow specimen, are old and fragile and in danger of falling apart. Watson explained that this approach allows visibility from anywhere and safeguards valuable assets that are difficult to find and put together.

“We’re able to connect people through technology with resources that we used to think of as anchored in a specific space,” Watson said. “The future may involve students being in a virtual reality space and a teacher could be there simultaneously accessing a resource together. We’re not there yet, but that’s part of what we see as the possibility.”

Capturing learning moments during clinical rotations at the veterinary hospital is another area where Watson said technology will come into play. In a dynamic hospital environment where clinicians are busy, talking to clients and taking care of animals, there isn’t much time to check off boxes on a worksheet assessment for students. So, the IT department has put together a brief assessment tool, to be used on a cell phone, that they hope to pilot soon. Within the app, clinicians can enter comments using talk-to-text transcription and links to “just-in-time” assessment. In this way, faculty members can provide feedback in a way that is seamless.

“Students are always looking to improve toward Day 1 competency after graduation,” Watson said. “This tool will help enhance their learning.”

Neelanjana Gautam from the UC Davis Office of Research provided the reporting on Dr. Stefan Keller’s work.
Increasing diversity, equity, inclusion, and belonging (DEIB) in this career path starts with attracting a diverse pool of applicants to veterinary school. Nationally, more than 70% of the total DVM student population is white. All other ethnic and racial backgrounds are considered underrepresented in veterinary medicine (URVM). This makes UC Davis one of the most racially and ethnically diverse DVM programs in the nation, with almost 50% URVM representation. But, there’s still a long way to go.

What have been some of the biggest barriers historically in encouraging students from diverse backgrounds to apply to veterinary school? We recently addressed one of the major hurdles when UC Davis dropped the Graduate Record Exam (GRE) requirement for application. We joined the majority of accredited U.S. veterinary schools in making the shift after studies showed systemic bias in the GRE. It has been argued that the test (based on verbal, quantitative and analytical writing) does not predict student success in the sciences, as the exam does not demonstrate an applicant’s understanding of science. The removal of the GRE has already shown to increase the applications by 67% from the previous year. Additionally, we moved our interviews from in person to online, which has made the application process more accessible. The shift has been so successful that we are considering making it permanent.

What key initiatives has Davis undertaken/launched in the past several years to increase engagement with undergrads from diverse backgrounds? While plans have been made to better engage underrepresented students, the COVID-19 pandemic has made it challenging to implement changes. Fortunately, Dean Mark Stetter has made it a priority to include DEI as one of the pillars of the school’s strategic priorities. There has been a large increase in information sessions delivered to universities that have been previously less accessible. There are plans in the works to attract undergrads from Hispanic Serving Institutions and Historically Black Colleges and Universities into our summer programs. There are also plans to attend STEM conferences focused on diverse communities to attract more diverse applicant pools.

How early does this engagement really need to start? Statistics show that students should be introduced to career paths as early as eight or nine years old. How does the recent Supreme Court decision regarding the use of race in college admissions affect our admissions policies? The Supreme Court decision regarding race in college admissions will not ultimately affect our admissions policies because of proposition 209, which is already in place and essentially mimics the court decision for the state of California.

What are the current challenges and what are the plans to address them? We still hear from kids in underrepresented communities that they lack awareness of veterinary medicine as a potential career path. So, we are trying to reach them early through programs such as League of Vets2Kanara, VetMed Youth Camps, VetMed Exploration Academy, and Vets of the Future/Future Day. The financial burden of veterinary school remains a challenge. Thanks to strong donor support at UC Davis, we’re able to offer approximately $4.5M in scholarships annually. We’re working to increase that amount and expand the scholarships we’re able to award students over time. Another challenge is lack of access to veterinarians. We’re expanding our Summer Enrichment Program, which provides opportunities for undergraduate students to gain necessary experience with veterinarians, as well as mentorship with clinicians and current DVM students.

Are there more ‘hidden’ forms of diversity in terms of sexual orientation or other identities that we need to be more conscious and supportive of? Yes, there are definitely hidden forms of diversity and we are conscious and intentional in being inclusive regarding these aspects of diversity in addition to race/ethnicity. We have made changes to our data collection processes to allow students to indicate pronouns, and update their lived-name and gender marker. We are also becoming more intentional with supporting our students who may require a space for reflection purposes, including anyone who may be a part of any spiritual community.

Creating a diverse, equitable, and inclusive veterinary community demands sustained effort, continuous improvement, and accountability. Our community is committed to listing change, but it will take all of us to make a difference.
Evacuating, sheltering and caring for animals are enormous tasks made more difficult during disasters like wildfires. But the California Veterinary Emergency Team, or CVET, is ready to lead a statewide coordinated effort of veterinary care when disasters strike. Administered by the school’s One Health Institute, CVET supports and trains a network of government agencies and organizations to aid domestic animals and livestock during emergencies.

“Although we hope to never see disasters, we know that when they come they can be devastating to our pets, horses and livestock,” said Dean Mark Stetter. “I’m glad that we are ready to help the next time there is a need.”

This fire season, CVET is ready to provide counties across the state with veterinary support when local resources have been exhausted and state assistance is needed.

A Mobile Command
CVET is equipped with numerous response trailers of various sizes that will serve as mobile in-field hospitals and exam rooms for injured animals, as well as a horse trailer and several vehicles. A 44-foot trailer is currently being retrofitted to provide additional exam space, as well as sleeping quarters for veterinarians, should the team be called to a remote location.

“Having ready-to-go resources on hand allows our veterinary team to show up with the resources to provide exceptional veterinary care in the field, treating burns, injuries, and other conditions as the need arises,” said veterinarian Ashley Patterson, CVET’s associate director of operations.

Transition from VERT
With the formation of CVET, the personnel, equipment, knowledge and legacy of the previous UC Davis Veterinary Emergency Response Team, or VERT, was folded into CVET. This expanded UC Davis’ veterinary disaster response capacity from a local county effort to a statewide response. UC Davis VERT typically triaged, evaluated, treated or rescued more than 1,000 animals every wildfire season.

Today, CVET has a team of dedicated full-time staff who are responsible for the operations and management of the program and its growing network of veterinary professionals.

Dr. Briana Hamamoto recently joined CVET as an Operations Specialist. No stranger to UC Davis, she received her DVM as well as her Ph.D. in Pharmacology and Toxicology from the school in 2022. While in veterinary school, Hamamoto was heavily involved with VERT, first as a volunteer responder and eventually serving as President of sVERT (the student club for VERT responders). Additionally, Hamamoto serves as the Emergency Response Committee Chair for the Northern California Association of Equine Practitioners Emergency Response Team, gaining further valuable experience responding to multiple major wildfires in Northern California.

Following graduation from veterinary school, Hamamoto worked as an associate equine practitioner in Auburn, Calif., during which time she was invited by Placer County to serve as a veterinarian for the Mosquito Fire response in 2022. Her dedication and expertise in veterinary medical disaster response has brought her full circle to where it all began to help CVET enhance statewide veterinary preparedness, as well as provide veterinary care to animals during disasters.

Next Steps
In addition to response, our program supports and trains a network of government agencies, non-governmental organizations, and individual veterinary professionals to assist in the veterinary care of animals during emergencies. Our responders receive training in the incident command system, all hazards safety and CVET operations. In addition, we plan to offer numerous specialized training opportunities including shelter-in-place support, technical animal rescue, working dog support and many others.

If you are a veterinary professional and would like to learn more about joining CVET as a responder, please contact cvet@ucdavis.edu.

www.CVET.ucdavis.org

By Eunah Cho Preston

At The Ready

Eunah Cho Preston

Clockwise from left: Wildfires are becoming more frequent in California. A student VERT volunteer treats a horse at an evacuation center in a past wildfire event. Will Burke, associate director of planning for CVET, at an information booth during the PacVet Conference. A mobile command will allow for enhanced veterinary care in the field. Dr. Briana Hamamoto ’22 joined CVET as an operations specialist.
Second Chances

While Dr. Dolittle may have “talked” to the animals, it’s the capacity to listen that gives Dr. Jackie Gai ’01 guidance in treating the wildlife who live with the Performing Animal Welfare Society (PAWS).

“My approach to my practice is to be of service to my patients, many of whom have histories of abuse or neglect. I ask them, how can I help or serve you?” Gai said. “This isn’t about me; it’s about them. Putting my ego aside quiets my mind and helps me ‘hear’ the cues they give me; it’s almost a meditation. Their energy is a humbling experience.”

Gai has worked with PAWS for more than 20 years, starting shortly after graduating from the UC Davis School of Veterinary Medicine in 2001. During a short post-grad stint at a small animal practice in Marin County, Gai got a call out of the blue from Pat Derby, PAWS’ beloved late founder. “She was looking for a veterinarian with elephant experience who was concerned about their welfare,” said Gai, who now serves as director of veterinary services for PAWS. “It was the perfect match.”

Gai became passionate about animal welfare issues in captive wildlife while working as a zookeeper and veterinary technician at the Oakland Zoo, years before pursuing her DVM. One of the African elephants had a surprise birth in 1995. The calf, named Kijana, was rejected by his mother (not uncommon in captive elephants, but rare in the wild) so Gai and seven other keepers cared for him around the clock.

Despite his careful hand-raising and care, Kijana died of a herpes virus infection at 11 months old. He was only the second elephant in the U.S. to come down with the disease and the first African elephant. That experience made Gai more acutely aware of medical issues brought about by captivity that aren’t adequately addressed by exotic animal medicine textbooks. It also awakened a passion for the welfare of all captive wildlife that she carried into her role at PAWS.

The sanctuary was founded in 1984 as the first elephant refuge in the country and now includes a 2,300-acre site in San Andreas, Calif. that provides a home for former victims of exotic and performing animal trades. Residents currently include seven tigers, seven elephants, two black bears, two adult capuchin monkeys, a mob of emu, and an elderly Indian muntjac.
“We can’t return these animals to the wild unfortunately, so in our case, we’re improving their lives,” Gai said. “They often come from limited space where social conflict and a lot of dysfunction can arise. We’re giving them a better version of captivity. It’s not perfect, but it’s the best we can provide.”

The PAWS team of caretakers and veterinarians gets to know each animal that comes into their care as an individual with a different past and varying needs to feel safe, nurtured and able to live their best lives. “We give them more agency in making decisions,” Gai said. “Sometimes they need more space or to get away from a bullying situation. It’s an honor to help facilitate their healing—on physical as well as psychological and spiritual levels. And it’s rewarding to see how some of their personalities change after coming to the sanctuary.”

Gai knows from personal experience the value of having someone give you what’s needed for your best outcome. After two other careers in law enforcement and entertainment ticket sales, Gai finally decided to pursue her biggest dream of becoming a veterinarian. “She said the instructor was a wild, deep thinker (and also a Sufi dancer!) who got the students fired up about science,” Gai said. “He helped flip the switch in my brain and I found out science is fascinating! It’s the basis of all life—that’s not a boring subject!” Gai said.

Fortunately, she found a small night class at Oakland’s Merritt College for organic chemistry—often considered the gatekeeper for those wanting to pursue a medical career. She said the instructor was a wild, deep thinker (and also a Sufi dancer!) who got the students fired up about science. Gai sat in the front row, glued to every word. “He helped flip the switch in my brain and I found out science is fascinating! It’s the basis of all life—that’s not a boring subject!” Gai said.

Eventually, Gai decided to pursue her biggest dream of becoming a veterinarian. She had to work with heated stalls and an indoor therapy pool. Photo courtesy of PAWS.

Dr. Jackie Gai (far left) visits the mob of six emus with their supervisor, Renae, to vaccinate for West Nile virus. “Caregivers are my eyes and ears,” Gai said. “They are truly animal care professionals.”

The five elephant habitats at the San Andreas, Calif. facility commonly known as ARK2000 provide hundreds of acres of varied natural terrain for the seven resident elephants to roam, take a bath, and pools equipped with heated stalls and an indoor therapy pool. Photo courtesy of PAWS.

With caregiver Larry’s help, Gai checks on Mojo, an elderly muntjac. The thermal imaging cameras can help pinpoint any inflammation in his antler pedicles after a recent shed.

Nicholas, a 29-year-old Asian elephant, was retired from the demands of the circus.

All of the animal residents are trained with positive reinforcement to allow for voluntary veterinary checks and treatment. Brian, sanctuary manager and elephant supervisor, and Kelly, senior elephant caregiver, provide treats and distraction for Prince as Gai gathers a blood sample from a vein behind his ear.

Keeping accurate patient records is never ending for any veterinarian!

Back at the Pat Derby Animal Wellness Center after a lunch break, Gai reviews the most recent radiographs taken of Prince’s wrists, explaining to Rothstein what they look for as signs of arthritis.

Morris and Rosemary were among eight big cats who currently live at PAWS. Gai keeps an eye on their general physical wellbeing and behavior on a regular basis.

Dr. Melissa Rothstein ’19 works part time at PAWS as part of the veterinary team. She credits Gai as a mentor who works tirelessly to make the world better for all animals.

The unconscious mind is continuously hard at work, shaping our experiences and memories. We can become aware of these processes through mindfulness and by paying attention to our thoughts and feelings. This awareness can help us make more informed decisions and live more consciously.

In conclusion, the work of veterinarians like Gai is crucial in maintaining the well-being of animals in captivity. By providing care and understanding, they contribute to the betterment of the lives of these animals. Through their dedication and hard work, they help raise awareness about the needs of animals in captivity and inspire others to do the same.

10:00 am

Kelly gives Prince jelly beans—his favorite treat—as a reward for offering his foot to Gai for treatment with some medicated clay to reduce inflammation in a few lesions.

Gai gently palpates Prince’s foot and feels for any areas of inflammation. “It doesn’t take long for elephants to learn the positive training, but trust takes longer. Now he’s very cooperative and eager to participate in his own health care.”

10:30 am

“Dr. Jackie Gai (far left) visits the mob of six emus with their supervisor, Renae, to vaccinate for West Nile virus. “Caregivers are my eyes and ears,” Gai said. “They are truly animal care professionals.”

11:00 am

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11:30 am

12:30 pm

1:30 pm
From table scraps to food that falls on the floor, loose garbage can lids, and opportunistic counter surfing, pets have many opportunities to consume “people food.” A piece of pasta slurped up from the kitchen floor is probably not a big deal, but a chocolate bar may necessitate an emergency veterinary visit.

So how do you know which “people foods” your pets can consume and which are hazardous to their health? In many cases, a number of variables come into play, from the pet’s size to the amount of the food in question. Dr. Jennifer Larsen, chief of the Nutrition Service at the UC Davis veterinary hospital, provided insight into which foods are safe for pets, which ones may spell trouble, and how owners can keep their pets happy and healthy.
More than 90% of a pet’s daily calories should come from a complete and balanced diet (commercial diet or home-cooked diet formulated by a veterinary nutritionist specifically for your pet). Additional food items, including treats, should not exceed 10% of the daily caloric intake. Larsen pointed out that calorie-dense human food can exceed the 10% treat allowance quickly, so it is important to ensure these items are only consumed in small quantities. Reference food labels or visit the USDA website for information about the number of calories in specific foods.

Most commercial pet treat products are required to disclose the number of calories on the label. However, the calories in “animal part” treats such as rawhide, jerky and bully sticks are usually unknown and can be highly variable due to size and dietary content. These treats can also be associated with choking hazards, kidney injury, and Salmonella contamination, so it is important to evaluate these factors when choosing pet treats.

It is a good idea to discuss with your veterinarian whether specific treats are appropriate for your individual pet.

**Xylitol and Other Sneaky Ingredients**

Aside from the calories in certain foods, you may be surprised to find undesirable ingredients lurking in some recipes. For example, onions are sometimes present in human foods where they may not be expected. In sufficient quantities, these foods can be toxic to pets, causing a low red blood cell count (anemia) and a variety of associated health problems. Salt is also a concern; high amounts can influence cardiac disease, high blood pressure and kidney disease, or interact with compounds such as anti-seizure medications.

Another important ingredient to watch out for is xylitol, also known as wood sugar, birch sugar and birch bark extract. It is a naturally occurring sugar alcohol found in plants, including fruits and vegetables. A food additive approved by the U.S. Food and Drug Administration (FDA), xylitol is often used as a sugar substitute in hard candies, gum, mints, syrup, jams and jellies, baked goods, nut butters and vitamins. Dental care products such as toothpaste and mouthwash, cough syrup, over-the-counter medications, sunscreens, cosmetics and other products may also contain xylitol.

Xylitol is quickly absorbed into a dog’s bloodstream, unlike most other sugars, resulting in a rapid insulin release. Dogs that ingest xylitol or xylitol-containing products (even in small amounts) can develop hypoglycemia (low blood sugar levels) and liver damage. The clinical signs of low blood sugar can be mild to severe, ranging from lethargy to seizures and death. Xylitol poisoning has not been reported in cats or other domesticated mammals.

**Paws Off**

Ingestion of foods containing xylitol is a significant concern for dogs. Other foods that your pets should never consume include grapes and raisins, chocolate, foods containing caffeine, and any foods that are going to expand, such as raw dough. Fatty foods such as fish or poultry skin and fatty meats are also of particular concern. Although peanut butter is a popular treat, it is high in fat (and caloric) and should only be offered in small amounts.

**Clearing Up Some Misconceptions**

Although there is consensus on the foods that your pets should never consume, lists of foods pets can and can’t eat lead to confusion on this topic. For example, Larsen said that many people think that avocados are toxic to dogs. The leaves of the plant are toxic to other species, but dogs can safely consume the flesh of the avocado. Just be sure to avoid the pits since they are a choking hazard.

Found on many do-not-eat lists, garlic can actually be an ingredient in some pet foods and treats. Legally, it can only be added for flavor, and the company is responsible for making sure that it is present in a safe amount. Contact the company directly if you have any concerns about the ingredients in commercial pet foods and treats.

Lastly, it is important to be informed about the risks of raw foods to your pet’s health. “Any raw animal product is not really safe due to potential contamination with bacteria such as Salmonella, E. coli, Campylobacter and Listeria,” said Larsen. Bacterial infection can lead to gastrointestinal illness in pets which can be transmitted to humans. The FDA and Centers for Disease Control and Prevention advise against the feeding of raw pet foods due to the human health risks. Professional veterinary organizations, including the American Veterinary Medical Association, American Animal Hospital Association and the World Small Animal Veterinary Association Global Nutrition Committee, among many others, provide position statements and consumer information documents that also warn of the significant risks and lack of benefits to actively discourage the use of these diets to protect animal and human health.

**Pets Are Individuals**

It is important to note that pets, like people, are individuals. This means a lot of variability in not only what they like to eat, but also in what they can tolerate. “Some pets can eat different foods at every meal,” Larsen said. “Others are very sensitive and need a prolonged transition between different types of foods.”

Whether they have a sweet tooth or a low tolerance for fatty foods, eating the wrong thing can lead to short- and long-term medical concerns such as diarrhea, vomiting and pancreatitis. Unconventional term medical concerns such as diarrhea, vomiting and pancreatitis. Unbalanced nutrients and associated health conditions.

**Consider the Calories**

Calories are just as important to your pet’s diet as they are to your own. The abundant supply of highly nutritious and high-calorie foods and the sedentary, low activity lifestyles in many cases, inevitably result in the storage of excess energy as fat. More than 90% of a pet’s daily caloric intake. Larsen pointed out that calorie-dense human food can exceed the 10% treat allowance quickly, so it is important to ensure these items are only consumed in small quantities. Reference food labels or visit the USDA website for information about the number of calories in specific foods.

Most commercial pet treat products are required to disclose the number of calories on the label. However, the calories in “animal part” treats such as rawhide, jerky and bully sticks are usually unknown and can be highly variable due to size and dietary content. These treats can also be associated with choking hazards, kidney injury, and Salmonella contamination, so it is important to evaluate these factors when choosing pet treats.

It is a good idea to discuss with your veterinarian whether specific treats are appropriate for your individual pet.

**WHAT TO DO IF A PET EATS SOMETHING TOXIC**

Despite your best efforts and watchful eye, it only takes a moment for a pet to get into something that they shouldn’t. Remember that every potential toxin is different and may require specific treatment.

“Don’t try to treat a possible toxicity problem at home,” Larsen said. “Don’t try to make your pet vomit. In some cases, it can actually cause more damage.”

Call your veterinarian or poison control center immediately. The sooner your pet receives treatment, the better the chance for a successful outcome.


**TOP FIVE TIPS**

- Keep treats to 10% or less of pet’s daily caloric intake.
- Beware of hidden ingredients, excess salt and xylitol.
- Don’t offer grapes, raisins, chocolate, or foods containing caffeine or extra fat.
- Be informed about the risk of raw foods due to potential bacterial contamination.
- Understand your pet’s individual sensitivities to various foods.
Imagine an extraordinary evening to celebrate UC Davis’ 75 years of leading veterinary medicine. On June 29, 2024, the school will commemorate this anniversary with a gala at the iconic Memorial Auditorium in Sacramento—honoring three-quarters of a century of providing exceptional animal care and preparing top-tier veterinary medicine students for careers and service.

Molly Mettler, Class of 2024, cherishes her dog Kenny, who has been her constant companion since she adopted him during her sophomore year as an undergraduate student. Photo: Mike Bannasch

The Sacramento Memorial Auditorium opened to the public in 1927 and is one of the most recognizable and beloved buildings in the region.
In our spring issue, we brought you some of the top clinical and research accomplishments from the past 75 years. Here, we delve into the most current and advanced technologies that will take us into the future.

Top Clinical/Research Advancements Shaping the Future of Veterinary Medicine

By Rob Warren

Artificial Intelligence

Veterinarians at UC Davis have developed algorithms using artificial intelligence (AI) to detect two significant diseases in dogs—Addison’s and leptospirosis. For Addison’s disease, they used routine blood work from more than 1,000 dogs to train an AI program to detect complex patterns that indicate the presence of the disease. Their algorithm for Addison’s disease is more than 99% accurate. Next, the team developed an AI prediction model for leptospirosis, which can cause kidney failure (requiring dialysis), liver disease, and severe bleeding into the lungs. When recognized early, the disease can be treated effectively in 90% of dogs. Blood samples from more than 400 dogs, which included only nine that were positive for leptospirosis, were used to train an AI program. When completed, the program achieved 100% sensitivity, correctly identifying all nine samples. Quicker detection through AI will allow veterinarians and pet owners to make critical decisions in a timely manner. These breakthroughs hold tremendous potential for the development of future AI tools to optimize detection of other veterinary diseases. Read more about the uses of AI in veterinary medicine in our feature story on page 8.

Advancing Equine PET Scan Technology

In 2015, the world’s first equine positron-emission tomography (PET) scan was completed at UC Davis on the leg of an anesthetized horse. Radiologists, working with private industry, continued to advance this new technology, and in 2019 created the first standing PET scanner that only requires a horse to be mildly sedated. After many prototype iterations, the current MILE-PET® scanner was developed. Research has confirmed the value of PET, especially in the horse racing industry, and the technology has proven superior to bone scans in assessing the racehorse fetlock. PET also demonstrated its ability to monitor injuries over time, predict the amount of time needed to heal, and help prevent catastrophic breakdown injuries. Thanks to UC Davis’ success in pioneering PET scanners are now in place at some of the most renowned racetracks in the world, including Santa Anita Park and Churchill Downs, as well as leading equine hospitals such as Kentucky’s Rood & Riddle Equine Hospital (founded by UC Davis alumnus Dr. Bill Rood) and the World Equestrian Center Hospital in Florida.
Over the past five years, Orthopedic Surgery Seneca faculty have taken their program to new heights. With greater demand for their services, the school recently opened the Center for Advanced Veterinary Surgery (see page 34). As some of the foremost authorities on orthopedic surgeries, their translational research is setting the standard of care for their specialty. One of the most sought-after surgeries is a total hip replacement, now able to be performed using custom-fitted, 3D-printed titanium implants. One of the first UC Davis patients to receive this new type of hip implant was Dexter, a German shorthaired pointer, who had been hit by a car. Utilizing exact measurements of Dexter’s anatomy from a CT scan, a new hip was crafted, consisting of a cup affixed to his pelvis using two cortical screws and two locking screws, and a custom stem implanted in the top of his femur. With many breeds predisposed to hip disorders, these surgeries hold great promise for healthier extended lives.

The biggest benefit to care at UC Davis is the collaborative nature of the hospital. Faculty from multiple specialties routinely work together on cases. Advancements in surgery, diagnostic imaging, oncology, critical care, and more are a direct result of this. It took a significant collaboration recently to save Davis, a 3-day-old thoroughbred foal unable to stand. Initial tests showed evidence of sepsis in his joints and bones, a dangerous inflammatory reaction to a widespread infection. He was hospitalized for three weeks, receiving aggressive antibiotic and supportive therapies including a plasma transfusion, as well as arthroscopy and flushing of his infected joints. Long-term antibiotics were continued, and he had an excellent outcome. His care team included board-certified specialists and residents from the Equine Field, Internal Medicine, Medical Emergency, Critical Care, Neuroradiology, Diagnostic Imaging, Surgery, and Anesthesia Services, as well as support from the Transfusion Medicine Laboratory, Clinical Diagnostic Laboratory, Pharmacy, and dozens of technicians and students. This collaborative group worked tirelessly around the clock to bring Davis to health. Very few equine hospitals have the extensive team in place to handle all aspects of a case like this in-house. The level of equine care at UC Davis looks to scale even higher with the creation of the Equine Performance and Rehabilitation Center in the coming years.

The use of real-time imaging modalities to perform minimally invasive procedures—known as interventional radiology (IR)—is revolutionizing surgeries for companion animals. The Soft Tissue Surgery Service is a world leader in this field and has created many therapeutic breakthroughs. Zeke, a 14-year-old beagle/cocker spaniel mix, traveled from Colorado for liver cancer treatment. His owners chose to enroll him in a clinical trial assessing a minimally invasive method of eliminating a tumor’s blood supply. Additionally, this novel therapy involved delivering chemotherapy directly to the tumor. Once the blood supply to Zeke’s tumor was mapped during the procedure, the tumor was accessed through minimally invasive fluoroscopic guidance (real time “X-ray”). Catheters placed into the femoral artery were guided by imaging to the tumor. Embolic beads were injected, causing a blockage of the vessels that directly fed the tumor, thereby cutting off its blood supply and accompanying nutrients. The goal of the procedure is to shrink the tumor, prevent further growth, and improve Zeke’s comfort and quality of life. Additionally, the use of minimally invasive surgical and IR techniques is utilized for sentinel lymph node mapping and biopsy procedures, thermal ablation of cancer, the use of intraoperative near-infrared imaging, laparoscopic and thoracoscopic diagnostic and treatment options, and many other ways of improving animal health.

Expanding Orthopedic Surgery

Revolutionizing Soft Tissue Surgeries

Collaborative Care

Advancing Equine Reproduction
Expanding Emergency Care

Admittances to the UC Davis veterinary hospital’s emergency room (ER) have more than doubled since immediately before the pandemic. Historically, the ER caseload has increased tenfold since 2013, seeing an average of more than 900 cases per month in 2022, with some months seeing more than 1,200 patients. To help meet demand, the hospital opened a new ER and intensive care unit (ICU) totaling approximately 1,600 square feet, nearly doubling its previous size. Funded entirely by donations, the new facility optimizes patient care and expands opportunities for students and emergency specialists. Recent patients to the new ER included a cat with renal failure after a toxic ingestion, a dog with intervertebral disc disease that ultimately needed neurosurgery, and a sloth named Suzy from the SeaQuest Aquarium who was not responding to the new ER continued for several days of hospitalization, supportive care, and a new diet, Suzy recovered from her illness and regained muscle mass and body weight.

Breakthroughs in Cancer Treatments

Novel cancer treatment breakthroughs are continually being discovered thanks to new technologies and a robust clinical trials program. The recent acquisition of an electrochemotherapy device to treat tumors on or just under the skin is proving to be a valuable alternative method of care. The treatments involve administering chemotherapy drugs intravenously then sending electrical pulses into the tumor area. The electric current creates pores in the tumor’s cells, allowing a higher percentage of the chemotherapy agent to enter the directed area, killing the cells and preventing cell division. Other innovative cancer treatments involve immunotherapy—activating the body’s natural killer cells to fight off the growth and spread of cancer. Several clinical trials are investigating the concept, including the use of interleukin-15, a protein inhaled by patients. Tyson, a 10-year-old pit bull terrier mix, saw tremendous results from the trial, which helped stimulate his immune system defenses against his cancer. Tyson is helping bring attention to the science of comparative oncology, which is creating a unique partnership between UC Davis Veterinary Medicine’s Center for Companion Animal Health and UC Davis Health’s Comprehensive Cancer Center, as the two research centers combine forces to fight cancer in both animals and people.

Advanced Ophthalmic Treatments

A cherished member of the UC Davis family was the first canine patient to benefit from new equipment in the Ophthalmology Service. Pint, the retired tee retriever at UC Davis football games, is predisposed to the growth of benign tumors on his eyelids. Thanks to a new diode laser, ophthalmologists removed Pint’s tumors with an outpatient procedure, and he is recovering well. For most procedures, a dye is injected into the surgical site prior to use. This dye holds therapeutic properties that are activated by the laser in response to a specific wavelength. As in Pint’s procedure, the surgery site cannot be closed with sutures, but the use of the laser is superior to an alternative cryosurgery procedure by creating an immediate scab that protects the area from infection, and results in less post-surgical swelling. Most procedures can be accomplished with only sedation, and the technology can be used to treat cancer in and around the eye, as well as many other ocular diseases including glaucoma, iris cysts, distichiasis (growth of extra eyelashes), and laser retinal reattachment. Its use in veterinary medicine is scarce, with few hospitals offering this technology.

Elite Level Cardiology Care

With decreased heart function, bulldog Snoopy was at risk of heart failure. He was previously diagnosed with a leading canine congenital defect—severe pulmonary valve stenosis. A balloon valvuloplasty procedure to correct the improper flow of blood out of his heart had failed (not unusual for his breed). An extremely rare alternative is stenting the valve, a procedure now performed at UC Davis. Less than 10 veterinary teaching hospitals perform this minimally invasive procedure that accesses the heart intravascularly. Snoopy recovered well, and his heart is showing significant improvement. Another cutting-edge cardiac procedure, just beginning at UC Davis, and rarely performed elsewhere, is an electrophysiology program, which allows cardiologists to electrically map the heart and identify the cause of arrhythmias (abnormal heartbeats which can cause sudden death). Prior to this equipment’s arrival, clients needed to seek the procedure on the East Coast or pursue medical therapy alone, which is often not a long-term solution. Instead of trying to control the abnormal rhythms with medications, this procedure identifies the affected cells and scars them with an ablation treatment, eliminating their ability to fire abnormally.
When your dog is uncomfortable and needs an orthopedic surgery, the last thing you want to deal with is a significant wait time for an appointment. Unfortunately, due to an increase in pet ownership during the pandemic and a steady increase in caseload, the Small Animal Orthopedic Surgery Service has experienced a continual backlog of patients. To address this unprecedented growth and the need for more surgery space, the UC Davis veterinary hospital will open the Center for Advanced Veterinary Surgery (CAVS). Ideally situated just steps north of the veterinary hospital, CAVS encompasses 6,600 square feet of space including three large operating rooms. The center can accommodate a growing caseload associated with surgical treatment advances, as well as reduce the backlog of referred cases that cannot be accommodated in the hospital’s existing surgical suites. “As the nation’s top-ranked veterinary school, we had a bold vision to create a state-of-the-art facility dedicated to providing life-changing surgical treatment for dogs, cats and other beloved companion animals,” said Dean Mark Stetter. “Our surgical specialists set the bar for innovative treatments, including total hip replacements with the ability to create custom, 3D-printed titanium implants if necessary. We are motivated to grow our capacity to lead a rapidly evolving field to even greater heights.” Completed entirely with donor funds, the center will be able to help more dogs like Sky, a 2-year-old female Siberian husky treated at UC Davis. Sky’s right femur had dislocated from her hip joint, which showed chronic degenerative changes. Dr. Denis Marcellin-Little, one of the nation’s foremost authorities on hip replacement surgeries, used a stem implant in Sky’s femur that interacts with a cup implanted in her pelvis. Performing Sky’s hip replacement in the early stages of her degenerative disease prevented further complications later in life. UC Davis is one of few veterinary facilities in the world that can perform this critical procedure. CAVS will allow clinicians to bring exceptional care to more patients like Sky, while breaking new ground in surgical innovation. When it opens in November, the center will provide the ability to treat more animals suffering from injuries or disorders of the bones and joints. The Orthopedic Surgery Service’s average caseload has increased at a rate of 15% per decade for the past 30 years. Currently, there is a four- to six-week wait time for orthopedic surgeons to address non-life-threatening conditions. CAVS will provide orthopedic surgeons with even greater access to the most innovative technologies and surgical instruments to treat patients. It will accommodate advances in surgical instrumentation, anesthesia and monitoring equipment, and cross-sectional imaging equipment to support sophisticated procedures in small animals. The center will also enhance opportunities for the next generation of specialists through resident and fellowship training, amplifying UC Davis as the leading house officer program in the country. “The Center for Advanced Veterinary Surgery is positioned to be a premier destination for orthopedic surgeons and pets in need of their specialized care,” said Stetter. “Through CAVS, our world-renowned specialists will continue to expand the reach of exceptional surgical care and forge new paths to helping companion animals enjoy optimal health.” To learn more about the CAVS, please contact our Advancement team at 530-752-7024.
Boaz Arsi, DAVDC, DEVDIC, DVM, was accepted as an affiliate member to the American Society of Temporomandibular Joint Surgeons, making him the first veterinarian accepted into the society. Membership requires significant surgical experience and an interest in performing research or clinical studies of orofacial disease or dysfunction of the temporomandibular joint system. Arsi was also honored with the 2023 American Veterinary Medical Foundation’s EveryCat Health Foundation Research Award. Established in 2009, the award honors a candidate’s contribution to advancing feline health through their research.

Chris Brandt, DVM, received a Golden Sustained Impact Award at the 2023 UC Tech Conference by the UC Tech Awards Program. This award recognizes an individual who has contributed significant expertise, passion and commitment to UC over a sustained period of time, as evidenced by a portfolio of work supporting the technology arena. As Chief Information Officer at the School, Brandt has spearheaded the adoption of cutting-edge technologies that have revolutionized operational, teaching and learning experiences, as well as created innovative digital tools that have empowered students, faculty and staff.

Kate Hopper, Ph.D., DACVECC, was awarded for the 2023 Zaslow Distinguished Service Award by the Veterinary Emergency and Critical Care Society (VECCS). This award recognizes an individual who has demonstrated exceptional commitment and dedication while making significant contributions to VECCS and the practice of veterinary emergency and critical care.

Barry Kippelman, DACAW, DACVIM, DVM, was honored with the Shomer Award for Veterinary Ethics by the Society for Veterinary Medical Ethics. This award recognizes an individual who demonstrates ethical values in all aspects of their work and who has made significant contributions to the discipline, which encompasses all aspects of veterinary care. Kippelman is also an active member of the society’s Ethics Committee, and his work has focused on ethical issues in veterinary medicine.

Catherine Outerbridge, DACVD, DACVIM, DVM, was honored with the Kri Award by the American Academy of Veterinary Dermatology. This award is given to individuals who have made significant contributions to the field of veterinary dermatology.

Phillip Mayhew, DACVS, received the 2023 Simon Award of The British Small Animal Veterinary Association, which recognizes his outstanding contributions to the advancement of small animal surgery as a veterinary surgeon specialized in soft tissue surgery of dogs and cats. Mayhew has pioneered minimally invasive surgical techniques to provide pain-free and scarless surgery for animals, and he is known for his advocacy of pain management and minimizing stress in veterinary patients.

Jonna Mazur, DVM, MVPM, Ph.D., was awarded the K.F. Meyer/James H. Steele Gold-Hoisted Canine by the American Veterinary Epidemiology Society. Dating to 1964, this award recognizes career accomplishments and contributions to veterinary epidemiology, public health, and One Health. Recognized as a global leader in One Health Initiatives, Mazur serves as the Vice Provost of Global Challenges, helped found the UC Davis One Health Institute, and remains active in international One Health education, service, and research.

Stuart Meyers, DAC, DVM, Ph.D., received the annual David E. Bartlett Lifetime Achievement Award from the Society for Thearlogology. The award recognizes an outstanding individual who has made significant contributions to the discipline, which encompasses all aspects of veterinary care. Meyers is also a member of the society’s Ethics Committee, and his work has focused on ethical issues in veterinary medicine.

In Memoriam

Arthur Bickford, M.S. ’64, Ph.D. ’66

June McCawley, DVM ’55, MPVM ’60

Honors and Awards

The UC Davis School of Veterinary Medicine kicked off its 75th anniversary over the course of a beautiful spring weekend with a host of celebrations and activities. Friday began with a luncheon for key donors and guests—including Dr. George Puterbaugh from the inaugural Class of 1952. Sunrock and the triathlete pup, Cori, were on hand to greet guests as they arrived. Dean Mark Stetter presented Valerie and Larry Casey with the El Blanco Award—one of the school’s highest honors that animal owners and other benefactors have made to advance animal health and well-being.

Dr. Crystal Rogers served as master of ceremonies while the luncheon continued with a panel discussion on recent scientific discoveries and the future direction of veterinary medicine. Guests then had the opportunity to visit the veterinary medicine campus and listen to presentations on curing cancer in dogs and humans, saving shelter animal lives and helping animals during disasters. Saturday afternoon concluded with tours of the Advanced Veterinary Surgery Center and the Gourley Clinical Teaching Center.

That evening, our greater veterinary community gathered with alumni for a BBQ accompanied by live music from a band that included faculty members Brian Leonard and Scott Katzman. Dean Mark Stetter thanked everyone for joining in the celebrations and highlighted Mieko Temple members Brian Leonard and Scott Katzman. Dean Mark Stetter thanked everyone for joining in the celebrations and highlighted Mieko Temple.

Dean Mark Stetter presented the 2023 Zaslow 75th anniversary poster design. Everyone for joining in the celebrations and highlighted Mieko Temple.

On Saturday evening, alumni gathered for a celebration dinner—that began with a standing ovation for Puterbaugh—and the presentation of the Alumni Achievement Awards to Dr. Roxann Brooks Motroni, Ph.D. ’12, DVM ’13; Dr. Kimberly Dodd, Ph.D. ’14, DVM ’15; Dr. Jeffrey Boehm, DVM ’10; Dr. Laurel Gershwin, DVM ’71, Ph.D. ’79; and Dr. Christopher Murphy, DVM, Ph.D. ’84.

The school’s position as a national leader in veterinary medicine is made possible by the generosity and dedication of individuals who built the school’s foundation and continue to advance veterinary medicine today. Their commitment to a world-class institution continues to be reflected in our research facilities, classrooms, clinics and beyond—making a difference for animals, people and our planet.

In the School of Veterinary Medicine with surprise (two- and four-legged) guests in this monthly video series.

Don’t miss an episode.

Celebrating 75 Years!

On Saturday evening, alumni gathered for a celebration dinner—that began with a standing ovation for Puterbaugh—and the presentation of the Alumni Achievement Awards to Dr. Roxann Brooks Motroni, Ph.D. ’12, DVM ’13; Dr. Kimberly Dodd, Ph.D. ’14, DVM ’15; Dr. Jeffrey Boehm, DVM ’10; Dr. Laurel Gershwin, DVM ’71, Ph.D. ’79; and Dr. Christopher Murphy, DVM, Ph.D. ’84.

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Dean Mark Stetter discusses current topics in the School of Veterinary Medicine with surprise (two- and four-legged) guests in this monthly video series.

Don’t miss an episode.

In Memoriam

Arthur Bickford, M.S. ’64, Ph.D. ’66

June McCawley, DVM ’55, MPVM ’60

With Mark

Dr. George Puterbaugh, from the inaugural Class of 1952, with his wife Sharon.

Photo: Trina Wood
通使2023

祝贺到2023年收到学位的他们在学校的第73届毕业典礼上在蒙大拿中心举行于5月26日。其中那些

mansgraduatingwere144DVMstudents,23residentsand15studentsintheMasterofPreventive

Veterinary Medicine program.

Dr. Terrence Ferguson and Vernard Hodges, hosts of the popular Critter Fixers series on Disney+ and Nat Geo WILD, served as guest speakers. They shared their journey from growing up in rural Georgia to veterinary school at Tuskegee University to celebrity veterinarians with a worldwide following. They credited their success with the supportive team of people they have chosen in their lives and pouring from full cups.

"We see giving back and pouring into others as our responsibility, and we are happy to do it," Ferguson said. "We have an incredible team of people who work to lift us up, and that's the only way we can do what we do. Investing in other people not only helps them, it helps you too."

Dr. Ferguson and Dr. Hodges

他们发表他们的看法

They closed their remarks with the following charge to the new graduates:

- Do good work;
- Practice good medicine;
- Never stop learning;
- Help as many people as you can;
- Enjoy the journey!

他们发表了论断

Dr. Ferguson and Dr. Hodges

Endowed Chair to Improve Access to Care

PetSmart Charities will support a $6 million endowed chair at the veterinary school, marking the largest gift to date made by the nation’s top funder of animal welfare to bolster access to veterinary care.

The new PetSmart Charities Endowed Chair in Accessible Veterinary Care will leverage UC Davis’ breadth of research strengths to continue to build innovative, compassionate care for all pets, ensure hands-on clinical training for veterinary students, and develop research models that can scale nationwide. UC Davis has delivered innovative, low-cost veterinary care to underserved rural and urban communities for years through the Knights Landing One Health Clinic, the Mercer Clinics in Sacramento and Davis, and Covelo Clinic in Mendocino County.

UC Davis School of Veterinary Medicine was chosen to receive the gift for its sustained priority of improving access to veterinary care and integrated approach to student training. Our experience in serving communities in need and committing to attracting a more diverse population of students to the field also made for an ideal match in supporting PetSmart Charities’ initiatives. The school is in the process of filling the chair through a national hiring process.

"I’m thrilled to join forces with PetSmart Charities to make a greater impact on an issue that affects many animals and their owners," said Dean Mark Stetter. "Together, I believe that we can advance new models that can expand veterinary care to those who need it most."

Dr. Pascoe Leaves a Legacy

After 40 years of service to the school, Executive Associate Dean John Pascoe celebrated his retirement this year. He joined the faculty in 1983 and served as professor of surgery, chair of the Department of Surgery and Radiological Sciences, and chief of the Equine Surgery Service.

He is also a diplomate of the American College of Veterinary Surgeons.

Pascoe served as associate dean for academic programs prior to becoming executive associate dean—a post that gave him broad responsibility for academic leadership, academic and facilities planning, and academic personnel administration, along with development and stewardship of the school’s resources, programs and infrastructure.

Throughout his career, Pascoe has served as a mentor, inspiring students and early-career professionals to aim high, in ways that would impact the profession and benefit the world. He also ensured that art appears prominently across the school to balance the rigors of the sciences with the beauty of life itself.

Congratulations, Dr. Pascoe! We wish you many happy adventures in the outdoors as you enjoy a well-deserved retirement. You will be missed, but your legacy will continue to impact the profession for years to come.

Jenn Cossaboon, Chase Garcia, Erin Hisey and Aryana Razmara

他们批评了对当地的批评

他们提出了对的批评

他们提到了对的批评

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他们评论了对的评论
Silke Hoffmann  
Class of 2024  

By Amy Young

“You form your dreams when you are a child. If you dream of becoming an equine veterinarian, you are more likely to become one.”

— Silke Hoffmann

Silke Hoffmann spent a lot of time in Germany as a child and was enamored with a bay horse that lived in a field behind her grandmother’s house. As all horse-crazy girls do, she eventually convinced her parents to let her take riding lessons. Being on the back of a horse helped plant the idea of becoming a veterinarian.

When Hoffmann later attended Cal Poly Pomona as an undergrad, she joined the school’s Intercollegiate Horse Shows Association team and worked as a veterinary technician for an equine veterinarian. For Hoffmann, that job was the key to knowing she was on the right path.

“It’s a service industry that really helps people,” Hoffmann said. “I enjoyed the science and the critical thinking. The pieces all made sense to me. I have never doubted my choice.”

She also credits the experience with teaching her about the realities of the job, from the challenge of late nights to the satisfaction of making a difference in people’s lives.

Hoffmann did not have pets growing up, so prior to her experience as a veterinary technician she had never visited a veterinary clinic.

“It’s really hard to not have that classic ‘horse girl’ experience,” she said. “It still makes me a little insecure. What has really helped is having mentors who believed in me.”

Her advice for others in similar positions is to find good mentors and a community to lean on.

“Try it and see if you like it,” she advised. “You have to be brave. Don’t be afraid to struggle in the beginning. It will only make you a stronger veterinarian, and a stronger person, in the end.”

Although she is the only one in her equine track cohort that identifies as Asian American Pacific Islander, Hoffmann says they all come from different backgrounds and have become very close as a group. She fosters these relationships through her many service roles: co-president of the Equine Medicine and Equine Theriogenology Clubs, a vice-president for the Class of 2024, and a School of Veterinary Medicine Student Ambassador.

In her free time, Hoffmann loves to read and is an avid fan of science fiction. She adopted a German shepherd from a shelter during her first year in vet school, naming him Kylo (after Kylo Ren in Star Wars). Other hobbies include watching Netflix and hanging out with friends.

Hoffmann is planning to pursue a rotating equine internship after graduation, followed by an equine theriogenology or internal medicine residency. Ultimately, she wants to work at a multi-doctor practice—ideally one that prioritizes work-life balance for their employees—doing emergency critical care work or theriogenology. She cites supporting fellow veterinarians and making salaries more competitive as ways to ensure that practitioners remain in equine medicine.

She is passionate about the need to expand opportunities for children of different backgrounds as a key to motivating future students to become equine veterinarians.

“You form your dreams when you are a child,” said Hoffmann. “If you dream of becoming an equine veterinarian, you are more likely to become one.”

In photo to the right, Silke Hoffmann bandages a horse’s leg under the supervision of Dr. Julie Dechant during her clinic rotation with the Equine Surgical Emergency and Critical Care Service. She adopted Kylo (pictured above) during her first year of veterinary school. Courtesy photo.

Photo by Mike Bannasch

In photo to the right, Silke Hoffmann bandages a horse’s leg under the supervision of Dr. Julie Dechant during her clinic rotation with the Equine Surgical Emergency and Critical Care Service. She adopted Kylo (pictured above) during her first year of veterinary school. Courtesy photo.

Photo by Mike Bannasch
Giving in Action

“Livestock medicine is an unexpected passion, but one I’ve truly fallen in love with. I am incredibly thankful to our donors for the scholarships I have received. That support helps me focus on learning and gaining the skills I need to contribute to this field that has become my second home.”

– Isabel Vaishampayan
Class of 2025
Student American Veterinary Medical Association President
Class of 2025 Co-President
Class of 2025 Legislative Liaison
Student Ambassador

Scholarships invest in the world’s brightest veterinary students like Isabel, who will lead the way in caring for animals, people and the environment.

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