



Leading Veterinary Medicine, Addressing Societal Needs

## Updates and Impacts June 2016

### COMMENCEMENT 2016



The school held its 65th Commencement Ceremony in May at the Mondavi Center where 137 DVM students, 33 residents and six MPVM students received their degrees. The School Medal, the school's highest honor for graduating students, was shared this year due to a tie - both Allison Gagnon and Maureen Griffin received the medal in recognition of their outstanding academic and clinical performance.

Dr. John Stuelpnagel, a veterinarian and chair of 10x Genomics, Inc. provided the commencement address, urging students to search out their passions, enjoy the path of discovery, and embrace changes they find in themselves.

Matthew Wooddall represented the class as their student speaker, evoking both laughter and tears. He overcame childhood cancer and a long road to get to veterinary school. In addressing the crowd, Wooddall noted that the graduating class included a three-time Olympian, many first-generation college grads and a mother of twins (who excelled academically). In searching commencement speeches, Wooddall realized that most of them ended with a challenge. At that time, he began speaking about the high rate of suicide among veterinarians, recalling the death couple of years ago of the school's beloved behaviorist, Sophia Yin.

"While we are no longer classmates, we will always be family," he said. "Reach out when you need someone—it's on each of us to pay attention and to be there for someone if they reach out. As a family we owe it to each other. We lose no one to depression and suicide—not one. That is my challenge to all of you."

As part of the ceremony the [2016 Alumni Achievement Award recipients](#) were honored. This year the following distinguished alumni were selected to receive this award:

- *T. Douglas Byars*, in recognition of his outstanding contributions to the evolution of equine veterinary practice, especially equine internal medicine and critical care (award presented posthumously).
- *Ian Gardner*, in recognition of his outstanding global contributions advancing the discipline of veterinary epidemiology.

- *Linda Logan*, in recognition of her outstanding leadership and contributions to the global community through the promotion of animal health and international understanding.
- *Danny Scott*, in recognition of his pioneering clinical discoveries in veterinary dermatology.

## STATE OF THE SCHOOL 2016



In his annual [State of the School Address](#), Dean Lairmore began by looking at the recent UC publication, “An Era of Change,” which provides a closer look at the veterinary workforce in education and practice. One of the largest challenges for students entering the profession is the economic burden of financing their degree. UC Davis is ranked lowest among U.S. schools for the debt-to-cost ratio. The school’s strong philanthropic partnerships are critical in offsetting these costs by providing support--70 percent of UC Davis veterinary students receive scholarships and financial awards, totaling \$6.7 million in total support.

Dean Lairmore shared his excitement about plans for a new Veterinary Medical Center and how that new facility will enable the clinical faculty and staff to better serve patients of the veterinary hospital that was originally designed in 1969 for 3,000 patients and now sees more than 50,000 annually. He also announced that he had just accepted an invitation from Acting Chancellor Ralph Hexter to continue his service as [dean](#).

In his presentation, Dean Lairmore highlighted the activities and accomplishments of the school community during this past academic year, including:

- Maintaining the #1 spot in veterinary sciences in the latest QS World University Rankings, considered to be one of the most influential international university rankings providers based on scholarly metrics.
- Increase in diversity among incoming class—42 percent are from under-represented minority groups or self-identify as multi-ethnic; UC Davis consistently ranks among the top three among all veterinary colleges/schools in student diversity.
- Success of VetMedJobs in matching graduates with job opportunities. This year, there were 373 jobs posted vs 88 last year, thanks to the Career, Leadership and Wellness Center.
- Emphasis on wellness for students. Launch of Each Aggie Matters campaign to promote awareness and support mental health.
- Increased attention to One Health, in part due to articles like the one in Science Translational Medicine that reaches a human medicine audience to highlight parallels between veterinary and human patients with related naturally occurring diseases.
- Advances in companion animal medicine such as: minimally invasive soft tissue surgery techniques, thermal ablation to treat canine tumors, stem cell therapy to treat chronic feline gingivostomatitis, alternative treatments for canine subaortic or pulmonic stenosis.
- New services for large animals such as: equine ophthalmology services, embryo transfer for Gascon cattle, equine dentistry, and expert neonatal care for foals.
- Huge team effort to rescue and care for animals impacted by the devastating Butte and Valley fires in September of 2015. More than 150 faculty and staff members helped with these efforts.
- Construction of a new Student Services and Administration Center, to be completed later this year.
- Another record year in philanthropic gifts with a total of more than \$71 million from 7,396 gifts.

To access the State of the School Address: <http://www.vetmed.ucdavis.edu/whatsnew/article.cfm?id=3531>

## NEW FACULTY



**Dr. Arathy Nair** recently joined the [California Animal Health and Food Safety Laboratory System](#)-San Bernardino and the [Department of Pathology, Microbiology, Immunology](#) as an Assistant Professor of Clinical Diagnostic Microbiology. Nair completed her veterinary training at Kerala Agricultural University, Thrissur, India. She received an MVSc in Animal Physiology from the Indian Veterinary Research Institute and a PhD in Biotechnology from Rajiv Gandhi Center for Biotechnology. Nair will be responsible for managing the activities of the Bacteriology Section, including the regulatory dairy pathogen monitoring program, the Milk and Dairy Microbiology Laboratory and the Milk and Dairy Chemistry Laboratory. She will provide consultative advice and specialist information to veterinarians, producers, and government agencies.

**Dr. Roger Sciammas** recently joined the [Department of Anatomy, Physiology and Cell Biology](#) and the [Center for Comparative Medicine](#) as an Assistant Professor/Assistant Professor In-Residence. Sciammas is an expert on regulatory molecules that control antibody responses from the immune system. His laboratory focuses on genetic and molecular analyses of transcription factors that regulate the differentiation of B and T cell function that enables antibody responses. His group has identified key molecular mechanisms that coordinate the recognition of antigen with the quality and quantity of antibody that is produced during the ensuing immune response. Before joining UC Davis, Sciammas led a research group at the Houston Methodist Research Institute. He received a BS in Microbiology/Biochemistry from UC Irvine and a PhD in Immunology from the University of Chicago. Sciammas' goals are to define new mechanisms that regulate the antibody response.



**Dr. Deniece Williams** joined the [Veterinary Medicine Teaching and Research Center](#) as a Dairy Production Medicine Clinician. She received both her DVM and MPVM degrees from UC Davis. Williams is a veterinarian with advanced training in livestock herd health and preventive medicine, and has several years of private dairy herd health practice experience in California. She will teach in the DVM curriculum, provide graduate clinical training, and work with faculty, residents and students to facilitate team development and research in the areas of Dairy Production Medicine and Herd Health. Williams will provide clinical veterinary herd health and reproductive services. Her research interests include neonatal calf disease, bovine respiratory disease (BRD), mastitis, and epidemiology of infectious disease in dairy cattle.

## NEW LEADERS

**Dr. Jane Sykes** has been appointed as the Chief Veterinary Medical Officer (CVMO) of the [William R. Pritchard Veterinary Medical Teaching Hospital](#) (VMTH). She will also serve as Associate Dean of Veterinary Medical Center Operations. As Director, Sykes has administrative responsibility for the management and fiscal integrity of the VMTH, ensuring the academic quality of the clinical learning environment for DVM students and house officers and provision of state of the art clinical care and operational efficiency of all academic and clinical service activities. Sykes is a veterinarian, specialty boarded in Internal Medicine with research focus in infectious diseases of small animals. She is an international authority on infectious and immune mediated diseases in dogs and cats, holds leadership positions in several national and international professional organizations, and was recently appointed to a national taskforce on antimicrobial stewardship in companion animal medicine. Prior to this appointment she was Interim Director and served as Small Animal Clinic Director of the VMTH.





**Dr. Maurice Pitesky** has been appointed as Assistant Director for [Veterinary Medicine Extension](#). Pitesky obtained his BS in biology from the University of California, Los Angeles, his MS in agriculture from California Polytechnic University, San Luis Obispo and his DVM and MPVM from UC Davis. He is currently an Assistant Specialist in the Veterinary Medicine Cooperative Extension Program with a focus on poultry health and food safety epidemiology. He will help the school elevate the visibility of Veterinary Medicine Extension among key clientele throughout California, nationally, and internationally, help strengthen the school's research and outreach programs among the poultry and other key livestock industries,

showcase Cooperative Extension and AES faculty projects, and be the lead contact for UC Davis state and federal relations.



**Dr. Bruno Pypendop**  
Department Chair  
Department of Surgical and Radiological Sciences



**Dr. Rachel Pollard**  
Vice-Chair

Department of Surgical and Radiological Sciences

As [Department](#) Chair, Pypendop will be the department representative at meetings requiring attendance of department chairs, is responsible for academic personnel actions for I&R faculty and Academic Federation appointees, oversight and management of departmental budget and staff, allocation of space, and all other department matters not assigned to the Vice-Chair. A board certified veterinary anesthesiologist, Pypendop is recognized nationally and internationally for his scholarship on the pharmacodynamics and pharmacokinetics of anesthetics and analgesic drugs in small animals. He serves as the Chief of the Anesthesiology Service in the VMTH and is an accomplished and engaging teacher of professional students and house officers.

As Department Vice-Chair, Pollard will be responsible for academic actions in the Professor of Clinical \_\_\_ and Health Sciences Clinical Professor series, mentoring program for junior faculty, and oversight of departmental curricular matters. She will also serve as Chair when the Chair is not available. A board certified radiologist who provides diagnostic service in small animal radiology, ultrasound and cross-sectional imaging, Pollard has a particular interest in swallowing disorders of dogs, and using imaging techniques to evaluate organ function. Pollard is a highly respected teacher, including recognition by the class of 2015; she carries an above average teaching load, and is considered to be an outstanding role model by professional students and residents alike.

## CURRENT FACULTY RECRUITMENTS

- Professor of Clinical Analytical Chemistry (candidate identified)
- Professor of Small Animal Internal Medicine (candidate identified)
- Professor of Clinical Equine Ophthalmology (candidate identified)
- Professor of Developmental Cancer Therapeutics
- Professor of Neurology/Neurosurgery
- Professor of Clinical Pathology
- Professor of Dermatology
- Professor of Zoological Medicine
- Professor of Small Animal Emergency & Critical Care Medicine
- Professor of Arboviral Epidemiology
- Professor (50%: 25% CCM, 25% CNPRC)/Professor In-Residence of Infectious Disease (50%)

- Professor (50%)/Professor In-Residence (50%) of Respiratory Biology or Toxicology
- Health Sciences Clinical Professor in Community Practice (3 positions)
- Professor of Clinical Small Animal Soft Tissue Surgery
- Professor of Clinical Equine Surgical Emergency and Critical Care
- Professor of Clinical Small Animal Orthopedic Surgery
- Specialist in Cooperative Extension-Beef Cattle Herd Health and Production
- Director, California Animal Health and Food Safety Laboratory

## VISION FOR THE VETERINARY MEDICAL CENTER

The school's vision for the future includes the planning of the new Veterinary Medical Center (VMC), a place of discovery, innovation and healing. This state-of-the-art facility will transform the experience of our animal patients and their human companions through innovative building designs, coordinated patient care with experts in more than 34 specialties, and unique technical advances in diagnostic services. The facility will include a number of new buildings and renovation of existing facilities to achieve an optimum physical plant with a coordinated flow of activities and program adjacencies. Project construction will be choreographed to ensure that patient care operates smoothly throughout the 10-year phased plan. Planning efforts for the new VMC have identified a number of project groups to be constructed in sequence:



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|---|---|
| • Small Animal Clinic Examination Rooms (Remodel) | • Small Animal Hospital East Wing         |
| • Large Animal Support Facility                   | • Small Animal Hospital West Wing         |
| • Livestock and Field Service Center              | • Community Practice Consolidation        |
| • Equine Performance Center                       | • Equine Surgery and Critical Care Center |
| • All Species Imaging Center                      | • Equine Isolation                        |

Each of these structures will advance our ability to handle the hospital's large and challenging caseload, allow for the adoption of the latest technologies, and provide the infrastructure and efficient services to facilitate translational research.

## UC DAVIS JOINS 12 UNIVERSITIES CALLING FOR INCREASED FEDERAL INVESTMENT IN AG RESEARCH

Thirteen prominent research institutions in the United States joined the Supporters of Agricultural Research (SoAR) Foundation in calling for a surge in federal support of food and agricultural science. [Retaking the Field](#), the report released by this coalition, highlights recent scientific innovations and illustrates how US agricultural production is losing ground to China and other global competitors. Report: <http://supportagresearch.org/retakingthefield/>

"We are committed to advancing the health of animals, people and the environment," said Michael Lairmore, dean of the UC Davis School of Veterinary Medicine. "Investment in agricultural research is critical to our mission."

*Retaking the Field* looks at the importance of agriculture and its related industries to the US economy. According to the US Department of Agriculture, this sector was responsible for nearly 1 in 10 jobs in 2014 and contributed \$835 billion to the U.S. gross domestic product. Even though every public dollar invested in agricultural research provides \$20 in economic returns, the federal budget for agricultural research has remained flat for decades. Today, the US trails China in both agricultural production and public research funding.



The report highlights food safety research taking place at the UC Davis School of Veterinary Medicine. Through the 100k Genome Project, microbiologist Bart C. Weimer and his colleagues are building a library of known pathogens to rapidly determine the exact strain and source of outbreaks and food contamination to assist health authorities around the world responding to recalls.

“Researchers are discovering incredible breakthroughs, helping farmers produce more food using fewer resources, and keeping our meals safe and nutritious,” said Thomas Grumbly, President of the SoAR Foundation.

“However, the science behind agriculture and food production is starved of federal support at a time of unprecedented challenges. A new surge in public funding is essential if our agricultural system is going to meet the needs of American families in an increasingly competitive global market.”

Farming has never been an easy endeavor and today’s challenges to agricultural production are daunting. The historic California drought continues and US production is also threatened by new pests and pathogens, like the 2015 Avian Influenza outbreak that led to the culling of 48 million birds in 15 states and \$2.6 billion in economic damages.

“Every year, the director of national intelligence testifies before Congress that our national security is threatened by hunger in unstable regions,” said Tom Grumbly. “As the number of people on our planet continues to grow, we must produce more food. This cannot be done with yesterday’s science. We need a larger infusion of cutting-edge technologies.”

#### **WOODLAND POLICE K9 OFFICER PEYDRO RELEASED FROM HOSPITAL**

After nine days of hospitalization, following an emergency facial procedure and spinal surgery, Woodland (CA) [Police K9 Officer Peydro](#) was discharged from the veterinary hospital on June 6.



Peydro was critically injured on May 28 while attempting to apprehend a suspect who was fleeing on a bicycle. After chasing the suspect into an intersection, Peydro was struck by a vehicle, causing damage to his teeth and jaws (which will require surgery after his spinal injuries heal), as well as extensive damage to his vertebrae. Pins were placed in his lower back during a 4-hour surgery performed by UC Davis veterinary neurosurgeons. Peydro is able to walk, but he will require months of rehabilitation.

Among the group at Peydro’s release were representatives from the Foothills K9 Association, a non-profit organization established for the sole purpose of promoting the training, safety and health of law enforcement K9s. The organization has been tirelessly raising funds to cover Peydro’s hospitalization and rehabilitation. UC Davis’ Faithful Partner Fund is also contributing to the expenses.

Established in 2015 by the school and UC Davis Police Department, the Faithful Partner Fund assists with the medical costs of treating K9 officers, as well as search and rescue dogs, injured in the line of duty.

## HORSE RECEIVES HONORARY VETERINARY DEGREE FROM UC DAVIS

“Dr. Teddy” received an honorary degree from UC Davis for being a “Master Equine Educator” for the students, having helped them learn equine health at more than two dozen appointments and a lengthy stay at the school’s teaching hospital over the past year.

During his time at the school Teddy was seen for routine treatments such as vaccinations and deworming, but also more complicated issues such as stem cell treatments and a neurological disorder. Over the year, many veterinary students had the opportunity to learn from him.



“Teddy was the first patient I ever had on my clinical rotations,” said Class of 2016 DVM graduate Carin Stevens. “Signing up for your first patient is quite a nerve racking experience as you try to figure out how to go through the motions of being a fourth-year student and integrating all of the medicine you have learned up to that point. Teddy was the perfect patient.”

Teddy’s patience helped students with minimal large animal experience be comfortable around horses. His inherent interest in human companionship makes him an ideal horse for students to approach. He routinely walked students through various lessons in equine medicine including neurologic assessment, lameness evaluation, medication administration, behavioral and postural assessment, grooming, hand walking and much more.

“He would greet us with ears pricked forward, eyes bright, and an unspoken inquiry of what the day would hold,” said Dr. Claudia Sonder, director of the [UC Davis Center for Equine Health](#). “I stood with my team in front of him on numerous occasions to discuss his progress, evaluate his comfort level and remark upon his cheerful nature despite months of confinement. It was clear to us that he trusted us and enjoyed our companionship.”

“Teddy provided an exceptional educational experience for staff, students, residents and faculty from many hospital services,” said Dr. Larry Galuppo, chief, Equine Surgery and Lameness Service. “His care touched so many.”

“For Teddy to be the first equine to ‘graduate’ from UC Davis as a Master Equine Educator is beyond comprehension. We’re so grateful to everyone at UC Davis for Teddy’s care,” said owners Bob and Colleen Haas.

## UC DAVIS ACQUIRES FIRST EQUINE PET SCANNER

The UC Davis veterinary hospital recently acquired a positron emission tomography (PET) scanner, becoming the first veterinary facility in the world to utilize the imaging technology for equine patients. In association with the school’s [Center for Equine Health](#), the hospital will launch use of the PET scanner in the summer of 2016 for research and clinical studies on lameness diagnosis in horses.



While most other [imaging techniques](#) provide “morphological” information (identifying changes in size, shape or density of structures), PET is a “functional” imaging technique, observing activity at the molecular level – detecting changes in the tissue before the size or shape is modified. Once morphological changes have occurred, PET can tell whether the changes are still active or not.

“In practicality, that means two things,” said Dr. Mathieu Spriet, a UC Davis veterinary radiologist. “One, PET can detect lesions that other advanced modalities do not identify, and two, it can tell us if a lesion—identified with

another modality—is a significant injury or not.”

The equine PET scanner has produced initial data—obtained last year at UC Davis during a research project using a prototype of the new scanner—that demonstrates great success for equine bone imaging. Results:

- identified small areas of bone remodeling at the attachment of tendons or ligaments missed with other modalities
- showed increased activity in bone adjacent to joints, where degenerative changes are known to occur, before morphological changes were present
- revealed increased activity in some joint fragments whereas other joint fragments appeared quiet
- demonstrated that some areas of bone proliferation were active, whereas others were quiescent

PET has also shown great promise in evaluating soft tissue lesions, in particular regarding laminitis and tendon lesions. Research studies gathering further information in these specific areas will commence shortly at UC Davis. As more data becomes available, additional clinical trials will likely develop. Support for research projects and clinical trials involving PET, as well as the acquisition of the scanner, was provided by the Grayson-Jockey Club Research Foundation and private donations through the CEH.

## IMPROVING HUMAN AND ANIMAL HEALTH BY COMBATING ANTIBIOTIC RESISTANCE



Human and veterinary medicine professionals at UC Davis are constantly faced with determining proper treatment for their patients - whether it's an ear infection in a child or pneumonia in a calf - while working to minimize the misuse or overuse of antimicrobials (which include antibiotics) that could lead to antibiotic-resistance bacterial infections like MRSA. In fact, more than 150 human and animal health stakeholders, food companies and retailers have made commitments to implement changes in the coming years to slow the emergence of resistant bacteria and prevent the spread of resistant infections, as part of the White House's National Action Plan for Combating Antibiotic-Resistant Bacteria.

In spite of these efforts, antibiotic resistance continues to be one of the most serious health threats to both humans and animals. The problem – arising at the intersection of the health of humans, animals and the environment - is complex and often misunderstood. According to the CDC, each year in the United States at least two million people become infected with bacteria that are resistant to antibiotics; approximately 23,000 die annually as a direct result of these infections.

Humans aren't the only ones that experience resistance to antibiotics - animals do too, making it difficult to treat illnesses like pneumonia or mastitis. With the recent passage of California Senate Bill (SB) 27, veterinarians at the school are embracing a growing role in reducing antibiotic resistance. Veterinarians in California will soon have more oversight than ever before for the therapeutic use of antibiotics in livestock. The law supplements new FDA guidelines to phase out the use of antimicrobial drugs to promote growth in animals and places tough restrictions on all antibiotics used in livestock that are also medically important for humans. Research and public service programs at the school are also in place to improve food safety and safeguard animal and public health.

“Our programs help prevent unwanted drugs from entering the food supply,” said Terry Lehenbauer, director of the UC Davis [Veterinary Medicine Teaching and Research Center](#) in Tulare County. “And the training and education we offer is critical to helping the next generation of veterinarians properly use antibiotics in animals raised for food, like livestock and poultry.”



For example, the school is conducting research to find ways to reduce the routine use of medically-important antibiotics in dry cow therapy – a common treatment of antibiotics at the end of lactation to treat existing infections and prevent new ones in cattle. Its research also supports vaccine development that eliminates or reduces the need for antibiotics. The school conducts international outreach on food safety and antibiotic resistance in countries like China, and in coming years will provide training to California dairy producers to help them comply with the new guidelines resulting from SB 27. In addition, the [California Animal Health and Food Safety Laboratory System](#), a partnership between the school and the state Department of Food and Agriculture, provides surveillance and diagnostic testing on milk and dairy products for drug residues and antibiotics that may have been used to treat sick cows.

“Antibiotic resistance calls for a shared responsibility in reducing its impact,” Lehenbauer said. “We meet the challenge only by working together with our public health, physician and industry partners.”

## **EVENING OF GRATITUDE 2016: INVESTING IN FUTURE LEADERS**

“One of the most inspiring events that I have the privilege to oversee in my role as dean is our Evening of Gratitude,” Dean Michael Lairmore said. This annual celebration brings together our generous donors with student scholarship recipients. It is a night that reminds attendees of the value of philanthropy in the lives of our students. This was another record year for the school, enabling the distribution of \$2.5 million in student scholarships and another \$4.2 million in grants. We are deeply grateful for the generous support of our individual, association and corporate scholarship donors who made these new and continuing awards possible.

Many of our alumni support scholarships, especially through their reunion class celebrations; we now have 25 classes with endowed scholarships. Some scholarships honor a loved one, friend, or an animal patient who was treated in our hospital. After losing her longtime friend and colleague, Jan Boynton felt the best way to honor her memory was to establish the R. Darlene Murphy Endowed Memorial Scholarship. This year, we provided a very meaningful award for the first time, from the Whitney “Dr. Joy” Engler Financial Assistance Fund, made possible from a generous endowment established in 2015 by Dr. Michael Floyd (UC Davis, SVM Class of 1961) and Nancy Ehrlich. Whitney was weeks away from fulfilling her lifelong dream of becoming a veterinarian before her life was ended much too soon. Our hearts remain heavy after her loss and our memories of that moment in time became fresh at the ceremony. Whitney’s last night with us was at the Evening of Gratitude event last year. She was a bright star and student seeking out opportunities to build on her interest in animal behavior. Whitney is and will always be part of our shared journey. Whitney’s parents Virginia and Dennis, and close friend, Dr. Anjolie Daryani (UC Davis, SVM Class of 2015) were at the event to honor her memory and inspired all with their remarkable strength and grace.



Our student speaker for the night was second year student, Jose Guerrero Cota, who represented with his poignant words the meaning and impact of student scholarships. Jose is the recipient of a scholarship established from an endowment by Robert and Colleen Haas to honor Francisco Pancho Lopez for his lifelong dedication to equine health and well-being.

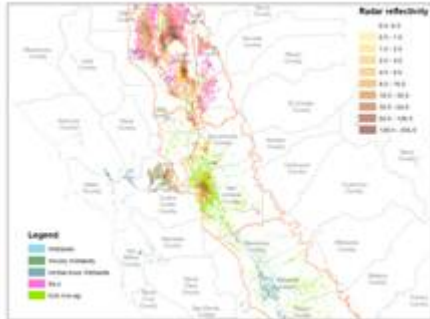
The Evening of Gratitude was a reminder about the power of giving, in the lives of our students and in the hearts of those who provided them support. We will never forget the trust our donors place in us with their investment in our students, future leaders in veterinary medicine and science that will make the world a better place through their good works and compassionate care for animals, people, and our planet.

## INSPIRING KIDS AT TULARE COUNTY AGVENTURES DAY

In May, Tulare County Farm Bureau hosted AgVentures Day at the International Agri-Center for more than 1,700 children. Staff at the Veterinary Medicine Teaching and Research Center demonstrated some basic elements of the diagnosis of animal medical conditions with a cardboard cow and inspired students by providing hands-on experience with real cow bones, models, training, and stethoscopes. <http://www.vmtc.ucdavis.edu/>



## WEATHER RADAR DATA WILL ASSIST WITH CALIFORNIA AVIAN INFLUENZA DETECTION AND SURVEILLANCE



A new project at the school allows researchers to use existing weather radar maps and data to better understand and detect waterfowl movement patterns and concentrations, in hopes of preventing avian influenza (bird flu) through improved testing and surveillance. The avian influenza (AI) virus is found in wild waterfowl and can spread to chickens, causing mortality and economic loss. In 2015 the country experienced its worst bird flu outbreak in history. Waterfowl migrate to California by the millions via the Pacific Flyway from September through March, where they winter in wetlands and rice and corn fields. In the Central Valley alone, there are three million birds at the height of migration. This multi-year

project - a collaboration with Jeff Buler with the University of Delaware, United States Geological Survey, California Department of Food and Agriculture, the California Poultry Federation and the Pacific Egg and Poultry Association – is funded by the UC Division of Agriculture and Natural Resources, and led by CE Specialist Maurice Pitesky and Research Associate Todd Kelman. They will develop maps of waterfowl movement in California in respect to poultry operations and help identify locations to test the wild birds for AI. The data gathered can assist the state’s chicken producers and more than 100,000 backyard chicken owners to better protect their flocks’ health with knowledge – currently unavailable - of when their chickens are at high risk for exposure to the virus.

[http://igis.ucanr.edu/Welcome\\_91/](http://igis.ucanr.edu/Welcome_91/)

## EARLY NEUTERING POSES HEALTH RISKS TO GERMAN SHEPARDS

Renowned for their intelligence, obedience and loyalty, German shepherd dogs are often the preferred breed for police and military work, as well as popular service dogs and family pets. But as most handlers, breeders and veterinarians are aware, joint disorders are a big concern in these animals. A new study in the journal *Veterinary Medicine and Science* finds that neutering or spaying these dogs before 1 year of age triples the risk of one or more joint disorders — particularly for cranial cruciate ligament, or CCL, tears.



“Debilitating joint disorders of hip dysplasia, CCL and elbow dysplasia can shorten a dog’s useful working life and impact its role as a family member,” said lead investigator Benjamin Hart, a distinguished professor emeritus in the UC Davis School of Veterinary Medicine. “Simply delaying the spay/neuter until the dog is a year old can markedly reduce the chance of a joint disorder.”

During the past decade, some studies have indicated that spaying or neutering can have several adverse health effects for certain dog breeds. For example, a 2014 study published in *PLoS ONE* and also led by Hart examined the health records of over 1,000 golden retrievers and found a surprising fourfold increase in one or more joint

disorders associated with spay or neuter before 1 year of age. In the same paper, joint disorders in Labrador retrievers were found to be increased by just twofold in dogs spayed or neutered in the first year.

“In addition to dogs suffering pain from joint disorders, the condition may also disqualify the dog as a working partner in military and police work,” Hart said. Other researchers on this UC Davis study were: Lynette Hart and Abigail Thigpen, School of Veterinary Medicine; and Neil Willits, Department of Statistics. The research was supported by the Canine Health Foundation and donors to the Center for Companion Animal Health.

### CSI FOR PETS — VETS TARGET CRIMES AGAINST ANIMALS

While DNA has been used in human criminal cases for decades, it’s only in the past several years that this important tool has become a factor in crimes against animals.

Local animal protection agencies and many law enforcement agencies don’t have the resources to investigate large-scale animal cruelty investigations. That’s when veterinary forensic specialists come in. National organizations such as the ASPCA maintain a forensic science team to aid law enforcement in evidence collection and analysis, and private veterinary forensic consultants also do this type of work.

The investigation starts at the scene of the crime, whether it’s a dog- or cockfighting situation, starvation or any other type of abuse or neglect. The animals in the worst shape are examined onsite by an Animal Evidence Team. Those in less dire straits usually go to local shelters. Evidence gathering consists of photographing each animal and obtaining photos and videos of the scene, taking DNA samples, physical examination and blood testing of each animal, and subsequent medical reports. Dead animals found at the crime scene should undergo necropsy.

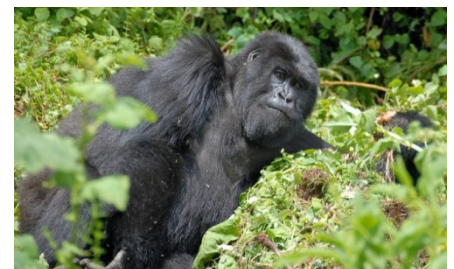
In 2010, the University of California, Davis’ [Veterinary Genetics Laboratory Forensics Unit](#) was the first animal crime lab accredited by the American Society of Crime Laboratory Directors/Lab Accreditation Board – International. It provides services to the general public, as well as local, state and federal law enforcement agencies. Its website notes that forensic DNA testing can identify an animal as a victim, perpetrator or witness. An animal witness can link a suspect to a crime through hair and bodily fluids and animals involved in cruelty or lost or stolen pet investigations are obviously victims. Animal perpetrators include: those attacking a person or animal; animals causing property damage; and unrestrained or loose animals causing accidents

**The Canine Codis** — developed by the ASPCA, the UC Davis Veterinary Genetics Laboratory, the Missouri Humane Society and the Louisiana SPCA — is a database developed from dogs seized from dogfighting rings. The idea is to identify canine relatives, allowing investigators to broaden investigations to people breeding and training fighting dogs. Animals seized in such situations have their cheeks swabbed and the sample is sent for DNA testing. It is then included in the database, and if matches are found, the information is sent to prosecutors and law enforcement looking into related dogfighting cases. The Canine Codis is not used for any type of breed-specific legislation.

### UC DAVIS VETERINARY SCHOOL SAVES ANIMALS FROM EXTINCTION

The school’s wildlife research teams are working to save animals like the following from extinction:

**Mountain Gorillas** - Mostly because of hunters, fewer than 300 mountain gorillas remained in existence in Africa back in the 1980s. Since then, that number has almost tripled because of the work of conservationists including

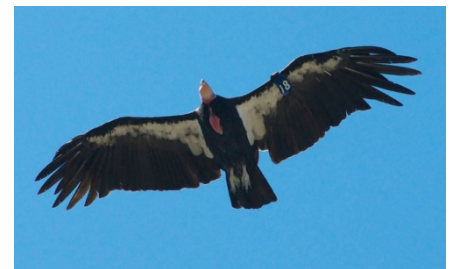


Gorilla Doctors, a partnership between UC Davis' [Karen C. Drayer Wildlife Health Center \(WHC\)](#) and the nonprofit Mountain Gorilla Veterinary Project. Gorilla Doctors provides veterinary care to critically endangered wild mountain and eastern lowland gorillas that live in national parks in Rwanda, Uganda and the Democratic Republic of Congo. The group is also researching mountain gorilla genetics. A groundbreaking study it participated in last year found severe inbreeding among the gorillas, going back thousands of years. Surprisingly, the inbreeding was actually helpful in some cases because it got rid of harmful genes.

**Mountain Lions** - Like mountain gorillas, mountain lions in Los Angeles County have resorted to inbreeding because busy freeways make traveling beyond their habitat a dangerous proposition. Earlier this year, the National Park Service said inbreeding is a "significant threat" to their population. Wildlife veterinarians with the WHC are providing their expertise to inform management decisions about how to protect the mountain lion population. In what is very promising news, last month Los Angeles lawmakers voted to create a new law that would require a wildlife corridor in the Santa Monica Mountains and protect it from property development.



**California Condors** - When birds, especially the endangered California condor, eat the carcasses of animals that were killed with lead ammunition, they can be poisoned by shrapnel that quickly enters their bloodstreams, according to a study a few years ago by the WHC in conjunction with California state agencies. A single 22-caliber bullet contains enough lead to fatally poison a healthy adult condor, and it's not an easy death: the birds' digestive systems shut down and they die of starvation. Thanks in large part to the study's findings, a statewide ban on toxic lead bullets went into effect in 2013.



**Catalina Island Foxes** - Half of all the adult Santa Catalina foxes on Catalina Island used to have ear tumors, which often were malignant. In fact, these foxes had the highest prevalence of tumors ever documented for wildlife. But that number was drastically reduced after UC Davis, in partnership with the Institute for Wildlife Studies (IWS) and Catalina Island Conservancy, discovered the tumors were caused by ear-mite infections. These infections could be prevented with small amounts of acaricide, a chemical used to kill ear mites in dogs and cats. Prior to a six-month pilot program, about 98 percent of the Santa Catalina foxes had ear-mite infections. At the conclusion of the program, only 10 percent were infected.



**Tricolored Blackbirds** - Between 2008 and 2014, the number of tricolored blackbirds in California dropped from 400,000 to 145,000, according to a 2014 survey coordinated by UC Davis. These birds usually build their nests in marshes and wetlands, but because of the state's severe drought, they were nesting instead in fields of the grain triticale. When the grain was harvested, the birds were killed. Alarmed by the results of this survey, the California Fish and Game Commission quickly gave the tricolored blackbird temporary protection under the Endangered Species Act. A coalition of farmers is asking for the harvests to be delayed until after the nesting season to help save the birds.



Read more: <http://www.care2.com/causes/uc-davis-veterinary-school-saves-animals-from-extinction.html#ixzz4AwAZE6bX>

## LEARNING THE IMPORTANCE OF ADVOCACY IN VETERINARY MEDICINE

*Excerpt from DVM Tales – by Roxana Bordbar, Class of 2018*

It all started in February of 2016, when Elizabeth and I had the life-changing opportunity of attending the American Veterinary Medical Association (AVMA) legislative fly-in as the SAVMA Delegate and CVMA Student Representative, respectively. To sum it up, we flew to Washington D.C. where we were briefed by the AVMA on current legislation important to veterinarians and veterinary students, and we subsequently went to Capitol Hill to advocate and lobby for these positions at the offices of Senators Diane Feinstein and Barbara Boxer, and Congressman John Garamendi. Let's just say that it was an incredibly successful trip; we learned so much and we came back invigorated and full of passion for organized veterinary medicine and advocacy!

Naturally, when Elizabeth and I found out about SAVMA's Government Outreach Advocacy and Leadership grant we immediately applied for it. We proposed to take a group of interested students to Sacramento to visit the CVMA headquarters and get an inside scoop of what they do every day. We would follow that with a trip to the historical California State Capitol Museum. Thanks to the generous grant from both SAVMA and Dean Lairmore's office we were able to make this vision come true!



Fast forward to May 9, 2016. We had our lovely group of students, we had our transportation and food, and we were on a quest for learning. We arrived at the CVMA, where Valerie Fenstermaker (Executive Director of the CVMA), Dr. Grant Miller (Director of Regulatory Affairs), and Christina DiCaro (CVMA lobbyist) greeted us and sat down with us for hours. We learned about the various bills and legislation that the CVMA works on. It is their duty to sort through all the bills that are introduced each year in California, and determine which of those can affect the veterinary profession in any way. Then, they take a stance on a bill and help support it or oppose it if it is something that directly affects veterinarians or veterinary students, RVTs, animals, and generally the scope of the profession.

The CVMA works tirelessly to keep us practicing the way we deem is best for our patients and clients. As a group, we came to not only appreciate them so much more after that visit, but it also motivated us to become more involved in organized veterinary medicine. If we continue to foster this kind of participation, and bring more students up close and personal with entities like the CVMA and AVMA, it will strengthen our profession tremendously.

In front of the State Capitol Building in Sacramento, from left to right: Vicky Yang, Julie Dobbs, Elizabeth Tenborg, Jenny Tsai, Audrey Buatois, Elizabeth Malcolm, Roxana Bordbar, Christina Thompson.



In front of the CVMA headquarters in Sacramento, from left to right: Valerie Fenstermaker, Vicky Yang, Elizabeth Malcolm, Grant Miller, Roxana Bordbar, Julie Dobbs, Audrey Buatois, Elizabeth Tenborg, Christina Thompson, Jenny Tsai, Christina DiCaro, Della Yee.

## UPCOMING CONTINUING PROFESSIONAL EDUCATION

- July 23-24 - Back to School Seminar, UC Davis
- September 24-25 - Fall Festival, UC Davis

Registration information and the full CE calendar is available at: <http://www.vetmed.ucdavis.edu/CE/>

## RECENT NEWS

Dean Lairmore Begins Second Term Leading Veterinary School

<https://www.ucdavis.edu/news/lairmore-begins-second-term-leading-veterinary-school>

A Vision for the Future

<http://lairvet.faculty.ucdavis.edu/>

Million Cat Challenge Reaches Halfway Milestone

<https://www.ucdavis.edu/news/million-cat-challenge-reaches-halfway-milestone>

Could Scorpion Venom Provide Clues That Lead to Better Pharmaceuticals?

<https://www.ucdavis.edu/news/scorpion-venom-yields-clues-developing-better-pharmaceuticals>

Veterinary Nutritionists Try to Curb Obesity in Cats

[http://www.vetmed.ucdavis.edu/vmth/local\\_resources/pdfs/pulse\\_pdfs/2016\\_6June.pdf](http://www.vetmed.ucdavis.edu/vmth/local_resources/pdfs/pulse_pdfs/2016_6June.pdf)

California Poultry Update

<http://ucfoodobserver.com/2016/04/14/california-poultry-update/>

Researchers Compare Similar Equine Eye Conditions

<http://www.thehorse.com/articles/37460/researchers-compare-similar-equine-eye-conditions>

UC Davis School of Veterinary Medicine General Brochure

<http://www.vetmed.ucdavis.edu/whatsnew/publications/vet-med-general-brochure.cfm>