

# HEARTBEAT

UC DAVIS VETERINARY HOSPITAL

SEPTEMBER 2016

*Special Edition*



**UCDAVIS**  
VETERINARY MEDICINE

# Dr. Jane Sykes appointed as Chief Veterinary Medical Officer

We are pleased to announce that Dr. Jane Sykes has been appointed as the chief veterinary medical officer of the UC Davis veterinary hospital, effective June 1, 2016, for a five-year term. (The position was previously referred to as “director.”) She served as interim director of the hospital for the past year, following Dr. David Wilson. Dr. Wilson was appointed director of Veterinary Medical Center Facilities Planning, as UC Davis looks to the future of the hospital, envisioning a state-of-the-art Veterinary Medical Center.

Dr. Sykes has administrative responsibility for the management and fiscal integrity of the hospital, ensuring the academic quality of the clinical learning environment for DVM students and house officers, and the provision of clinical care and operational efficiency of all academic and clinical service activities. She is also responsible for ensuring the ethical and professional conduct of the nearly 500 hospital faculty and staff members; compliance with the California Veterinary Medicine Practice Act; and creating a culture of inclusion in support of diversity that embraces the UC Davis Principles of Community. Dr. Sykes reports directly to Dr. Michael Lairmore, dean of the School of Veterinary Medicine.

Over the past decade, the hospital has increasingly grown to become one of the most advanced and comprehensive veterinary hospitals in the world, now seeing more than 50,000 patients a year. The hospital operates both Small and Large Animal Clinics, providing care and training in 34 specialty disciplines. Its house officer training program is the largest of any veterinary hospital in the country and has drawn participants from 32 countries and 39 states since 2010.



Dr. Jane Sykes, BVSc (Hons), PhD, DACVIM

**“I am so thrilled to support our team of talented and caring clinicians, staff, and students to bring cutting-edge veterinary care to animal owners throughout California and beyond. As our new Veterinary Medical Center becomes a reality, I have no doubt that we will be able to accelerate the rate we make medical breakthroughs and dramatically improve the health and well-being of animals.”**

— Dr. Jane Sykes  
Chief Veterinary Medical Officer



## On the front cover

Welcome to our September issue! On the front cover is my good friend, Blossom, one of the horses at the UC Davis Center for Equine Health. The center plays an important role in training future veterinarians, providing grant funds to academic clinicians and researchers and by offering invaluable hands-on learning opportunities for veterinary students, residents and graduate students. Equine patients brought to our veterinary hospital benefit from the center’s work advancing the health of horses.

Pint 



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# Looking forward

**OPHTHALMOLOGY SERVICE** AT THE FOREFRONT OF ADVANCING EYE HEALTH



Eyes open a window into the world for our animal companions and play a vital role in their daily activities. Dedicated to providing excellent vision care, the hospital's Ophthalmology Service offers advanced diagnostics, as well as routine and emergency medical and surgical care for patients with a variety of ocular disorders. The service treats patients, large and small—ranging from cats and dogs, to horses and exotic species.

Kinako, a female domestic shorthair cat, was afflicted with a persistent build-up of tears in her left eye, sometimes resulting in infections. Since attempts to flush the tear duct of that eye were unsuccessful, Kinako's veterinarian recommended to the owner taking her to see ophthalmology specialists at the veterinary hospital. Thanks to a nasolacrimal endoscopy and stenting procedure pioneered here, Kinako no longer suffers from this condition.

For equine patient Chatwin, ophthalmologists helped the champion three-day eventer return to competition and win, after sustaining a severe eye injury. The veterinary team saved his vision through early intervention, expert diagnostics, attentive medical care and close monitoring.

## World's largest veterinary ophthalmology program

As with Kinako and Chatwin, patients treated here for ocular disorders benefit from the unparalleled strength of the largest academic veterinary ophthalmology program in the world—a healing partnership of clinical specialists and veterinary scientists.

**The Ophthalmology Service** includes six board-certified veterinary ophthalmologists (including a full-time equine ophthalmologist), a full-time ocular pathologist, four house officers, the Marigold Johnson Ophthalmology Internship and two technicians. Surgical and microsurgical procedures offered are wide-ranging from the treatment of



Continued on page 5

## Looking forward continued from page 4

tumors of the eye and cataract surgery, to repair of traumatic injuries to laser retinopexy (treatment of a retinal tear).

The service is located at the **Robert M. Cello Veterinary Ophthalmology Suite** in the veterinary hospital—named in tribute to the late Dr. Robert Cello, whose distinguished career spanned more than four decades. He is widely recognized as one of the pivotal figures in the foundation of veterinary ophthalmology.

New to the service is the **Comparative Ophthalmic Imaging Laboratory** that will include an *in vivo* confocal microscopy unit to examine cells and nerves of the cornea.

Veterinary scientists also contribute to each patient's outcome as they push the envelope to advance eye health through discovery. More than 30 faculty members, residents, students and staff comprise the research team.

Complex ophthalmic problems are tackled using a multi-disciplinary approach in collaboration with specialists in anesthesia, dermatology, diagnostic imaging, internal medicine, interventional radiology, neurology, pathology and soft-tissue surgery.

Also benefiting patients at UC Davis, the veterinary and human ophthalmology programs are strongly integrated, and the two share a surgical training program for their residents.

### Clinical excellence

Removing deadly foxtails —The barbed seed heads of the foxtail plant, common in California, can work their way into a dog or cat, through the nose, ears, eyes and mouth. Clinicians, in collaboration with soft-tissue surgeons and internists, have developed a revolutionary approach assessment and removal of fox tails and stenting of dogs' nasolacrimal ducts.



Returning vision through removal of cataracts — Veterinary ophthalmic surgeons perform cataract surgeries on dogs almost every week of the year. A recent study revealed that 81 percent of clients were so satisfied with the outcome of their dogs' cataract surgery that they would have the procedure done again if a second dog of theirs developed cataracts.

### Finding innovative solutions

To accelerate the identification and development of diagnostics and therapeutics, the Ophthalmology Service is actively involved in clinical trials. Two examples are the following studies:

- Understanding sudden acquired retinal degeneration syndrome — SARDS is a common cause of permanent blindness in dogs. Dr. Sara Thomasy is conducting a clinical trial focused on better understanding SARDS, with hopes of identifying protein biomarkers and/or the genetic components of this disease.
- Assessing stem cell therapy for equine recurrent uveitis — Dr. Steven Hollingsworth is leading a study to investigate the effectiveness of a new stem cell therapy for equine recurrent uveitis, the most common cause of blindness in horses.

*To read more about Kinako, see page 6, and for Chatwin, see page 13. For more information about the Ophthalmology Service, visit [vetmed.ucdavis.edu/vmth](http://vetmed.ucdavis.edu/vmth)*



### Our vision for the future

The Ophthalmology Service is continually developing new expertise to safeguard the vision of our patients. Through innovations in nasolacrimal endoscopy, laser skills, retina imaging and surgical technology and instrumentation, we have been able to make remarkable advancements in eye health. Our caseload has grown significantly over the last five years. While we now face tight constraints in space, we look forward to the future with the new Veterinary Medical Center. This transformational facility will enable us to handle our increasing caseload and continue adopting the latest technology—ensuring that our veterinary team achieves the best possible outcomes for our patients.

— Dr. Steven Hollingsworth, DVM, DACVO

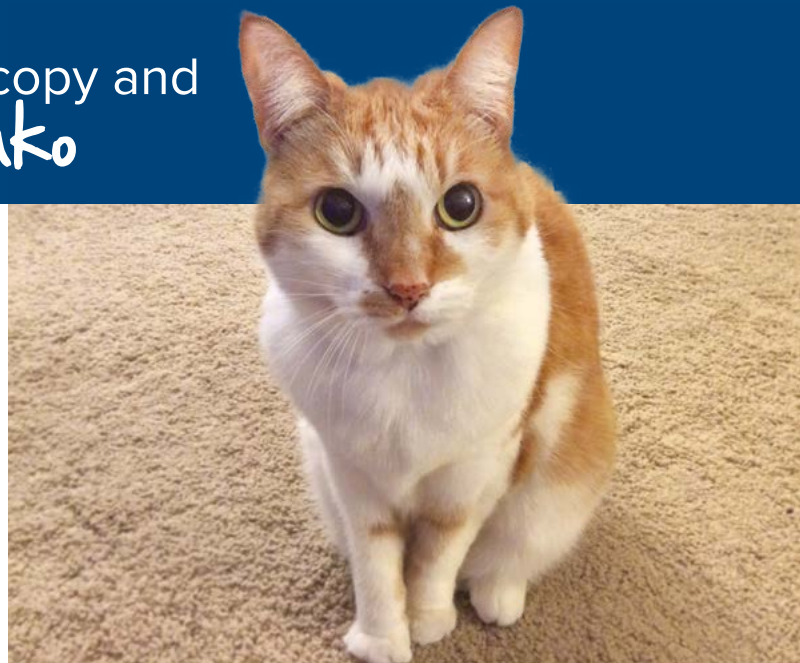
# Pioneering nasolacrimal endoscopy and stenting procedure helps **Kinako**

**K**inako, an 8-year-old female domestic shorthair cat, was continually troubled with a build-up of tears in her left eye, sometimes resulting in infections. Her owner took her to see their veterinarian, who attempted to flush the tear duct of that eye several times, but to no avail. While the situation was not life threatening, Kinako's owner did not want her to suffer needlessly for the rest of her life. Kinako's veterinarian suggested taking her to see the specialists in the Ophthalmology Service at the UC Davis veterinary hospital.

Drs. David Maggs and Ann Strom suggested that if a CT scan revealed an obstruction in Kinako's tear duct, then she undergo a new procedure pioneered at UC Davis to permanently reopen the duct. Tests did reveal a blockage. This new minimally invasive approach had already shown great promise in one horse and a number of dogs, but had not yet been performed on a cat.

The tear drainage system consists of several important structures collectively known as the nasolacrimal apparatus (NLA). This frequently becomes blocked and sometimes infected, leading to discomfort, tear staining and discharge from the eye, resulting in skin inflammation. However, the NLA is made up of such small ducts that access to the obstruction can be extremely difficult.

Thanks to advances in equipment and technique, a multidisciplinary team of clinicians from UC Davis'



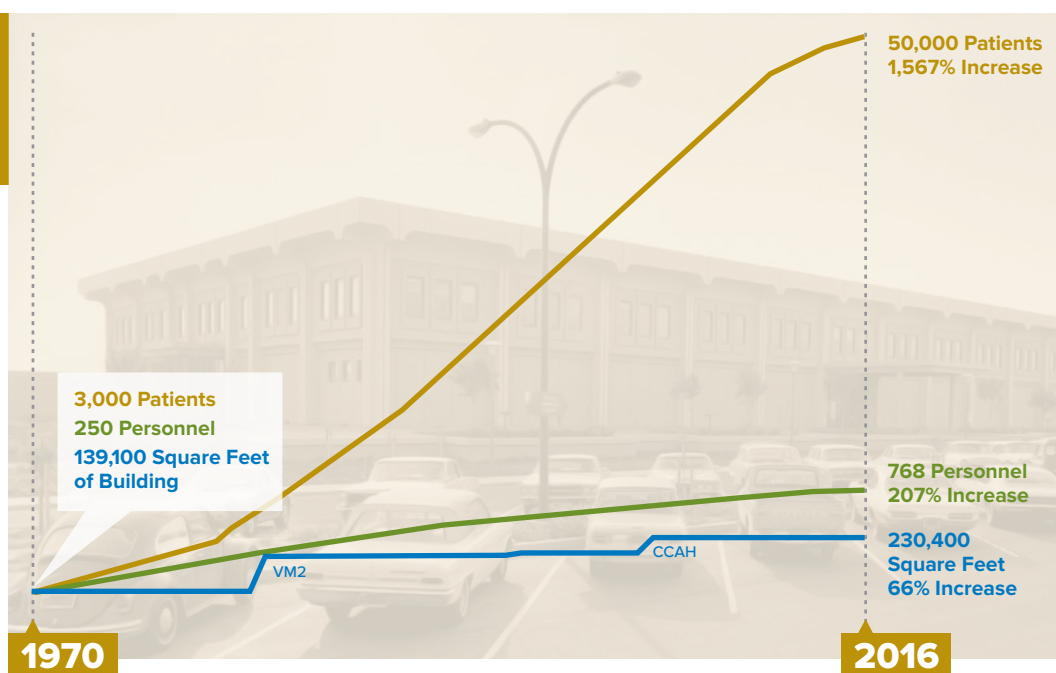
Kinako was the first cat treated for a blocked nasolacrimal apparatus utilizing UC Davis' pioneering procedure.

Ophthalmology, Internal Medicine, Soft Tissue Surgery, Anesthesia, and Diagnostic Imaging Services are now having unprecedented success treating NLA blockages. With cameras now small enough to fit into tiny drainage ducts, clinicians utilize endoscopy (as well as CT and fluoroscopy) to identify and bypass or remove NLA obstructions. Whether the obstructions are caused by a scarred duct or a foreign body, temporary stents can usually be placed so as to reopen the duct from eye to nose.

About three months following surgery, Kinako's owner reported that her left eye has demonstrated such improvement that it can be defined as a complete success.

## Growing caseload

The Veterinary Medical Teaching Hospital opened in 1970 to serve 3,000 patients. Since then, the caseload has grown exponentially, and is now up to more than 50,000 patients per year. To ensure that veterinarians continue to achieve the best possible outcomes for patients and serve the increasing number of patients, UC Davis is planning a new and expanded Veterinary Medical Center.



# The new UC Davis Veterinary Medical Center

The new UC Davis Veterinary Medical Center will be unlike any other veterinary facility. Built to promote clinical innovation, transformational research discovery and compassionate healing, each animal and client will receive attentive and personalized care in the center of a world-leading, state-of-the-art compassionate care hub. The heart of our center will be the patient and client experience.

Usable space will double, alleviating overcrowding and creating a more comfortable environment for patients. The new center will be constructed using a phased, sequenced approach that allows new construction and continued smooth operations of our clinical services and patient care.

The major areas identified for construction over the next 10 years include:

- Livestock and Field Service Center
- Equine Performance Center
- All Species Imaging Center
- Small Animal Clinic East Wing
- Small Animal Clinic West Wing
- Community Practice and Surgery
- Equine Surgery and Critical Care Center
- Equine Isolation Unit

As the world leader in veterinary sciences, UC Davis is committed to improving the health and well-being of animals. This transformational new facility will provide the infrastructure and efficient services necessary to continue to provide the best care possible for all patients.

**The proposed UC Davis Veterinary Medical Center**



**Rendering of entrance to Equine Performance Center**



# Spotlight: A COMPASSIONATE



## Barbara Kerr

### Why I give

"I am grateful for the care provided by the UC Davis veterinary hospital because I know I have received the best possible care for my animals, given in a manner that has honored them and their importance in my life."

— Barbara Kerr  
Dean's Leadership Council member  
and grateful client

Phoebe, Ursula and Cassie are the three girls in my canine family. Phoebe is a black and white mix of terrier and something long. I consider her my chamber of commerce pup. She is enthusiastic about meeting everyone and is always promoting ways of getting more attention. Ursula is a scruffy, little blonde terrier. She and Phoebe are a study in personality contrasts. Ursula is more shy and cautious about new situations, but when comfortable has a take-charge attitude. Cassie, a silver standard poodle, is elegant-looking and slightly goofy. She has a sweet, old soul and moves to her own rhythm amidst the swirl of terrier activity.

I love to watch the relationships my pups have with each other, in pairs and as a group. They enjoy going anywhere, anytime in the car. An outing to the beach with some of their canine friends is an experience of pure joy. These are just a few of the reasons why I am devoted to my pups. It is important to me to provide the best care possible for them.

Before I had a need to bring any of my dogs in for treatment at the UC Davis veterinary hospital, I heard from friends about the excellent care their pets had received there. I became interested and learned more about the hospital through forums like their annual Spring Showcase. Through this and other avenues, I found out more about the cutting-edge research and skilled clinical care. When I had a need, it was the place I turned to for help.

I was impressed by the knowledge and compassionate approach of the clinical services I worked with at the hospital. The Oncology Service provided treatment for Jacques, my standard poodle who had cancer. As part of the treatment Jacques received, he participated in the use of an experimental drug, and samples taken during his treatment contributed to an evaluation of the effectiveness of the drug. The Internal Medicine Service cared for my Australian terrier Rider, who had serious issues with chronic pancreatitis. Working with the Nutrition Service, they developed a drug regimen for him and worked closely with my local veterinarian to monitor his condition. Because of the efforts of the veterinary hospital, I had extended time with both Jacques and Rider, during which we were able to build more happy memories together.

What sets UC Davis apart from other veterinary hospitals is the scientific research that supports finding innovative solutions to help patients. The collaborations between the scientific and clinical communities enable clients to benefit from the expertise and perspective of both groups.

I was inspired to support the veterinary hospital because I wanted to contribute to the continuation of the valuable and important work it does for the health and well-being of animals. My support started with memorial gifts honoring beloved pets of family and friends and has continued and increased because of the wonderful veterinary care my dogs received. I have learned more about the scope and remarkable impact of the veterinary school.

# PARTNERSHIP

## Oncology Service

### Why we care

“We are teaming up to fight cancer. At the heart of our commitment are our beloved animal friends. We begin each day with a promise to our patients and their families to provide the best care possible.”

— Dr. Michael Kent  
Professor, Radiation Oncology

At the heart of our commitment to fight cancer are our animal friends and the families who love them. We are inspired by the devotion our clients have for their pets.

When Barbara brought her beloved, 13-year-old dog, Jacques to the hospital, we saw the special bond she shared with him. She is a devoted owner and took extraordinary care of him. During a routine dental cleaning, Jacques's family veterinarian discovered melanoma in his mouth.

Together, our team and Barbara came up with a treatment plan and successfully treated Jacques. He later developed a lung tumor, which we were able to image using a CT scanner and then remove using a minimally invasive technique. Jacques was able to go home from the hospital after only two days. He was a trooper through all of this and recovered quickly from surgery. While sadly Jacques passed away the following spring, we were honored to help him during his battle with cancer and give him more time with Barbara. As pet owners too, members of our team know how precious this gift of time can be.

When a family learns that their pet has cancer, it is often frightening news. Unfortunately, this disease is never far away, striking one in four dogs and one in eight cats. We see first-hand the impact of this devastating disease and begin each day dedicated to providing the best care possible to our patients and their families.



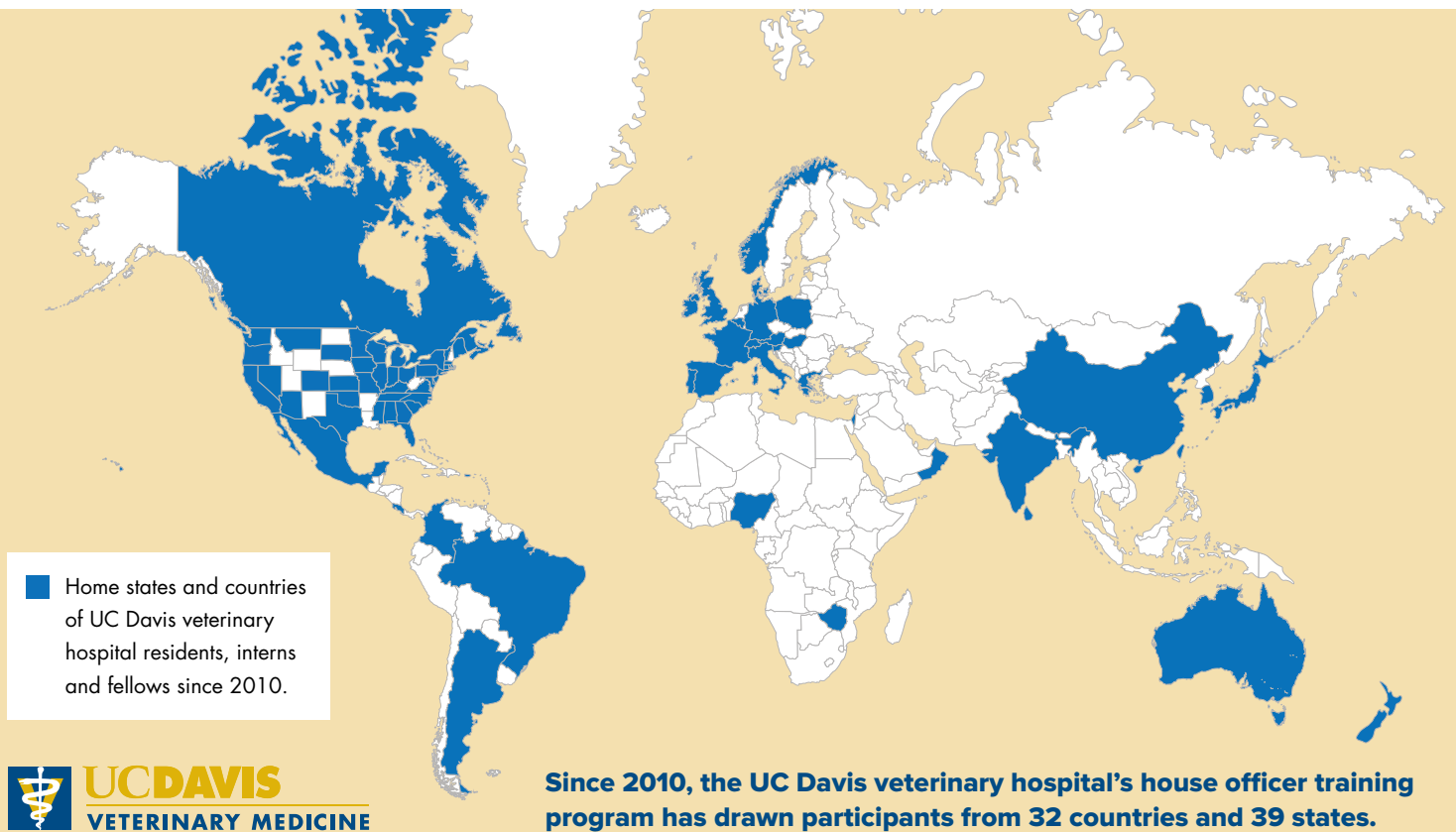
Pictured from the left, Drs. Jenna Burton, Jennifer Willcox, Michael Kent, Rob Rebhun, Kristen Couto, Katherine Skorupski, Cassandra Wilcox, Sami Al-Nadaf, Erica Moore and Sita Withers. In clinics were Drs. Katherine Hansen and Alain Théon.

For more than 50 years, our school has been at the forefront in the fight against cancer and has made great advances in the treatment of this disease. However, we know there is still much work to be done, and we are up to the challenge. Our research and clinical teams consist of more than 30 faculty and staff members, including multiple full-time, board-certified veterinarians in Medical and Radiation Oncology, Surgical Oncology, Radiology and Pathology, as well as researchers who are dedicated to ending suffering caused by cancer.

We continually explore new areas of the causes, diagnosis, therapies and preventions of naturally occurring cases of cancer. Our veterinary oncology program brings a unique advantage in developing the best approach to treating cancer, since we are able to collaborate extensively with experts at the National Cancer Institute-designated Comprehensive Cancer Center at the UC Davis School of Medicine. This strong partnership brings together the brightest minds at the forefront of discovering the latest advances for both animals and people.

Our oncology team performs basic science and clinical research that include clinical trials designed to benefit our patients by discovering new ways to treat and diagnose cancer. We are dedicated to offering exceptional care and finding cures to help save lives.

## Advanced training program makes **global impact**



Beyond providing clinical training to DVM students, the UC Davis veterinary hospital also plays an important role in training veterinarians to become board-certified in a specialty field. The veterinary hospital's house officer program, which offers residencies, internships and fellowships, is the largest of its kind at any veterinary hospital in the country, and is known the world over.

The program routinely attracts candidates from all corners of the globe. Its current makeup consists of veterinarians from 19 foreign countries (on six continents) and 21 states. Since 2010, it has drawn participants from 32 countries and 39 states, as well as the District of Columbia and Puerto Rico.

“There isn’t a week that goes by where we don’t get an inquiry from an international veterinarian wanting to train at UC Davis,” said House Officer Coordinator Nicole Adams. “Our reputation for providing world-class training is known on every continent it seems.”

Third-year neurology/neurosurgery resident Dr. Jessica Rivera agrees. “The caseload for both medical and surgical neurology, as well as the constant guidance from our faculty, have played a tremendous role in the knowledge I have acquired and my comfort level with both seeing numerous cases and my surgical experience.”

The house officer program currently trains 109 veterinarians—99 residents, seven interns and three fellows. Their one- to four-year appointments provide opportunities in 34 specialty disciplines (more than any other veterinary hospital).

In addition to hands-on advanced clinical training, the program also provides additional educational and research opportunities. Many house officers are required to complete a research study during their time at UC Davis, and present that project at the annual Gerald V. Ling House Officer Seminar Day, where dozens of veterinary research projects are showcased to fellow house officers, faculty, staff, students and guests. Some residency positions include degrees built in to

## Global impact continued from page 10

the completion of the program. Dr. Yehonatan Berkowic, a second-year resident from Israel in the Livestock Herd Health and Reproduction Service, is currently completing his Master of Preventive Veterinary Medicine (MPVM) degree. All residents in this service suspend clinical responsibilities in their second year to pursue the MPVM.

“The MPVM is one of the main reasons why I came to UC Davis,” Dr. Berkowic said. “In Israel, I was treating a lot of sick cattle, but we weren’t doing much to prevent illnesses.”

When he finishes his residency, Dr. Berkowic plans to return to Israel where he has a position waiting for him, and where he will be, to his knowledge, the country’s only board-certified veterinarian in theriogenology

(reproduction). He hopes his three-year residency—and his MPVM—will allow him to help other Israeli veterinarians focus on preventive medicine to improve livestock health.

Dr. Perez-Nogues also hopes to bring his veterinary knowledge back home one day, where he can help future veterinarians become equine experts.

After studying abroad in Japan and Australia as an undergraduate at Penn State University, Dr. Rivera may once again be living overseas soon, as she is currently interviewing for a position in Hong Kong.

“The opportunities that this residency has opened up for me make for a very exciting future,” Dr. Rivera said.

**“It’s important we include international veterinarians in our house officer program. By doing so, we are not only improving veterinary medicine in California, but we are playing a part in raising the quality of veterinary care throughout the world.”**

— Dr. Jane Sykes  
Chief Veterinary Medical Officer

## Featured house officers



**Dr. Yehonatan Berkowic** looks forward to returning to Israel and implementing preventive medicine practices he is learning as part of his residency with the Livestock Herd Health and Reproduction Service. He graduated from Israel’s only veterinary school, the Koret School of Veterinary Medicine at Hebrew University of Jerusalem. The school has a long-standing connection to UC Davis through the Koret Exchange Program (whose shelter medicine program is also supported by and named after the Koret Foundation). Many of Dr. Berkowic’s professors at Koret were trained at UC Davis, and encouraged him to apply for the residency program.



**Dr. Jessica Rivera**, a first generation American whose parents emigrated from El Salvador, was born and raised in New Jersey. As an undergraduate at Penn State, she was a recipient of the Bill Gates Millennium Scholarship—a full scholarship for minorities based on academic merit. She and her two younger brothers were the first in her family to go to college. Following graduation, she went on to complete veterinary school at the University of Florida. Dr. Rivera is completing a residency in the Neurology and Neurosurgery Service.



**Drs. Pablo Espinosa, Marcos Perez-Nogues and Albert Torrent-Crosa** (pictured from left to right) are all from Spain. The three equine surgery residents came to UC Davis because of its esteemed reputation of being one of the best equine services in the world. Advanced training opportunities are minimal in Spain, as there are only a handful of board-certified surgeons in the entire country. These three hope to add to that number.



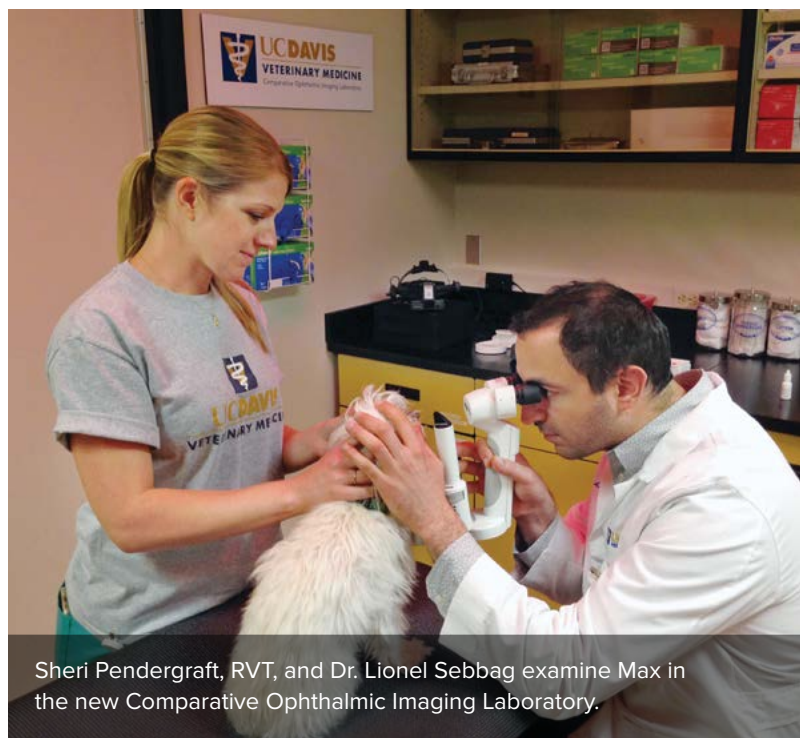
**Dr. Kanae Takada** is participating in a one-year internship in Renal Medicine and Hemodialysis. She hails from Japan, where hemodialysis is offered at several veterinary facilities, but advanced training in the specialty is extremely limited. She plans to pursue a residency in the U.S. or Canada following her internship, and possibly bring that experience back to Japan someday.

# Comparative Ophthalmic Imaging Laboratory opens

The Comparative Ophthalmic Imaging Laboratory (COIL), a diagnostic imaging facility created to support the hospital's Ophthalmology Service, has opened adjacent to the service's examination rooms. The new, multi-functional space strengthens facilitation of clinical trials, allows for new technological equipment and increases clinical examination space, all contributing to the enhancement of patient care and student and client education.

The lab features new, cutting-edge equipment used in both clinical trials and patient care. New to the service will be an *in vivo* confocal microscopy unit used to examine cells and nerves of the cornea. Only a handful of veterinary schools throughout the country have one. Other new equipment includes: a table-mounted digital slit lamp (which enhances capabilities for student and client education by showing a patient's eyes in real time); an optical coherence tomography unit (which shows cross-sectional imaging of the cornea and retina); an ultrasound pachymeter (which measures corneal thickness); light-tight interior room used to perform electroretinograms (which require complete darkness); larger, more comfortable holding space for dogs; and a dedicated mobile anesthesia cart.

The images acquired in the lab will not only aid diagnosis and management of clinical patients, but will facilitate owner education to help them make informed decisions regarding their animal's ocular health. The lab will also present a novel education platform for students and residents by acting as a bridge for discovery between the UC Davis Schools of Medicine and Veterinary Medicine, facilitating a collaboration of innovative research.



Sheri Pendergraft, RVT, and Dr. Lionel Sebbag examine Max in the new Comparative Ophthalmic Imaging Laboratory.

## Did you know?

One of our most popular **Facebook** posts was about a miniature colt saved following an emergency delivery at the veterinary hospital. Don't miss out on the latest news by visiting us at [facebook.com/ucdavisvetmed](https://facebook.com/ucdavisvetmed)

Also be sure to check out the back cover to stay connected with our other social media channels.



**UC Davis School of Veterinary Medicine**

Published by Vet Med

Meet a new mini colt and proud momma Dusty. The colt was born via an emergency cesarean section following a delivery complication. Both mare and colt are doing well.



# Equine ophthalmologists return *Chatwin* to championship competition



(photo courtesy of Sherry Stewart)

**C**hatwin, a 7-year-old champion three-day eventer was turned out after an all night drive, returning from the March Copper Meadows event. Checking on him a few hours later, owner and rider Frankie Thieriot noticed he had injured his eye, most likely by grazing a tree branch.

Having dealt with eye injuries in a previous horse, Thieriot knew the severity of the injury and knew her gelding needed immediate care. She quickly texted a picture of the eye to veterinary ophthalmologist Dr. Rebecca Burwell and asked her where to take her horse. Having referred patients to the UC Davis veterinary hospital several times before, Dr. Burwell knew just where to send Chatwin. She told Thieriot to load him up and head to the hospital, while she called Dr. Mary Lassaline to facilitate the emergency appointment.

Luckily, Thieriot's trailer was still hooked up from the night before so she and Chatwin were quickly on their way to see Dr. Lassaline and the Equine Ophthalmology Service, some two and a half hours away.

Once arriving there, Dr. Lassaline and her team quickly assessed the injury. Diagnostic tests revealed an infection in the eye caused by the trauma. His biggest issue, however, was that a large triangular flap of his cornea was loose, and would need to be surgically removed.

**"I was honestly blown away by the care UC Davis gave Chatwin. The experience I had with the Equine Ophthalmology Service made me confident in everything they do there, and made me want to go back for other things. They made me feel that Chatwin was being loved like I love him at home."**

– Frankie Thieriot

Following standing surgery, Chatwin was fitted with a subpalpebral lavage catheter in his right lower eye lid to facilitate treatment with ophthalmic solutions. He was then started on an aggressive medical therapy with antibiotics, an antifungal and an anticollagenase to help fight the infection, as well as a nonsteroidal anti-inflammatory drug to ease pain. Due to the severity of his injury and the need to closely monitor his eye every day, Chatwin needed to be hospitalized for five weeks.

Since Chatwin was still fit enough to work out, and needed to be fit to continue competing, he was routinely lunged by the hospital staff while recuperating. Shortly after discharge, Chatwin and Thieriot went on to win the Preliminary Challenge held annually at The Spring Event at Woodside, as well as the Galway Downs CCI-star national championship and three other events post injury.

# Livestock services enhance student training



Whether veterinary students plan to enter a career in livestock medicine or not, fourth-year clinical rotations through the livestock services prove a valuable training experience. For those actively pursuing a livestock career path, the rotations are obviously absolute necessities, but there are many aspects of the rotations that will enhance learning opportunities for students who may never encounter large animals again.

Basic technical skills and knowledge of infectious disease are impressed upon students in their third year for them to later utilize in fourth-year clinical rotations. Many of these skills—basic understanding of diseases, pathophysiology, efficient physical examinations, basic surgical skills—are transferable to any species. For those geared toward livestock paths, the skills are expanded upon in the clinics.

Rotations through the Livestock Medicine Service allow students to participate in surgeries such as castrations, common abdominal surgeries, C-sections and fracture repairs. Many small animal track students want to rotate

through livestock medicine to gain additional hands-on surgery experience, giving them more surgical experience and more practice with tissue handling and manipulation—skills they will utilize with any species. This rotation also offers the students additional experience with CTs, MRIs, radiology, laparoscopy and endoscopy.

In the Livestock Herd Health and Reproduction Service, it is an opportunity for future livestock clinicians to hone their skills in some of the newest techniques being offered. Students become exposed to embryo transfers and other advanced reproductive technologies, as well as gaining

better understandings of basic herd health concepts like preventive medicine, vaccinations, disease outbreak investigations and improving their critical thinking skills.

The school strives to give every student the best-rounded veterinary education possible. Livestock medicine plays a vital role in that process, always increasing and enhancing learning opportunities for both large and small animal-focused students.

**Livestock medicine plays a vital role in providing students with the best-rounded veterinary education possible—always increasing and enhancing learning opportunities for both large and small animal-focused students.**

# Veterinarian in training: Mackenzie Ruehl

Mackenzie Ruehl has found her true passion. As she was nearing the latter half of studies to earn her undergraduate degree at UC San Diego, she came to the conclusion that veterinary medicine is her calling in life.

**“Veterinary medicine is absolutely the right choice for me.”**

– Mackenzie Ruehl  
Class of 2018

Ruehl's exposure to veterinary medicine began at a young age, as her father is a veterinarian himself. He completed his graduate studies here at UC Davis and began working in the veterinary pathology department, where he would bring her on occasion. This introduction to veterinary medicine piqued her interest and instilled a sentimental connection through her father to UC Davis, which ultimately led her here.

She enjoys the curriculum here because it focuses on the well-being of pet owners and clinicians, in addition to helping animals. It allows her outgoing personality and extensive knowledge to shine when communicating with people, including her peers.

As the president of Student Chapter of the American Veterinary Medical Association, Ruehl enjoys helping fellow students succeed as future veterinarians by engaging in different clinical activities. She is excited to continue her passion of bettering the lives of animals and people.



## Keeping your pet safe from **RATTLESNAKES**

Spending time in the great outdoors is a popular activity during the warm weather. But it is also the time when rattlesnake bites are most common. Here are a few tips to help keep you and your pet safe.

### Characteristics of a Rattlesnake

- Broad, triangular head and narrow neck
- Eyes with vertical pupils, similar to that of a cat
- Folding fangs
- Rattles at the end of the tail

### Common Behaviors

- Prefers to hide under rocks and in cool places when the weather gets hot
- Is less active in colder weather
- Can strike a distance of up to half their body length

### Safety Tips

- Keep away from areas with rocks, wood piles or tall grass
- Stay on trails during hikes and keep your pet on a leash
- Use a walking stick to rustle bushes along the trail to alert snakes of your presence
- Remove any rattlesnake hiding places in your yard or wherever your pet resides



### Some Bite Symptoms

- One or two puncture wounds
- Acute swelling
- Bleeding
- Pain

If your pet is bitten, seek medical treatment immediately. A veterinarian can determine the best course of treatment based on the symptoms.



**UCDAVIS**  
**VETERINARY MEDICINE**

(654W)

UC Davis Veterinary Hospital  
c/o Office of the Dean—Development  
School of Veterinary Medicine  
University of California  
One Shields Avenue  
Davis, CA 95616-8734

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## Mark Your Calendars

### **UC Davis Feline Forum** **November 6, 2016**

Feline fanciers – please join us for an educational event.  
Hear from world experts on topics including:

- How do you know when your cat is ill?
- Enrichment to optimize feline behaviors
- Feline heart disease: more questions than answers
- Vaccinology: current recommendations and evidence
- Nutrition: evidence to erase misconceptions

### **Heumphreus Memorial Lecture** **January 28, 2017**

For equine enthusiasts

### **UC Davis Picnic Day** **April 22, 2017**

Activities to include tours of the veterinary hospital.

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If you are interested in attending these events, please contact us for more information at (530) 752-7024.

## Stay Connected

### **For Appointments Call:**

Small Animal Clinic: (530) 752-1393  
Large Animal Clinic: (530) 752-0290



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