



Kate Hurley, associate director for the UC Davis Koret Shelter Medicine Program, visits the Yolo County Animal Shelter.

# VETERINARY MEDICINE

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# A Happy Day for Shelter Animals

Shelter medicine was one of two veterinary specialties recognized by the American Veterinary Medical Association board this year—thanks in large part to the dedicated efforts of Kate Hurley, associate director for the UC Davis Koret Shelter Medicine Program. She is amazed at how quickly the field of shelter medicine has evolved, from its fragmented and marginalized beginnings to recognition by the American Board of Veterinary Specialties.

"I remember when shelter medicine as a veterinary specialty wasn't even a twinkle in anyone's eye," Hurley said. "ABVS recognition will certainly help advance this growing field."

Hurley began her career as an animal control officer before receiving her DVM, an experience that has guided all her subsequent work with shelters and eventually led her to co-chair the committee to recognize shelter medicine as a specialty. Demand for long-term shelter of homeless

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OOTBALL

# Pint the Dog Entertains Aggie Football Fans

Once again this football season, Pint has taken up his duties as the kickoff tee retriever at UC Davis games. Now in his third season, he has become a fan favorite as he runs on the field after every kick-off to bring the tee back to the sideline. Pint, a Nova Scotia duck tolling retriever, is owned and trained by faculty member Danika Bannasch, a veterinary geneticist who breeds the retrievers.

This season, Pint's connection to the school has been featured prominently at games with a program advertisement and an in-stadium pre-game video highlighting the veterinary hospital's services. At the September 27 game, the school hosted "Veterinary Medicine Day at

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UC Davis Football," a gathering of faculty, staff, students, donors, referring veterinarians and clients. The group enjoyed a full day of activities, including a tailgate BBQ, the 5th Annual UC Davis BrewFest, and, of course, the game.

#### LEADING VETERINARY MEDICINE, ADDRESSING SOCIETAL NEEDS



Jim Clark (right) congratulates first-year student Christian Munevar following the White Coat Ceremony.

# Welcome Class of 2018!

The school welcomed its 67th class recently—an exceptional group of talented students who include a bagpiper, software engineer, violinist, rock singer, entomologist, Basque dancer and a Japanese sword fighter. They come from as far away as Turkey, Hong Kong, Singapore, South Korea, India and Taiwan. During the annual White Coat Ceremony, held in the UC Davis Arboretum, each of the 140 new students received their white coat, symbolizing their transition into the veterinary medical profession.

"Each one of our new students has a unique story and an inner drive; it is now up to us to encourage them to work hard and embrace their future as veterinarians," said Dean Michael Lairmore. "The roles for our new students will be defined not by the letters on their diplomas, but by the talent they bring to address the problems we all face in our interconnected world."

Assisting Dean Lairmore in the ceremony were: Associate Dean for Student Programs Sean Owens; third-year student Krista Prato Matthews; and Drs. David Ewey, Jim Clark and Dana Wiedenkeller.

## **Livestock Veterinarian Helps Improve European Meat Production**

atalina Cabrera, from the veterinary hospital's Livestock Herd Health and Reproduction Service, traveled to the Republic of Georgia twice in the past few years to help improve beef and pork production conditions in the former Soviet region. Through a USAID-supported Farmer-to-Farmer Program, Cabrera conducted training in embryo transfer and artificial insemination in an effort to increase the meat quality of livestock.



SVM veterinarian Catalina Cabrera instructs Georgian colleagues on embryo transfer techniques.

In this still-developing section of Eastern Europe, beef and pork producers are unable to meet the demands of customers due to low production results of the breeds indigenous to the area. Previous attempts to improve conditions involved importation of live animals with better genetics, but those plans failed as the animals could not adhere to the Georgian feed conditions and mountainous terrains. Cabrera's efforts sought to improve the genetics of the livestock so that future generations of animals born in the region—that would instinctively adapt to their conditions—would produce better quality and quantities of meat.

To improve pork production, Cabrera chose to artificially inseminate Georgian pigs with boar semen from several different breeds known for their production prowess. The first generation of the genetically improved piglets was born in the fall of 2013, and they were also artificially inseminated on Cabrera's follow-up visit the next year. In just a few generations of insemination, the once low quality Georgian pigs have evolved into a high quality swine breed.

Genetic improvement was more easily accomplished in cattle. Instead of artificial insemination, the cows were implanted with embryos from American Hereford cows to immediately produce 100

percent Hereford calves—the first Herefords born in the Republic of Georgia. The new breed—that will provide better weight gain, beef quality and therefore, production—is a vast improvement over the previous cattle that failed to produce high quantities of meat due to it being an old cross-breed not specialized or separated into meat and milk production.

Taking into consideration the cultural resistance in the region related to new technologies, Farmer-to-Farmer Program coordinators spoke highly of Cabrera's performance, drawing attention to her knowledge and professionalism that quickly instilled trust and respect from the 30 participants who received training. Thanks to Cabrera's teachings, the Georgian veterinarians and farmers now have the knowledge and connections to continue improving their meat production.

# **Recovered Golden Eagle Flies Free Again**

ne of California's most majestic birds of prey returned to the wild in May after eight months of treatment and rehabilitation at the UC Davis California Raptor Center (CRC). Dubbed 'Mitey Might,' the young female golden eagle was discovered in the summer of 2013 in Central California's Altamont Pass Wind Resource Area in very poor physical condition, with missing feathers and obvious patches of crusty bare skin.

Biologists with East Bay Regional Parks assembled a team to trap the eagle and bring her to the school's veterinary hospital for evaluation and treatment. She suffered from a rare infestation of a particular mite identified by school epidemiologists Janet Foley and Nicole Stephenson as most closely resembling Knemidokoptes derooi. These mites had never previously been documented in raptors or from birds in North America.

"This was a rare case and the degree to which this bird was affected must have been quite painful," said Michelle Hawkins, director of the CRC. "The mites caused severe lesions and crust, up to an inch thick in places, as part of the inflammatory process."

When a bird's legs and mouth are affected, Hawkins explained, it becomes painful to capture their prey and eat. Loss of feathers leaves a bird vulnerable to hypothermia and impacts flying ability. Several months of treatment with ivermectin and selamectin cleared the mite infestation, but the golden eagle still needed to regrow her feathers before release so she stayed over the winter at the raptor center.

Mitey Might was released at Las Trampas Regional Wilderness, because it is close to, but not within the Altamont Pass Wind Resource Area—a region where risk of injury to the eagle from wind turbine blade strikes remains high. She was outfitted with a small backpack GPS transmitter with solar recharging to track her progress and contribute to understanding of how golden eagles use this region.



Before treatment



While state wildlife officials have

Ready to fly

documented a few additional mite-infested golden eagles in California during the past year, they are hopeful that these are rare events. If people come across an infected bird, they should immediately contact their local California Department of Fish and Wildlife.

"We're thrilled to see how far this beautiful golden eagle has come in her recovery process," Hawkins said. "She is looking strong, healthy and well-adjusted to living back in the wild. Her success is a real testament to the collaborative effort of multiple agencies and people."

To see more photos of Mitey Might on the day of her release, visit http://on.fb.me/1tmWBsY.

### Gene Mutation for Heart Disease in Newfoundland Dogs Identified

team of researchers led by faculty member Joshua Stern has for the first time identified a gene mutation responsible for canine subvalvular aortic stenosis (SAS) in Newfoundland dogs. While SAS, one of the most common congenital heart defects in dogs, has long been known to be an inherited defect of Newfoundlands, golden retrievers and human children, specific genes involved in Newfoundlands with SAS had not been defined until now.

The researchers conducted a "whole genome" analysis, scanning thousands of genes, to reveal the origin of the mutation. The analysis confirmed that the inheritance follows a



Veterinary cardiologist Joshua Stern examines a Newfoundland dog.

certain pattern, by which only one parent needs to be carrying the gene mutation in order for the offspring to inherit the disease. Not all dogs carrying the mutation will develop SAS.

"Our hope now is that breeders will be able to make informed breeding decisions and avoid breeding dogs that harbor this mutation, thus gradually eliminating the disease from the Newfoundland breed," Stern said. "In addition, now that we know one gene responsible for SAS and more about which proteins are involved, our veterinary hospital's Cardiology Service can move forward to consider novel therapies that may help treat this devastating condition."



A newly characterized hormone in pregnant horses may lead to new treatments for preventing pre-term labor in women.

# **Reproductive Mystery Solved**

Veterinary scientists in the school have identified a new pregnancy-supporting hormone (dihydroprogesterone) in horses that solves a baffling reproductive mystery, and may have important implications for sustaining human pregnancies.

"This work ends 50 years of speculation as to how horses sustain the last half of their pregnancies, despite the fact that the hormone progesterone is no longer detectable in blood," said Alan Conley, a reproductive physiologist at the school and senior author on the study.

Conley and his colleagues are hopeful that further research will lead to naturally occurring therapeutics that are free of some of the potential health risks associated with the synthetic drugs currently available in human medicine.

This study was part of the doctoral research of lead author Elizabeth L. Scholtz, assisted by Benjamin Moeller, C. Jo Corbin, and Scott D. Stanley, all of UC Davis.

### Shelter Animals

Continued from page 1

animals has increased in recent years, putting these populations at greater risk of contracting infectious disease, developing problem behaviors, and suffering compromised welfare in confinement.

One of the new specialty's goals is to increase veterinary guidance within the animal shelter community and provide science-based recommendations that protect the health and welfare of millions of homeless animals. Training in shelter medicine is now offered at almost every veterinary college in North America along with several postgraduate internships and residencies, while hundreds of hours of continuing education on the subject are presented at veterinary conferences every year. The Association of Shelter Veterinarians, which began as a grassroots movement in 2001, today claims more than a thousand members, including some 700 veterinarians, and has student chapters in 22 veterinary colleges.

Part of this article was adapted from Scott Nolen's piece in JAVMA News.

# Philanthropic Partners Create a Brighter Future for Shelter Cats

Thanks to the generosity of philanthropic partners like the Koret Foundation, the UC Davis Koret Shelter Medicine Program (KSMP) is making great strides in protecting the health of pets in shelters and giving them a second chance to find lifelong homes.

"We are deeply grateful for recent gifts from the Maddie's Fund, and the Paul and Lea Levine Foundation," said Kate Hurley, associate director for the KSMP. "The work we and others have done over the last decade has built an incredibly powerful new set of tools to save the lives of homeless cats in North America. These gifts will help us put those tools into the hands of shelter workers across the country."

Maddie's Fund, a longtime supporter of the KSMP, pledged over \$860,000 to support "The Million Cat Challenge"—with a goal of preventing the death of a million cats in North America over the next five years. The challenge is a joint project of the Koret Shelter Medicine Program and the University of Florida's Maddie's Shelter Medicine Program.

The Paul and Lea Levine Foundation is also boosting the efforts of KSMP through their generous gift—including \$20,000 to create a user-friendly website for The Million Cat Challenge, and \$30,000, which helped launch a project to improve housing for cats in shelters.

For information about contributing a gift to the KSMP, please contact the Office of Development at (530) 752-7024.

# Welcome New Faculty

#### **Carrie Finno**

Assistant Professor of Genetics, Department of Population Health and Reproduction

#### Education

- PhD, UC Davis, 2012
- Diplomate, American College of Veterinary Internal Medicine, 2008
- DVM, University of Minnesota, 2004

#### Experience

- Assistant Professor, University of Minnesota, 2013-2014
- Post-doctorate, University of Minnesota, 2012-2013
- Resident, UC Davis, 2005-2008

#### **Special Interests**

• Companion animal genetics, equine neuromuscular diseases

#### Tara Harrison

Assistant Professor of Zoological Medicine, Department of Medicine and Epidemiology

#### Education

- Diplomate, American College of Veterinary Preventive Medicine, 2014 and American College of Zoological Medicine, 2008
- MPVM, UC Davis, 2002
- DVM, Michigan State University, 2000

#### Experience

- Assistant Professor, Michigan State University, 2013-2014
- Director of Animal Health, 2013-2014
- Veterinarian/curator, Potter Park Zoo, 2003-2013

#### **Special Interests**

• Cancer and cancer treatments in exotic and zoo animals; viral diseases of exotic canids and felids



Assistant Professor of Clinical Equine Surgery, Department of Surgical and Radiological Sciences



#### **Education**

- Diplomate, American College of Veterinary Surgeons-Large Animal, 2012
- DVM, University of Minnesota, 2004

#### Experience

- Associate Surgeon, Cleary Lake Veterinary Hospital, MN, 2012-2014
- Resident, UC Davis, 2008-2011

#### **Special Interests**

• Equine lameness, disorders of the upper respiratory tract

# Leading the Way

#### Patricia Pesavento

and **Brian Murphy** will serve as the new chair and vice-chair, respectively, for the Graduate Group in Comparative Pathology. Both board-certified veterinary pathologists, they are passionate about teaching and mentoring PhD students and have



been members of the graduate group since 2008. Pesavento's research focuses on naturally occurring diseases of animals, the identification of novel viral pathogens in a variety of animal species, and emerging diseases in animals in close interface with humans. Murphy has been an active member of the Educational Policy Committee and is very interested in high level scholarship and focused mentoring for students. His research is focused on viral transcriptional regulation (especially retroviruses), viral latency and the relationship of virus-host cell interaction to pathogenesis.

#### Jeffrey Roberts joined the

California National Primate Center (CNPRC) as associate director and the Department of Medicine and Epidemiology as an associate professor of primate medicine. A Diplomate of the American College of Laboratory Animal Medicine, Roberts previously served as assistant director (1989-2001) and associate director



(2001-2003) of the CNPRC before leaving UC Davis to start a successful private company, Valley Biosystems, which is engaged in primate research and consultation services. Roberts returned to academia to lead the center in the clinical care of primates and in the evolution of regulations governing nonhuman primate research. His research focus is centered on aging and cognitive decline in nonhuman primates.

# What Does the Cow Say?

"What is a veterinarian?" Jennifer Crook asks the group of students sitting in front of her. "Oh, oh, I know!" shout out a chorus of third graders raising their arms.

This excitement and interaction is exactly what staff from the school's Veterinary Medicine Teaching and Research Center (VMTRC) hope to create when they reach out to more than 1,200 elementary students and 45 teachers in Tulare, Kings and Fresno Counties every year.

With the help of a cardboard cow, veterinary tools, cow bones and other hands-on activities, the students learn more about careers in agriculture, interact with farm animals and explore healthy food choices.

Grant Jones-Wiebe, a computer resource specialist at the VMTRC, and Crook, one of the center's researchers, helped create the popular cardboard cow four years ago. She is filled with pink packing peanuts (representing muscles), a Styrofoam backbone, and various sized balls to represent four stomach compartments. Students can palpate the cow and even determine if she is pregnant (with a plush toy calf)!



Students learn about farm animals and careers in agriculture from Jennifer Crook of the VMTRC.

"Our goal is for education to be enjoyable and exciting," Jones-Wiebe says. "We want to spark their neural pathways with the power of education and when we see a smile creep across a child's face as they listen to their heart beating—we know the neurons are firing!"

# What's Happening at Vet Med?

Communication efforts promote the school's activities and contributions across multiple venues. Highlights include:

**Impact Sheets** – In an effort to capture the accomplishments of clinical and research teams across the school, more than 30 impact sheets have been developed on a broad range of topics including: horse racing safety; science in service to wildlife; autism research; cancer in animals and people; one health; and halting the next pandemic.

**VMTH Heartbeat** – This electronic publication features current clinical activities at the teaching hospital,

upcoming continuing education seminars and active clinical trials. Now distributed six times a year to referring veterinarians, clients and constituents, *VMTH Heartbeat* 

#### The Seven Strategic Goals

- Educate world leaders in academic veterinary medicine
- Perform high-impact transdisciplinary research
- Develop cutting-edge clinical programs
- Promote animal and human well-being
- Maintain school infrastructure and sustainable resources
- Retain excellent faculty and staff
- Promote academic, government, industry collaboration

provides a broad view of the 34 specialties dedicated to treating patients and training residents and DVM students.

**Web Site** – The school's website is a major source of information for updated news, teaching programs, research initiatives, community outreach projects, clinical services and continuing education. With more than 70,000 visitors each month, the communication team is dedicated to updating and adding to the site to provide the most current information.

**Social Media** – With more than 17,300 Facebook and 8,400 Twitter followers,

(more than any other U.S. veterinary school) the school's social media presence is alive and well. Daily posts keep the public tuned in on the lighter side of things.

# THANK YOU NOTES

# A Passion for Horses Inspires Support

Duffy and Ron Hurwin share a love of horses. Their passion for these magnificent animals and appreciation for the care their horses received inspired them to support the school.

Duffy, fond of horses all her life, especially enjoyed riding her Arabian mare, Hallastra, in the parkland near her home. Husband Ron had a very demanding career and was unable to join her on trail rides. But that all changed in 1995.

That year, Hallastra was diagnosed with equine protozoal myeloencephalitis—an infection of the central nervous system. Duffy became despondent and was worried that she might lose her riding companion. Hoping to comfort Duffy, Ron promised that he would take up riding if Hallastra recovered.

Thanks to the excellent care from equine specialists, Gary Magdesian and John Madigan, and Duffy's dedication to rehabilitation, Hallastra returned to the trail. Ron kept his promise—taking riding lessons and getting a horse of his own in 1996. Cazinova was also treated at the school's veterinary hospital for tendon injuries and is still sound, at 25 years old.

"Our horses are like our kids. They have received the most wonderful, loving care and attention at the school. We are lucky to live so close to a world-class facility where our horses have access to the best technology," Duffy said. "We chose to make a gift to the school to help fund research that will enable all horses to live longer, healthier lives. We hope our gift also benefits others by providing top quality care for their beloved horses."

For information about making a gift, please contact the Office of Development at (530) 752-7024.



Duffy and Ron Hurwin, grateful for the excellent care their horses received at the school, contributed a gift to help fund research to advance equine health.

### Center for Clinical Trials Enjoying Success

With more than 40 ongoing, cutting-edge clinical studies to date, the Veterinary Center for Clinical Trials leads the nation in advancing medical care for animals, and in some cases, humans. Trials include pain management in cats, auto-immune diseases in specific dog breeds, and stem cell therapy treatment in horses. Learn more at www.vetmed.ucdavis.edu/clinicaltrials.



# Classmates Reconnect at Alumni Weekend

The Class of 1964 (pictured to the left) celebrated their milestone 50th anniversary reunion during Alumni Reunion Weekend in October. The school also welcomed the founding classes of 1952, 1953 and 1954, as well as 1974, 1984, 1989, 1994 and 2004 back to campus to renew old friendships, celebrate classmates' successes, and reminisce.



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# CE *(<sup>C</sup>alendar*

#### **Veterinary Continuing Education**

(530) 752-3905 • Fax: (530) 752-6728 cecenter@ucdavis.edu

From neurology to oncology, the school is committed to life-long learning through its Veterinary Continuing Education. As this program thrives with a variety of nearly 20 new offerings, this newsletter will highlight a few courses, but this list is not complete. *Please visit their website for a comprehensive listing* of events at www.vetmed.ucdavis.edu/CE/.

#### 2014

**November 14-15** 9th Annual Veterinary Neurology Symposium, Monterey, CA

> **December 3-7** Explorer Series, Costa Rica

#### 2015

January 10-11 Livestock Symposium, UC Davis

**January 23-25** Multidisciplinary Advanced Therapies Symposium: Clinical Oncology, Napa Valley

> March 28-29 Winter Conference, UC Davis

For more information regarding CE: www.vetmed.ucdavis.edu/ce/.

#### 2014 Career Night

Over 70 company, practice and government agency representatives participated in the Fall 2014 Career Night. Companies promoted innovative products and services, and veterinary practices offered externships, internships, full-time employment and job shadow opportunities to 165 students in attendance. A great evening of successful networking!

### **Stay Connected**

School of Veterinary Medicine – Social Media Hub: www.vetmed.ucdavis.edu/about/social.cfm



#### LEADING VETERINARY MEDICINE, ADDRESSING SOCIETAL NEEDS

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