



Around-the-Clock Care

Following an automobile accident, a German shepherd became a fixture in the veterinary hospital's Intensive Care Unit, spending nearly two months recovering from massive trauma wounds that shattered his bones and caused significant internal damage. Such long hospitalizations can cause quite a bond between the animals and their caretakers. After long shifts of constant care, it was rewarding for the ICU team to see him walk out of the hospital.

No two days are the same in the ICU, where unique cases come for advanced care in veterinary medicine. The ICU treats the most critical patients suffering from life threatening conditions. As one of the hospital's largest and busiest services, the ICU is comprised of six board-certified faculty and staff veterinarians, four residents, five interns, and more than a dozen specially trained technicians, some of whom are Registered Veterinary Technicians and Veterinary Technician Specialists (an RVT certification indicating expertise in a specific area of care).

Paula Howell, RVT, VTS (ECC), cares for a dog in the ICU.

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Inspiring Veterinary Scholars

Often when scientists include a reference to feces in a study, the research involves food safety and how contamination makes people sick. That wasn't the case for Katti Horng, a second-year veterinary student at UC Davis presenting a poster on the use of fecal microbiota transplantation (FMT) during the recent annual Merial-NIH Veterinary Scholars Symposium.

Since different compositions of gut microbiota are linked to various immune disorders, including allergic reactions, Horng wanted to try FMT in dogs with atopic dermatitis to determine whether it could also help their condition. As one of more than 400 student scholars from around the country who attended the conference held this year at UC Davis, Horng said her ongoing work will provide insight into the effectiveness of FMT therapy in human and veterinary medicine.

Horng's research, initiated as part of the Students Training in Advanced Research program, also led her to enter the Veterinary Scientist Training Program

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Dr. Xinbin Chen, director of the Veterinary Scientist Training Program (VSTP), and VSTP student Katti Horng at the Merial-NIH Veterinary Scholars Symposium.

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Welcome Class of 2019!

With a mixture of excitement and nerves, the Class of 2019 listened to words of encouragement and advice from several speakers before donning their white lab coats and reciting the veterinarian's oath during the annual White Coat Ceremony. Held in the UC Davis arboretum on a beautiful August evening with family and friends present, the event celebrated the induction of 144 new veterinary students. Dean Lairmore welcomed the school's 68th class, noting some of their more interesting backgrounds: a dogsled musher, documentary producer, pole vaulter, professional saxophone player, Dreamworks animator and Quidditch player. Through some strange coincidence, 14 new students also have a twin. To be sure, they are bound to have some spectacular social events!



From the Ranch to Homeland Security

As a young girl, Dr. Roxann Brooks Motroni couldn't have imagined that her childhood dream of becoming a veterinarian would lead her to a fellowship within the U.S. Department of Homeland Security. But thinking outside-the-box about her career choices and pursuing research opportunities led Motroni to the Veterinary Scientist Training Program at the school where she completed a Ph.D. in Comparative Pathology (2012) and a DVM (2013).

Motroni's passion for research started at 16 through a high school program at Virginia Tech. She obtained a biology degree from the University of Maryland about the time that West Nile virus was entering the country.

"That really got me thinking about infectious diseases and the wildlife-livestock interface," she said.

UC Davis became the perfect fit for her with outstanding programs in both wildlife and infectious disease studies. Motroni rotated through Dr. Patricia Conrad's laboratory and spent a summer in Switzerland working on avian influenza before joining Dr. Jeff Stott's laboratory. Stott had been working for decades on developing a vaccine to prevent foothill abortion (FA) in cattle. He told Motroni, "This is your Ph.D.—you have free rein to try what you think will work."



Dr. Roxann Brooks Motroni obtained a Ph.D. concurrently with her DVM—at one of the few veterinary schools in the country that offer that opportunity.

She took that advice and helped find genes for a recombinant vaccine and developed a mouse model so they could screen vaccine candidates faster. Motroni also helped design and participate in the first live cow field studies that proved the efficacy of the vaccine before the USDA field trials were initiated.

Motroni followed her love of livestock and research first to a livestock ambulatory internship at the University of Tennessee and then to a position as an American Association for the Advancement of Science, Science and Technology Policy Fellow with the U.S. Department of Homeland Security, Agriculture Defense Branch. They fund research and development of vaccines, diagnostics and other countermeasures to help protect from high-consequence animal diseases that are foreign to the U.S. and could cause economic devastation. Currently, her main

project is working on an international field trial to test a novel foot-and-mouth disease vaccine.

"My boots-on-the-ground experience in developing vaccines, diagnostics and field trials through the school, my industry knowledge gained through working on the FA vaccine, and my clinical experience working with producers made me an attractive candidate," Motroni said.

Combating Antibiotic Resistance

In spite of efforts to reduce the overuse and misuse of antibiotic drugs—also known as antimicrobials*—in humans and animals, antibiotic resistance continues to be a critical public health problem. 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. The school, in collaboration with its partners, plays an important role in combating antibiotic resistance through high-quality educational, research, clinical and public service programs. Over the next three years, the FDA plans to phase out medically-important antimicrobial drugs to promote growth in animals and increase veterinary oversight to more closely regulate their therapeutic use.

Examples at the school include:

- **A workshop this fall focusing on the stewardship of antimicrobial use in livestock** will provide information on the FDA's new guidelines and revised Veterinary Feed Directive for livestock producers, their feed suppliers and veterinarians.
- **The Food Animal Residue Avoidance Databank** is a USDA-sponsored service that consists of regional units at the school and three other universities. It helps producers and veterinarians prevent or mitigate illegal or harmful residues of drugs, pesticides, biotoxins and other chemical agents that may contaminate foods of animal origin.
- **The California Animal Health and Food Safety Laboratory System** provides surveillance and diagnostic testing on milk and dairy products for drug residue and other unwanted substances such as antibiotics, which may have been used to treat sick cows.
- **The Center for Food Animal Health** encourages and supports research and outreach in areas like reducing antimicrobial resistance and improving stewardship of antimicrobials in food animal production.
- **Faculty members serve as experts informing and guiding public policy**, and take part in an industry and government task force on the state's antibiotic bill SB27.
- **Teaching future veterinarians responsible use of controlled drugs** is a critical part of the school's curriculum. DVM candidates must acquire competency in regulatory law and knowledge of drug withdrawal times and legal extra-label drug use in food animals.

* Antibiotics and similar drugs, together called antimicrobials, have been used for the last 70 years to treat human patients who have infectious diseases. Antibiotics are a type of antimicrobial, but not all antimicrobials are antibiotics. For example, anti-viral drugs and anti-fungal drugs are antimicrobials, but they are not antibiotics.



A DVM student checks the health of a cow at the Veterinary Medicine Teaching and Research Center in Tulare. Her training will include how to safely administer antibiotics for sick animals in line with regulatory standards so dangerous drugs don't enter the food supply.

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Faculty Recruitments Key for Collaborations

What makes a great faculty team? Diverse expertise, innovative collaborations, natural curiosity, love for teaching, and dedication to patient care. These unique qualities are shared by the school's faculty, who collectively advance the knowledge base and clinical applications of the veterinary profession and improve animal, human and environmental health.

A faculty team is built by maximizing current expertise with strategic recruitments to fill teaching needs and add clinical and research expertise to further complement existing strengths. New recruits infuse excitement and opportunity for existing colleagues and students, maximizing the potential for new collaborations. At UC Davis, the faculty embrace a collaborative approach to solving problems whether that be with their colleagues down the hall, across the campus, or around the world. Today's technology and expanding level of expertise allows multi-institutional experts to work together on specific clinical cases or research investigations to advance

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

into new areas. For example:

- To help a cat with a rare congenital heart defect, veterinary cardiologist Dr. Josh Stern assembled a team that included veterinary colleagues in cardiology and soft tissue surgery, as well as two pediatric cardiologists from the UC Davis Medical Center, to successfully correct the defect.
- Dr. Pam Lein, a developmental neurobiologist and neurotoxicologist at the school, collaborates with colleagues in neurology, toxicology, entomology, pharmacology, statistics and more from the UC Davis Medical Center, College

of Agricultural and Environmental Sciences and other universities to study medical countermeasures for neurotoxic chemicals that cause seizures in humans and animals.

Over the past three years, the school has strategically recruited 40 new faculty members, who complement and expand the breadth and depth of expertise critical to addressing complex patient health issues and advancing translational research into new territory.

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A condition the ICU sees often is respiratory distress. UC Davis is well known for its advanced mechanical ventilation capabilities, being one of the first hospitals to incorporate the technology decades ago. Another is kidney failure, either acute or chronic, as the school is the only place on the west coast that offers dialysis for animals. With acute cases, the ICU works closely with the hospital's renal medicine specialists to save animals poisoned by items such as antifreeze, an overdose of human medications or ingestion of toxic plants. Other times, a ureteral obstruction can cause kidney failure, like a Dachshund that needed emergency surgery to unblock the ureter. The dog's anemia was severe, and required a transfusion and around-the-clock ICU monitoring.

Often, animals are admitted to the ICU following surgery, like a poodle that suffered post-operative complications following gall bladder removal. The dog continued to regurgitate and developed aspiration pneumonia, concerning the veterinarians enough to place a feeding tube in him to bypass the irritated esophagus. Another was a young Labrador retriever treated for a pyothorax associated with a foxtail removal from her chest cavity and a partial left lung removal. The critical condition caused an overnight ICU stay for observation and frequent chest tube aspiration. By morning, her chest was returning to normal thanks to the expert care of the ICU.

Whatever the condition, the seasoned veterans of the ICU are prepared to handle it.

Inspiring Veterinary Scholars Continued from page 1

to earn her Ph.D. in conjunction with a DVM.

"One of the goals of this symposium is to encourage veterinary students in pursuing research opportunities," said Dr. Isaac Pessah, associate dean for Research and Graduate Education. "It was exciting to see the enthusiasm of this next generation of veterinary scholars during their poster displays and know they will be leading the field in the future."

This year's theme, *Solving Complex Challenges at the Interface of Humans, Animals and their Environment*, drew more than 600 participants, including leading researchers and educators from around the world. A highlight was the keynote address presented by Nobel Laureate Peter Doherty, the only veterinarian to receive the Nobel Prize in Physiology or Medicine.

Welcome NEW LEADERSHIP

Dr. David Wilson stepped down from his role as director of the Veterinary Medical Teaching Hospital (VMTH) and now serves a critical leadership position as Director, Veterinary Medical Center Facilities Planning. He served as VMTH Director and Associate Dean for Clinical Programs since June 2007, and provided outstanding and balanced guidance to the hospital during a time of unprecedented fiscal challenges. Through Dr. Wilson's strong leadership, the academic and operational functions of the hospital have been realigned to achieve fiscal stability. Overall caseload has increased by 30 percent, small animal caseload by 50 percent, with overall patient visits expected to exceed 50,000 in the 2014-15 fiscal year. Other major accomplishments during Dr. Wilson's tenure include reorganization of the Small Animal Clinic, restructuring of other clinical programs, establishing director positions for the Small and Large Animal Clinics, and establishment of the Veterinary Center for Clinical Trials.



Dr. Jane Sykes now serves as interim director of the VMTH. Her appointment will allow the school sufficient time to initiate a national search for a new director and associate dean for Clinical Programs. As interim director, Dr. 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 state-of-the-art clinical care and operational efficiency of all academic and clinical service activities. A veterinary internist, Dr. Sykes has served as the VMTH Small Animal Clinic Director since August 2012. Her research and clinical expertise is in companion animal infectious disease and she previously served as Infectious Disease Control/Biosecurity Officer for the Small Animal Clinic. Dr. Sykes holds leadership positions in several national and international professional organizations, and was recently appointed to the AVMA national taskforce on antimicrobial stewardship in companion animal medicine.



Building the Development Team

The school welcomes three new members to the Office of Development. Leading the way, **Trish Bloemker Sowers** serves as the assistant dean of advancement. She has a wealth of fundraising and management experience and was most recently the director of development for the College of Engineering at Carnegie Mellon University (CMU). During her four-year tenure there, Bloemker Sowers successfully led fundraising efforts for two capital building campaigns. Prior to CMU, she served as senior development officer at the Missouri University of Science and Technology, Washington State University and the University of Missouri-Rolla.



Pictured from left to right are Hyemi Sevensing, Trish Bloemker Sowers and Debbie Wilson.

With the increasing role of philanthropy helping the school accomplish its mission, additional senior staffing is boosting momentum. Joining the team are two senior directors of development, **Hyemi Sevensing** and **Debbie Wilson**. Sevensing most recently worked as the senior director of development for the UC Davis Betty Irene Moore School of Nursing. She has 12 years of experience and has held major gift fundraising positions with the Illinois Institute of Technology, the College of Engineering at Iowa State University and University of Louisville. Wilson comes to the

school from the UC Davis College of Letters and Science in the Division of Humanities, Arts and Cultural Studies, where she was the senior director of development for more than nine years. She brings 15 years of university fundraising experience.

Looking for Clues to Blindness

When 8-year-old golden retriever Sophie started walking into walls and having trouble finding the ball while playing fetch, her owner Meredith knew something was wrong with her beloved dog. A veterinary ophthalmologist diagnosed Sophie with Sudden Acquired Retinal Degeneration Syndrome (SARDS), a common cause of permanent blindness in dogs. Following that initial visit to her veterinarian, the disease rapidly took Sophie's vision, completely blinding her within four weeks. There is currently no treatment or cure for SARDS, a devastating condition for dogs and their families.

SARDS was first discussed in veterinary medicine more than 30 years ago, but much remains to be discovered regarding its underlying cause. Dr. Sara Thomasy, an ophthalmologist and vision researcher with the school, wants to change that with a new clinical trial focused on better characterizing SARDS with hopes of identifying protein biomarkers and/or the genetic components of the disease.

An estimated 2,000 dogs a year are diagnosed with SARDS, a number Dr. Thomasy thinks may be conservative. The disease doesn't discriminate, but most of its victims are middle aged, and more than 60 percent of them are female. Many owners report their dogs were lethargic before the diagnosis, and often had increased appetites and drinking habits, causing them to



Sophie was completely blind within about a month of being diagnosed with SARDS.

gain weight and urinate more. These factors point toward SARDS possibly being a systemic disease rather than an autoimmune disease randomly focused only on the retina. Dr. Thomasy is working with internal medicine specialists and neurologists to determine if that is the case.

The clinical trial will explore these and many other factors.

A retrospective study by UC Davis researchers, funded by the Center for Companion Animal Health, discovered that nearly 2-3 percent of dogs seen by the veterinary hospital's Ophthalmology Service were eventually diagnosed with SARDS. While the disease can affect any breed, Dachshunds are overrepresented in that group, making up 20 percent. This leads

Dr. Thomasy to believe that the breed may be genetically predisposed to SARDS. If the trial can determine a genetic mutation for this phenomenon, then a genetic test could be created and offered to breeders who could breed the disease out of the species.

As far as treatments for dogs afflicted with SARDS—that's not an easy task currently.

"A great deal of preliminary work needs to be done to understand the disease better," said Dr. Thomasy. "Until we understand it better, it's hard to even begin to think about potential therapies. Hopefully, this trial is the beginning of determining a cause for SARDS, and eventually a treatment."

Veterinary Efforts at the State Fair



Continuing a long-standing tradition, the school once again operated the Livestock Nursery at this year's California State Fair. Veterinarians, technicians and students showcased the live animal exhibit to eager attendees who were able to milk cows, make butter and learn the importance of veterinarians in food safety. For many visitors, the Livestock Nursery provided their first opportunity to interact with farm animals. The school was also responsible for wellness examinations, emergency care, and residue testing for exhibition animals. The fair provided an opportunity for students to gain important experience for their studies as well as their future careers in veterinary medicine.

Did You Know?

You can make a gift of appreciated securities and (maybe) save on taxes. With the rise in the stock market over the last several years, many donors have made gifts of appreciated securities to support their favorite causes. If you have owned a stock for at least a year and its current value is more than you paid for it, you can donate it and save on capital gains taxes. For more information, please call the Office of Development at (530) 752-7024.

Endowed Scholarship Honors Longtime Friend

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. During the 35 years they had worked as nurses at Stanford Hospital, they developed a close friendship and shared a joy in their pets.

In the 1980s, Stanford launched a new emergency response effort, the 11 p.m. – 7 a.m. Crisis Team. Murphy, a nursing supervisor, thought Boynton would be a great crisis nurse. They talked about the possibility for a year—how to best keep their friendship and not compromise their professional duties. Finally, Boynton agreed.

It turns out that their decision was a good idea. During their next 26 years on the Crisis Team, they shared many professional values—including attention to detail, life-long learning, continual improvement and excellence. In their personal lives,



Jan Boynton treasures a photo of her longtime friend, R. Darlene Murphy.

they cheered on one another's successes, provided assistance when needed and offered comfort in times of sorrow.

Boynton decided to retire in 2013; Murphy stayed for another year until becoming terminally ill. Saddened but reflecting on all the years, Boynton elaborated, "I had a very satisfying career at Stanford. Having Darlene as my boss had a lot to do with that. She taught me how to live well—to do what you can, with what you have, for as long as you can."

Over the years, their cats and dogs benefited from advances in veterinary medicine. Thus, Boynton decided a gift to the school would further these efforts. This scholarship will recognize outstanding veterinary students and help them to achieve their professional dreams.

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

Gift Advances Infectious Disease Research

Thanks to the generosity of Boehringer Ingelheim Vetmedica, Inc. (BIVI), the school created a fellowship to advance infectious disease research under the direction of pathologist Dr. Patricia Pesavento. This year's recipient of the BIVI Fellowship in Infectious Disease Research is Dr. Steven Kubiski.

"We are grateful to BIVI for their longstanding commitment to excellence in animal health and remarkable vision in supporting a veterinarian-scientist like Dr. Kubiski while he is early in his research career," Dr. Pesavento said. "Steven will be able to combine clinical, pathology, and molecular virology expertise. He is exactly the type of translational researcher that will be not only poised to recognize and diagnose



Pathologist Dr. Patricia Pesavento and fellowship recipient Dr. Steven Kubiski

disease, but also have the tools he needs to innovate cures and deterrents to disease."

Dr. Kubiski is a Diplomate in the American College of Veterinary Pathologists. He is pursuing his Ph.D. degree in Dr. Pesavento's laboratory and studying canine circovirus to determine its prevalence and pathogenesis—if and how it causes lesions in sick dogs.

"Obtaining a Ph.D. has always been part of the plan, and I was lucky enough to get into a program with an outstanding mentor and researcher,"

Dr. Kubiski said. "I'm glad to have found a niche in veterinary medicine and the improvement of animal health, and look forward to applying myself when I'm finished with my Ph.D."

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CE Calendar

Veterinary Continuing Education

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The school is committed to life-long learning through its Veterinary Continuing Education—this program thrives with a variety of nearly 20 annual offerings. A few of the programs are highlighted below but this list is not complete. **For a comprehensive listing of events, visit www.vetmed.ucdavis.edu/CE/.**

November 6-8

Donkey Welfare Symposium, UC Davis

December 1-6

Explorer Series, Costa Rica

2016

January 9

Livestock Symposium, UC Davis

January 22-24

MATS: Infectious Disease, Napa, CA

January 23

Heumphreus Memorial Lecture, UC Davis

January 31 – February 3

VSSO Meeting, Napa, CA

February 20-21

Winter Conference, UC Davis



VMSSAC Building

Dean Lairmore, staff, students and Pint the dog celebrated the groundbreaking for a new Veterinary Medicine Student Services and Administration Center (VMSSAC). Located across from VM3B, the VMSSAC is expected to be finished in the Fall of 2016 and will house the following units: Academic Programs, Student Programs, Global Programs, Research and Graduate Education, Development, Academic and Staff Personnel, Communications, Fiscal Services and Administration, Information Technology, Facilities and Safety Services, and the Executive Office. There will also be a café and outdoor event space.

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