



School Update – October 2015

WHITE COAT CEREMONY – CLASS OF 2019



Families and friends gathered in the UC Davis arboretum to celebrate the induction of 144 new veterinary students into the school during the annual White Coat Ceremony. With a mixture of excitement and nerves, the Class of 2019 listened to words of encouragement and advice from a few speakers before donning their white lab coats and reciting the veterinarian's oath.

Dean Lairmore opened the ceremony with a brief description of the school's 68th class, which includes a dogsled musher, documentary producer, medical assistant in Haiti after their big earthquake, animal shelter volunteer in Joplin post-tornado, pole vaulter, professional saxophone player, Dreamworks animator and Quidditch player. And through some strange coincidence, 14 of our new students have a twin.

Helene Dillard, dean of the College of Agricultural and Environmental Sciences (CAES), pointed out the similarities in the missions of the two schools and the fact that scholars in both are inspired to solve global health issues. Fifteen percent of the Class of 2019 completed their undergraduate degree in CAES.

NEW FACULTY



Dr. Bret McNabb joined the Department of Population Health and Reproduction as an Assistant Professor of Clinical Livestock Reproduction in July. He received his DVM (2007) from UC Davis and, after 2 years in large animal practice in Montana, he returned to Davis and completed a residency in Food Animal Reproduction and Herd Health and a Masters of Preventive Veterinary Medicine. He became board certified in the American College of Theriogenologists in 2012. Dr. McNabb has served as Resident Veterinarian and Staff Veterinarian at the teaching hospital since 2009, and has acted in the capacity of Chief of Service for the Livestock Herd Health and Reproduction Service since 2013. He has made invaluable contributions to the third year DVM curriculum and fourth year clinical rotations. In addition, Dr. McNabb has provided training for Food Animal Medicine and Surgery and Theriogenology residents and partnered with departmental colleagues in preparing residents for board examinations. His areas of interest are in livestock fertility, male and female reproductive and venereal diseases, obstetrics and advanced reproductive technologies.

Dr. Po-Yen Chou recently joined the Department of Surgical and Radiological Sciences as an Assistant Professor of Clinical Small Animal Orthopedic Surgery. He received his BVM (2004) and his MVM (2008) from the National Taiwan University in Taipei, Taiwan. He then completed both an internship and residency in Small Animal at the Atlantic Veterinary College, University of Prince Edward Island. Dr. Chou will teach and provide clinical service and clinical research in the Small Animal Orthopedic Surgery discipline. He will also provide leadership in directing research projects of residents and graduate students.





Dr. Jeroen Saeij joined the Department of Pathology, Microbiology and Immunology as an Associate Professor of Microbial Pathogenesis in September. He was a tenured Associate Professor at the Massachusetts Institute of Technology (MIT). He received undergraduate and graduate training (MSc in 1997, PhD in 2002) from Wageningen University, The Netherlands, and completed postdoctoral training at Stanford in the laboratory of Dr. John Boothroyd. Dr. Saeij will participate in the Infectious Disease Immunity block in the professional curriculum and may contribute to undergraduate or graduate teaching in the Molecular Basis of Infectious Disease. He is a molecular parasitologist who focuses on the pathogenesis of *Toxoplasma gondii* infection, primarily using a mouse model to understand immunologic responses at the molecular and cellular level of host parasite interaction.

Dr. Jennifer Willcox recently joined the Department of Surgical and Radiological Sciences as an Assistant Professor of Clinical Medical Oncology. She received her DVM degree from The Ohio State University in 2008 and completed two small animal medicine internships before pursuing a Fellowship in Bone Marrow Transplantation at North Carolina State University (2010-2011). She completed a Medical Oncology Residency at North Carolina State University and became a Diplomate in the American College of Veterinary Internal Medicine (Oncology) in 2014. Dr. Willcox joins us from the University of Missouri where, as a clinical instructor of medical oncology, she was involved in the areas of clinical service, teaching, and clinical trials.



Dr. David Guzman joined the Department of Medicine and Epidemiology as an Associate Professor of Clinical Zoological Companion Animal Medicine and Surgery in July. He received his veterinary degree from the University of Leon, Spain (2002). He then completed an Exotic Animal Medicine and Surgery Internship at Tufts University in 2005 before pursuing his combined Zoological Medicine Residency and Master's in Veterinary Medical Sciences at Louisiana State University in 2008. Dr. Guzman is board certified in Avian and Small Mammal Medicine by the European College of Zoological Medicine (ECZM) and in Zoological Medicine by the American College of Zoological Medicine (ACZM). Dr. Guzman has strong clinical interests in soft tissue and orthopedic surgery, and oncology in exotic animals. His research focus is in avian therapeutics and infectious diseases.

NEW LEADERS

The school welcomed three new members to the Office of Development. Leading the way, **Trish Bloemker Sowers** (middle) has been appointed as the assistant dean for advancement. She has a wealth of fundraising and management experience and most recently served as the director of development for the College of Engineering at Carnegie Mellon University. During her four-year tenure there, she successfully led fundraising efforts for two research 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.



With the increasing role of philanthropy helping the school accomplish its mission, additional high level staffing is boosting momentum. Joining the team are two senior directors of development, **Hyemi Sevening** and **Debbie Wilson**. Ms. Sevening (left) 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. Ms. Wilson (right) 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 to her new position.

CURRENT FACULTY RECRUITMENTS

- Professor of Clinical Livestock Herd Health (PHR) – candidate accepted
- Director/Professor CNPRC – candidate accepted
- Professor of Infectious Diseases (CCM/PMI) – candidate identified
- Professor of Developmental Cancer Therapeutics (VSR/VMB) – advertised
- Professor (50%)/Professor In-Residence of Respiratory Biology (50%) (APC) – On hold pending appointment of CNPRC Director
- Professor of Diagnostic Imaging (VSR) – candidate accepted
- Professor of Neurology/Neurosurgery (VSR) – interviewing
- Professor of Soft Tissue (VSR) – candidate accepted
- Professor of Clinical Pathology (PMI) – search committee appointed
- Professor of Dermatology (VME) – advertised
- Professor of Zoological Medicine (VME) – interviewing
- Professor of Small Animal Internal Medicine (VME) – advertised
- Professor of Clinical Diagnostic Microbiology (CAHFS-San Bernardino Lab) – interviewing
- Professor of Clinical Diagnostic Pathology (CAHFS-Tulare lab) – interviewing
- Professor of Clinical Anesthesiology – (VSR) – advertised
- Professor of Clinical Neurology/Neurosurgery – (VSR) – advertised
- Specialist in Cooperative Extension-Beef Cattle Herd Health and Production – (PHR/Vet Ext) – committee appointed

BUTTE AND VALLEY FIRE DISASTER RESPONSE



The school's team of faculty, staff, residents and students joined with the California Veterinary Medical Association, Middletown Animal Hospital (MAH), Cal Fire and other emergency responders and volunteer groups to offer search and rescue, animal health checks and emergency veterinary care to the animal victims of the recent Valley and Butte Fires. Dr. Claudia Sonder spent almost a week supporting the Valley Fire animal care needs, often going door-to-door, ranch-to-ranch, looking for animals that had to be left behind. The fires approached so rapidly the residents barely had time to get out with their lives. Throughout the week she worked in collaboration with Dr. Grant Miller (CVMA) and Dr. Jeff Smith and his team at MAH and the UC Davis veterinary hospital.

Drs. John Madigan, Eric Davis and Patricia Andrade and members of the Veterinary Emergency Response Team, residents and DVM students from the veterinary hospital's Large Animal Clinic and disaster response staff from the International Animal Welfare Training Institute all supported Valley Fire animal victims.

At the Butte Fire, several LAC residents and students helped assist the staff at the Angels Camp Veterinary Hospital, where many of the animals brought to UC Davis originated. Rescue group volunteers transported animals from Angels Camp to UC Davis throughout the week.





Once at the veterinary hospital, Small Animal Clinic ER/ICU faculty Steve Epstein, Kate Hopper, animal health technicians, residents and students, Client Services personnel, and Large Animal Clinic teams all worked together to care for the 55 animals brought in from the fires for treatment.

Working in conjunction with other veterinarians and rescue groups, UC Davis has received 40+ cats, four horses, two pigs, two chickens, one dog and one goat. Nearly half of the animals are unclaimed. Through microchips and communication efforts to post photographs on the school's Facebook page, hospital administrators have been able to reunite eleven cats and the goat with their owners. All of

those owners lost everything in the fires, but reunions with the animals were lighting up their otherwise damaged worlds.

The "all hands on deck" situation called for coordination from every level of the hospital, with faculty, staff and students all coming together to make the influx of emergency patients as smooth as possible. All of this was handled during a time when the specialty hospital was already at nearly 90 percent capacity with normal patients unrelated to the fires.

"We don't see significant burn injuries very often," said Dr. Erik Wisner. "They require a great deal of treatment, support and nursing care. Everyone rises to the occasion when these kinds of things happen." Most of the cats are expected to survive, but many will



require weeks of treatment.



UC Davis responded when the Butte and Valley fires first erupted. The ensuing conflagrations killed six people, flattened more than 1,500 homes and blackened 150,000 acres. Members of the hospital's Veterinary Emergency Response Team, who are dispatched to animal crises across the region and beyond, traveled to Middletown and Angel's Camp, where firefighters and residents were picking up burned and injured animals. Initially working in the dark, without electricity, they helped assess and treat the victims, and transported the most seriously injured to UC Davis.

FARM-TO-FORK FESTIVAL

The California State Capitol served as the backdrop for the third annual Farm-to-Fork Festival. The estimated crowd of more than 30,000 participants enjoyed the food and drinks supplied by producers, restaurateurs, other food or beverage delivery outlets. Participants had the opportunity for face-to-face contact with the people who are feeding our region and the world. The school and the Western Institute for Food Safety and Security hosted a booth of fun games and informative posters to educate festival goers about food safety and the role of veterinarians in protecting public health.



VETERINARY MEDICINE STUDENT SERVICES AND ADMINISTRATION CENTER



Dean Lairmore, staff, students, and Pint the dog celebrated the groundbreaking for a new Veterinary Medicine Student Services and Administration Center (VMSSAC) on July 22nd. The new facility, expected to be finished in the Fall of 2016, 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 with a walk-up window--for those with a dog in tow--and outdoor event space. This building will complete the move of veterinary medical programs from the central campus to the Health Sciences District, enhance the services provided to students, and provide a focal point for the activities housed there.

FALL CONVOCATION – BUILDING THE FUTURE OF VETERINARY MEDICINE

At the Fall Convocation on September 22nd, Dean Michael Lairmore was invited to share the school's vision and activities in support of society. He discussed the educational opportunities for students, the innovative research led by faculty and the high standard of veterinary practice and public service by the clinical specialists, diagnostic laboratory teams and outreach professionals. From investigations of pathogens transmitted from animals to people, to the use of stem cells to regenerate tissue, the transdisciplinary teams of faculty, staff, and students are expanding the frontiers of revolutionary new treatments that will benefit animals and people, now and in the future.

The school's biggest vision for the future includes the planning of a Veterinary Medical Center – a place of healing, innovation and discovery.



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 over 30 specialties, and unique technical advances in diagnostic services. The new facility will allow veterinary clinicians to work side-by-side with researchers and students in disciplines ranging from medicine to bioengineering, pushing the envelope of biomedical research to advance the health of animals, people and the environment.

The facility is a 10-year phased plan that includes 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.

VETERINARY SCHOLARS INSPIRED TO SOLVE COMPLEX GLOBAL HEALTH CHALLENGES



More than 400 student scholars from around the country attended the annual Merial-NIH Veterinary Scholars Symposium on the Davis campus in 2015. The interplay of human and veterinary medicine was at the forefront of the conference, which is hosted by a different veterinary school or college around the nation each year. The theme for 2015, “Solving Complex Challenges at the Interface of Humans, Animals and their Environment,” broke attendance records with more than 600 participants, including leading researchers and educators from around the world.

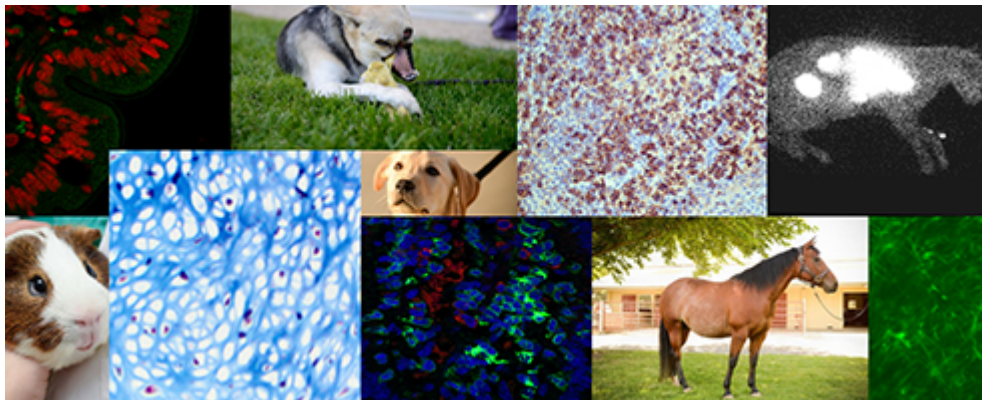
Nobel Laureate Peter Doherty presented the keynote speech, “The Killer Defense,” to an enthusiastic crowd. As the only veterinarian to receive the Nobel Prize in physiology or medicine — shared with Swiss immunologist and pathologist Rolf Zinkernagel in 1996 — Doherty said veterinarians have long played a role in public health. The work that earned him the Nobel focused on how cells mount an immune defense — an endeavor he was quick to point out was built on the work of others. Doherty emphasized the importance of connecting with others with a different skill set and sharing ideas. Discoveries happen when people from outside a particular field approach a problem with new eyes or a new technique.

Dr. Brian Bird, who received his DVM and Ph.D. from the school, presented a riveting talk about the synergies between the bench and the field — a place where he has spent plenty of time over the past year and a half. As a zoonotic disease virologist with the U.S. Centers for Disease Control and Prevention, Bird played a key role in establishing and operating a field laboratory in Sierra Leone to provide rapid diagnosis of suspected Ebola patients during the recent outbreak. The 3-day conference was well organized and deemed a huge success by all participants.

VETERINARY INSTITUTE FOR REGENERATIVE CURES

On November 4th from 5:30 – 8:00 p.m. in Gladys Valley Hall, the new Veterinary Institute for Regenerative Cures (VIRC) will host an event to publically launch the Institute. The VIRC plans to present more than 12 booths located throughout the lobby area (1st and 2nd floors) where visitors can informally mingle and learn about the myriad of programs associated with the VIRC and the opportunities for health improvement utilizing regenerative medicine.

VIRC Mission Statement - *Pioneering regenerative medicine cures for animals and people*



Over the past 7 years, faculty at UC Davis have committed significant time and effort into transforming the School of Veterinary Medicine into a national leader for veterinary regenerative medicine. They have established laboratory techniques and animal models that have been used to study regenerative therapies in veterinary and human medicine. They have characterized equine, canine and feline stem cells isolated from different issues (fat, bone marrow, umbilical cord blood and umbilical cord tissue) with a focus on adult-derived mesenchymal stem cells. They have developed collaborative, interdisciplinary “disease teams” that include basic research faculty and clinical faculty that focus on “bench to bedside” translation of stem cell therapies. Additionally, they have built strong collaborations with faculty in the School of Medicine, College of Engineering (Biomedical Engineering) and College of Agricultural and Environmental Sciences (Animal Sciences). Areas of emphasis include:

1. Manufacturing quality stem cell products for research use and for use in client-owned animals
2. Labeling stem cells for in vivo imaging and tracking these cells using state-of-the-art imaging technologies in living patients
3. Defining how cells work to heal tissues in *in vitro* models
4. Developing large animal models of diseases and disorders to better understand stem cell function *in vivo*
5. Identifying relevant naturally occurring large animal models of disease for stem cell therapy clinical trials to benefit veterinary patients and inform human clinical trials
6. Training the next generation of undergraduate and professional students, residents and technicians in cutting edge stem cell biology

Stem Cell Therapy at the Veterinary Hospital

Dr. Larry Galuppo, the hospital’s chief of equine surgery, leads a team that uses injected stem cells in place of traditional rehabilitative therapies. Their efforts have restored the ability of horses with severe leg injuries to walk and even run again. In one instance, Galuppo and his team were able to help a race horse return to competition.

Stem cells have the unique ability to differentiate into specialized cell types, which can then be used to repair damaged tissues and organs. Veterinary surgeons have injected the cells into horses suffering from tendon, ligament and bone injuries. While the therapy has not worked in every case, it has produced results ranging from pain reduction to substantial regeneration. The best outcomes have occurred in horses whose injuries were detected early.

In the case of horses younger than 15 years, bone marrow stem cells are relatively easy to collect. In the younger horses, it can be obtained from the hip, and in the older horses from the sternum. For horses older than 15, stem cells derived from fat are often a better option because they remain in sufficient quantities throughout the life of the animals.

Stem cells from umbilical cord blood are used to treat severe conditions of the foot, such as laminitis, for which the cells seem to have the highest regenerative potential. Galuppo’s team is still in the early stages of its work with umbilical cord tissue and further research is expected to be conducted at UCD.

Stem cells can be introduced to the body of a horse via injection — often guided by ultrasound — at the site of the injury or injection into an artery, depending upon the injury. The use of stem cell therapy in horses, and particularly in dogs and other small animals, may eventually contribute to human health as well.

Small-animal naturally occurring disease models are just perfect for what’s going on in people. We can use regenerative medicine for kidney and liver problems, which also occur in people. The VIRC is now pursuing parallel research and translational medicine with what is being



studied at the UC Davis Health System.

Stem cell therapy is not a miracle by any means. It is, however, one veterinary tool that can be further developed in the future for both animal and human health benefits.

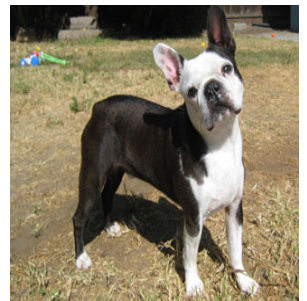
VETERINARY CARDIOLOGISTS IMPLANT PACEMAKER TO SAVE DOG

Rocket, a 10-year-old Boston terrier, was taken to his veterinarian after he appeared to hurt himself jumping on the bed. His veterinarian did notice some tightness in his neck, but, more importantly, noticed something else that was much more serious for Rocket. A dog's normal heart rate is generally around 100, but Rocket's had dipped to less than half of that. He was referred to the heart specialists in the [Cardiology Service](#) at the veterinary hospital for further evaluation of his extremely slow heart rate.

[Dr. Josh Stern](#), chief of the Cardiology Service, diagnosed Rocket with a condition known as a complete or 3rd degree atrioventricular (AV) block, which stops the "pace-making" area of the heart from being able to communicate appropriately to the rest of the heart for a unified contraction. This "block" in communication causes the heart muscle to find alternate ways of beating on its own, but at a much slower rate. There are a few causes of 3rd degree AV block, but it is most commonly caused by an idiopathic fibrosis of the conduction area of the heart.

The slower beats, ventricular escape complexes, are not a long-term way for the heart to function, and studies have shown that dogs with 3rd degree AV block are at high risk of sudden death. Therefore, it was recommended that Rocket undergo the placement of a permanent pacemaker to provide a normal heart rate.

To ensure that Rocket was a good candidate for the pacemaker, Dr. Stern and his team performed a cardiac evaluation, consisting of multiple diagnostic tests. X-rays of his chest were taken and showed enlargement of the heart. Abdominal ultrasound showed a slightly enlarged liver and a small accumulation of fluid in the abdomen. These findings were consistent with very mild right-sided congestive heart failure. Also performed were an electrocardiogram and an echocardiogram. Blood work (complete blood count, chemistry panel, heartworm test, tick-borne disease assessment) and urinalysis were performed to ensure that Rocket did not have any concurrent illness that would contraindicate the interventional surgery procedure.



All of Rocket's tests were unremarkable, and Dr. Stern proceeded with pacemaker placement the following day. Rocket recovered for a night in the ICU where he was continually monitored and kept quiet with sedation to minimize movement. He went home the next day to his happy family.

UC Davis offers state-of-the-art pacemakers made especially for dogs. The battery lifespan for a brand new device is more than 10 years. Rocket's pacemaker is set to deliver 80 beats per minute, with an upper limit of 160 beats per minute. The pacemaker will respond to Rocket's activity level and increase accordingly depending on how much he moves in conjunction with the range that was set.

UPCOMING CONTINUING PROFESSIONAL EDUCATION

October 18 - [Year in Review](#), UC Davis

November 6-8 - [Donkey Welfare Symposium](#), UC Davis

December 2-6 - [Explorer Series](#), Costa Rica

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