



Strategic Plan: Progress Actions July – September 2019

The School of Veterinary Medicine Strategic Plan was developed to evolve and refine the direction of the school to meet its stated mission, vision and goals. The plan supports the university's Strategic Plan, To Boldly Go, and the Principles of Community, which articulate the values and principles by which the UC Davis School of Veterinary Medicine conducts its mission. The school's plan can be found at <https://www.vetmed.ucdavis.edu/strategic-plan>.

This report summarizes the progress actions across the school from July through September, 2019.

GOAL 1: EDUCATE WORLD LEADERS

Strategy 1.1. Promote Faculty and Staff Engagement in Career Development Programs and Best Practices for Educators



Strategy 1.1. Professional Education: VIRC

The 1st annual mini symposium in regenerative medicine brought together regenerative medicine researchers on the human side (Institute for Regenerative Cures) and veterinary side (Veterinary Institute for Regenerative Cures) to discuss and provide updates on current stem cell research projects and to form collaborations within the institutes.

Professional Education 2019–2020 Call for Faculty Development support – small grants for faculty to attend Medical Education Meetings.

One Health Institute The Oiled Wildlife Care Network (OWCN) announced a call for research proposals from wildlife professionals for its 2020–21 competitive grants program. The research supports OWCN's efforts to save more oil-affected animals through increased efficiency of current resources and adoption of new, effective technologies. Pre-proposals were due Sept. 6; small grant proposals are due Dec. 20. <https://owcn.vetmed.ucdavis.edu/research/competitive-grants-program>.

VIRC:

- VIRC members attended, presented seminars and chaired sessions at this year's North American Veterinary Regenerative Medicine Association meeting.
- VIRC Director Boaz Arzi along with VIRC members Drs. Natasha Vapniarsky-Arzi and Jamie Peyton traveled to UCSF for a day of regenerative medicine seminars and collaboration.
- VIRC hosted a regenerative medicine special seminar given by Dr. Amnon Sharir, DVM, PhD from The University of California San Francisco's program in craniofacial biology.

PMI Fauna Smith, DVM and PhD candidate in the Integrative Pathobiology Graduate group was invited to present her research at the 4th Graduate student symposium at the Fred Hutch Cancer Research Center in Seattle, WA on August 27th. Her talk was entitled: *Mechanisms of CD5+B-1 Cell activation and differentiation in response to infection.*

Strategy 1.2 Promote Dynamic, Up-to-Date Curriculum and Training Programs to Foster Educational Goals and Career Opportunities

Strategy 1.2 Professional Education: Student Programs

The Student Veterinary Emergency Response Team received \$2,550 for their Special Studies Program from the Student Programs SVM Club Grants.



Student Programs The SVM Club Grant provided \$25,000 to student organizations throughout the 2018–2019 school year. These funds are dispersed to registered student organizations through a Club Grant application twice a year: Fall and Spring semester. This funding has helped clubs put on symposiums, lunch talks and a variety of educational talks. We were able to provide funding to 19 student clubs.

- **Avian and Exotics Medicine Club** received \$1,000 to hold wet labs on reptile handling, iguana necropsy, and parrot physical exam and offer lunch talks on exotics ophthalmology and animal enrichment. They also teamed up with WAAM to host the Wildlife and Exotic Animal Symposium.
- **Behavior Medicine & Animal Welfare Club** received \$1,400 for Educational Speaker Series including presentations of common internet memes presenting alarming animal behavior, a lunch talk on assessing the mental status of animals in research, clinical, or agricultural settings as well as a lecture on behavioral assessments of welfare for zoo animals. Partnering up with CMC, FMC, SCAV, and Path Club, BMAW put on a Veterinary Forensics workshop where attendees attended lectures and then participated in a mock courtroom.
- **Broad Spectrum: Student Chapter of Pride VMC** received \$1,500 to assemble a speaker series to educate students and staff of what is like being a member of the LGBT+ community in today's world. The first lunch talk was a panel of LGBT+ people and allies sharing their stories and experiences with identifying as LGBT+ within and without the veterinary world. The second lunch talk was the story of Merelin, a trans woman from Honduras who had fled to the US due to experiences in her home country. Two native Spanish speaking students acted as translators.
- **Caduceus Club** received \$3,700 for four TGs throughout the school year: a Halloween TG, a Thanksgiving TG, a February TG, and a March TG. Each TG had over 100 students and 30+ faculty/staff in attendance.

- **Equine Medicine Club** received \$1,000 to host the Equine Medicine Club Lameness Series consisting of five dinner talks: Front Limb Anatomy, Common Front End Lamenesses, Lameness Exam Basics, Hind Limb Anatomy, Common Hind End Lameness, Imaging of Distal Limb, Farrier Therapeutics, and Localizing Lameness and two labs: Limb Palpation on Live Horses and Joint Injection and Nerve Blocks on Cadaver Limbs.
- **FARM Club: Food Animal and Reproductive Medicine Club** received \$1,900 for their 8th annual Cattle Improvement Symposium. The event allowed producers and students to spend the day learning about pertinent issues and discoveries in the cattle industry, as well as participate in their toxic plant and calf-pulling wet labs.
- **Fracture Program Club** received \$1,750 for the Fracture Club Educational Series for Veterinary Students. Educational lunch-talk events and wet labs included Avian Bandaging Wet Lab, 3-D Printing and Orthopedic Surgery, Bone Pathology & Fractures, and Funds for Foster Patients.
- **Health & Wellness Club** received \$2,800 to host student and faculty yoga, kickboxing and populates classes, as well as a large lunch talk about simplifying wellbeing. Funding was also used for Post Secret during their Week of Wellness where students were able to anonymously voice personal struggles and leave support for one another as well as offering healthy snacks and fruit for the final study hall for the year 2 cumulative.
- **Integrative Vet Medicine** received \$600 for multiple lunch and dinner talks discussing issues like the use of acupuncture on companion animals, modifying hospice care for companion animals, the use and benefits of photobiomodulation therapy, and the benefits of fecal microbiota transplants for pets.
- **Orphan Kitten Project** received \$800 for their Orphan Kitten Project Coordinator wet lab.
- **Mercer Vet Clinic** received \$1,000 to attend the Mercer Veterinary Clinic December 8, 2018.
- **Radiology Club** received \$150 to host Sonowars, an event with the purpose to provide radiology-related learning opportunities and activities not provided by the core curriculum, including ultrasound-guided abdominocentesis, practicing finding and identifying objects on ultrasound, competing in MRI jeopardy, diagnosing by ultrasound videos, and interpreting nuclear medicine images. Funds were allocated to create eight large ultrasound phantoms for the ultrasound practice in lieu of cadavers.
- **SAVMA: Student Chapter of the American Veterinary Medical Association** received \$1,450 to put on three breakfast events for the fourth year students, and hosting an Animal Forensics Workshop, a free event for all UCD SVM students with a series of lectures on definition and necessity on reporting animal related crimes, crime scene collection, types of abuse, and various pathology reports for the types of abuse.
- **Student Chapter of the Association of Shelter Vets** received \$500 to assist in hosting the Animal Forensics Workshop, creating kitten foster packs that were donated to the Yolo County Animal Shelter, and hosting a dinner talk on veterinary forensics.
- **sVERT: Student Veterinary Emergency Response Team** received \$2,550 for their Special Studies Program where students of each level participated in full day weekend wet labs to prove and enhance their skills in natural disaster scenarios. Funds were used to purchase wet lab materials, food for lectures and discussions, and bring in speakers.
- **VMBA & FARM Clubs** received \$500 to host a joint talk by Dr. Cody Creelman on Big Animals, Big Business.

- **Theriogenology Club** received \$1,000 to conduct an Embryo Transfer Wet Lab.
- **VOICE: Vet Students As One In Culture & Ethnicity** received \$500 to host a Microaggressions workshop.
- **WAAM: Wildlife & Aquatic Animal Medicine** received \$900 to assist in hosting the annual Wildlife and Exotic Animal Symposium (WEAS) alongside the AECM. With the help of this grant, WAAM was able to have 33 students on Saturday and 31 students on Sunday attend the symposium for free.



Strategy 1.2: Promote curriculum and training

WIFSS Dr. Sara Garcia, Project Scientist at WIFSS helps lead a team building exercise during the first week of the student summer conference. Qingyuan Hu a student in the College of Agricultural Engineering at NAU, helps explain his team's definition of One Health Institute during the collaborative learning activity.

Professional Education:

- Dr. Joie Watson attended AMEE meeting (Association of Medical Educators of Europe) to meet and work with leaders in medical assessment.
- Dr. Joie Watson visited Utrecht University to establish a collaboration with Dr. Harold Bok, working on Programmatic Assessment and Progress Testing.
- Held Brown Bag Workshop “Tools for Engaging and Interactive Presentations”.

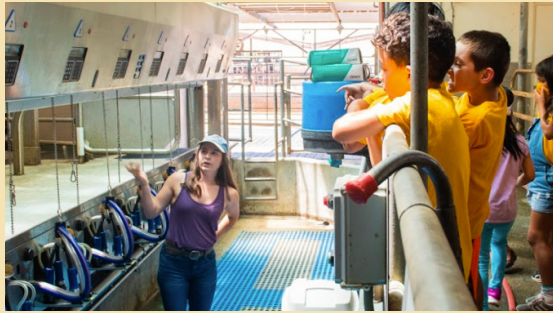
VM Teaching and Research Center – Tulare Dr. Terry Lehenbauer served as one of 15 members on the AABP Food Animal Educators Task Force to identify needs, challenges and opportunities for graduating future generations of well-prepared veterinarians that will be involved in bovine practice. His team developed a list of competencies required of new graduates involved in cattle practice and mapped those competencies within the nine domains of competence listed in the AAVMC Competency-Based Veterinary Education: Entrustable Professional Activities.

Student Programs:

- Welcomed the new Class of 2023 – many interactions and events.
- Awarded and received grant for “This is How we Role”, to provide career exposure in veterinary research/clinics to an after-school program for children in grades K-4.
- Finalized a new student leadership program – Leadership Exploration and Development Series (LEADS).

VIRC:

- VIRC members attended and presented seminars at the North American Veterinary Regenerative Medicine Association (NAVRMA) annual meeting held at Niagra on the Lake Ontario.
- Dr. Borjesson spoke at ISCT (international society for cell and gene therapy) in Madison, WI on “How naturally occurring disease models in dogs and cats inform human clinical trials” in a One Health session.



Strategy 1.2: Promote curriculum and training programs

Student Programs Completed Vet Med Youth Camp (weeklong veterinary immersion for ~80 local campers, ages 8-10 years, mentored by DVM students).

CCAH CCAH Director Dr. Michael Kent, and KSMP Educational Veterinarian Dr. Stacy Kraus, are participating in the Shelter Medicine Task Force. The task force will consider and report on how the Shelter Medicine (Surgery) rotation operates, what learning outcomes are currently met on this rotation, what areas of Shelter Medicine (disease control, behavior etc.) need to be incorporated in our curriculum, and by what mechanisms can we ensure the training that we identify as valuable can be delivered – consider delivery models (in-house or distributed) and potential partnerships.

PMI Denise Imai-Leonard was Invited to speak at the NIA-supported Geropathology Mini-symposium at the American Aging Association Meeting on May 29, 2019. Presented on “Establishing and upgrading Geropathology grading guidelines” to disseminate a consensus recommendation for grading histopathologic lesions associated with aging in laboratory rodents.

Strategy 1.2: Promote curriculum and training

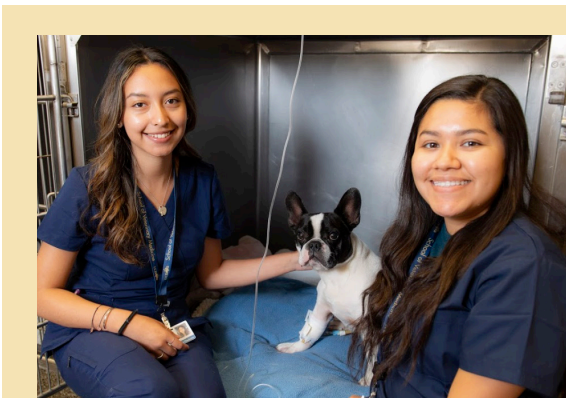
WIFSS WIFSS has delivered 18 courses and trained over 500 participants since 2016 through two course curricula that offer an opportunity for statewide leadership to meet and discuss the various all-hazards events that could impact the economy of agriculture and livestock in the region. There are six more paired deliveries scheduled for the remainder of 2019, plus a waitlist. In this photo, co-course instructor Mike Payne, WIFSS veterinarian and volunteer



firefighter, (wearing black jacket standing in back row in front of fire engine), joins Tracey Stevens, WIFSS instructor/trainer (front row), at AWR 328 Course in Orange City, Iowa

WIFSS WIFSS is a representative of the Rural Domestic Preparedness Consortium, RDPC, an organization tasked with the development and delivery of Department of Homeland Security (DHS) certified courses. WIFSS helps train hundreds of first responders, NGO’s, public and private sector responders in all hazards preparedness for animals in disasters and planning for animal, agricultural, and food related disasters. The courses offer an opportunity for statewide leadership to meet and discuss the various all hazards events that could impact the economy of agriculture and livestock in the region.

Strategy 1.3 Establish and Maintain Programs and Strategies that Promote a Diversified Professional Community



Strategy 1.3: Promote a diversified professional community.

Student Programs. Completed Summer Enrichment Program (12 underrepresented undergraduate students from across the USA, 5 week program with students embedded in the VMTH for morning clinical experience and afternoon educational modules). This photo features Emma Rivas, left, and Yulissa Diaz, 2018 program graduates, and Abby, a hospital patient.

Student Programs:

- Launched the Veterinary Medicine Exploration Academy (27 local disadvantaged high school students, 3 weekly events, mentored by DVM students with faculty presentations/workshops).
- Completed Summer Math and Science Honors program (3 cohorts, 90 under-represented Northern CA high school students, 5 week residential program).

Strategy 1.4 Implement Multiple Strategies to Reduce Educational Debt for Professional Degree and Graduate Students

Student Programs Kicked off Drip.Vet – Personal Financial Success Course (online) for all students

Veterinary Genetics Laboratory Awarded Ann T. Bowling Fellowship (under the GSSP program) to support 1 year of graduate funding to Sichong Peng. Sichong is a third year Ph.D. student working with Dr. Carrie Finno in the UC Davis Integrative Genetics and Genomics Graduate group. He is working on studies to improve the functional annotation of the horse genome.

GOAL 2: LEAD IN INNOVATION

RESEARCH AWARD TOTALS

The research award totals for the quarter are:

202 actions for 93 faculty (broken down below). Of these actions, 64 were new awards; the remainder were non-competing renewals, no-cost extensions and amendments.

| | Actions | Faculty | New |
|------|------------|-----------|-----------|
| July | 80 | 32 | 22 |
| Aug | 73 | 35 | 25 |
| Sep | 49 | 26 | 17 |
| | 202 | 93 | 64 |

There was one project over \$1M: Smita Iyer, NIH National Institute on Aging (NIA): “Immune Mechanisms Underlying Age-related Neurodegeneration in HIV Infection”. Award total \$2,920,684.

Strategy 2.1. Promote Innovative Multi-Disciplinary Collaborations to Address Societal Needs



Strategy 2.1. Promote Innovative Multi-Disciplinary Collaborations.

Veterinary Genetics Laboratory. *The Equine Veterinary Journal* published evidenced-based research to investigate a potential genetic cause for catastrophic breakdown in Thoroughbreds. This involved a collaboration between Drs. Bellone, Penedo, Finno, and Arthur.

Professional Education Attend Veterinary Innovation Summit at CSU (Watson and Brandt) to establish collaboration for Technology-enhanced and Virtual Reality Anatomy training.

Global Programs and the College of Agriculture and Environmental Sciences (CAES) Office for Global Engagement hosted a delegation of faculty from the University of Edinburgh, including the directors of their Global Academy of Agriculture and Food Security and Global Health Academy. The delegation met with faculty from the SVM, CAES and the to discuss educational and research collaborations to improve the health of animals, people and the environment.

One Health Institute:

- The UC Davis One Health Institute and California National Primate Research Center, in collaboration with Colorado State University and the US CDC, are evaluating the Rift Valley fever virus vaccine candidate “DDVax” to support regulatory approval and advance the vaccine into human trials. This grant is part of an up to \$9.5 million partnering agreement between the Coalition for Epidemic Preparedness (CEPI) and CSU to develop a human vaccine against RVF virus. DDVax was developed more than 10 years ago by a CDC research team that included Dr. Brian Bird, now a research virologist with OHI.
https://cepi.net/news_cepi/cepi-awards-funding-agreement-worth-up-to-us9-5-million-to-colorado-state-university-to-develop-a-human-vaccine-against-rift-valley-fever/
- The One Health Institute received a USDA grant to support postdoctoral training in virus ecology and pathogenesis of Crimean Congo hemorrhagic fever virus, a severe and often fatal infection of people spread by ticks found on livestock throughout much of Africa, and parts of Asia and Europe. This project led by Dr. Brian Bird is to support the development of a workforce for the National Bio and Agro-Defense facility (NBAF) in Manhattan, Kansas. This dynamic project will be conducted in part at UC Davis, in the field in Tanzania, and at the USDA and the US CDC Viral Special Pathogens Branch.
- A consortium led by the UC Davis One Health Institute and the Center for Comparative Medicine (Co-PIs Drs. Peter Barry and Brian Bird) with major partners at the Vaccine Group Ltd., the University of Idaho, and the National Institutes of Health Rocky Mountain Laboratory are investigating the ecology, predictive computer models, and potential methods of control of Lassa fever virus, a severe disease transmitted by rodents in West Africa. With funding up to \$9.3 million, this work is part of a larger PREEMPT program developed by the Defense Advanced Research Projects Agency (DARPA), which seeks to reduce the risk of emerging biological health threats at their source in endemic areas.
- The Latin America Program is applying the newest satellite tracking technology to learn about southern right whale health and migration in the southwest Atlantic Ocean. LAP is one of several partners from Argentina, Brazil and the US (including NOAA and the Office of Naval Research), and the project is endorsed by the International Whaling Commission. This 2-year project launched in September.

Center for Equine Health Hosted two booster sessions with returning participants (September 9 & 16, 2019) as part of the Connected Horse Dementia Project.

California National Primate Research Center:

- Drs. Lark Coffey and Koen Van Rompay co-authored a high impact research publication on Zika virus pathobiology with a team of 58 international and national collaborators in the August issue of Journal of Experimental Medicine (D.F. Robbiani, et. al. JEM 2019). The study reports an increased risk of fetal microencephaly development in association with high maternal serum neutralizing antibodies against Zika virus in both humans and nonhuman primates. Their findings have significant implications for Zika virus vaccine development.
- Dr. Sara Thomasy was awarded an NIH R21 grant with immunologist Dr. Lin Feng from the Cleveland Clinic Lerner Research Institute to investigate nonhuman primate models of age-related macular degeneration. The two-year award will leverage the CNPRC geriatric rhesus macaque colony that is supported by the National Institute on Aging, as well as Dr. Thomasy's expertise in nonhuman primate models of eye disease.
- A recent publication by Dr. Peter Havel in collaboration with Dr. Andrew Butler (Saint Louis University School of Medicine) was highlighted as being in the top 2 percent of manuscripts reviewed by the Journal of Biological Chemistry editorial board ("Editor's Pick"). Using a rhesus macaque model of diet-induced obesity developed by Dr. Havel at the CNPRC, the study describes how low plasma concentrations of the hormone adiponin can be predictive of a pre-diabetic phenotype.

Veterinary Genetics Laboratory:

- Collaboration between VGL and Animal Ophthalmology clinic in Dallas Texas to evaluate Quarter Horses for ocular squamous cell carcinoma. Drs. Rebecca Bellone and Felipe Avila traveled to Texas to work with Dr. Bob Munger and associates to enroll horses in the study that is investigating the genetic basis for cancer risk in this breed.
- Collaboration between the VGL and the Royal Veterinary College to investigate potential genetic mechanisms for early pregnancy loss (EPL) in the Thoroughbred. Drs. Rebecca Bellone (VGL) and Amanda De Mestre (Royal Veterinary College) co-mentored UC Davis Vet student, Alexandra Grillos, on her Summer Advanced Research Training in Research (STAR) project investigating several genetic causes of EPL. In addition, Alexandra was trained on several PCR genotyping technologies by staff members at the VGL. Alexandra was supported both by the STAR program and the International Summer Externship Grant from the Office of Global Programs.
- VGL- Collaboration between the VGL and Comparative Ophthalmology. Drs. Bellone, Grahn, and Dr. Thomasy worked together to rule out four known genetic variants as the cause of progressive retinal atrophy in a British shorthair cat.
- **CCAH** The CCAH Koret Exchange Program provided funding and the opportunity for five residents, one senior clinician, and one technician to travel to UC Davis SVM to train in Neurology, Radiology, and in both Small and Large Animal Surgery. This collaboration is helping to get more residents in Israel trained by providing rotations at the VMTH to fulfill requirements to achieve board certification that cannot be done in Israel. These efforts were coordinated by Dr. Michael Kent, CCAH Director, and Dr. Gad Baneth, Koret School of Veterinary Medicine Director. In addition two faculty members from UC Davis traveled to Israel to train faculty at the the Koret School of Veterinary Medicine to help expand their programs.
- **VIRC** Drs. Dori Borjesson, Pete Dickinson and Bev Sturges were awarded a grant from the CCAH to test the safety and efficacy of adding mesenchymal stem cell treatment to standard of care treatment for Myasthenia Gravis. This clinical trial will soon start enrollment.

Strategy 2.2. Enhance Research Training and Experiential Opportunities for Clinician-Scientists, Residents, Veterinary Students, and Graduate Students

Strategy 2.2. Enhance Research Training and Experiential Opportunities.

Early Veterinary Student Bovine Externship Program and Student Programs. Through the 2019 Early Veterinary Student Bovine Externship Program (EVSBEPE) 11 DVM students who had just completed either their first or second year completed 4 weeks of externships with livestock/bovine private practice veterinarian mentors throughout California and other states. This program which is generously sponsored by Zoetis and our Office of Admissions and Student Programs, VMDO, provides a \$2000 award to participating students.

Participating students in 2019:

Krupa Swaminathan, DVM '21

Katie McFarren, DVM '22

Kelly Whiteley, DVM '22

Anika Rampino, DVM '22

Julie White, DVM '22

Hannah Lau, DVM '22

Taylor Chan, DVM '21

Marie Wiemann, DVM '22

Rama Ramakrishnan, DVM '21

Anna Riedl, DVM '22

Brookely Schamber, DVM '22



Left to right: Anna Riedl palpating a dairy cow for reproductive assessment. Krupa Swaminathan completing a surgical procedure on a dairy cow. Rama Ramakrishnan processing beef cattle for vaccination.

One Health Institute:

- The Karen C. Drayer Wildlife Health Center announced the call for the 2020 Phil and Karen Drayer Center Fellowship Award, which funds UC Davis graduate research on ecosystem health and diseases of free-ranging wildlife. Each year, the grant committee awards three to five proposals funding up to \$5,000. The deadline for proposals is Dec. 2.
<https://whc.vetmed.ucdavis.edu/whc-fellowship>
- The One Health Institute announced the call for the 2020–21 GloCal Fellowship, a 12-month mentored research fellowship in developing countries that provides trainees with interdisciplinary education and training in innovative global health research designed to improve health for populations around the world. The deadline is Nov. 8.
<http://ucghi.universityofcalifornia.edu/news/apply-now-glocal-health-fellowship-1>
- The Rx One Health Institute Summer Institute brought together a cohort of 22 graduate students and early career professionals from nine countries in Tanzania this summer. The 4-week immersive program helps participants prepare for immediate engagement in global health careers that demand effective problem-solving skills, cross-disciplinary collaboration and solid foundations in field and laboratory work. Course instructors included faculty and researchers from the One Health Institute and the Karen C. Drayer Wildlife Health Center's programs HALI Project, the UCGHI Planetary Center of Expertise, PREDICT Project, and SeaDoc Society.

- The EpiCenter for Disease Dynamics mentored summer students in advanced modeling techniques to inform disease ecology at the nexus of animal, human, and environmental health for their National Science Foundation training grant, “A One Health Institute Approach to Disease Ecology Research and Education.”
- With support from the Dean’s office, zoological medicine faculty Jenessa Gjeltema participated in the National Center for Faculty Development and Diversity (NCFDD) Faculty Success Program this summer.
- Doctoral candidate Charlene Lujan has begun a research study using citizen science volunteers to help her with data collection and education for her research project evaluating the health effects of microplastics in shore birds in Peru (Zoological Medicine).

Center for Equine Health:

- Hosted an orientation and summarized the CEH resident grant program for incoming equine residents and interns on July 31, 2019.
- Hosted Facial Action Coding (FACS) training and certification workshop August 12–16.

Veterinary Genetics Laboratory hosted Rebecca Dolan, a second year veterinary student from the University of Edinburgh, The Royal (Dick) School of Veterinary Studies, as a summer research fellow. Rebecca completed a project investigating genetic risk factors for strabismus in Appaloosas under the mentorship of Dr. Rebecca Bellone.

CCAH:

- Provided funding in the amount of \$14,767 to support three Resident research grants.
- The 2019–2020 annual CCAH call for Resident research proposals was announced. Deadlines for proposals are as follows: November 12, 2019, February 10, 2020 and May 11, 2020.
- Two CCAH funded studies resulted in ACVIM Resident awards: Weihow Hsue “Reliability of Measuring of Left Atrial Size in Dogs with Subclinical Myxomatous Mitral Valve Disease”.
- Two CCAH funded studies resulted in ACVIM Resident awards: Maureen Oldach “Acute Pharmacodynamic Effects of Pimobendan in 22 Client-Owned Cats with Hypertrophic Cardiomyopathy”.

WIFSS:

- Following the 2015 winter conference students returned to NAU and established the first One Health Institute Club in China. Since that time One Health Institute Clubs have been established at nine other universities in China. In the summer of 2019, the One Health Institute Guard was established at NAU. Through the One Health Institute Guard WeChat group WIFSS staff and any faculty who want to join, can share their support for the students and keep in touch about ideas, papers and research about One Health Institute issues.
- WIFSS provides an in-depth educational experience for undergraduate students from Nanjing Agricultural University (NAU) who learn about the importance of applying a One Health Institute approach to solving problems concerning food safety and security, and animal health. The comprehensive program which includes lectures, field trips, and team-building exercises raises student awareness for taking a multidisciplinary approach to solving problems.
- Through its training for vocational faculty from China participants can hear from educational experts at WIFSS on teaching methods and innovative lesson ideas used here at UC Davis that can be used to enhance teaching and learning at their home institutions in China. This novel approach to food safety integrates One Health Institute concepts into teaching methods, based in part on

problem-based learning. Faculty are equipped to provide students with a better understanding of the connections in the food system between the environment, animals and people, and nurture their awareness of the importance of multi-disciplinary teams addressing food safety problems. Students will be able to trace the source of contamination which can help prevent or eliminate future foodborne illness outbreaks.

- WIFSS has educated more than 400 hundred student and faculty through its One Health Institute conferences. Under the tutelage from expert faculty throughout the UC Davis system including the School of Veterinary Medicine, College of Agricultural and Environmental Sciences, Department of Animal Science, Department of Land, Air and Water Resources, Department of Plant Sciences, the Department of Biological and Agricultural Engineering, Veterinary Medicine Teaching and Research Center, and the California Animal Health and Food Safety Laboratory System, participants absorb new knowledge, and gain confidence in expressing their opinions. Participants learn about the pre- and post-harvest systems on field trips. They observe where pathogen exposure may occur in an open environment, and how raw foods move to a more closed and controlled environment, where pathogen exposure is minimized. Team building is encouraged during the conferences through collaborative group projects where problem solving skills are put to the test. Final-day group presentations identify the area of greatest risk, the cause of the disease, and the strategy for prevention of emergence of these diseases in the future.

PUBLICATION/REPORT IMPACTS

Basic

Sci Rep. 2019 Aug 1;9(1):11211. doi: 10.1038/s41598-019-47286-2.

Genome-wide screening of mouse knockouts reveals novel genes required for normal integumentary and oculocutaneous structure and function.

Moore BA, Flenniken AM, Clary D, Moshiri AS, Nutter LMJ, Berberovic Z, Owen C, Newbigging S, Adissu H, Eskandarian M, McKerlie C; International Mouse Phenotyping Consortium, Thomasy SM, Lloyd KCK, Murphy CJ, Moshiri A.

William R. Pritchard Veterinary Medical Teaching Hospital, School of Veterinary Medicine, University of California Davis, Davis, CA, United States.

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Abstract

Oculocutaneous syndromes are often due to mutations in single genes. In some cases, mouse models for these diseases exist in spontaneously occurring mutations, or in mice resulting from forward mutagenesis screens. Here we present novel genes that may be causative for oculocutaneous disease in humans, discovered as part of a genome-wide screen of knockout-mice in a targeted

single-gene deletion project. The International Mouse Phenotyping Consortium (IMPC) database (data release 10.0) was interrogated for all mouse strains with integument abnormalities, which were then cross-referenced individually to identify knockouts with concomitant ocular abnormalities attributed to the same targeted gene deletion. The search yielded 307 knockout strains from unique genes with integument abnormalities, 226 of which have not been previously associated with oculocutaneous conditions. Of the 307 knockout strains with integument abnormalities, 52 were determined to have ocular changes attributed to the targeted deletion, 35 of which represent novel oculocutaneous genes....The novel genes reported here may implicate molecular pathways relevant to these human diseases and may contribute to the discovery of novel therapeutic targets. <https://doi.org/10.1038/s41598-019-47286-2>

(2)

PLoS One. 2019 Sep 12;14(9):e0222462. <https://doi.org/10.1371/journal.pone.0222462>

Circulating progenitor cells and the expression of Cxcl12, Cxcr4 and angiopoietin-like 4 during wound healing in the murine ear.

Yellowley CE1, Toupadakis CA1, Vapniarsky N2, Wong A1.

Department of Anatomy, Physiology and Cell Biology, School of Veterinary Medicine, University of California Davis, Davis, California, United States of America.

Department of Pathology, Microbiology and Immunology, School of Veterinary Medicine, University of California Davis, Davis, California, United States of America.

Abstract

Migration of cells from both local and systemic sources is essential for the inflammatory and regenerative processes that occur during normal wound healing. CXCL12 is considered a critical regulator of CXCR4-positive cell migration during tissue regeneration. In this study, we investigated the expression of Cxcl12 and Cxcr4 during healing of a murine full thickness ear wound. We also investigated the expression of angiopoietin-like 4, which has been shown to participate in wound angiogenesis and reepithelialization....Further studies are warranted to investigate whether ANGPTL4 and CXCL12/CXCR4 interact or synergize to facilitate cell recruitment and migration, and to potentiate reepithelialization and wound healing. <https://doi.org/10.1371/journal.pone.0222462>

(3)

Elife. 2019 Aug 21;8. pii: e46997. <https://doi.org/10.7554/eLife.46997>

TLR induces reorganization of the IgM-BCR complex regulating murine B-1 cell responses to infections.

Savage HP1,2, Kläsener K3,4, Smith FL2,5, Luo Z1, Reth M3,4, Baumgarth N1,2,5,6.

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Department of Pathology, Microbiology and Immunology, School of Veterinary Medicine, University of California, Davis, Davis, United States.

Abstract

In mice, neonatally-developing, self-reactive B-1 cells generate steady levels of natural antibodies throughout life. B-1 cells can, however, also rapidly respond to infections with increased local antibody production. The mechanisms regulating these two seemingly very distinct functions are poorly understood, but have been linked to expression of CD5, an inhibitor of BCR-signaling...TLR-mediated signals support participation of B-1 cells in immune defense via BCR-complex reorganization. <https://doi:10.7554/eLife.46997>

Translational

Journal of Clinical Investigation, 129(2), 863-874.

A nonhuman primate model of inherited retinal disease

Ala Moshiri, Rui Chen, Soohyun Kim, R. Alan Harris, Yumei Li, Muthuswamy Raveendran, Sarah Davis, Qingnan Liang, Ori Pomerantz, Jun Wang, Laura Garzel, Ashley Cameron, Glenn C Yiu, J. Timothy Stout, Yijun Huang, Christopher J Murphy, Jeffrey A Roberts, Kota N. Gopalakrishna, Kimberly Boyd, Nikolai O. Artemyev, Jeffrey Rogers, Sara M Thomas

Abstract

Inherited retinal degenerations are a common cause of untreatable blindness worldwide, with retinitis pigmentosa and cone dystrophy affecting approximately 1 in 3500 and 1 in 10,000 individuals, respectively. A major limitation to the development of effective therapies is the lack of availability of animal models that fully replicate the human condition. Particularly for cone disorders, rodent, canine, and feline models with no true macula have substantive limitations. By contrast, the cone-rich macula of a nonhuman primate (NHP) closely mirrors that of the human retina. Consequently, well-defined NHP models of heritable retinal diseases, particularly cone disorders that are predictive of human conditions, are necessary to more efficiently advance new therapies for patients. We have identified 4 related NHPs at the California National Primate Research Center with visual impairment and findings from clinical ophthalmic examination, advanced retinal imaging, and electrophysiology consistent with achromatopsia...This NHP model of a cone disorder will not only serve as a therapeutic testing ground for achromatopsia gene replacement, but also for optimization of gene editing in the macula and of cone cell replacement in general. <https://doi.org/10.1172/JCI123980>

Journal of Applied Phycology.

Antibacterial activity of *Caulerpa racemosa* against pathogenic bacteria promoting “ice-ice” disease in the red alga *Gracilaria verrucosa*

Elmi Nurhaidah Zainuddin, Hilal Anshary, Huyyirnah Huyyirnah, Ridha Hiola, Dolores Baxa
School of Veterinary Medicine

Abstract

Increasing ocean temperatures associated with climate change have triggered the occurrence of diseases in marine resources such as macroalgae or seaweed. “Ice-ice” is one of the most devastating diseases affecting economically important seaweeds such as *Gracilaria* and *Eucheuma*. In this study, we investigate the bacterial composition of diseased and healthy *Gracilaria verrucosa*, a red seaweed cultured in brackish water ponds in Takalar, Indonesia...These findings demonstrate the potential of *Caulerpa* to inactivate bacterial pathogens associated with “ice-ice” disease. <https://doi.org/10.1007/s10811-019-01805-w>

Animal Feed Science and Technology, 248, 114-125.

Algae-derived β -glucan enhanced gut health and immune responses of weaned pigs experimentally infected with a pathogenic *E. coli*

Kwangwook Kim, Amy Ehrlich, Vivian Perng, Jennifer A. Chase, Helen E Raybould, Xunde Li, Edward R Atwill, Rose Whelan, Adebayo Sokale, Yanhong Liu

Abstract

Most of the commercially available β -glucans are derived from yeast, while there are limited research on algae-derived β -glucan in pigs. Therefore, the objective of this experiment was to investigate the influence of dietary supplementation of algae-derived β -glucan on diarrhea, gut permeability, and immune responses of weaned pigs experimentally infected with a pathogenic *Escherichia coli* (*E. coli*)... Results of this experiment revealed that inclusion of high dose β -glucan reduced ($P < 0.05$) frequency of diarrhea (29.01% vs. 17.28%) for the entire experimental period. This was likely due to the reduced ($P < 0.05$) gut permeability and increased ($P < 0.05$) mRNA expression of gut barrier function genes (Claudin, Occludin, and MUC2) in jejunal mucosa of *E. coli* challenged pigs as β -glucan supplemented. Supplementation of β -glucan also reduced ($P < 0.05$) white blood cells, neutrophils, serum tumor necrosis factor (TNF)- α cortisol, and haptoglobin, and down-regulated ($P < 0.05$) the mRNA expression of several immune genes (IL1B, IL6, and TNFA) in ileal mucosa of *E. coli* challenged pigs, compared with the control diet. In conclusion, in feed supplementation of algae-derived β -glucan alleviated diarrhea of F18 *E. coli* infected pigs by enhancing gut integrity. Feeding β -glucan also boosted host immune response against *E. coli* infection. <https://doi.org/10.1016/j.anifeedsci.2018.12.004>

Cancer Research, 79(14), 3714-3724.

A POLH transcript with a short 3'UTR enhances POLH expression and mediates cisplatin resistance

Jin Zhang, Wenqiang Sun, Cong Ren, Xiangmudong Kong, Wensheng Yan, Xinbin Chen
School of Veterinary Medicine

Abstract

Platinum-based anticancer drugs are widely used as a first-transcript with 427-nt 3'UTR is responsible for high expression line drug for cancers, such as non-small cell lung carcinoma of PolH in various cisplatin-resistant lung and bladder cancer (NSCLC) and bladder cancer. However, the efficacy is limited cell lines...We showed that the short PolH confers resistance to cisplatin. <https://doi.org/10.1158/0008-5472.CAN-18-3928>

Clinical

Veterinary Ophthalmology.

Acremonium and trichosporon fungal keratoconjunctivitis in a Leopard Gecko (*Eublepharis macularius*)
Christian Munevar, Bret A. Moore, Molly D. Gleeson, Sarah M. Ozawa, Christopher J Murphy, Joanne R Paul-Murphy, Brian C Leonard

Abstract

A 6-year-old male leopard gecko (*Eublepharis macularius*) was presented with a 2-year history of recurrent dysecdysis involving the ocular surface of both eyes...This case describes the first case of fungal keratitis caused by *Acremonium* sp. and *Trichosporon* sp. in a reptile. <https://doi.org/10.1111/vop.12700>

The Canadian veterinary journal = La revue veterinaire canadienne, 60(3), 300-304.

An atypical presentation of multi-systemic B-cell lymphoma in a horse

Albert Torrent, Isabelle Kilcoyne, Amanda Johnson, Verena K Affolter, Emily Berryhill, Monica R Aleman

- Surgical and Radiological Sciences
- Pathology, Microbiology and Immunology
- Medicine and Epidemiology

Abstract

This report describes an unusual presentation of multicentric B-cell lymphoma with central and peripheral nerve involvement in a horse that was presented with acute onset, severe, multiple limb lameness, and muscle atrophy. This case highlights the importance of including neoplasia in the differential list in horses presenting for severe limb lameness associated with muscle atrophy, muscle fasciculations, and weakness.

Int J Genomics. 2019 Sep 15;2019:3610965. doi: 10.1155/2019/3610965. eCollection 2019.

Additional Evidence for DDB2 T338M as a Genetic Risk Factor for Ocular Squamous Cell Carcinoma in Horses.

Abstract

Squamous cell carcinoma (SCC) is the most common periocular cancer in horses and the second most common tumor of the horse overall. A missense mutation in damage-specific DNA-binding protein 2 (DDB2, c.1012 C>T, p.Thr338Met) was previously found to be strongly associated with ocular SCC in Haflinger and Belgian horses, explaining 76% of cases across both breeds....These data provide further support of the DDB2 variant contributing to risk for ocular SCC, specifically in the Haflinger and Belgian breeds.

J Vet Intern Med. 2019 Sep;33(5):2082-2089.

Evaluation of the clinical performance of 2 point-of-care cryptococcal antigen tests in dogs and cats.

Reagan KL, McHardy I, Thompson GR 3rd, Sykes JE.

Abstract

BACKGROUND:

Point-of-care (POC) Cryptococcus antigen assays may provide veterinarians with a more rapid, patient-side diagnosis when compared with traditional laboratory-based latex agglutination tests.

OBJECTIVE:

To determine the sensitivity and specificity of 2 POC lateral flow cryptococcal serum antigen tests, CrAg LFA (Immy, Norman, OK) and the CryptoPS (Biosynex, Strasbourg, France) for diagnosis of cryptococcosis in dogs and cats, using the cryptococcal antigen latex agglutination system (CALAS) as the reference standard.

CONCLUSION AND CLINICAL IMPORTANCE:

The POC assays appear to be a sensitive and specific alternative to the traditional CALAS assay with more rapid turnaround times, which may result in earlier diagnosis and treatment. <https://doi:10.1111/jvim.15599>

Strategy 2.3. Enhance Shared Resources that Support Clinical, Basic, and Translational Science

Strategy 2.3. Enhance Shared Resources.

Center for Equine Health. CEH Enduring Legacy Endowment funds were used to support the surgery and recovery of a 20-year-old event horse owned by a veterinary pathologist and alumnus. This case brought together multiple services that successfully employed a surgical approach to removing an ureterolith that had only been performed two other times in horses. The horse completed his recovery at the CEH layup facility.



VMTH and Advancement Communications Mini Explorer II PET/CT scanner enhances diagnostic ability of clinicians and researchers to detect cancer and other diseases and injuries earlier in the treatment/research process.

Center for Equine Health:

- Received 23 applications for the Center for Equine Health grant program and assigned the proposals to the Scientific Advisory Board for review.
- CEH Enduring Legacy Endowment funds were also used to support two additional hospital cases that represented unique teaching opportunities and involved novel treatment methods and techniques that can be used to help future patients.

Veterinary Genetics Laboratory VGL-Purchase of a new Agena Biosciences MassArray System that will facilitate high throughput genetic testing while also providing additional equipment for collaborative research studies that enable alternative ways to investigate candidate causal variants, thus advancing the understanding of genetic disease.

VCCT:

- The VCCT has undergone a significant restructuring in the last quarter to streamline efforts to develop, implement, and conduct clinical trials in the VMTH.
- Added a fourth clinical trials coordinator (CTC) position and hired four new CTCs into their new roles with the VCCT.
- New CTCs: Brittany Smith, July Pires, Jacque Young, & Emily Phenix.
- Hired a clinical trials coordinator supervisor, Kate Hodges, and streamlined reporting of CTCs to this supervisor.
- Worked with IT to provide a Clinical Trials link on the VMACS Referring Veterinary Portal to enhance visibility and promote on-going clinical research in VMTH.
- Promote Impact of School's Research to Enhance Recognition and Influence Policy and Stakeholder Engagement .
- Dr. Burton gave an invited talk for Women on Wednesday at the UC Davis Chancellor's residence to a group of engaged women stakeholders discussing the importance of clinical trials to improve health for companion animals and people.

CCAH:

- Provided support (in the amount of \$94,000) for the purchase of high resolution manometry and endoscopy equipment for the Small Animal Internal Medicine.
- Awarded (\$60,000) for first year start up support to the Department of Medicine and Epidemiology for Dr. Sina Marisilo, Assistant Professor of Small Animal Internal Medicine.
- In keeping with the CCAH mission to improve the health of companion animals by encouraging and supporting academic studies and clinical research the CCAH approved 31 faculty grants from its annual call for proposals. \$416,778 was awarded to support research in the areas of Anesthesia, Cancer, Cardiology, Genetics, Disc Disease, Ophthalmology, Neurology, Regenerative Medicine, Reproduction, Surgery, and Infectious Disease.
- The CCAH Matching Funds Program funded 3 matching fund awards to faculty in the amount of \$22,500. The intent of the program is to provide sufficient support to encourage extramural funding.
- Additional faculty support was given in the form of publication support for 5 CCAH funded studies. (\$4,975).
- Canine platelets express functional Toll-like receptor-4: lipopolysaccharide-triggered platelet activation is dependent on adenosine diphosphate and thromboxane A2 in dogs (BMC Veterinary Research).
- Ultrasonographic characterization of cervical lymph nodes in healthy dogs (Veterinary and Radiology Ultrasound).
- Kinematic analysis of mandibular motion before and after mandibulectomy and mandibular reconstruction in dogs (American Journal of Veterinary Research).
- Metastatic immune infiltrates correlate with those of the primary tumour in canine osteosarcoma (Veterinary and Comparative Oncology).

Strategy 2.4. Promote Impact of School's Research to Enhance Recognition and Influence Policy and Stakeholder Engagement

Strategy 2.4. Promote Impact of School's Research.

CCAH and Advancement Communications In collaboration with the SVM Communications team the CCAH Update Fall 2019 newsletter was written and published. The newsletter's focus is on our cardiology team and their efforts to improve heart disease, as well as highlighting how our neurology team is using a computer-based neuronavigation unit in treating epilepsy in dogs, safer brain biopsies, and pituitary tumor removal in cats.



- **Veterinary Genetics Laboratory** VGL launched new monthly Facebook themed post to promote genetic clinical trials happening at the school.
- **VM Teaching and Research Center - Tulare** Dr. Terry Lehenbauer was the Organizing Committee Chair for the 2019 Bovine Respiratory Disease Symposium – Challenges and Opportunities for Reducing the Incidence of Bovine Respiratory Disease (BRD) held in Denver, CO in early August. The Symposium included 25 speakers and a poster session and had over 250 attendees. Dr. Sharif Aly was one of the featured speakers and shared research findings on risk factors for BRD in dairy cattle.

- **VM Teaching and Research Center – Tulare** Dr. Emmanuel Okello participated the Antimicrobial Stewardship: Challenges, Solutions & Next Steps at the UC Cooperative Extension – Glenn County. A discussion for what it means for dairies and strategies to effectively and economically adhere to new regulations. Presentation: ‘Antibiotic Resistance in Adult Cows’.
- **VGL and CEH** Researchers published research that demonstrates that the Warmblood Fragile Foal Syndrome is not a genetic risk factor for catastrophic breakdown in Thoroughbreds and is only present at a very low frequency in this breed.

GOAL 3: PROVIDE CUTTING-EDGE CLINICAL PROGRAMS

Strategy 3.1. Enhance the Veterinary Medical Center (VMC) Services to Promote an Unmatched, Compassionate Patient Care and Client Experience

Strategy 3.1. Enhance the VMC Services.

VMTH: Feline Treatment and Housing Suite (Ward 3 Redesign) construction remains on schedule for a January 2020 finish date.



VMTH and Advancement Communications Equine surgical emergency specialists help return eventing horse to competition following life-saving colic surgery.

VMC Team All Species Imaging Center plans continue to be evaluated with construction slated to begin in 2020.

VMTH:

- Large Animal Support Facility is complete. The school will celebrate this Phase I achievement by hosting an Alumni Weekend event in the new hay barn. All blood donor animals have been moved into their new pastures located south of Garrod Drive.
- Laundry Relocation Project is on track for a January 2020 finish date.
- Our current Large Animal Hospital Director, Dr. Mary Beth Whitcomb has announced her retirement and we are looking to recruit new leadership to start in 2020.
- Rolled out the volunteer program at the VMTH. Over 40 volunteers are currently participating on a rotating basis to greet clients and assist where needed.
- Hired a licensed physical therapist who has a doctorate in physical therapy and experience in veterinary patient care. Emily McKay started in September and already has a busy case load.

Strategy 3.2. Support Veterinary Medical Center (VMC) Programs that Promote a Culture of Collaboration, Excellent Educational Experiences, and Innovative and Effective Clinical Care

Photo: Strategy 3.2. Support VMC Programs that promote collaboration, education and innovative care.

VMTH & Advancement Communications Launched a new internal monthly newsletter, the *VMTH Voice*, that highlights staff and clinician achievements, promotes the cultural beliefs considered core to the hospital, and provides updates on the Veterinary Medical Center.



One Health Institute Increased collaboration between veterinary specialists at the VMTH for case management and exceptional care of zoological cases both at the Sacramento Zoo and regional zoological facilities.

VMTH and Advancement Communications:

- Featured story: Cat owners traveled from Canada for exclusive treatment to correct blood vessel abnormality causing liver failure.
- Featured story: Multiple specialists collaborate to save small dog that was attacked by larger breed.
- Featured story: Exotics team collaborates with community education center to treat 61-year-old desert tortoise.

Strategy 3.3. Advance Veterinary Medical Center (VMC) Facility Plan, Operations and Infrastructure

- *VMTH and Advancement Communications* VMTH opens call center to provide better service to clients and improve clinical workflow. Since its opening in August 2019, it has already successfully reduced the number of abandoned calls and decreased overall call volume.

Strategy 3.4. Promote Expertise, Program Breadth and Innovation for Reputation and Philanthropic Success

In collaboration with internal partners

and through support of our donors, the school raised

a total of \$3,204,941 so far in the 2019–20 fiscal year.



Strategy 3.4 SeaDoc Society

The SVM and its SeaDoc Society honored Bill and Lannie Hogle at its 2019 Wine & Sea Auction in July with the UC Davis School of Veterinary Medicine's Distinguished Service Award for their long-standing contributions of time, leadership and financial support over the last 15 years. The auction, which supported operations and research, had over 200 guests and broke records for support and attendance. *Photos by Bianca Cox and Jess Newley.*

Advancement and Center for Equine Health In conjunction with CEH Director Dr. Carrie Finno, Advancement held events in Anacortes and Seattle, WA to promote the UC Davis School of Veterinary Medicine Veterinary Medical Center campaign and highlight the advanced equine imaging capabilities at UC Davis. Approximately 65 people attended the events.

Advancement. For the first time ever, the Advancement group held behind-the-scenes tours for parents at the White Coat/Induction Ceremony for new students.

CCAH CCAH Director, Dr. Michael Kent, met with various donors over the last few months to discuss support of the school's research and programmatic goals.

GOAL 4: ADVANCE THE WELLBEING OF ANIMALS AND PEOPLE

Strategy 4.1. Prioritize School Resources that Focus on Initiatives to Address Societal Needs

Student Programs:

- Initiated new wellness and morale boosting events (Banana Day and PB&J Day).
- Secured funds for five Wake Up For Wellness events to occur monthly beginning in November 2019.
- Two faculty trained to reestablish and co-direct The Healer's Art Program.

Veterinary Genetics Laboratory VGL- To expand the portfolio of genetic testing services that should advance the health of dogs, the VGL launched eight new canine genetic tests and a new Labrador Genetic Health Panel. The Genetic health panel enables dog owners and breeders an economical way to test for 13 genetic disorders and phenotypes that affect that breed. This information can assist them in making mate selection for healthier animals.

Small Animal Emergency and Critical Care Implemented an employee recognition program. Focused recognition cards presented to individuals in the hospital community recognize them for activities that reinforce our cultural beliefs are drawn on a monthly basis for a prize.

Admin:

- Finalized unrepresented staff merits effective July 1, 2019.
- Finalized fiscal closing process for the 2018–19 fiscal year.
- Finalized school-wide 2019–20 budget for the campus budget office. Finalized the sources and uses report (income statement) for the 2018–19 fiscal year for the campus budget office.
- Safety officers and campus representatives conducted school-wide AED training in preparation for the installation of AED units in all SVM buildings.
- Finalized VMC – All Species Imaging Center budget and timeline.
- Resolved vacation accrual rate with Contracts and Grants Accounting office for FY faculty members as we migrate to UC Path.
- Presented ‘Top Things You Need to Know about UC Path’ at New Department Chairs Workshop put on by Academic Affairs.
- Admin team conducted training on APM-025 and APM-675 for academic departments.
- VM 3B academic departments and centers conducted inventory of all workstations in the building and developed a tracking process.
- Developed presentation on Agricultural Experiment Station, Cooperative Extension, and USDA NIFA funding received by the SVM.
- Created a benefits diversion process for USDA NIFA funds in collaboration with campus Contracts and Grants accounting office.
- Worked with committee to finalize the 2018–19 Campus Risk and Compliance Report.
- Safety team conducted evacuation drills of SVM buildings in collaboration with the campus Fire Department.
- SVM facilities group worked with an external vendor to install a duct system in the VMTH pharmacy area.

Strategy 4.2. Enhance Local and Global Communications, and Engagement to Advance the School’s Impacts

Strategy 4.2. Enhance Communications and Engagement:

Karen C. Drayer Wildlife Health Center. Gorilla Doctors’ “GDLA” fundraiser, hosted by GD ambassador and actor Emmy Rossum, generated good will and donations to support hands-on, life-saving veterinary care of endangered mountain and eastern lowland (Grauer’s) gorillas. *Photo: Todd Williamson/January Images.*



CCAH:

- The Koret Shelter Medicine Program team hosted a Good Cat, Bad Cat exhibit at Animal Care Expo and Best Friends Conference that allowed shelter professionals to experience firsthand what it feels like to enter a shelter from the animals' point of view. After being "locked" in subpar conditions, attendees were released into the "Good Cat Housing" side of the exhibit that featured housing best practices and resources to elevate their owning housing on any budget.
- Dr. Kate Hurley from the Koret Shelter Medicine Program presented in Monterey (Salinas) San Diego and New York City: "New Strategies for Community Cat Management" to audiences of shelter professionals, volunteers and the public.
- The Koret Shelter Medicine Program's Million Cat Challenge surpassed the 2 million cats lives saved mark.

One Health Institute After several years of advocacy, the Latin America Program succeeded in having National Parks from Argentina launch a progressive ban on the use of lead ammunition in their exotic species control programs within parks.

Professional Education Visit Utrecht University to discuss mutual goals and continued opportunities for student exchange between our veterinary training programs.

VMTH and Advancement Communications:

- VMTH proved care and shelter for horse and rider on cross-country trek to raise awareness of childhood hunger.
- Hosted two "Evening with Vet Med" public lectures:
 - » Backyard Chicken Management
 - » Why Do Horses Need Regular Dental Care?

Center for Equine Health:

- Hosted the Center for Equine Health booth at the 20th Reining By the Bay competition July 23–28, in Woodside, CA.
- Hosted UC Davis First Year Aggie Connections staff for a tour of CEH on August 1.
- CEH Director, Dr. Carrie Finno, presented three seminars at the Northern California American Association of Equine Practitioners first annual symposium Aug 26–27th, 2019.
- Participated in An Evening With Vet Med: Equine Dentistry, September 17, in Davis.
- Attended Draft Horse Classic, September 20, in Grass Valley, CA.
- Hosted the Center for Equine Health booth at the Sacramento International Horse Show Welcome Week, September 25–29, in Rancho Murieta, CA.

Veterinary Genetics Laboratory:

- VGL-Booth at the 12th Annual Back to School RVT/Vet Tech Assistant CE Symposium.
- VGL-Booth at the 7th Annual UC Davis Donkey Welfare Symposium. Drs. Bellone and Avila provided information on genetic testing in donkeys.
- **Advancement Communications:** The SVM Communications and One Health Institute communications teams, in conjunction with Strategic Communications, facilitated or monitored more than 20 national media placements, including in the *Washington Post*, NPR, *Los Angeles Times* and other publications. Topics ranged from endangered orcas to horse racing to dementia in dogs.

Strategy 4.2. Enhance Communications and Engagement:

Veterinary Genetics Laboratory Christina Lindquist, Associate Director of Forensics, spoke about the work of the VGL-Forensics section at the Society for Wildlife Forensic Science (SWFS) conference in Denver, CO. This offers a unique venue to increase the impact of the School internationally.



Strategy 4.3. Increase Multicultural Awareness and Outreach to Underserved Populations and Communities



Strategy 4.3. Increase Multicultural Awareness and Outreach:

Global Programs The Office for Global Programs held its 2nd annual Global Programs Day with a total attendance of over 250 students, staff, residents and faculty. Activities included a lunch panel titled “Are You Culturally Aware? The Importance of Cultural Awareness for Veterinarians in Today’s Global World” with SVM faculty Drs. Fernanda Ferreira and Michael Kent, student leader Amanda Crofton (class of 2021) and special guest, Dr.

Wondwossen Gebreyes from the Ohio State University. The day also included remarks by Dean Lairmore and Associate Vice Provost of Global Education and Services in Global Affairs, Dr. Fadi Fathallah, and an evening event with presentations and videos from 12 veterinary students who received International Summer Externships, Global Fellowships and/or a Cheetah Conservation Fund Internship.

VM Teaching and Research Center – Tulare VMTRC Faculty and staff hosted a tour for 40 California teachers enrolled in the Education & Agriculture Together Foundation (E.A.T.) program. The E.A.T. program offers continuing education classes to increase educators’ knowledge and experiences in the areas of production of food, nutrition, environmental technologies, protection of natural resources and equip them to educate future generations as to the importance of agriculture, rural stewardship for a healthy society.

VMTRC Faculty and staff in collaboration with the UC Davis Western Institute for Food Safety & Security hosted a tour for 35 students from the Nanjing Agricultural University, China.

Strategy 4.4. Promote and Support the One Health Institute Approach to Advance the Mission

Strategy 4.4. Promote and Support the One Health Institute Approach.

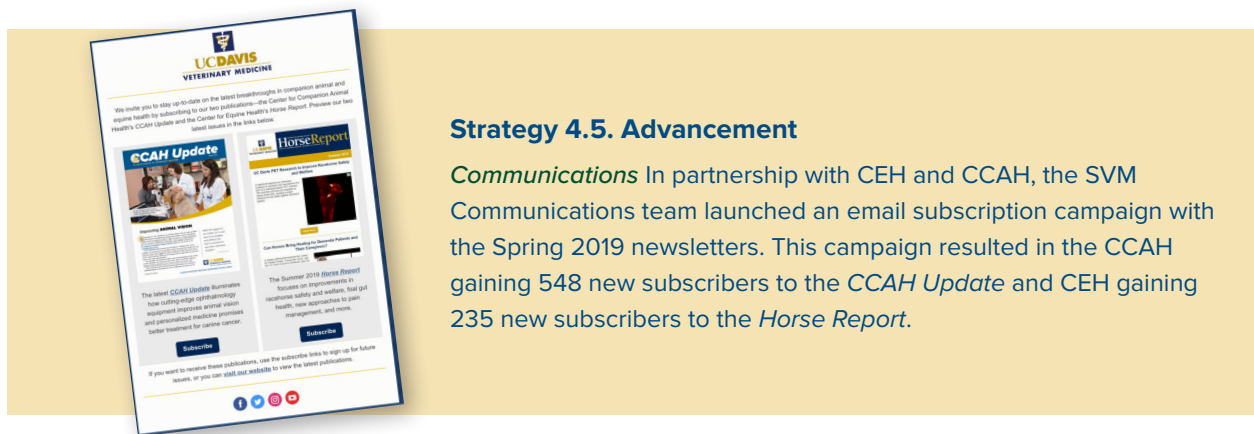
One Health Institute The Karen C. Drayer Wildlife Health Center co-hosted the 68th International Wildlife Disease Association (WDA) Conference in Tahoe City in July with the California Department of Fish and Wildlife. The largest WDA conference ever in North America, the event brought together more than 400 veterinarians, wildlife professionals, public health specialists, government and industry experts, and students interested in wildlife health, conservation and management. In the photos, Megan Moriarty stands in front of her award-winning student research poster, and a social post from the conference highlights a presentation by Dr. Diego Montecino.

One Health Institute:

- OHI and WHC seminar series: The One Health Institute presented Dr. Linfa Wang, director of the emerging infectious disease program at Duke University in Singapore, on the link between bats, viruses and longevity for its One Health Institute seminar series; and the Karen C. Drayer Wildlife Health Center presented Dr. Michael Kock, wildlife veterinarian, on careers in wildlife health, One Health Institute and conservation.
- The final all-country meeting for the 10-year, \$200M PREDICT Project, funded by USAID and led by the One Health Institute, took place in September. More than 140 representatives from 25 participating countries joined together in Bali, Indonesia to provide final updates, reflect on discoveries, partnerships and successes, and look ahead to the future of global health security.
- UCSF Institute for Global Health Sciences welcomed OHI executive director Jonna Mazet, DVM, PhD as a visiting professor doing a sabbatical through March 2020.
- One Health Institute Executive Director Jonna Mazet joins the UC Global Health Institute Board of Directors.
- The OHI Lab, as part of the PREDICT Project funded by USAID, also detected the sixth ebolavirus, Bombali virus, in Angolan free-tailed bats in Guinea.
- The OWCN conducted a deployment exercise of its mobile facility equipment at the U.S. Coast Guard Strike Team base in Novato, California in September. The OWCN management team from the Karen C. Drayer Wildlife Health Center led the exercise, with participation from the California Department of Fish and Wildlife – Office of Spill Prevention and Response (OSPR) and OWCN member organizations International Bird Rescue and The Marine Mammal Center.
- The OHI received a \$100K NOAA Prescott Award to support its marine diagnostics lab.

- The Latin America Program was awarded a 3-year, \$30K grant from the National Research Council of Argentina. The PI is Dr. Silvia Estein from Universidad Nacional del Centro de la Provincia de Buenos Aires, Argentina, and the Co-PI is Dr. Marcela Uhart, director of the LAP. The project will focus on surveillance for infectious and parasitic diseases and antibiotic resistance in enteric pathogens of exotic mammals (wild boar and axis deer) in El Palmar National Park, Argentina.
- The California Raptor Center’s resident white-tailed kite Eliza is featured in photographer Joel Sartore’s National Geographic Photo Ark, a groundbreaking effort to document species before they disappear. <https://www.joelsartore.com/bir040-00173/?context=white-tailed+kite&index=1>
- The Latin America Program taught a graduate course (PhD level), “Introduction to Community-based Social Marketing to Foster Sustainable Behaviors in Citizens,” at Universidad Nacional del Centro de la Provincia de Buenos Aires in September.

Strategy 4.5. Advance Strategic Communications and Use Information Technologies to Demonstrate Program Success and Impacts of Education, Research, and Outreach Programs



Strategy 4.5. Advancement

Communications In partnership with CEH and CCAH, the SVM Communications team launched an email subscription campaign with the Spring 2019 newsletters. This campaign resulted in the CCAH gaining 548 new subscribers to the *CCAH Update* and CEH gaining 235 new subscribers to the *Horse Report*.

Advancement Communications Facilitated media interviews and placements and created online pet owner resource for Dr. Josh Stern’s research into grain-free diets that was supported by a third FDA warning about commercial dog food.

CCAH The CCAH hosted a center overview and tour for new Development staff and officers. CCAH Director, Dr. Michael Kent, presented the centers mission, areas of research, the history and future goals of the CCAH.

Admin:

- Developed new SVM data storage and retention policy; under review by IT Governance Committee.
- Facilitated final HBS ecotime training for AUSS-C for VMTH timekeeping prior to UC Path go-live.
- Updated the Intranet Viper’s programming to map to UC Path databases. This involved coordinating over 150 updates to coding and procedures.
- Updated the academic Merits and Promotions Voting module to integrate new UC Path databases.
- Completed SVM website migration from Cascade to Sitefarm.
- Completed computer and network installations for VMTH call center.
- Completed several years’ work of restructuring the SVM database environment.
- Upgraded all SVM kiosks to Windows 10.

- Resolved 821 services requests in July, 824 in August, and 661 in September.
- Launched IS-3 Security Policy Readiness Assessment in partnership with the campus IET Security Office. The assessment is expected to be concluded in October, 2019.

GOAL 5: PROMOTE A VIBRANT AND DIVERSE COMMUNITY

Strategy 5.1. Build Community through Value, Respect and Awareness for All



Strategy 5.1 Student Programs:

Held the Induction/White Coat Ceremony to welcome the class of 2023 and their families, and to introduce students to school and professional cultural values.

VETERINARY GENETICS LABORATORY The VGL started an Above and Beyond Award program to recognize one staff member each month who is excelling at their work or contributing to building a vibrant sense of community within the unit. Staff members recognized during this quarter include Nathan Tatar, Natalia Ocampo, and Kane Chai.

Personnel:

- 2019 Distinguished Service Award winner, Tom Campi.
- Development of a new alumni award, Rising Star Alumni Award given to DVM graduates within 15 years of graduation, <https://awards.vetmed.ucdavis.edu/rising-star-alumni-award>.

VIRC Members from the Veterinary Institute for Regenerative Cures visited UCSF's program in craniofacial biology for a day of regenerative medicine seminars and to discuss collaboration.

Strategy 5.2. Clarify and Support Expectations for Career and Personal Development of Faculty, Staff, and Students

Multiple units.

Through funding provided by the VMDO as well as contributions from the Departments of Medicine & Epidemiology (SVM), Surgical & Radiological Sciences (SVM), and Public Health Sciences (School of Medicine), an 85 inch wall monitor and videoconferencing capability was added to 2411 Tupper Hall.



Professional Education On-boarding meetings with 5 new faculty hires to provide training for teaching and learning at the SVM.

VMTH and Advancement Communications VMTH recognizes outstanding staff with annual awards.

Personnel 5 faculty to participate in the National Center for Faculty Development and Diversity training program in 19-20, Lilian Cruz-Orengo, Kathryn Conlon, Jenessa Gjeltema, Amir Kol, Ben Moeller.

PMI:

- Dr. H.L. Shivaprasad was nominated for and selected as an honorary member of the American College of Veterinary Pathologists (2019).
- Drs. Linda Lowenstine and James MacLachlan (both faculty emeritus in PMI) were selected as Distinguished Members of the American College of Veterinary Pathologists (2019).

CCAH:

- Weihow Hsue “Reliability of Measuring of Left Atrial Size in Dogs with Subclinical Myxomatous Mitral Valve Disease”.
- Maureen Oldach “Acute Pharmacodynamic Effects of Pimobendan in 22 Client-Owned Cats with Hypertrophic Cardiomyopathy”.

Strategy 5.3. Recognize the School’s Sustainability and Success Depends upon our People Resources

Personnel: New Academic Personnel

- Sina Marsilio, DVM, PhD, Assistant Professor of Small Animal Internal Medicine in VME, 8/1/19
- Kate Watson, PhD, DVM, Assistant Professor of Clinical Pathology, CAHFS, 8/1/19
- Steffan Keller, DVM, PhD, Assistant Professor of Anatomic Pathology, PMI, 8/1/19
- Karen Shapiro, DVM, PhD, Associate Professor of Microbiology, PMI, 8/15/19
- Jessica Morgan, PhD, DVM, Assistant Professor of Equine Internal Medicine, VME, 9/1/19
- Rosie Busch, DVM, Assistant Specialist in the Cooperative Extension in sheep and goat herd health and production, PHR, 9/1/19
- Jennifer Cassano, DVM, PhD, Assistant Professor of Equine Internal Medicine, VME, 9/15/19
- Crystal Rogers, PhD, Assistant Professor of Veterinary Health Outcomes, APC, 9/1/19

Personnel: Faculty Reappointments

- Dr. Edward Schelegle reappointed as Department Chair of Anatomy, Physiology and Cell Biology, July 1, 2019–June 30, 2022
- Dr. Swee Teh, Reappointment as Director of the Aquatic Toxicology Laboratory
- Dr. Robert Grahn, Reappointment as Associate Director for Test Development and Service at the Veterinary Genetics Laboratory
- Dr. Simone Stoute, Appointment as Branch Chief at CAHFS Tulare

Admin:

- Assisted in the recruitment of two Veterinary Center for Clinical Trials – Clinical Trials Coordinators.
- Served on School of Medicine’s recruitment advisory committee for the Dean’s Chief of Staff position.