

**SCHOOL OF
VETERINARY
MEDICINE AND
AGRICULTURE**

The school has numerous touchpoints with teaching, research and outreach related to agriculture, including with valuable partners such as CDFA, USDA and UCANR. Here are some primary areas:

- Tulare Veterinary Medicine Teaching & Research Center
- Veterinary Medical Teaching Hospital: Large Animal Services
- Center for Food Animal Health
- Western Institute for Food Safety and Security (WIFSS)
- Veterinary Medicine Extension
- California Animal Health and Food Safety (CAHFS) Laboratory System
- Dairy Nutrition and Metabolism Laboratory (Tulare)
- Milk Quality Laboratory (Tulare)
- Dairy Epi Laboratory (Tulare)

Agriculture and Natural Resources

Updates and Impacts

December 2019

**MPVM PROGRAM BUILDS KNOWLEDGE
AND CONNECTIONS**

When Dr. Tapakorn Chamchoy began looking into programs that would give him solid training in statistical analysis and diagnostic test evaluation, he couldn't imagine that would involve visiting California dairy farms to obtain fecal slurry samples. But that's where his Master of Preventive Veterinary Medicine (MPVM) degree took him. His project involved looking at environmental sampling methods for detecting Johne's disease contamination on drylot dairies. Johne's disease is a contagious, chronic, and usually fatal infection found worldwide that primarily affects the small intestine of ruminants. It's caused by *Mycobacterium avium* subspecies *paratuberculosis*. The disease can cause substantial economic losses in infected dairy herds due to reduced milk production and increased cow-replacement costs.

The application period for the MPVM program is now. The priority deadline for financial assistance is January 15; applications are accepted through April 15.

More: <https://www.vetmed.ucdavis.edu/news/mpvm-program-builds-knowledge-and-connections>



SCHOOL PROMOTES VETERINARY MEDICAL CENTER CAMPAIGN

In recent months, the transition of the Veterinary Medical Teaching Hospital to the future Veterinary Medical Center has become more real. Blood donor animals have been moved to the new corrals, construction projects in the hospital have sprung up, and recently, the university held a gala in the new Large Animal Support Facility. The Veterinary Medical Center campaign is the largest fundraising effort ever by a veterinary school. And as it progresses, the school is celebrating the clients, patients and care teams who are the reason behind the center, and providing new tools where hospital personnel can find the latest construction information. With that in mind, the school has launched new communications that use banners, posters, web pages and other means to tell extraordinary patient stories, and the care teams behind their successes. The future Veterinary Medical Center will ensure that UC Davis has the means to treat even more cases like these in the future.

More: <https://www.vetmed.ucdavis.edu/news/school-promotes-veterinary-medical-center-campaign-0>

CASE STUDY: LIVESTOCK AND FIELD SERVICES CENTER

Duckworth Family Farms wanted to experiment with raising a sheep breed that was better suited to the California climate. Specifically, they wanted to try Awassi sheep, which are indigenous to the deserts of southwest Asia and are adapted to arid conditions and large grazing areas. Snazzy Duckworth worked with the Livestock Herd Health and Reproduction Service at UC Davis to have the embryos implanted in recipient females. Since the importation of livestock into the country is prohibited, this was the only option to have an Awassi sheep herd. Dr. Brett McNabb, chief of the service, and team of residents and students then performed laparoscopic-assisted embryo transfers—a minimally invasive method—to successfully produce eight sheep. The farm plans to use the sheep for dairy and fiber production as well as semen and offspring sales.

The Livestock and Field Services Center, part of the planned Veterinary Medical Center, will enable UC Davis to provide even higher levels of innovative care when it's complete. To learn more about the planned Livestock and Field Services Center and the Veterinary Medical Center and to read the full Duckworth Family Farms case study, please visit <https://www.vetmed.ucdavis.edu/giving/vmc/case-studies/awassi-sheep>





NEWCASTLE RESPONSE ACTIVITIES

Virulent Newcastle Disease Update

California Department of Food and Agriculture & UC Davis

Detections of VND have decreased greatly over the last few months, but a new detection of virulent Newcastle Disease was identified on November 18, 2019 at a retail feed and pet store in western San Bernardino County. The store is linked to the two recently confirmed positive premises in western San Bernardino County. This new premises is approximately 1 km outside the boundary of the current control area and control area expansion is being reviewed.

VND response team members from the California Department of Food and Agriculture (CDFA) and the U.S. Department of Agriculture (USDA) are working to establish control measures including mandatory euthanasia of infected and exposed birds and surveillance testing near the retail feed and pet store where infection was detected.

The UC Davis School of Veterinary Medicine's California Animal Health and Food Safety Laboratory System (CAHFS) has been testing samples to help identify cases and prevent the spread of virulent Newcastle Disease (vND) in California. In addition, the school has been distributing information on vND in English, Spanish and Tagalog through social media.

Vigilance must be maintained. The CDFA advises that moving infected birds, often ones not yet showing signs of illness, will lead to continued spread of disease. Do not accept birds of unknown disease status into your flock. Biosecurity is paramount to prevent spread of vND. Poultry owners are advised that to minimize the risk to their birds, they should follow CDFA's biosecurity guidelines for backyard and pet birds. If you suspect that your own birds may have vND, do NOT submit the birds directly to CAHFS. Call the Sick Bird Hotline at (866) 922-2473, where staff can assess vND risk and ensure that the correct samples are collected for diagnosis.

For updates on the spread of vND, visit the USDA site at <https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/animal-disease-information/avian/virulent-newcastle/vnd> and the CDFA site at https://www.cdfa.ca.gov/ahfss/animal_health/newcastle_disease_info.html

NEWS



What's in Your Food?

IBM Research blog

Food authentication is becoming increasingly important, as contamination and fraud can occur at any point within a supply chain. Professor Bart Weimer has collaborated with IBM researchers and industry partners to use metagenomics, analytics and cloud to build new ways to authenticate the composition of raw materials. This new approach involves analyzing DNA and

RNA sequencing data from food against a database of thousands of plant and animal genomes. Ongoing efforts within the Consortium for Sequencing the Food Supply Chain include assessing microbiomes for potential food safety applications.

More: <https://www.vetmed.ucdavis.edu/news/whats-your-food>



Innovating Dairy Digester Research

Western Institute for Food Safety and Security: Video

Dr. Pramod Pandey, a faculty member and cooperative extension specialist at the UC Davis School of Veterinary Medicine, focuses on better ways to manage dairy waste material for both large and small farms. California is taking steps towards this goal by building a network of dairy

digesters that use bacteria to break down dairy manure and convert it into bio-gas which can then be converted to electricity. Using manure as a source of renewable energy will help reduce greenhouse gas emissions associated with climate change, because the gases that are produced in the digesters do not result in carbon-emission by-products like other energy sources do.

More: <https://www.vetmed.ucdavis.edu/news/innovating-dairy-digester-research>

How to Assess and Manage Wildlife Intrusion Risk on Your Farm

Growing Produce

To protect the public from **foodborne illness**, vegetable growers must identify and manage against possible environmental sources of contamination — such as intrusion and defecation by wild animals — to ensure public health concerns remain minimal. Michele T. Jay-Russell, Ph.D., is the current Program Manager at Western Center for Food Safety, University of California-Davis, and a registered Doctor of Veterinary Medicine (DVM). You can find five-step assessment forms online with a simple **Google search**. But Jay-Russell shares some general areas of concern growers should keep in mind:



- **History of the land and adjacent lands.** To come up with a proper strategy, you need the spatial context of the fields and surrounding areas.
- **Timing of harvest.** Knowing harvest dates and whether they correspond to periods of increased wildlife activity can be helpful, Jay-Russell says.
- **No Two Years Are the Same.** Just like farming itself, there is no annual blanket approach for assessing wildlife intrusion risk.

More: <https://www.vetmed.ucdavis.edu/news/how-assess-and-manage-wildlife-intrusion-risk-your-farm>



Bovine Respiratory Disease: Costs and Risk Factors

Bovine Veterinarian

The incidence and severity of bovine respiratory disease (BRD) in dairy cattle varies widely, making economic impacts difficult to quantify. But according to Elanco veterinarian Michael Overton, the overall cost in replacement heifers probably runs higher than most dairy producers realize. During the recent BRD Symposium in Denver, Overton summarized some existing data and a

recent study involving 104,000 heifers from 23 herds where managers consistently collected data on BRD. The majority of BRD cases in dairy occur from birth to 120 days of age, Overton says, and in this data set, 36.6% of heifer calves had one or more cases during that time period. Calf raisers generally see the highest incidence of BRD during the first 30 days of a calf's life, with another spike in morbidity occurring at and after weaning.

More: <https://www.vetmed.ucdavis.edu/news/bovine-respiratory-disease-costs-and-risk-factors>

Animals Evacuated by Kincade Fire Find Shelter and Expert Medical Care

KQED

A KQED reporter and photographer shadowed the Veterinary Emergency Response Team at the Sonoma County fairgrounds as they cared for animals impacted by the Kincade Fire. At the Sonoma County Fairgrounds in Santa Rose, more than 100 evacuated animals were sheltering in stables where the mood was still upbeat. Long rows of stalls were occupied by a motley menagerie of all shapes and sizes. Most of the animals were horses but there were also alpacas, goats, sheep, and surprisingly, a pair of emus. Dr. John Madigan at UC Davis founded and coordinates the UC Davis Veterinary Emergency Response Team (VERT). Madigan's team consists of a group of volunteers, including veterinary students, who help rescue animals and provide medical care during disasters. VERT started more than twenty years ago after a flood in the Central Valley occurred.



More: <https://www.vetmed.ucdavis.edu/news/animals-evacuated-kincade-fire-find-shelter-and-expert-medical-care>

AWARDS



Drs. Beate Crossley and **Francisco Uzal** were honored with distinguished awards at the annual meeting of American Association of Veterinary Laboratory Diagnosticians (AAVLD) and the United States Animal Health Association (USAHA). Crossley and Uzal are both faculty members with the school's California Animal Health and Food Safety Laboratory System (CAHFS). "These are wonderful advancements in our efforts to protect the food supply and contributions to animal health," said Dean Michael Lairmore. "We congratulate these awardees on their wonderful accomplishments!"

More: <https://www.vetmed.ucdavis.edu/news/cahfs-faculty-honored-distinguished-awards-protecting-food-and-animal-health>



UC Davis Professors Honored by American College of Veterinary Pathologists

Three UC Davis School of Veterinary Medicine faculty members were recently honored by the American College of Veterinary Pathologists.

Drs. Linda Lowenstine and **James MacLachlan** were recognized as a distinguished members, while **Dr. H. L. Shivraprasad** was recognized as an honorary member. Lowenstine served as professor of Veterinary Pathology at UC Davis, Pathology Veterinary Advisor, and the Principal Pathologist for the Mountain Gorilla Veterinary Project. MacLachlan served as professor in the Department of Pathology, Microbiology, and Immunology with expertise in both pathology and pathogenesis. MacLachlan studies viral diseases such as the emerging bluetongue and African horse sickness that are transmitted by *Culicoides* biting midges. He serves as an expert advisor for numerous organizations such as the World Organization for Animal Health, the United States Department of Agriculture and Homeland Security, and the European Union.

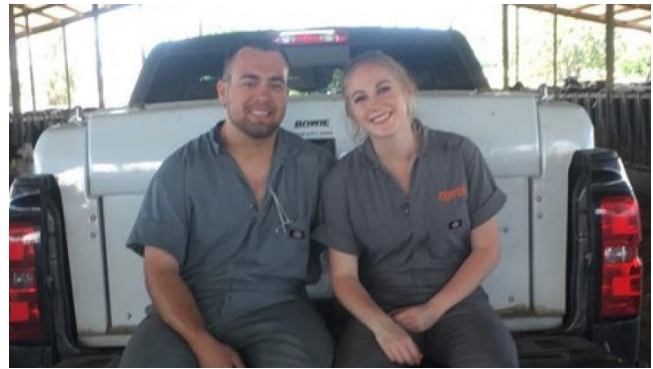
More: <https://www.vetmed.ucdavis.edu/news/uc-davis-professors-honored-american-college-veterinary-pathologists>



Comparative Pathology Lab Wins a 2019 Safety Lab Award

The Comparative Pathology Lab (also known as the Imai-Leonard Lab) won a UC Davis Lab Safety Award, presented in October. The Safety Services Lab Safety Awards are part of UC Davis' commitment to recognizing labs with a strong safety emphasis who are doing their part to Think Safe. Act Safe. Be Safe. The lab is self-supporting and provides services to other UC Davis labs, and also to UCSF, UC Merced, UC Santa Cruz, the California Animal Health and Food Safety Laboratory system, and to small biotech firms. The lab's dozen staff members work with a rotating mix of residents in medicine, pathology, and veterinary programs, student workers, and interns.

More: <https://www.vetmed.ucdavis.edu/news/comparative-pathology-lab-wins-2019-lab-safety-award>



Students Receive Scholarships in Bovine Medicine

Fourth-year students Lauren Gentle and Nathan Yerian received scholarships from the American Association of Bovine Practitioners (AABP). The awards were presented at the annual meeting last week. They both received AABP Foundation Bovine Veterinary Student Recognition Awards of \$5000 each, sponsored by Merck Animal Health. The awards, funded by AABP members, AABP partners and the AABP Foundation, will enable recipients to further pursue their careers in bovine medicine.

<https://www.vetmed.ucdavis.edu/news/students-receive-scholarships-bovine-medicine>

COLLABORATIVE AND OUTREACH ACTIVITIES



WIFFS: Second meeting of the Higher Vocational Education International Alliance for Agri-Husbandry.

October 14-16, 2019

UC Davis hosted the two-year benchmark meeting for the Higher Vocational Education International Alliance for Agri-Husbandry (HVEIAA). Thirteen representatives from 7 colleges representing China, the United States, Australia, and South Africa attended from October 14-16, 2019.

The meeting provided the opportunity for the representatives to review progress on the metrics established two years before: highlight key informational programs and data bases

for targeting progress in meeting common goals; establish relevant professional and industry standards; organize international skills for teachers and students; establish standards for vocational education and recognition of outstanding teachers; and, coordinate student exchanges, teacher exchanges, and continue recruiting new members.



WIFSS: Dairy Farm Worker Outreach

Jennifer Chase, a Ph.D. student in the Graduate Group of Epidemiology (GGE), led a team of three to

a Central Valley dairy in early August to recruit dairy farm workers as part of a multi-year effort to “Reduce Occupational Exposure to Zoonotic Pathogens in California Dairy Farm Workers.” Jennifer, who is not fluent in Spanish, enlisted the help from some folks with this skill set. Jose “Pablo” Gomez, a DVM and GGE Ph.D. student working with the Center for Animal and Disease Modeling and Surveillance and Sara Garcia, a project scientist with WIFSS joined Chase and Krishna Balasurbramaniam, a Behavioral Ecologist and post-doc working with Brenda McCowan, on this one-day recruitment mission.

Dairy level recruitment was made possible only after enlisting the help from Daniela Bruno, a DVM and UC Davis Farm Advisor covering Fresno and Madera counties. Led by Rob Atwill and Chase, the four-year project aims to fill the gaps in occupational health and safety for zoonotic disease in California dairy farms, by quantifying microbial risk and evaluating transmission routes through contact patterns with dairy cows. Pablo and Sara played an integral part of successfully enrolling over 80% of workers asked (n=34). Access to this pool of enrollees will make it possible to estimate exposure risks associated with specific job tasks.

Tulare: University of Edinburgh Delegation Discussion

Drs. Sharif Aly & Emmanuel Okello participated using a remote connection in a discussion on antimicrobial systems during a visit by a delegation from the University of Edinburgh on September 3 and 4. Drs. Jennifer Lane and Beatriz Martinez-Lopez participated in person. The visit explored opportunities to further UC Davis and University of Edinburgh planetary health collaborations, as well as wider collaborations on veterinary science, agriculture and environmental sciences.

Tulare: FARMS (Farming, Agriculture, and Resource Management for Sustainability) Leadership Program

FARMS (Farming, Agriculture, and Resource Management for Sustainability) is a year-long program for high school sophomores and juniors that provides engaging, hands-on experiences at farms, wildlife areas, agriculture related businesses, colleges and universities aimed to introduce students to careers in agriculture and environmental sciences. Students usually visit at least once a year. Prior to the tour, the students participating in the program meet with our faculty who are presenting. The students interview our faculty and then they introduce them at the beginning of the presentation. This is a great learning tool for these students.

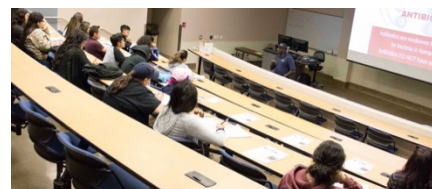
More information about the program can be found at <http://landbasedlearning.org/farms>



Ms. Beryl Arinda explains a process using Polymerase chain reaction (PCR) in molecular biology.



Dr. Blanca Camacho being introduced prior to speaking with FARMS students.



FARMS students listen to Dr. Emmanuel Okello, Specialist in Antimicrobial Stewardship, give a presentation on antimicrobial resistance.



Tulare: World Antibiotic Awareness Week (WAAW) 18-24 November 2019

The World Antibiotic Awareness Week (WAAW) is an annual commemoration by governments, health facilities, schools and communities worldwide. The campaign underscores the importance of stewardship practices among the general public, health workers and policy makers to help curtail the emergence and spread of antibiotic resistance and guarantee feature availability of these vital compounds for the treatment of human and livestock diseases.

In commemoration of the week, Dr. Emmanuel Okello (Assist CE Specialist), gave talks to visiting students from Bakersfield Junior College and the Hanford FARMS (Farming, Agriculture, and Resource Management for Sustainability) program at the Veterinary Medicine Teaching and Research Center (VMTRC). The talks aimed at creating general awareness on the obligation that everyone must fulfill in order to preserve the efficacy of antibiotics for future generations. The general public thus have the responsibility to understand antimicrobial Resistance (AMR), learn how they can adapt practices to mitigate their potential risks and contributions to the emergence and spread of AMR. This messaging was delivered in partnership with the “iAMResponsible Project”, a nationwide team of research and extension professionals that was assembled to design and deliver extension programming on AMR.

CALIFORNIA ANIMAL HEALTH AND FOOD SAFETY LABORATORY SYSTEM UPDATES

CAHFS Updates:

- In 2019 through late November, CAHFS has been involved in 814 foreign animal disease investigations. The majority of these have been swine with clinical signs consistent with Foot-and-Mouth Disease (FMD). Testing at CAHFS for FMD and other viruses has repeatedly identified Senecavirus A as the culprit.
- There is a land purchase in progress for a new CAHFS lab in Turlock. This facility, expected to open in 2024, will replace the existing Turlock CAHFS laboratory, and will provide expanded services, including necropsy services for cattle, sheep, goats, horses, and swine in addition to poultry.

In addition to Virulent Newcastle disease, since the last reporting period CAHFS has reported the following diagnoses:

Small Ruminant / Camelid / Other Mammalian	Nitrate toxicosis (Suri alpaca) Disbudding thermal injury (Nigerian dwarf goat) Nasal abscess (Mule ewe) Tularemia (Wild rabbit)
Poultry / Other Avian	West Nile virus (Sun Conure)
Equine	Coccidiomycosis
Bovine	Urea toxicosis
Pig	Porcine circovirus associated disease (PCVAD)

Learn more: <https://cahfs.vetmed.ucdavis.edu/cahfs-connection/featured>

To get up-to-date diagnosis information, subscribe to CAHFS Connection by emailing Sharon Hein at slhein@ucdavis.edu.

NEW PERSONNEL



Department of Molecular Biosciences

Dr. Wilsom Rumbeiha, DVM, PhD

Dr. Wilson Rumbeiha joins the Department of Molecular Biosciences as a Professor of

One Environmental Health Toxicology, effective November 1, 2019.

Dr. Rumbeiha received his DVM from the College of Veterinary Medicine, Makerere University in Uganda and his PhD in Biomedical Sciences from Ontario Veterinary College at the University of Guelph. He is a Diplomate of the American Board of Toxicology and the American Board of Veterinary Toxicology as well as a Fellow of the Academy of Toxicological Sciences. Most recently, he has been a Professor of Veterinary Toxicology in the Department of Veterinary Diagnostic and Production Animal Medicine at the College of Veterinary Medicine at Iowa State University.

Dr. Rumbeiha will be teaching in the professional and graduate curricula. His basic and applied research on the effects of sulfide gases align well with the One Health concept and with the CounterACT Center of Excellence in the department, broadening campus expertise in neurotoxicology. He is also interested in health effects of environmental exposures to cyanotoxins, linked to climate change. He has a deep commitment to diversity and multicultural awareness and his international contributions in education were well recognized at Iowa State University.



CAHFS and the Department of Pathology, Microbiology & Immunology

Dr. Katherine Watson, DVM, PhD

Dr. Katherine Watson joins the California Animal Health & Food

Safety Laboratory System and the Department of Pathology, Microbiology & Immunology as an Assistant Professor of Clinical Diagnostic Pathology, effective August 1, 2019.

Dr. Watson received her BS (Neurology, Physiology and Behavior, 2005) from the University of California, Davis. She continued her educational training at Davis where she received her PhD (Molecular, Cellular and Integrative Physiology, 2014) and DVM (2016) as part of the Veterinary Scientist Training program (VSTP), followed by a residency in Anatomic Pathology (2019).

Dr. Watson's research interests and expertise are in nanotechnology development in the areas of biomarker discovery, cancer diagnosis and therapeutics, and detection of infectious microorganisms.



CAHFS Turlock

Dr. Simone Stoute, DVM, PhD

Simone Stoute, DVM, PhD, Assistant Professor of Clinical Diagnostic Veterinary Medicine, has been appointed as Branch

Chief of the California Animal Health and Food Safety Laboratory-Turlock effective July 1, 2019 for a three-year term. Dr. Stoute has been serving as the Interim Branch Chief since 2016 and is recognized for her administrative leadership, commitment to resident education, extraordinary achievement in diagnostic activity, and her excellent relationships with practicing poultry veterinarians throughout the State of California.

As Branch Chief, Dr. Stoute will report to the Directors of CAHFS and serve as the on-site manager of the Turlock laboratory with oversight for all disciplines and personnel matters; work assignments; client relations; training and development; fiscal matters; compliance with policies; and facilities.



Department of Population Health and Reproduction

Dr. Roselle Busch, DVM

Dr. Roselle Busch joins the Department of Population Health and Reproduction as Assistant

Specialist in Cooperative Extension (Sheep & Goat Herd Health & Production) effective September 1, 2019.

Dr. Busch received her BS in Animal Science (2005) and her DVM (2009) from the University of California, Davis. She then became an Associate Veterinarian (2009-2010) at the Ausaymas Veterinary Service, Hollister. Dr. Busch completed her residency in Large Animal Internal Medicine (2010-2013) at the University of California Veterinary Medical Teaching Hospital, Davis and continued on as a Staff Veterinarian (2013-2017). Dr. Busch was a Veterinarian Specialist (2017-2019) at the California Department of Food & Agriculture in the Antimicrobial Use & Stewardship program.

Dr. Busch will develop a statewide applied research and extension program with a focus on the health of sheep and goats while achieving optimal performance across the wide variety of outcomes originating from these animals, especially herd health and management.



Department of Pathology, Microbiology & Immunology

Dr. Karen Shapiro, DVM, PhD, MPVM

Dr. Karen Shapiro joins the Department of Pathology,

Microbiology & Immunology as an Associate Professor of Microbiology, effective August 15, 2019.

Dr. Shapiro received her B.S. (Wildlife Conservation, 1997), DVM (Veterinary Medicine, 2002), PhD (Comparative Pathology, 2009) and MPVM degrees (Epidemiology, 2011) from the University of California, Davis.

After completing her PhD, she continued as a Postdoctoral Scholar (2010-2012). Dr. Shapiro then accepted a position as an Assistant Researcher (2012-2018) in the Department of Pathology,

Microbiology & Immunology and is currently an Associate Researcher (2018-present).

Dr. Shapiro's primary research interests are in waterborne pathogens with a primary focus on protozoa, specifically *Toxoplasma gondii*. Her research spans molecular to ecosystem-scale approaches for investigating waterborne transmission of zoonotic pathogens, molecular epidemiology, food safety, and pathogen detection in environmental and clinical specimens. Dr. Shapiro also has a clinical appointment to help oversee the clinical parasitology lab in the VMTH.



Department of Anatomy, Physiology & Cell Biology

Dr. Crystal Rogers, PhD

Dr. Crystal Rogers joins the Department of Anatomy, Physiology & Cell Biology as an Assistant

Professor of Health Outcomes effective September 1, 2019.

Dr. Rogers received her BS (Organismal Biology, Ecology & Evolution, 2001) from the University of California, Los Angeles. She then received her PhD (Developmental & Molecular Biology, 2009) from Georgetown University, Washington. Dr. Rogers then continued as a Postdoctoral Scholar (2010-2015) at the California Institute of Technology, Pasadena. She is currently an Assistant Professor (2016-present) at the California State University, Northridge.

Dr. Roger's research is focused on molecular mechanisms underlying neural crest formation and more specifically the factors controlling neural crest specification and ectoderm-mesenchymal transition (EMT) of cranial neural crest cells using chicken and axolotl embryos as model systems.



CAHFS and the Department of Population Health & Reproduction

Dr. Carmen Jerry, DVM, PhD

Dr. Carmen Jerry joins the California Animal Health & Food Safety

Laboratory System and the Department of Population Health & Reproduction as an Assistant Professor of

Clinical Diagnostic Veterinary Medicine, effective September 1, 2019.

Dr. Jerry received her DVM (2011) from the University of West Indies, Trinidad and Tobago, and continued as a Clinical Teaching Assistant (2011-2013). She then completed an internship in Pathobiology (2013-2014) at Tuskegee University, Alabama. Dr. Jerry recently completed a combined PhD (2014-2019)/Anatomic Pathology Residency program (2014-2017) with a poultry emphasis at the University of Georgia, Athens, GA.

Dr. Jerry's research interests and expertise are focused on hemagglutinin protein binding across bird species which is highly relevant in the diagnostic realm, as it can lead to a better understanding of receptor tropism of influenza A viruses and better prediction of the infectivity and pathogenesis of new strains of avian influenza.



Department of Medicine and Epidemiology

Dr. Jennifer Cassano, DVM, PhD

Dr. Jennifer Cassano joins the Department of Medicine and Epidemiology as an Assistant

Professor of Equine Internal Medicine, effective September 15, 2019.

Dr. Cassano received her BS (Animal Science, 2009), DVM (2013) and PhD (Comparative Biomedical Sciences, 2016) from Cornell University, Ithaca, New York. Upon completion of graduate school she completed a combined academic/private practice rotating internship (2016-2017) at the Cummings School of Veterinary Medicine, Tufts University/Massachusetts Equine Clinic.

Since 2017 to the present time Dr. Cassano has worked as an Associate Veterinarian at EquiDoc Veterinary Services in Spencer, Massachusetts.

Dr. Cassano's research interests and expertise are in the general area of stem cell biology and therapeutic actions of mesenchymal stem cells (MSCs), and particularly in alterations in gene expression profiles of MSCs during exposure to inflammatory environments, and in the use of licensing agents to create more uniform MSCs exhibiting therapeutic traits such as chondroprotective activity.



Department of Pathology, Microbiology & Immunology

Dr. Stefan Keller, DVM, PhD, DECVP

Dr. Stefan Keller joins the Department of Pathology, Microbiology & Immunology as

Assistant Professor of Anatomic Pathology, effective August 1, 2019.

Dr. Keller received his DVM (Veterinary Medicine, 2003) from the University of Berlin, Germany. He completed postdoctoral training in anatomic pathology, obtaining a Dr. med vet (Veterinary Pathology, 2007) at the University of Zurich, Switzerland and became board certified (2008) from the European College of Veterinary Pathologist (ECVP). Dr. Keller earned his PhD (Comparative Pathology, 2015) from the University of California, Davis. He is currently an Assistant Professor of Anatomic Pathology (2015-2019) at the Ontario Veterinary College (OVC), University of Guelph, Canada.

Dr. Keller's primary research interests are focused on adaptive immunity, specifically the role of lymphocytes and their antigen receptors in health and disease. He has worked extensively with canine lymphoproliferative and inflammatory disorders and clonality testing in dogs. He will be participate in the anatomic pathology biopsy service, teach in the professional curriculum and train residents and graduate students.



Department of Medicine and Epidemiology

Dr. Sina Marsilio, DVM, PhD, DACVIM, DECVIM

Dr. Sina Marsilio joins the Department of Medicine and

Epidemiology as an Assistant Professor of Small Animal Internal Medicine, effective August 1, 2019.

Dr. Marsilio received her veterinary (med. Vet.; 2004) and doctoral degrees (Dr. med. vet.; 2007) from the University of Veterinary Medicine Hannover (Foundation), Germany. Following graduation she completed an internship (Sept 2007-Aug 2008) at the European Veterinary Specialist Center, Piding, Germany and a residency (Dec 2008-Feb 2012)

at the Small Animal Clinic, Justus-Liebig-University Giessen, Germany; and Queen Mother Hospital for Animals, Royal Veterinary College, London, UK.

Following residency training, Dr. Marsilio became a Clinical Lecturer (Mar 2012-Dec 2012) at the Small Animal Clinic, Justus-Liebig-University, Germany before becoming a Clinical Trials Manager (Jan 2013-Feb 2014) at Boehringer Ingelheim Animal Health, Germany. She then returned to academia as a Clinical Lecturer (Feb 2014-Aug 2014) at the Small Animal Clinic, University of Leipzig, Germany prior to starting a graduate (PhD) program in the Gastroenterology Laboratory at the College of Veterinary Medicine and Biochemical Sciences, Texas A&M University where she will graduate in August 2019. She is dual board certified by the American College of Veterinary Internal Medicine (DACVIM (SAIM); 2014) and the European College of Veterinary Internal Medicine (DECVIM-CA; 2014).

As an accomplished and competent clinician with dual board certifications, Dr. Marsilio is highly qualified to fulfill the didactic and clinical teaching responsibilities of this position. Dr. Marsilio's research interests and expertise are in the area of small animal gastroenterology, especially feline gastrointestinal microbiota, metabolomics, and proteomics related to inflammatory bowel disease and small cell lymphoma.



Department of Medicine and Epidemiology

Dr. Jessica Morgan, DVM, PhD, DACVSMR

Dr. Jessica Morgan joins the Department of Medicine and Epidemiology as an Assistant Professor of Equine Internal Medicine, effective September 1, 2019.

Dr. Morgan received her BS (Neurobiology, Physiology & Behavior, 2005), PhD (Comparative Pathology, 2012) and DVM (Equine Track, 2013) from the University of California, Davis. She then completed a private practice ambulatory/hospital internship (2013-2014) at Peninsula Equine Medical Center, Menlo Park, CA, and a residency (2014-2017) in Equine Sports Medicine and Rehabilitation at the University of Pennsylvania School of Veterinary Medicine, New Bolton Center.

Following her residency training Dr. Morgan remained at New Bolton Center, first as a Lecturer in Equine Exercise Physiology (2017-2018) and then as a Lecturer in Large Animal Ultrasound and Cardiology (2018-present). In 2019, she became a Diplomate of the American College of Veterinary Sports Medicine and Rehabilitation (Equine).

Dr. Morgan's research interests and expertise are in basic and applied science related to equine performance, musculoskeletal disease, and lameness diagnosis, including early detection and treatment of performance limiting conditions of horses and characterization of the roles that extracellular proteins play in tissue degeneration and disease prediction.



Department of Pathology, Microbiology & Immunology

Dr. Natalia Vapniarsky-Arzi, DVM, PhD, DACVP

Dr. Natalia Vapniarsky-Arzi joins the Department of Pathology, Microbiology & Immunology as Assistant Professor of Anatomic Pathology, effective June 1, 2019.

Dr. Vapniarsky-Arzi received her B.Sc. (Biology, 1999) from Haifa University, Israel and her DVM (Veterinary Medicine, 2003) from Szent Istvan University, Hungary. She completed her residency training in Anatomic Pathology at the Veterinary Medicine Teaching Hospital (VMTH), University of California, Davis. She is a Diplomate of the American College of Veterinary Pathologists.

Following completion of her residency she completed a PhD and a Postdoctoral Fellowship (2013-2017) in the Department of Biomedical Engineering, UCD. Dr. Vapniarsky-Arzi successfully completed a KL2 award through the CTSC as an Assistant Researcher (2017-present) in the Department of Pathology, Microbiology & Immunology, UCD.

Dr. Vapniarsky-Arzi's primary research interests are related to tissue engineering, regenerative medicine, and immunobiology of the host-implant interface, with a special focus on cartilage and the temporomandibular joint. Dr. Vapniarsky-Arzi will also be participating in necropsy and biopsy clinical service.

AGRICULTURE-RELATED CONTINUING EDUCATION



2020 Winter Conference - FARM Club/Beef Producer Symposium

Date: Saturday, February 22, 2020

Time: 8:00 am - 5:00 pm (PST)

Location: Gladys Valley Hall, UC Davis

No CE Credit

Speakers: Gabriele Maier, DVM, MPVM, PhD, DACVPM

Bret McNabb, DVM, DACT, DABVP

Frank Mitloehner, PhD

Jeffrey Stott, MS, PhD

Alison Van Eenennaam, PhD

Register by February 8, 2020 for early registration pricing (\$45).