State of School 2018





Mission

Advance the Health of Animals.

- > Educate World Leaders in Veterinary Medicine
- Conduct High-Impact Transdisciplinary Research
- Provide Advanced Clinical Programs for Patient Care and Discovery
- ➤ Advance the Well-being of Animals and People in California and Beyond
- ➤ Promote a Vibrant, Caring, and Inclusive Community that Promotes Shared Values and Respect



Leading Veterinary Medicine Addressing Societal Needs



Attract, Mentor, Support the Best and Brightest Students

Class of 2022

Students – 150 (applicants – 1046)

California – 118

WICHE - 7

Non-Residents – 23

International – 1

Females – 136

Males – 14

Avg. Science GPA 3.70

- Avg. Quant GRE Score 74%
- Avg. age 23 (Range 20-34)
- 48% URM students (Top 3 in nation)

Areas of interest species specific: Small Animal – 57, Mixed Animal – 28, Wildlife – 16, Zoo – 11, Large Animal – 10, Equine – 8, Food Animal – 7, Small/Equine – 6, Lab Animal – 5, Fish – 1

Areas of veterinary interest at application: Practice/Specialty Practice – 99, Academics/Research/Teaching – 28, Public Health – 22

Ethnicity: Caucasian – 78, Asian – 32, Multi-Ethnic – 27, Hispanic/Mexican American/Other Spanish – 9, African American/Black - 3



Career Center: Leadership, Wellness, and Career



Establish and Maintain a Sustainable and Diverse Professional Pipeline



Multicultural Student Experiences Across the Globe



Office of Global Programs

- Opportunities for SVM students:
 - √ 30 students International Projects Fellowships/Externs
 - ✓ Global Feline Health and Underserved Community Fellowships
 - ✓ Support for Rx One Health Course with OHI



Expanded Partnerships and Opportunities

- ✓ UC² Symposium in Dublin, Ireland with University College Dublin-expanded with Zoetis Funding
- ✓ University of Sydney UC Davis Partnership with Seed Grants extended for 2nd year





Veterinary Student Clubs and Leadership Opportunities





Innovations in Teaching – Curriculum to Metacognition Evaluation





Faculty Development – Teaching Academies to Peer Observation

- ✓ Peer Observation and Coaching Committee
- ✓ Regional Teaching Academy Biannual Conference
- ✓ International Conference on Communication in Veterinary Medicine Mental Health and Wellbeing Summit
- ✓ Veterinary Education Collaborative and Primary Care Conference
- ✓ Royal Veterinary College postgraduate qualification in Veterinary Education
- ✓ Masters in Health Professions Education
- ✓ Institute for Healthcare Communication





Forefront of High-impact Transdisciplinary Research

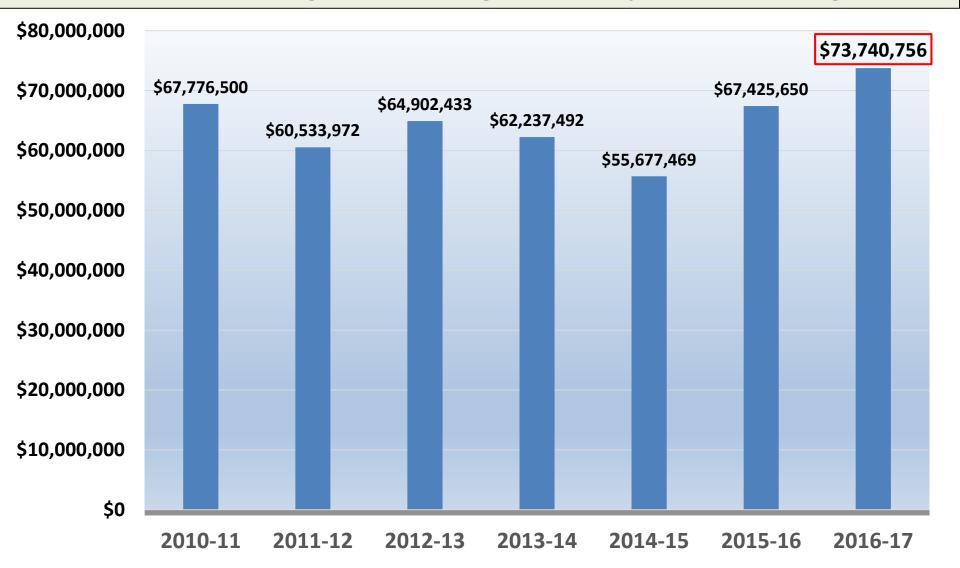


Uniquely contribute to biomedical, agricultural, global health, and environmental research through specialized training in animal biology and medicine to understand interface of animals, people, and the environment



Forefront of High-impact Transdisciplinary Research

Research Funding -> #1 Among Veterinary Schools/Colleges



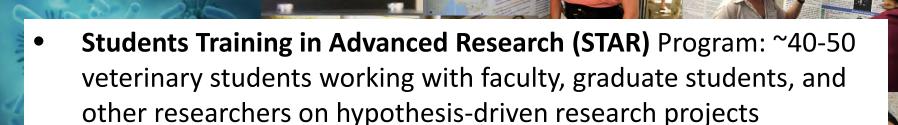


Transdisciplinary Research and Innovations

- Collaborative programs involving transdisciplinary teams that investigate and identify solutions to the worlds most complex challenges
- Researchers from across the UC System and UC Davis campus, UC Davis Health Systems, Lawrence Livermore National Laboratories, and Bodega Marine Laboratory
- Interdisciplinary Graduate Groups, and Centers of Excellence,
 Institutes, and Program Projects
- Broad impact in One Health, Oncology, Biodefense, Equine Health, Wildlife Health, Companion Animal Health, Aquatic Health, Children's Health, etc.



Transdisciplinary Research - DVM and DVM/PhD Student Training



 Veterinarian Scientist Training Program (VSTP): Training the next generation of veterinary scientists DVM/PhDs- rich pre-clinical and clinical training with a strong commitment to basic and translational interdisciplinary research





Forefront of High-impact Transdisciplinary Research

Laura Van Winkle (APC)

- NIH S10: CytoViva Hyperspectral Imaging System (\$230,000)
- Society of Toxicology: 2018 Mentoring Excellence Award
 Lisa Miller (APC)
- NIH R01: Role of Microbiome in Neonatal Lung Maturation and Immune Susceptibility \$553,436/yr for 4 years

Pamela Lein (VMB)

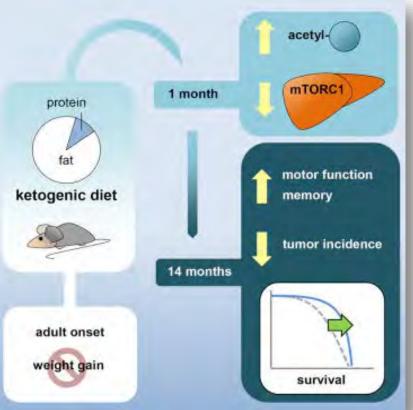
- NIH R01: Vascular Inflammation and Exosomes as Mediators in Aging and Dementia (MPI: Knowlton, Gelli, Lein) \$600,000/yr for 5 years
- **T35**: Advanced Training in Environmental Health Sciences \$217,000/yr for 5 years (years 40-45)
- **U54**: Anticonvulsant & Neuroprotective Therapies for TETS and OP Intoxication \$3,757,820/yr for 5 years



Diet and Aging



Mouse Study Shows a Ketogenic Diet Increases Longevity, Strength



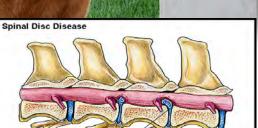
 Ketogenic diet increased memory and motor function and decreased age-related markers of inflammation and tumors

A Ketogenic Diet Extends Longevity and Health span in Adult Mice. <u>Cell Metabolism</u>, 2017



Genetics of Disc Disease in Dogs – Implications for People







- Discovery of a genetic mutation across breeds that is responsible for chondrodystrophy
- The FGF4 retrogene is an important molecule involved in development. When its receptor FGF3R is mutated, it can also lead to dwarfism in humans

FGF4 retrogene on CFA12 is responsible for chondrodystrophy and intervertebral disc disease in dogs

Emily A. Brown, Peter J. Dickinson, Tamer Mansour, Beverly K. Sturges, Miriam Aguilar, Amy E. Young, Courtney Korff, Jenna Lind, Cassandra L. Ettinger, Samuel Varon, Rachel Pollard, C. Titus Brown, Terje Raudsepp, and Danika L. Bannasch **Proceedings Natl. Acad. Sciences** 2017



NIH Grant in Data Science



- Titus Brown, Associate Professor in Department of Population Health and Reproduction is principal investigator of a grant funded NIH initiative to make it easier for scientists to share research data and scientific tools online
 - NIH is supporting the pilot project with 12 grants totaling \$9 million over four years

Part of **UC Davis Data Science Initiative (DSI)**

- Data Science a new discipline, encompassing learning from data and scientific studies of data analysis across academic disciplines
- UC Davis DSI To promote, facilitate and accelerate dataenabled research leading to new insights within and across disciplines

Distinct Lineages of Antibody Producing Cells

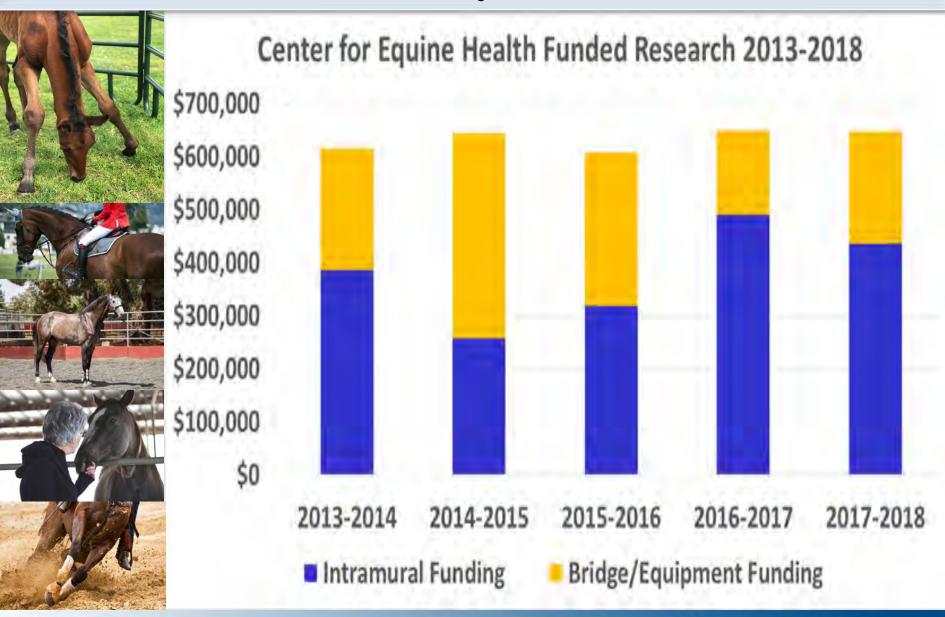


- Distinct subsets of B cells that produce natural antibodies discovered
 - Findings may lead to more targeted therapeutics for diseases and conditions such as autoimmune diseases, atherosclerosis, and chronic inflammation

Blimp-1—dependent and —independent natural antibody production by B-1 and B-1—derived plasma cells H. Savage, V. Yenson, S. Sawhney, B. Mousseau, F. Lund, and N. Baumgarth

J Exp Med. 2017

Center for Equine Health





Honoring Leadership in Equine Health



Dr. Gregory Ferraro was honored for his lasting impact on equine health and research with the announcement of a new endowed directorship in his name



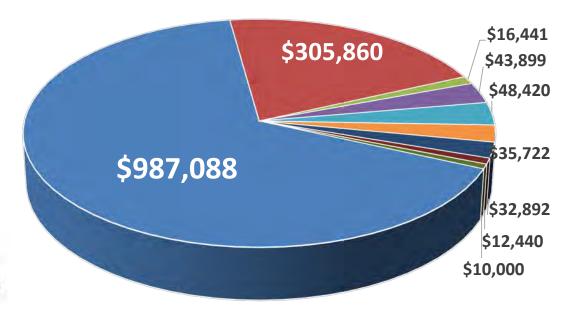
- <u>Dr. Carrie Finno</u> as the inaugural holder of the *Dr. Gregory L. Ferraro Endowed Directorship*
 - Dr. Claudia Sonder, former director of the CEH, honored for her leadership and skill as a liaison between the school and equine industry



Center for Companion Animal Health

Awarded **\$1.5 million** in Grants and Program Support

- Faculty Research Grants: 49
- Faculty Grants Equipment: 17
- Publication Support
- Matching Grants: 6
- Resident Grants: 12
- Research Support/Conferences/ Star Projects
- VHIS
- Koret Exchange Research Program
- TLC Support







Koret Shelter Medicine Program



 Completed the first online Boot Camp, an eightweek intensive course on <u>Capacity for Care (c4c)</u> for shelters



Hit the million! In the last year the <u>Million Cat</u>
 <u>Challenge achieved its goal</u> of saving one million cats from unnecessary euthanasia.



Translational Research Core Lab



The Dean's Office, Centers for Companion Animal Health and Center for Equine Health have established a new <u>Translational Research Core Lab</u>

New **shared lab space** in VMII rooms 267 and 273A

This Core Lab features:

- Bench space for up to 10 researchers
- 1,000 square feet
- Basic lab equipment

Allows faculty and residents lab space for limited periods of time if they do not have or need additional space for a particular project

Build Strong Collaborations with <u>Academic</u>, <u>Government</u>, Agricultural and Business partners





Clinical and Translational Science Award One Health Alliance

- The Clinical and Translational Science Award One Health Alliance (COHA) consortium of 14 veterinary schools partnered through the NIH Clinical Translational Science Award (CTSA) network
 - Mission is to advance our understanding of diseases shared by humans and animals
 - Leverages expertise of physicians, research scientists, veterinarians, and other professionals to accelerate translational research

UC DAVIS CLINICAL AND TRANSLATIONAL SCIENCE













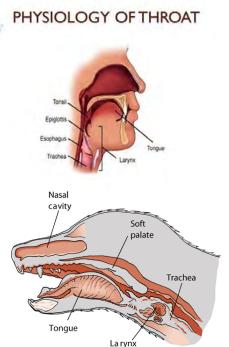
Center for Deglutology and Digestion – New Transdisciplinary Center

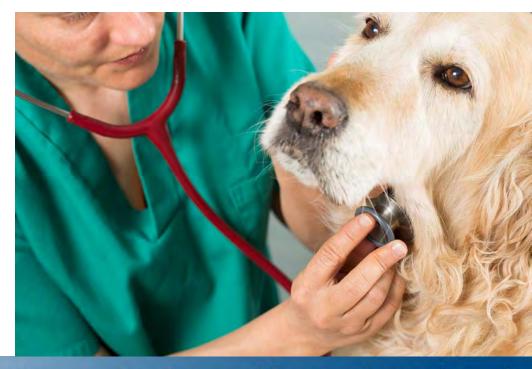


<u>Center for Deglutology and Digestion</u> – a <u>new</u> transdisciplinary center dedicated to the advancement of the diagnosis and management of <u>disorders of</u> <u>swallowing</u>, <u>digestion</u>, and <u>nutrition</u>

Co-Organizers Peter Belafsky, D. Gregory Farwell, Gail Bornhorst, (SOM) and Stan Marks (SVM)







Build Strong Collaborations with <u>Academic</u>, Government, Agricultural and Business Partners



Biomedical and Engineering Entrepreneurship Academy

- School of Veterinary Medicine, School of Medicine, College of Biological Sciences, College of Engineering and UC Office of Research
- Started 2012, >260 attendees (~70 SVM) faculty, students & post-docs (teams)
- Researchers w/ leading industry executives, investors, & entrepreneurs
 - ✓ Analyzing, enhancing, communicating potential of project
 - ✓ Exploring commercialization opportunities and strategies
 - ✓ Developing a presentation pitch for your project/concept
 - ✓ Developing a network of mentors and industry connections
 - ✓ Increased patents, invention reports, & start-up companies







Transforming Research To Market

Linking Emerging Technologies to New Products and Services









BETTY IRENE MOORE SCHOOL OF NURSING









Bodega Bay, California

Angeles



Innovation Access

Connecting research and innovation to the marketplace



Venture Catalyst

Supporting the development of new ventures from university research



Office of Corporate Relations

Developing and managing strategic relationships with industry



CENTER FOR COMPARATIVE MEDICINE



Current Active Grant Portfolio: \$76,402,229

30 Active Awards from Government, Foundation and Industry

Research: Cancer Biology, Chlamydia, Cytomegalovirus, H. pylori Pathogenesis, HIV/AIDS, Influenza, Lyme disease, Natural Killer Cells, Salmonella, Tuberculosis, Zika, Vaccine Development

Core Service Labs: Mouse Biology Program, Center for Genomic Pathology Lab

New Faculty Members:

Smita Iyer, PhD (PMI)
Marcelo Kuroda, MD, PhD (APC)
Currently recruiting Center Director

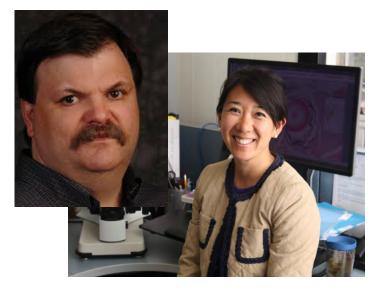
Training Programs: Murray B. Gardner Junior Faculty Mentoring Program, Thomas W. North Memorial Graduate Students Scholarship, NIH T32 Comparative Medical Science Training Program, NIH T32 Animal Models of Infectious Diseases Training Program

CCM 20th Anniversary Symposium October 9th, 2018



Comparative Pathology Laboratory





- High-throughput, self-supporting, feefor-service diagnostic laboratory
- Responsive to the needs of animal research investigators
- Convenient, comprehensive, customizable services, and rapid turnaround
- University and external clients

NEW



Expanded molecular diagnostics

Zebrafish health surveillance program

Lab animal pathology residency AND fellowship

http://cpl.ucdavis.edu/ | cpl@ucdavis.edu | 530-752-2832



Transdisciplinary Research and Innovations

Primate Models of Zika Virus – A Global Threat

Pathogenesis:

- **Transmission routes:**
- Time course of infection:
- Clinical outcome:



Intra-amniotic Zika Virus Inoculation of Pregnant Rhesus Macaques Produces Fetal Neurologic Disease Coffey et al, 2018, Nature Communications, in press



- Antiviral drugs
- Vaccines: NIH DNA vaccine
- Other













Pacific Southwest Center of Excellence in Vector-Borne Diseases



 CDC-funded partnership between UC Davis, UC Riverside and regional stakeholders in public health and mosquito control \$8 Million, 2017 – 2021



- Synergies with our world-class training programs in entomology and vector borne diseases
 - Graduate and professional training
 - R&D for new surveillance and control technologies
 - Diagnostic test development
 - Vector genetics and genomics
 - Data management, visualization & analytics



PacVec At-A-Glance

















Research



vector genetics vector control cell biology computer science

epidemiology

entomo arbovirologu

engineering toxicology statistics environmental chemistry

public health

Collaboration & Community















Provide cutting-edge clinical programs supporting education, research, and service

Veterinary Medical Teaching Hospital consistently ranks at the **top** among all academic veterinary hospitals in **reputation** and **patient visits**~55,000+ patients





Leadership in Translational and Clinical Research





Leadership in Training the Next Generation of Specialists

- Largest house officer (resident, intern, fellow) training program in the country
 - ➤ 34 disciplines, ~115 veterinarians seeking advanced training in specialty services
- NEW Wildlife Health Residency offers a "free range" opportunity through the SVM's Wildlife Health Center



Partnerships with the California Veterinary Medical Association to Promote Clinical Excellence

2017-2018 Donald G. Low-CVMA Practitioner Fellows



Calaveras Cunningham
SA Abdominal Ultrasound
Silverado Veterinary Hospital,
Napa CA



Allison Jones Ophthalmology Animal Care Clinic, San Luis Obispo, CA



Julie Damron
SA Emergency/Critical Care
All Creatures Veterinary
Emergency Clinic, Stockton, CA



Karen Krstich
Livestock Medicine
Mobile Mixed-Species Practice,
Winters, CA



John Huebner Cardiology Redwood Veterinary Hospital, Vallejo, CA



Jovanna Radillo
Behavior
Banfield Pet Hospital
Carmichael, Sacramento, CA



Provide outstanding patient care in an efficient, compassionate and service-oriented manner

Quality Customer Service – Veterinary Hospital Staff



- Gabe Gil Large Animal Award
- Michele Santoro Diagnostic Support Services Award
- Theresa Varland Client Services Award



Leadership in Translation to Improve Clinical Outcomes



- Champion Show Dog Undergoes Successful Hip Replacement
- Dog w/ Prosthetic Leg Returns as Diabetic Alert Service Animal
- Laceration Repair Surgery Saves Horse's Athletic Career



- Champion Roping Horse Returns after Botulism Poisoning
- Researchers Study Genetic Causes of Glaucoma in Cocker Spaniels
- Cystoscopy Used to Remove Bladder Stones at UC Davis
- Dog Recoveries After Lung Removal -Foxtail Migration
- Thoroughbreds Evaluated For Racing in Heart Study



Telling our Story to the World – Communications and Marketing



National Stories:

- 33+ general pubs: LA Times, Washington Post, NY Times + TV
- 42+ vet pubs: Vet Practice News, DVM 360, The Horse

Major Stories:

- Fish Skin Bandages Help Burned Bears National Geographic
- Poisoned Pets, Preemie Foals: UCD' top-ranked vets LA Times
- 3D Printed Mask Fractured Dog Skull ABC National News
- PREDICT: One Health Preventive Effort American Veterinarian

Media Inquiries: 500+ Web: 600+ posts to News & Events (up

100%)

Robust Social Media:

EWS

FB = 67.3K (up 20%)Instagram = 20.6K (up 37%) Twitter =16.6K (up 13%)



Web Redesign Initiative – Phase 1 Launch June 2018

SVM App – Guide to School and Hospital

PBS – Success Files with Rob Lowe –PBS nationwide, 3 videos + digital

distribution











The Horses on Standing Rock Get a Checkup Traveling Veterinarians, Their Patients and Tradition

The New York Times





- <u>Dr. Eric Davis</u>, a veterinarian at the University of California, Davis, and the director of Rural Veterinary Experience Teaching and Service, a program that has since 2011 sent veterinary students to clinics at farms, rodeo grounds and homes to provide free or reduced-cost care for horses
- Dr. Davis and his students provide veterinary care to horses near Cannonball on the Standing Rock reservation.
- "We seek out places where other people don't go," Dr. Davis said. "I think that you have the opportunity to do the most good if you go to a place that has the least resources."







John Madigan honored with <u>Distinguished</u>
Achievement Award and <u>Special Congressional</u>
Recognition Certificate- Community Preparedness Hero
Award

- Recognized by the UC Davis Cal Aggie Alumni
 Association with the Distinguished Achievement
 Award for his profound impact on the
 advancement of equine health and animal welfare
 worldwide
- As an accomplished equine internist, infectious disease specialist, and equine neonatologist, career devoted to research discovery of disorders and diseases affecting large animals, and field of veterinary disaster medicine

Outstanding & Award Winning Faculty – 3 New AAAS Fellows



Patricia A. Conrad - For distinguished contributions to understanding of parasitology and transmission of protozoal parasites between wildlife, humans and domestic animals. Dr. Conrad also recognized as UC Davis Chancellor's Award for International Engagement

Stephen J. McSorley -For seminal contributions to our understanding of the generation of innate and adaptive immunity to mucosal pathogens

Jonna A. K. Mazet - For distinguished contributions to the development and application of One Health methods for the advancement of global health, and for the conservation of threatened species and ecosystems



Helen E. Raybould – SVM Zoetis Excellence in Research Award



Lillian Cruz-Orengo, received one of only two, UC Davis Early Career Faculty Awards for Creativity and Innovation



Boaz Arzi- Hills Research and Education Award Recipient



Rodrigo Gallardo - Bayer-Snoeyenbos New Investigator Award





Verena K. Affolter – VMTH Clinical Faculty Excellence Award

Clare E. Yellowley – SVM Zoetis Distinguished Veterinary Teacher Award



Michael S. Kent – UC Davis Faculty Stewardship Award



Frank J.M. Verstraete – American Veterinary Dentistry Zoo and Wildlife Dentistry Certificate



Pramod Pandey - Governor's Environmental and Economic Leadership Award (GEELA)



Edward Feldman – British Small Animal Veterinary Association, Bourgelat Award



H. L. Shivaprasad - Induction into the American Association Avian Practitioners Hall of Honor



Eugene P. Steffey - American College of Veterinary Anesthesia & Analgesia Career Achievement Award





Patricia Pesavento – UC Davis Distinguished Teaching Award: Graduate and Professional

AND SVM Distinguished Faculty Teaching Award

- Enthusiasm, competence, and passion for science and teaching
- Innovative teaching strategies
- Instrumental in learner-centered curriculum
- Seamlessly providing support and instruction while allowing for individualized professional development

AND chosen by the Class of 2018 as the Faculty Commencement Speaker!



New Faculty Appointments 2017-2018

- Chris Barker, Assoc. Professor of Arboviral Epidemiology (PHR)
- Catherine Gunther Harrington, Assist. Professor of Clinical Cardiology (VME)
- Melanie Gareau, Assist Professor/Assistant Professor in Residence (APC)
- Smita Iyer, Assist. Professor/Assistant Professor in Residence (PHR/CCM)
- Denis Marcellin-Little, Professor of Small Animal Orthopedic Surgery (VSR)
- Jamie Burkitt, Assist. Professor of Clinical Small Animal Emergency & Critical Care
- Ronald Li, Assist. Professor of Small Animal Emergency and Critical Care (VSR)
- Kathy Toohey-Kurth, Professor of Clinical Diagnostic Microbiology (CAHFS/PMI)
- Chai-Fei Li, Assist. Professor of Clinical Neurology/Neurosurgery (VSR)
- Marcelo Kuroda, Professor/Professor in Residence (APC/CCM)











Leadership Changes in 2017-2018



New Leaders

Rebecca Bellone - Director, Veterinary Genetics Laboratory



Martin Smith Vice-Chair,
Department of Population
Health and Reproduction



John Angelos - Director, Center for Food Animal Health



Megon Rott - Director of Human Resources



Thank you for Retiring or Previous Leaders

Stephen Griffey- Director, Comparative Pathology Laboratory



Cecilia Penedo- Interim Director, Veterinary Genetics Laboratory



Linda Ybarra -Director,
Communications and Marketing



Terry Lehenbauer -Director, Center for Food Animal Health



Chair(s) of Faculty - 2017-2019



CONGRATULATIONS Clare Yellowley- Elected 2018-2019 Chair of the Faculty



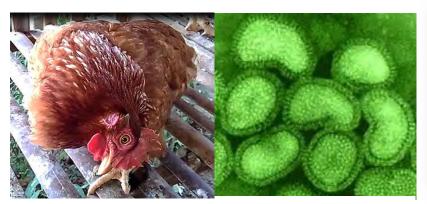
THANK YOU William Vernau – 2017-2018 Chair of the Faculty

Advance the well-being of animals and people in California and around the globe

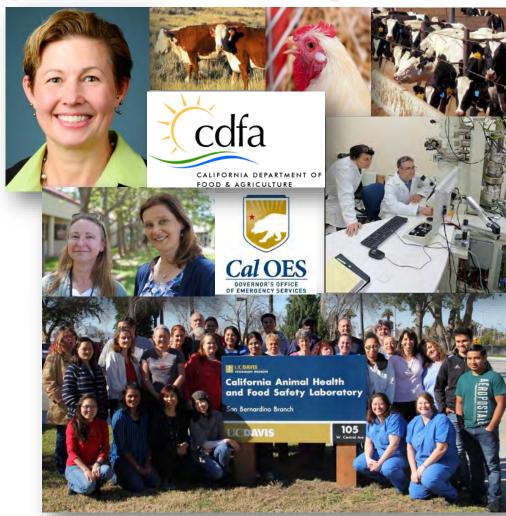


Advance the well-being of animals and people in California and around the globe

Partnerships with California Department of Food and Agriculture

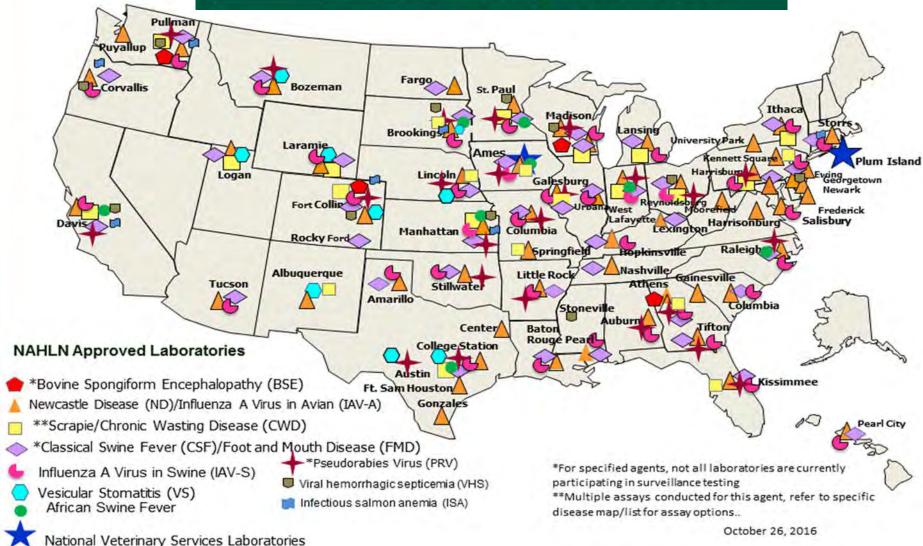


New Castle Disease Outbreak May 20, 2018 - SACRAMENTO — CDFA via San Bernardino CAHFS Laboratory detected virulent Newcastle disease in a small flock of backyard exhibition chickens in Los Angeles County, confirmed by USDA Animal and Plant Health Inspection Service (APHIS). First case in the U.S. since 2003.





USDA National Animal Health Laboratory Network





National Animal Health Laboratory Network

NAHLN Restructure - 2016



- State-federal partnership with USDA
- Foreign animal disease testing (FMD, AI, END, etc.)
- Enhance surveillance/response capacity for U.S.
- New structure based on objective assessment criteria
 - Capabilities and regional need
 - 11 Level 1 labs (including CAHFS)
 - Receive largest funding support
 - Additional \$5M in federal budget FY18
 - Increase to CAHFS pending

Advance the well-being of animals and people in California and around the globe

Western Institute of Food Safety and Security

• Medical ecology of microbial contamination of the US produce supply: vertebrate pathogen sources, fate & transport, molecular epidemiology of enteric zoonoses





Priority Issues of Global Importance Antimicrobial Resistance



- Mission: To create, apply and disseminate new knowledge to enhance health and well-being of foodproducing animals, promote food safety and healthy environment
- High Priority Areas to Fund: Antimicrobial stewardship, alternatives, judicious use, stewardship and resistance
- FDA Drugs in Feed Transitioned from Over-the-Counter (OTC) to Veterinary Feed Directive (VFD)















UC Davis SVM Cooperative Extension

Linking Science to Communities



New Specialist Positions:

- Beef Cattle Herd Health
 Extension Veterinarian
- ✓ Dr. Gaby Maier
- Dairy Production Health Management (Health Economics Focus)
- ✓ Dr. Fernanda Ferreira
- Antimicrobial Resistance
 Specialist In Interview Stage



R. Atwill, Director Medical Ecology/Food Safety



P. Pandey Microbiological Wastes



A. Pires
Urban Ag/Food Safety



Maurice Pitesky Poultry Health



Noelia Silva-del-Rio Dairy Herd Health



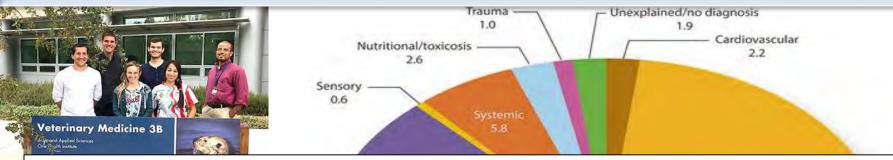
Martin Smith
Youth Scientific Literacy



Veterinary Medicine Extension – Linking Science with Communities

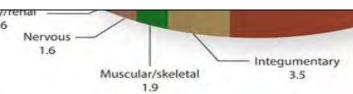


Assessment of Backyard Poultry Flocks as Potential Threat to Commercial Poultry Industry



- Backyard poultry flocks have potential to serve as a reservoir or amplifier for poultry respiratory diseases
- Importance of small flock biosecurity and chick acquisition sources
- Education needed for backyard flock owners

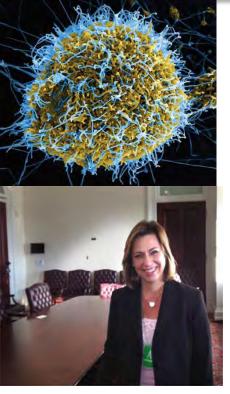




Derksen T, Lampron R, Hauck R, Pitesky M, Gallardo RA. **Avian Dis**. 2018



Transdisciplinary Research to Categorize Global Threats



Global Project Aims to Identify Viral Threats

- Global Virome A 10-year virus identification project starting this year could identify most viruses with potential to cause disease in humans. <u>Science</u> <u>2018</u>
- <u>Dr. Jonna A.K. Mazet</u>, Director of the One Health Institute featured on <u>Discovery Channel</u> Series "Invisible Killers", March 2018







Advance the well-being of animals and people in California and <u>around the globe</u>







REDUCING PANDEMIC RISK. PROMOTING GLOBAL HEALTH.









204 KNOWN VIRUSES



Advance the well-being of <u>wildlife</u> and people in California and around the globe



Karen C. Drayer Wildlife Health Center

SeaDoc Society

Published <u>Explore the Salish Sea</u>, on the Pacific NW nonfiction bestseller list

Gorilla Doctors

 Conducted 20 <u>clinical interventions to treat endangered mountain and Grauer's</u> gorillas in Rwanda, Uganda and DR Congo, and initiated critical research

Oiled Wildlife Care Network

 Continued <u>expansion into inland California</u> by adding four key partners and assisted in oiled wildlife planning/training in nine different countries

California Conservation

Continued work to <u>address impacts of: illegal cannabis cultivation on wildlife;</u>
 freeway expansion on mountain lions; and infectious disease in sea otters

Latin America

 Signed MOU to serve as veterinary lead for all countries signatory to the international Agreement on the <u>Conservation of Albatross and Petrels</u> treaty.

Training Programs

Implemented free-ranging wildlife health residency with the CDFW



Advance the well-being of animals and people in California and <u>around the globe</u>



Planetary Health Center of Expertise UC Global Health Institute



Mission: To lead the world in research, education, and policy to coupled health-environment challenges

Co-Director: Woutring Smith



- ✓ Farming in the 21st Century
- ✓ Vulnerable Populations
- ✓ Building the economic case for planetary health
- ✓ Women at the center of planetary health solutions











SVM Teams Respond to Northern California Fires





Innovations to Heal Wildlife - Burned Animals with Fish Skins



- Dr. Jamie Peyton stitched fish skins to their burned paws, then wrapped them with bandages of rice paper and corn husks
- Treatment from trials on human burn victims in Brazil that placed treated skins from tilapia, a ubiquitous species of fish, on the injuries to soothe pain and promote healing



Veterinary Medical Center – San Diego

UCDAVIS

Extending Leadership in Clinical Education

- Specialty Referral Center in Cardiology, Nephrology/Urology/Hemodialysis, and Clinical Pharmacy
- ✓ New Fellowship in Nephrology and Extracorporeal Therapies
- ✓ Clinical Pharmacy Training with UC San Diego
- ✓ Partnered Training for Veterinary Technicians with San Diego Community College District



Center for Continuing Professional Education - Committed to "Lifelong Learning"



UC Davis Ranked # Veterinary School in the World

VILDLIFE & EXOTIC ANIMAL SYMPOSIUM 2018

ATURDAY & SUNDAY, FEBRUARY 24-25, 2018

✓ Programs provide current information in veterinary medicine to educate veterinarians, students, and the public to improve the quality of life for our veterinary patients

CINE

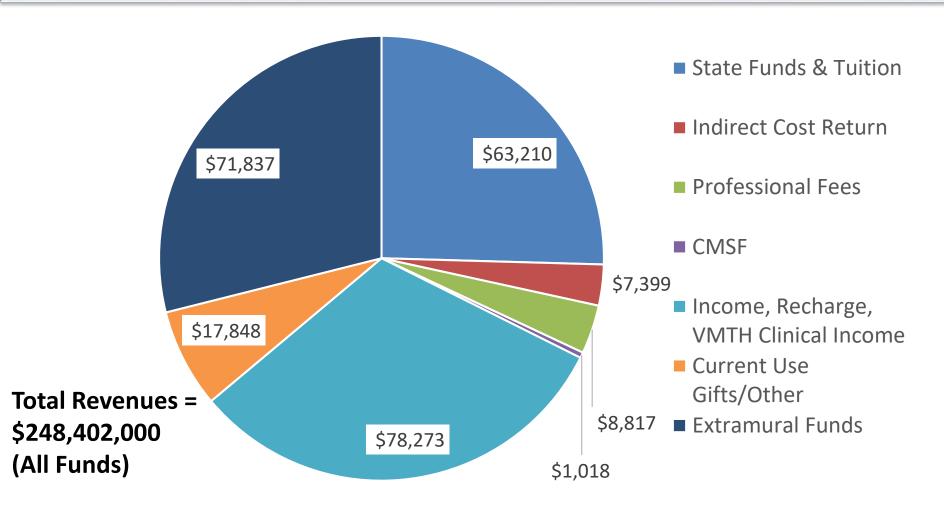
✓ Seminars available to veterinary professionals who seek opportunities for advancing veterinary care, professional development and fulfilling their continuing education licensure requirements



VET Talks EDUCATION



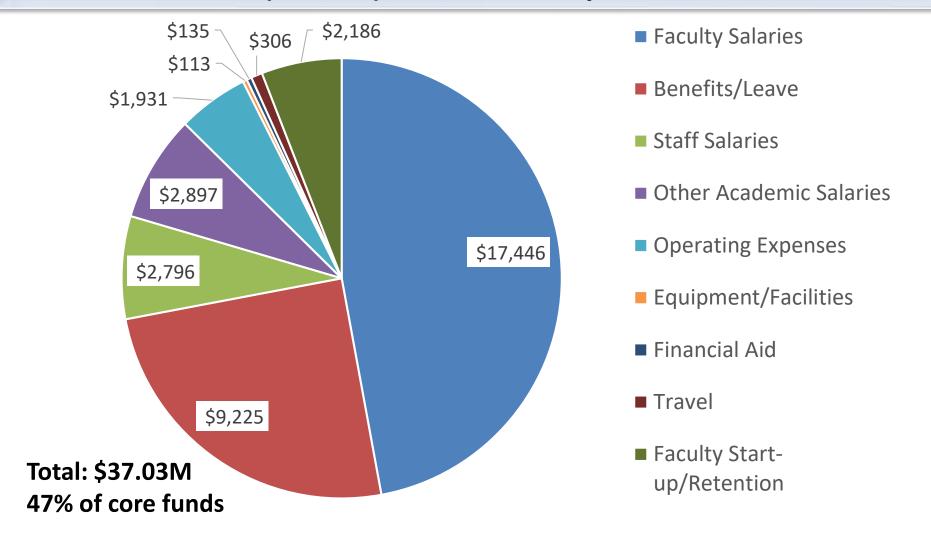
SVM Revenue Projection (in 000's) 2017-18



Total Core Funds = \$79.4M Core Funds = State Funds/Tuition, ICR, and Professional Fees



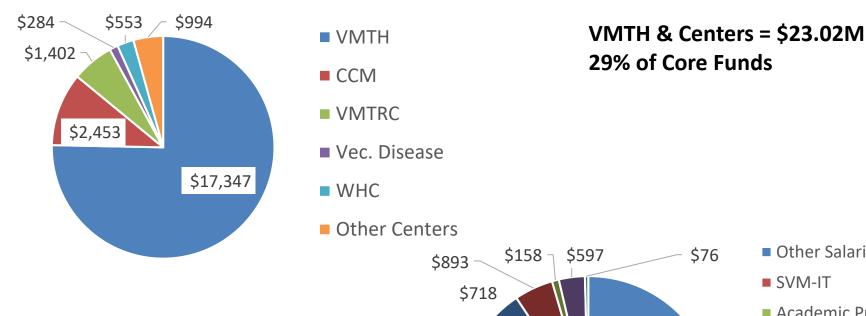
Core Funds (in 000's) – Academic Departments 2017-18



Core Funds = State Funds/Tuition, ICR, and Professional Fees



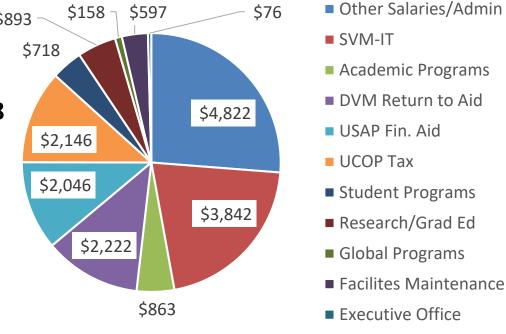
Core Funds (in 000's) - VMTH and Centers, 2017-18



Core Funds (in 000's) - VMDO, 2017-18

VMDO = \$18.38M 23% of Core Funds

Executive Office 6% of Core Funds





Investment (\$) Faculty Start-Up Packages \$2M

\$351K

\$606K

\$200K

\$347K

\$2M

\$300K

\$300K

\$200K

Leading Veterinary Medicine Addressing Societal Needs

Investment (\$)

Key Investments in 2017-18

Planned Investments for 2018-19

Faculty research bridge funding, equipment, and seed

Faculty research bridge funding, equipment, and seed

grants (including \$220K in Innovation Funds)

MiniExplorer PET Scan (Gift Funds)

ACCD Research Project Matches

grants (including Innovation Funds)

ACCD Research Project Matches

VHIS (VMACS) Project

Faculty Start-Up Packages

VHIS (VMACS) Project

Project

Project

Innovation Fund Use 2017-2018

| Requests | Amount |
|---|---------------|
| Coastal and Marine Sciences Institute - SVM Match to CBS request | \$16,572 |
| ACVP/ASVCP - UC Davis Alumni Reception 2017 | \$1,200 |
| Blue Sponsor for UC Davis Pre-Health Conference | \$9,500 |
| California Exposition State Fair (Development Event) | \$1,750 |
| One Health Lunch and Reception for One Health Activity - 2 day event | \$3,000 |
| Education Alliance - Success Files " Leaders in the Future of Veterinary Medicine" | \$27,000 |
| Fund Calvin Schwabe lecturer honorarium | \$3,000 |
| Fundraising 2018 UC Davis Postdoctoral Research Symposium - Grad Studies | \$1,000 |
| Interdepartmental Research Grant Funding | \$10,000 |
| Sponsorship of the One Health program of the Consortium for Universities of Global Health Meeting | \$2,452 |
| CAPES Speaker hotel costs -VET437: Avian & Reptile Health | \$750 |
| VCCT Salary Support | \$22,117 |
| Invited Speaker travel to UCD | \$1,500 |
| Retention -One-time purchase of Olympus BX43 microscope | \$32,000 |
| Soaring to New Heights Sponsorship (Diversity) | \$1,000 |
| Veterinary Entrepreneurship Academy Stipend | \$5,000 |
| Support Rx One Health Program Coordinator | \$15,000 |
| Biomedical Innovation & Entrepreneurship Academy (BMEA) | \$15,000 |
| Biomedical Innovation Prize - Big Bang Ceremony | \$1,000 |
| Fund new grills for the student Caduceus "TG" barbecue. | \$825 |
| Student support for 3 to attend Iverson Bell in Ontario (\$500 each) | \$1,500 |
| AVMA Student Fly In - Washington DC | \$1,000 |
| VMTH Student Wellness Event Support | \$114 |



Total

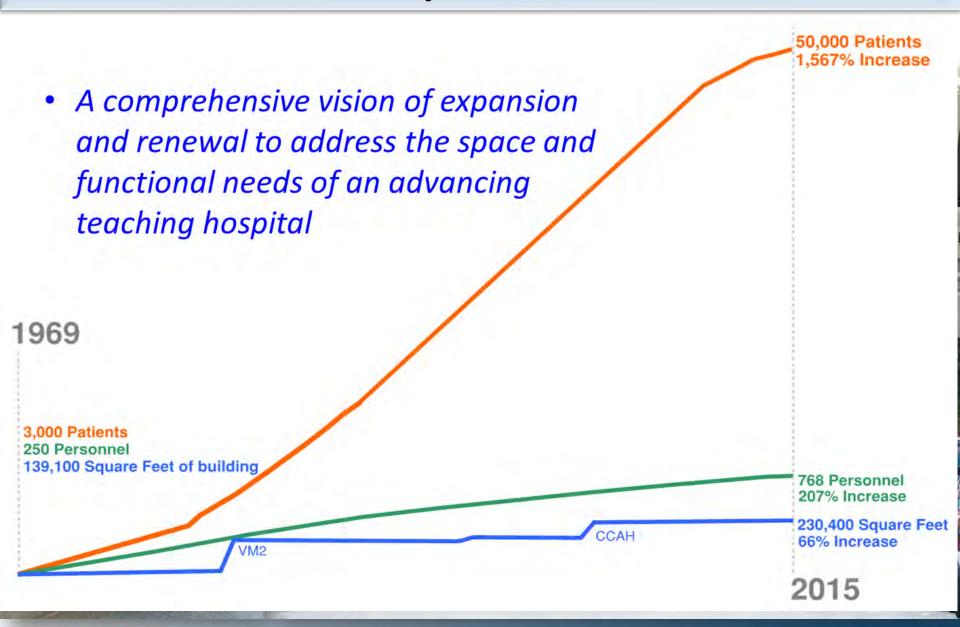
\$172,279

Taking the World's Best Veterinary Care to the Next Level



- Chancellor May, Dean Lairmore, CMO Dr. Sykes, and alumni Dr. Klingborg, Phase 1 of capital campaign launched Oct. 13th, "Leading the Way"
- Strong philanthropic interest in this campaign, raised ~\$68.9 million — more than half of the campaign goal phase 1 goal of \$115 million — prior to this afternoon's announcement
- Goal of phase 1 to be completed by June 30, 2019
- Public announcement continues to get excellent media coverage

Veterinary Medical Center

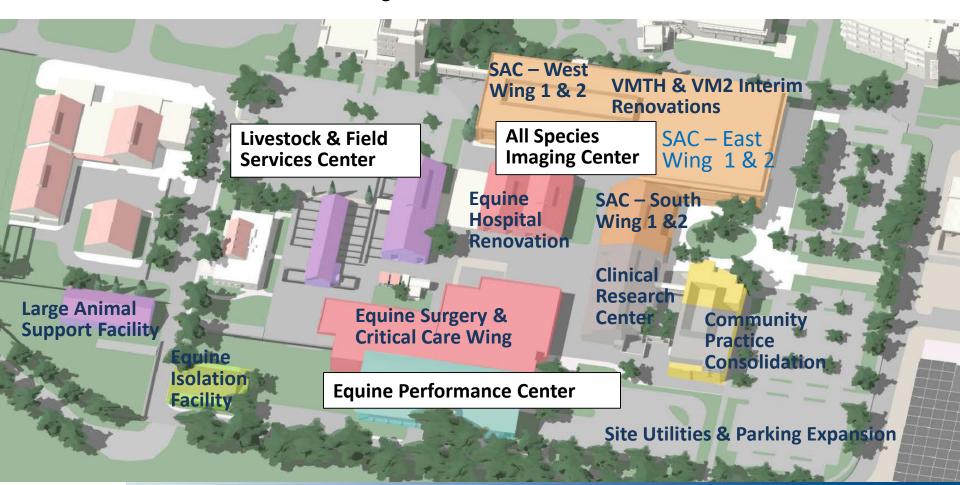




Veterinary Medical Center – Master Plan

17 Major & 9 Minor Projects

\$508 million budget includes equipment, operations/energy endowment, utility connection fees and interest during construction





Livestock and Field Services Center & Large Animal Support Center

- Prior by Roader West
- Livestock and Field Service Center designed in consultation with Temple Grandin, PhD
- Designed for the best possible environment for livestock patient handling care and clinical teaching emphasizing modern concepts in animal welfare



Equine Performance Center



Plans for a **state-of-the-art arena** to evaluate horses
under-saddle for complete and
quantitative examinations

- Equipped with high-speed motion capture cameras to help detect subtle gait abnormalities
- Gait Analysis Laboratory—kinematic analyses for objective measures of horse's gait and efficacy of treatment of a musculoskeletal injury or disease
- Integrated force plate to determine distribution of weight bearing
- New farrier station to swiftly perform and evaluate shoeing interventions



UC Davis to Add Women's Equestrian as Varsity Sport



- UC Davis Athletics announced the addition of women's equestrian as its new varsity sports
- Dr. Michael Lairmore, dean of the UC Davis School of Veterinary Medicine, added: "We look forward to ensuring that the equine athletes receive superb medical care from our world-leading clinicians and students, and anticipate collaborating with the varsity equestrian team in multiple ways that strengthen the leadership of UC Davis in equine health."
- UC Davis is currently in the midst of a capital campaign to build a state-of-the-art equine performance center





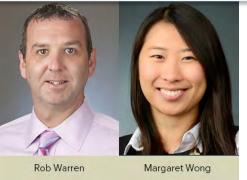
All-Species Imaging Center

- The All-Species Imaging Center, staffed by the largest diagnostic imaging team in the world
- Cutting- edge of detecting, diagnosing and treating injuries
 Joining research, radiologists and clinicians to advance the care and rehabilitation of all animals.





COMMUNICATIONS & MARKETING





- Council for Advancement and Support of Education District VII Conference
- Margaret Wong, Digital Media Coordinator and Rob Warren, Communications and Marketing Officer for the Veterinary Medical Teaching Hospital recognized for their mini-campaign leading up to the October 13th Veterinary Medical Center campaign launch
- The communication initiative was designed to promote the campaign's tag line "Leading the Way" and build interest and attendance at the announcement event, both in-person and online via livestream

Impact of Development in our Mission





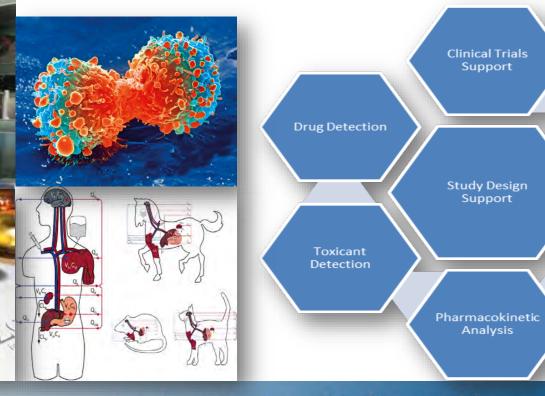
- Since July 1, 2017 we have raised \$33.4 million from ~7,000 gifts
- Andrew Paske NEW Assistant Director of Development
- VMC Phase I campaign launched in Oct 2017 with \$68.9M towards \$115M goal for Phase I, plus \$25M in Infrastructure Funding from Campus
- Welcomed over 150 alumni for the Fall Festival Reunion in Oct 2017 and > 200 donors and students to the Evening of Gratitude, which provided over \$2.7M in scholarships



Philanthropy Advances Discoveries in Cancer Research

- <u>Dr. Luke Wittenburg</u>, thanks to an anonymous gift focuses on pharmacology of chemotherapeutic agents

 impacting translational medicine
- NEW NIH Career Development K Award!





Metabolite

Detection

Residency Project Support

Philanthropy Supporting Faculty



- Dr. Robert Rebhun appointed by Chancellor May as the <u>inaugural</u> Maxine Adler Endowed Chair in Oncology effective March 1, 2018, for a five-year term.
- Strong research foundation in basic and applied cancer biology with a focus on mechanisms of metastatic disease, and comparative and translational aspects of tumor biology and therapeutic strategies
- Recent award of a NIH "Cancer Moonshot" U01 grant, focused on comparative immunotherapeutics in naturally occurring canine cancer



Impact of Development in Educating Veterinary Students







- Tuition and Fees -stabilized tuition & fees since 2011 -Current 1st -3rd yr cost \$31,665 (4th yr \$35,735)
- Increased Financial Aid -through loans, grants and scholarship support -~1/3 of all tuition returned as financial aid
- School's scholarship endowment >\$69 million,
 one of the largest in the country
- In 2018, provided >\$2 million in scholarships and another \$4.7 million in financial aid, as well as \$500 to each first-year student for computer support





Challenges Faced/Facing the School







- Student debt and rising cost to educate veterinary students
- State support unlikely to be increased as substantial portion of budget and budget cuts
- Fundraising for new Veterinary Medical Center largest capital project in SVM history
- Faculty and staff salary scale, benefit costs, and gap among peers
- Leadership development and managing conflicts and professional behavior
- Balancing wellness in a high-performance environment
- **Diversification** of students and workforce
- Innovative ways to enhance revenue to maintain #1 status



Opportunities and Strengths



- Exceptional quality of faculty, staff, and students
- Resources and reputation of SVM at UCD and beyond
- Strategic planning for the future
- Donor funding base in California and beyond capacity
- Stakeholder engagement and support –
 partnerships to enhance mission
- University and community support
- Alumni as network to enhance mission and connect to School
- Societal impact of discoveries to advance animal, human, and environmental health

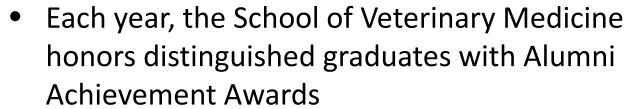






2018 Alumni Achievement Awards







Highest honor bestowed by the school.
Honorees may be graduates of the school's
DVM, MPVM, and graduate academic programs,
or individuals who have completed internships
or residencies







Stanley Creighton, DVM, DACVIM

Recognition of his vision, effort, and leadership as the founder of NVA

- Approach enabled the organization to thrive for >20 years, employing more than 9,000 people in U.S., Canada, Australia and New Zealand
- DVM degree from UC Davis in 1972 before pursuing an internship and residency at the Animal Medical Center in New York
- American College of Veterinary Internal Medicine (ACVIM) in 1977 and served as associate professor at the University of Saskatchewan from 1975 to 1976
- Creighton is acknowledged for his farsighted leadership in practice ownership
- Active participant in veterinary business groups nationwide and is looked upon and an expert in practice management





Howard Hill, DVM, M.S., Ph.D.

In recognition of his contributions to the health and welfare of swine and to the nation's pork industry

- 20 years on the faculty of the College of Veterinary Medicine, Iowa State University, Veterinary Microbiology Section of the Veterinary Diagnostic Laboratory
- Director and COO with Iowa Select Farms where his colleagues recognize him as "Master of the Pork Industry"
- Diagnostic leader and professor, taught veterinary and graduate students and served the animal production industries, in its national fight to eradicate pseudorabies (PRV) - Development of the gene-deleted PRV vaccine and companion diagnostic tests
- Work to reduce porcine reproductive respiratory syndrome—a significant biosecurity challenge due to its airborne transmission
- Active with the state and national pork producer organizations on public policy and industry related legislative issues
- DVM at UC Davis in 1969, M.S., Ph.D. Iowa State University in microbiology





Philip Kass, DVM, MPVM, M.S., Ph.D., DACVPM In recognition of outstanding achievements in epidemiological research and distinguished leadership

- >500 publications and 64 mentorship of DVM, MPVM, Ph.D. students and residents, evidence-based medicine to veterinary science
- Natural teacher of epidemiological concepts & support clinical research
- Global impacts as a researcher, teacher and mentor, and a scientific leader
 exotic, small and large animal, and human-focused studies
- Major administrative and leadership positions -recognized for his thoughtful and engaged contributions
- Earned his DVM (1982), MPVM (1984), M.S. in statistics (1988) and Ph.D. in comparative pathology and epidemiology (1990) at UC Davis
- Joined faculty in 1985 → through the professorial ranks during his distinguished career, American College of Veterinary Preventive Medicine in 2007
- Appointed Vice Provost of Academic Affairs in 2017





Jon Klingborg, DVM

In recognition of dedication, leadership and commitment to the health and welfare of the veterinary profession and animal patients

- >20 years at forefront of policy, regulatory, political advocacy, and leadership for California's veterinary profession
- DVM from UC Davis in 1992 and veterinary private practice
- Long view of changing public policy, committed to inspire change through numerous committees and task forces with CVMA
- Writes extensively for newspapers (250+ articles) and many blogs on dog and cat health
- Unprecedented tenure as chairman CVMA Legislative Committee --an industry leader thoughtful, bright and pragmatic and poised when
 testifying before legislators or speaking to media outlets





Pamela L. Ruegg, DVM, MPVM, DACVPM, DABVP

In recognition of her extraordinary service to dairy farmers, dairy cattle, and consumers of dairy products around the world

- Significant contributions to the prevention and control of mastitis with evidence-based guidelines to reduce antimicrobial usage
- Milk quality and food safety, such as storage conditions, anatomy, bedding, milking procedures, etc.
- Studies of mastitis --treatment outcomes, culture-negative cases, and antibiotic usage; published 110 peer-reviewed papers, 12 book chapters and hundreds of invited papers, abstracts, etc.
- Highly effective teacher and outstanding public speaker--international work in dairy cow health and milk quality
- UC Davis MPVM in 1988, and Residency in 1989; served at the Atlantic Veterinary College, Michigan State University, and Monsanto, before University of Wisconsin-Madison in 1998









Carolyn "Cary" Craig, DVM, DACVAA Professor of Clinical Anesthesiology

Dr. Cary Craig has been a member of the faculty for 20 years as a professor of clinical anesthesiology. Craig is highly respected for her sustained level of competent patient care into which she skillfully integrates experiential teaching.

She is described as passionate about her work, able to create a calming and nurturing clinical learning environment, and appreciated as a role model for her perseverance and work ethic. In 2014, Craig served on the American College of Veterinary Anesthesia and Analgesia Job Task Assignment Committee to define and describe knowledge and skills required by boarded anesthesiologists to perform their jobs in academic, private and corporate sectors as a basis for rewriting the board certifying exam.

Students appreciate the confidence that she cultivates in their ability to develop competence and knowledge in anesthesia and analgesia. Residents consider her an outstanding clinical mentor and faculty peer. Craig maintains a healthy balance by pursuing her passion as a competitive runner and is now a top triathlete in her age category.





Rance B. Lefebvre, Ph.D.

Professor of Pathology, Microbiology and Immunology

Dr. Rance Lefebvre joined the faculty in 1986 as an assistant professor in microbiology with research expertise in Lyme disease, leptospirosis and other zoonotic pathogens. He published 48 research papers and contributed seven book chapters on veterinary microbiology.

LeFebvre established an outstanding record of achievement in higher education instruction and mentored veterinary, graduate, undergraduate and secondary school students. He taught veterinary and human medical biology to both undergraduates and veterinary students. As the Associate Dean for Student Programs, LeFebvre administered pre-veterinary advising, admissions and academic advising.

In 2004, LeFebvre received the school's Distinguished Faculty Teaching Award for his contributions to DVM, graduate, undergraduate, and high school student education in math and sciences. Graduating DVM students twice selected him as faculty commencement speaker. LeFebvre served on a number of school and university committees, including the Graduate Group in Comparative Pathology and the Student Affairs committee, and provided mentorship to the Veterinary Student Public Health Club.





N. James Maclachlan, BVSc, M.S., Ph.D.
Professor of Pathology, Microbiology and Immunology

Dr. Jim Maclachlan joined the faculty in 1987 with a focus on infectious diseases. His research was instrumental in the decision to relax bluetongue non-tariff trade barriers for U.S. cattle imported into Canada for the first time in 37 years, and he helped develop recombinant African horse sickness vaccines.

Maclachlan was selected as the faculty commencement speaker for the class of 1994. He received the Outstanding/Favorite Teacher Award four times, the Norden Distinguished Teacher Award in 1993, the Pfizer Animal Health Award for Research Excellence in 2003, and the school's Alumni Achievement Award in 2007. He published 202 peer-reviewed papers and a number of chapters and reviews.

He served in a number of leadership roles, including: the inaugural chair of the Department of Pathology, Microbiology and Immunology from 1993 to 2003; president of the American College of Veterinary Pathologists; chair of the American Association of Veterinary Laboratory Diagnosticians bluetongue diagnosis committee; and as a member of the American Society for Virology International Committee for Taxonomy of Viruses.





Frederick "Chuck" Mohr, DVM, Ph.D.

Professor of Pathology, Microbiology and Immunology

Dr. Chuck Mohr joined the faculty in 1987 as an assistant professor in pathology and throughout his career sustained a record of highly effective clinical and classroom teaching. His dedication to resident instruction in anatomic pathology and facilitation of joint veterinary/human pathology rounds to diversify their training is renowned.

His research focused on nephropathology; environmental pathology and toxicology; biological effects of petroleum oil pollution; and general pathology. He advanced the knowledge base through more than 52 publications and 31 abstracts. His original research contributions to improved classification of glomerular disease in dogs not only reflects his creative scholarship, but his outstanding teaching with the tangible benefit of improved diagnostics and patient care.

Additionally, he co-authored a chapter on urinary disease in the gold standard veterinary pathology reference text. He was the Master Advisor for the Graduate Group in Comparative Pathology (now Integrative Pathobiology) and served the school in a broad capacity, including membership on the MPVM Admissions and Student Affairs Committee, Admissions, and Curriculum committees. Mohr also served as editor for the *Journal of Comparative Pathology* for many years.





Peter F. Moore, DVM, Ph.D.

Professor of Pathology, Microbiology and Immunology

Dr. Peter Moore joined the faculty as an assistant professor in 1979, with a research focus on leukocyte antigen biology and spontaneous leukocytic diseases of companion animals—especially the dog, cat and horse.

His work has been instrumental in developing new diagnostic tests and treatment recommendations for dogs with lymphoma, leukemia, or histiocytic neoplasia. Moore is also respected by his colleagues for his generosity in sharing the monoclonal reagents that his laboratory developed – long before these became commercially available. He published studies in more than 100 publications and numerous book chapters.

Moore served as the associate director of Anatomic Pathology in the VMTH for six years. He also served on numerous committees and contributed to the Optical Biology Executive Committee for more than 20 years. He received the World Small Animal Veterinary Association /Waltham International Award for Scientific Achievement in 2008, and the Pfizer Award for Research Excellence in 1998. He was twice honored with the Charles Louis Davis Foundation Journal Scholarship Award for research publications.





Jorge E. Nieto, MVZ, Ph.D., DACVS, DACVSMR Professor of Surgical and Radiological Sciences

Dr. Jorge Nieto came to Davis more than 20 years ago as a visiting assistant professor and formally joined the faculty in 2007. He is considered an outstanding clinician, mentor, teacher and colleague who is an excellent role model for both students and residents.

Nieto completed an equine surgery residency and a Ph.D. before becoming a faculty member in Equine Surgical Emergency and Critical Care. He is a diplomate of the American College of Veterinary Surgeons and the American College of Veterinary Sports Medicine and Rehabilitation. He contributed to the diagnosis of colic, specifically intestinal ischemia, and treatment of gastric ulcers in horses and is considered by his colleagues to be the "cornerstone" of the equine surgery program.

Nieto is an accomplished educator of DVM students and mentored many residents during his tenure. He was honored with the school's Faculty Clinical Excellence Award in 2016 and was twice honored with the school's James W. Wilson Award for Most Outstanding Equine Research Publication.





Peter J. Pascoe, BVSc

Professor of Surgical and Radiological Sciences

Dr. Peter Pascoe joined the faculty as an assistant professor in 1989, with a research focus on anesthesia and analgesia of dogs, cats and horses. He helped develop and evaluate new regional anesthesia techniques and novel minimally invasive surgical procedures.

His research generated 102 publications and 38 book chapters, and he was an invited speaker at numerous conferences and continuing education symposia on small animal pain management. Pascoe was known for creating a nurturing learning environment in the operating room. His commitment to the education of professional students included his participation on the curricular development committee across several blocks from 2009-2013.

Pascoe provided substantial leadership to the American College of Veterinary Anesthesia and Analgesia (ACVAA), serving as editor, chair and board member. He was recognized for his dedication to the specialty college with the ACVAA Presidential Service Award in 2003 and received the Langley Award for the best paper published in *Veterinary Anesthesia and Analgesia* in 2004.





Fern Tablin, VMD, Ph.D.

Professor of Anatomy, Physiology and Cell Biology

Dr. Fern Tablin joined the faculty in 1985, with a research focus on platelet physiology and the role of platelets in health and disease. She specifically focused on the contribution of platelets to the systemic, cardiac and pulmonary proinflammatory responses to air pollution.

As co-director for the Center for Biostabilization, Tablin developed novel methods for storage of blood cells and nucleated cells in the dry state. For more than a decade, Tablin led the dual degree Veterinary Scientist Training Program and is recognized for her mentorship of trainees, which contributed to their individual success and national recognition of the program's quality.

Tablin served as the department chair of Anatomy, Physiology and Cell Biology, chair of the faculty, and member of numerous school and campus committees including service on the university's Privilege and Tenure Committee. She was inducted into the American Association for the Advancement of Science in 2002 and awarded the Pfizer Distinguished Teacher Award in 2012. She is now serving on the American Veterinary Medical Association's Council on Education.





W. David Wilson, BVMS

Professor of Surgical and Radiological Sciences

Dr. David Wilson joined the faculty in 1981 and served in numerous administrative roles during those 36 years, including: director of the Center for Equine Health, director of the William R. Pritchard Veterinary Medical Teaching Hospital (VMTH), and associate dean of Clinical Programs.

As VMTH director, Wilson's visionary leadership resulted in increased operational efficiencies, the addition of new services, expanded patient care and increased client/referring veterinary services.

Wilson has served a critical role in facilities planning for the new Veterinary Medical Center, from detailed project design and effective phasing of construction, to the vision for future needs as the profession evolves.

Wilson advanced the field of equine internal medicine and infectious diseases, actively engaged in teaching DVM students and residents, and conducted research resulting in 123 scientific publications, 64 book chapters and 120 other publications. He delivered more than 280 presentations and served on more than 150 department, school and university committees and dozens of professional society committees. He was awarded the Carl J. Norden Distinguished Teacher Award in 1989.





