

# ***State of School 2016***

**Michael D. Lairmore**

Dean and Distinguished Professor  
University of California-Davis  
School of Veterinary Medicine  
May 20, 2016



## Mission

**Advance the Health of Animals,  
People, and the Environment**

## Vision

**Leading Veterinary Medicine  
Addressing Societal Needs**

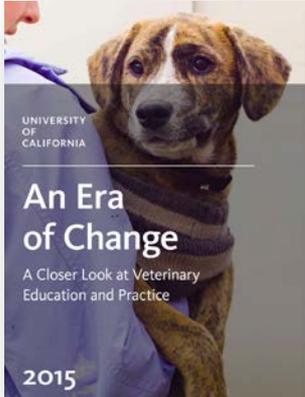
# UC Davis School of Veterinary Medicine Ranked No. 1 in World Again



- Held onto its top spot in veterinary science in the latest QS World University Rankings
- “Renowned for addressing critical health concerns on a local and global scale”

Quacquarelli Symonds (QS), widely considered to be one of the most influential international university rankings providers based on scholarly metrics

# A Closer Look at Veterinary Workforce in Education and Practice



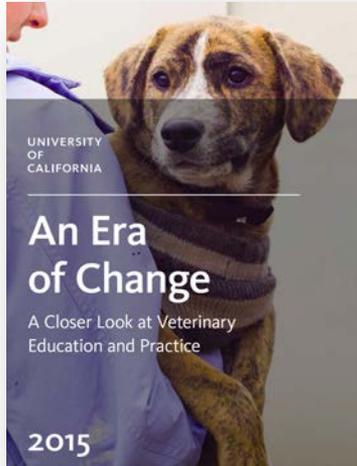
## Emerging Trends

- Maldistribution of veterinarians vs shortage
- Employment is expected to grow by 12 % between 2012 and 2022
- Approximately 12 % of U.S. veterinarians are specialists and increasing
- A shift in gender disproportionately women
- Unmet needs in: public practice, food animal practice and academia
- One Health movement is gaining momentum, with increasing needs in public practice
- Opportunities to obtain a veterinary education in California are limited

# A Closer Look at Veterinary Workforce in Education and Practice

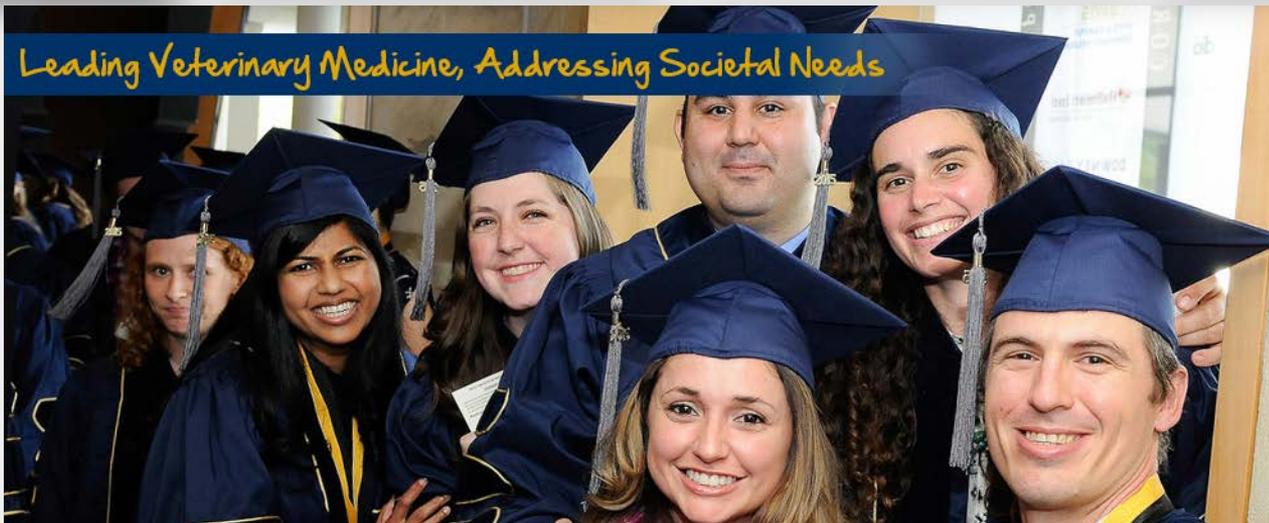
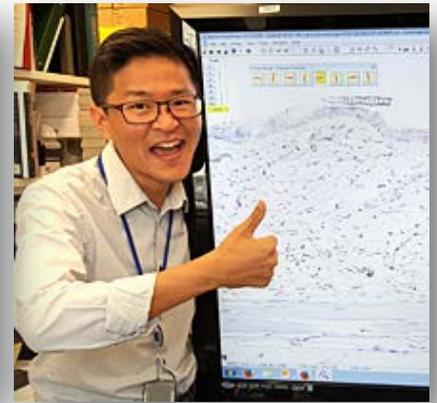
## Recommendations

- Address the impact of rising student debt
- Expand graduate academic education programs
- Improve the recruitment and retention of faculty



- Increase the diversity and cultural competence of the faculty and students
- Work to increase veterinarians in shortages (e.g., research and rural practice)
- Expand capacity to promote the One Health to address complex, global health problems

# Educating veterinarians who are world leaders in academic medicine, medical practice, public and environmental health



# Attract, mentor and support the best and brightest students and trainees – Veterinary Students



## Class of 2020

- 145 students (731 applicants)
  - 131 California residents
  - 125 females, 20 males
  - 2 international
- Average overall science GPA 3.61
  - Average age 23 (range 20-38)
  - 42% URM or multi-ethnic\*

\*UC Davis, SVM consistently **ranked among top 3 among all veterinary colleges/schools in student in diversity**

**Areas of interest species specific:** small animal (48), mixed (27), equine (14), wildlife (12), zoo (11), large (7), lab animal (7), food animal (6), small/equine (6), avian/exotics (5), poultry (1), fish (1)

**Areas of veterinary interest at application:** Private Practice/Specialty Practice (109), Academics/Research/Teaching (26), Public Health (10)

**Ethnicity:** African American/Black (1), Asian/Other Asian (30), Caucasian (83), Hispanic/Mexican American/Other Spanish (7), Multi-Ethnic (24)

# Strategic Goals to Address Economic Burden for Students

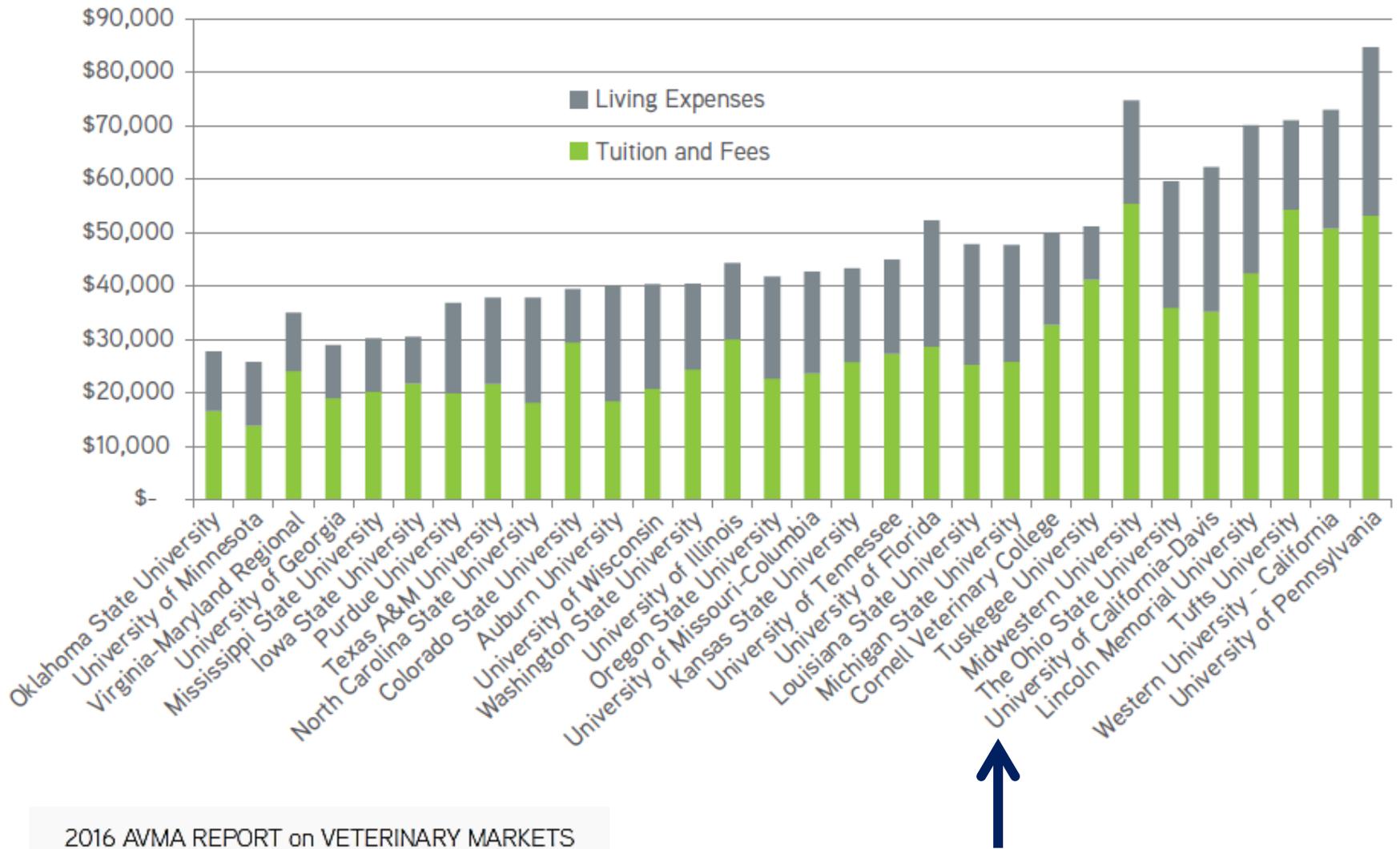
## Address the economic impact of rising University of California student fees.

- Determine a reasonable financial burden for SVM students and develop an approach to support students
- Improve student programming and curriculum to educate students about the cost of debt and future income
- Pursue philanthropy specifically to support financial aid

FOR THE 30 U.S. VETERINARY COLLEGES  
THE AVERAGE TUITION AND FEES HAVE  
MORE THAN DOUBLED, FROM \$10,549 IN  
1999 TO \$27,096 IN 2015.

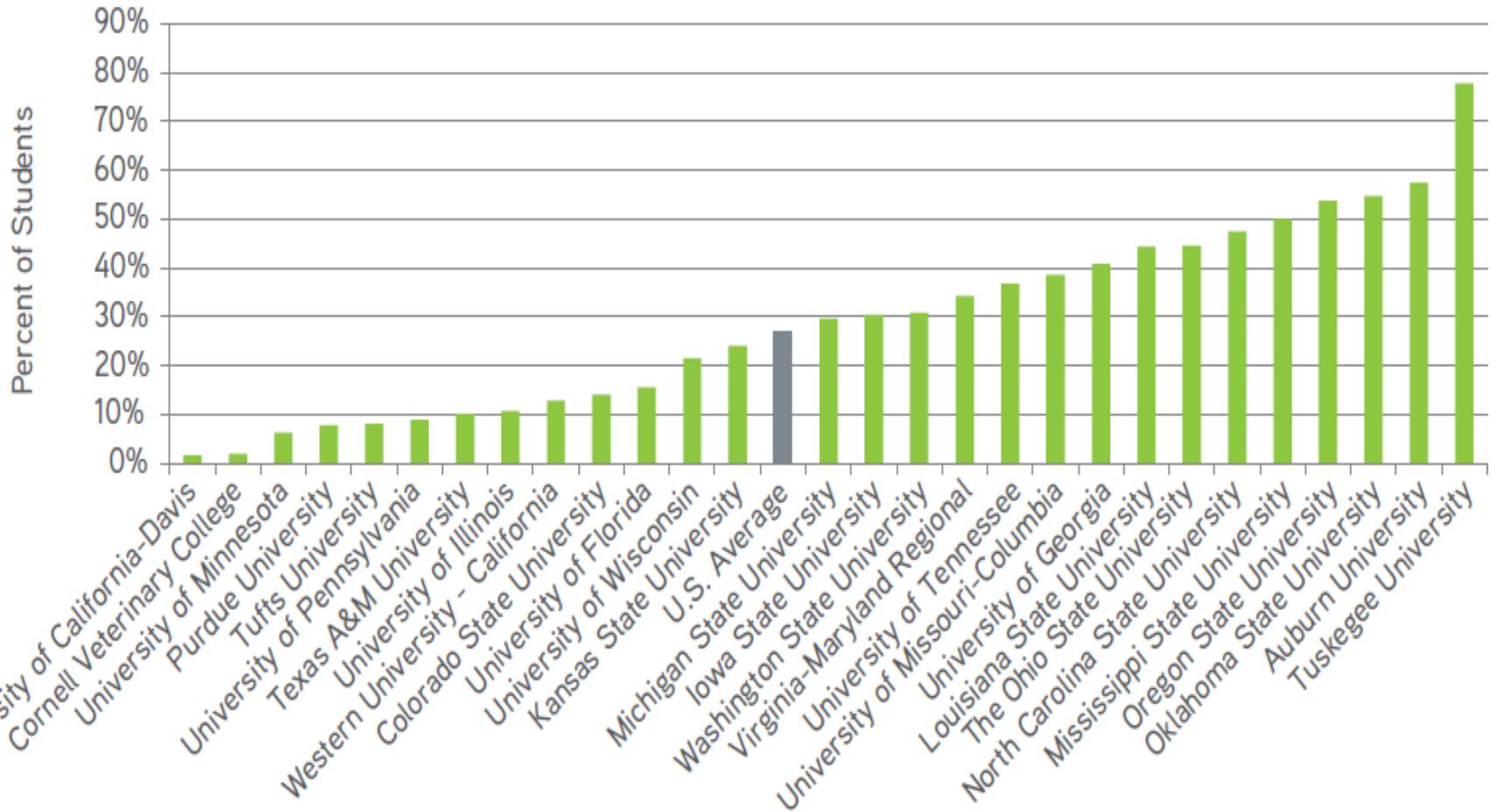


# Veterinary Student Resident Tuition and Fees, & Living Expenses (2015)



2016 AVMA REPORT on VETERINARY MARKETS

# Veterinary Student Resident Debt-To-Cost Ratios > 1.75:1 (2015)



2016 AVMA REPORT on VETERINARY MARKETS

## Comparative Economic Data on UC Davis Veterinary Students

- UCD #9 among AAVMC member colleges/schools - \$31,247 - DVM Tuition & Fees 1<sup>st</sup> year (Class of 2019) (8 schools higher – last year UCD was #8)
- UCD #1 in students pursuing advanced education (internships and residencies)- 76% of class of 2015
- UCD #1 in mean starting salary (\$86,570) class of 2015 (mean \$70,543)
- California #2 in cost of living for states with veterinary colleges/schools (NY #1)
- UCD one of the **lowest debt-to-cost ratio!**

AAVMC Comparative Data Report 2015-16 and AVMA Report on Veterinary Markets and Education 2016

# Diversity and Inclusion Activities



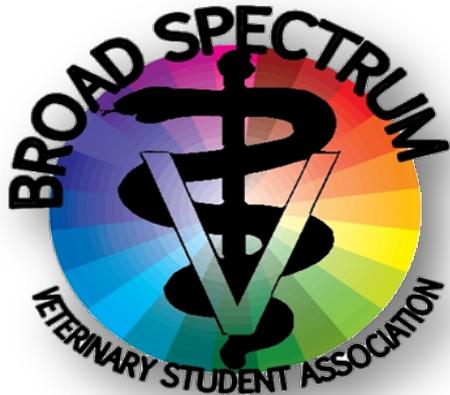
Yasmin Williams,  
Diversity Director

- **Pre-Vet Students Supporting Diversity** -UCD undergrad club to support students from underrepresented/disadvantaged communities
- **SMASH \*New Initiative** –Summer Math and Science Honors (SMASH) Pathways, college prep program
  - 8th grade students -low-income /underserved , or first generation, Summer 2016 - 30 students

**Vet Start \*New Initiative** – 6 week joint pilot program with Dept. of Animal Science to prepare 6 students with research interest , paired with faculty mentors - Summer 2016.

**Summer Enrichment Program** – 6 week program designed to provide 10 disadvantaged students with activities to enhance preparation - gain experience in teaching hospital

# Diversity and Inclusion Activities



**Multicultural Seminar Series** – keynote speakers to address equity and inclusion

**On-line Training Certificate Program** – w/ AAVMC and Purdue University CVM to advance diversity and inclusion skills in communication, leadership, teaching and cultural competency

**Principles of Community Training** –New component of Prologue (VET400)

**Support to LGVMA** - support network through the organization of educational lectures and networking opportunities with LGBT veterinary mentors

**Coalition of Veterinary Students for Diversity and Inclusiveness** – promote awareness and sensitivity for school community of faculty, staff and students

# Student Recruitment



- **COSMOS program for high school students** – biomedical camp
- UC Davis **Early Academic Outreach Program** - high school students exposure to careers in veterinary medicine
- **Pre-Medical and Pre-Health Professions Conference**; October 2016 planning underway
- **VMTRC in Central Valley** - direct, hands-on learning & visits elementary schools and 4-H clubs
- **CAES and SVM Dean's at 2016 World Ag Expo** — the world's largest annual agricultural exposition





Janel Lang,  
Director

# Career, Leadership, and Wellness Center

**VetMedJobs**

- Grew from 88 jobs posted last year to 373 this year; 200 open now!
- Developed **Professional Network program** – a searchable database where students can query and connect with veterinarians
- Newly designed **SCAVMA Mentor Program**, social events and business education opportunities through VBMA

## Leadership

- Accepting its second cohort, the **Professional Concentration in Personal Development and Leadership** grew from 20 participants to 31.
  - 3 year program open to 1<sup>st</sup> year students (and faculty) culminating fall of the 3<sup>rd</sup> year. (60 hours/6 units)
- Gene Crumley - **One Hour Leadership Series** to students, faculty and staff to promote leadership development

# Career, Leadership, and Wellness Center

## Wellness

- Launched **Each Aggie Matters Campaign** – facilitated a panel discussion and completed a website with stories and pledges to promote awareness and support of mental health
- 2<sup>nd</sup> annual **Healer's Art Program** grew from 30 students to 42 students.
- **Wake up for Wellness** monthly breakfast program to boost morale, build community and enhance well-being
- **Massage Day** - Held every Spring in conjunction with nearby Carrington College in Sacramento, CA. DVM students are able to enjoy a 5 minute chair massage
- **Health and Wellness Club** - provides resources and opportunities for self-care and creates a collaborative community to promote physical, mental, and emotional health and well-being

# Curriculum and Academic Support



New - **Director of Professional Student Education** – Dr. Melissa Bain - Year 4 academics and welfare

- **Clinical Skills Laboratory** - MPT 2130
  - ✓ Helping students improve skill performance
  - ✓ Oversight - Dr. Lane Johnson, DVM- Gourley Labs
  - ✓ Full time RVT – Candace Aguilar
    - ✓ Improving the teaching of nursing skills
    - ✓ Build models to learn and practice techniques
  - ✓ Faculty encouraged to partner with model development and teaching opportunities

# Curriculum and Admissions

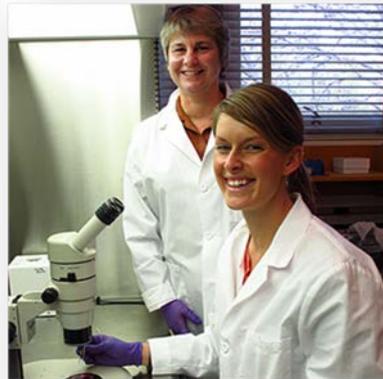
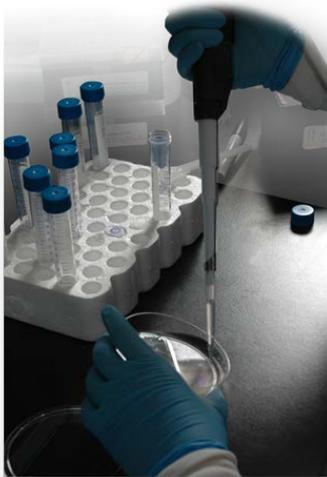
## Milestones

Year 4 – Class of 2016 - Second class completing the new curriculum, NAVLE 1<sup>st</sup> pass rate 95%, national pass rate 91%

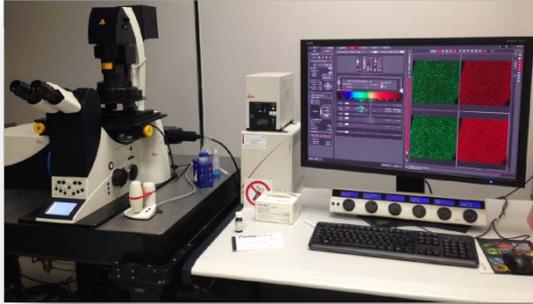
- Student's grades strongly predict markers of academic success (Y2 Comprehensive Exam and NAVLE)
- Two steps in admission –academic review and holistic review
- Academic criteria (BLP score) predicting academic success
- Holistic criteria (MMI) under evaluation
- **Faculty Strategic Admissions Committee** – Does our admissions process admit DVMs in areas of societal need and align with our mission?

# Be at the forefront of high-impact trans-disciplinary research

- Provide supportive infrastructure and efficient services to facilitate research
- Actively pursue trans-disciplinary research programs and extramural support



# Health Sciences District Advanced Imaging Facility



Faculty Supervisor:  
Dr. Colin Reardon

CBS Technical  
Specialist: Dr. Ingrid  
Brust-Mascher

## Designated as Campus Research Core Facility

- State-of-the-art research capabilities in a cost-efficient manner
- Develop best practices for core facility operation
- Each lab designated as a Campus Research Core Facility will receive dedicated support from the program, e.g. access to marketing, contracting and financial support for personnel and equipment

# Promotion of Research Collaborations

## New Horizons Annual Colloquium

- Developed to promote collaboration and cross-disciplinary research across campus
- Featured short presentations from investigators to advance translational research studies
- Promotion of networking opportunities with social and scientific exchange

Launched **New Vector Born Disease Pilot Program** - \$25,000 to 3 projects (\$75k total)

Created **Grant Writing 102 Workshop** (with SOM)

- 8 SVM faculty participated
- 6 participants submitted for NIH deadlines
- 2 grants scored-1 funded (so far)/2 pending review

**Endowments awards to faculty** to support scientific meetings

# Support for Graduate Education

**Graduate Student Support Program (GSSP) Awarded to DVMs pursuing PhDs/ REACH Fellowships**

**FY 15-16: GSSP (9) / REACH (2), total awards \$312,096**

**FY 16-17: GSSP (7) /REACH (1), total awards \$239,574**

- **Veterinary Scientists Training Program (VSTP) Fellowships Awarded to dual DVM/PhD students; FY 15-16: 10 students funded (DVM years) \$524,830**
- **NIH T32 YEAR Fellowships Awarded; FY 15-17: students funded (DVM years) \$262,000**
- **Students Training in Advance Research (STAR) Fellowships Awarded – expanded to 15 NIH fellows; FY 15-16: 43 students, \$246,390; FY 16-17: 46 students funded, \$268,842**
  - **Support for Interdisciplinary Graduate Groups**
  - **New Graduate Fellowship in Veterinary Genetics**
  - **Expanded Funding for Peter Kennedy Graduate Fellowship in Veterinary Pathology**

**New Director** as of October 1, 2015: **John H. Morrison**

Ongoing **collaborative recruits** with the Primate Center

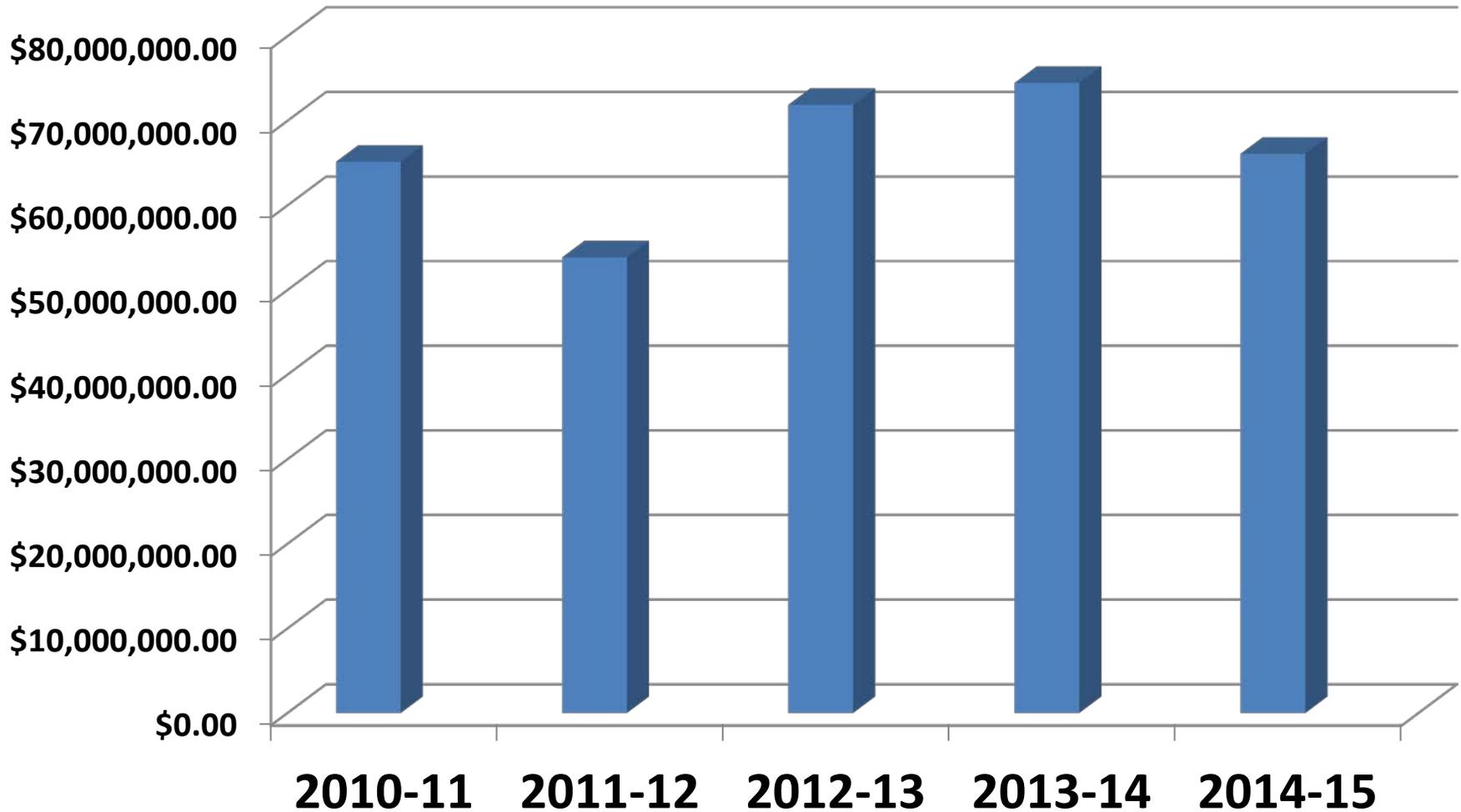
- Respiratory physiologist/toxicologist
- Two virologists in infectious disease in collaboration with Center for Comparative Medicine

**New research programs involving SVM faculty at Primate Center**

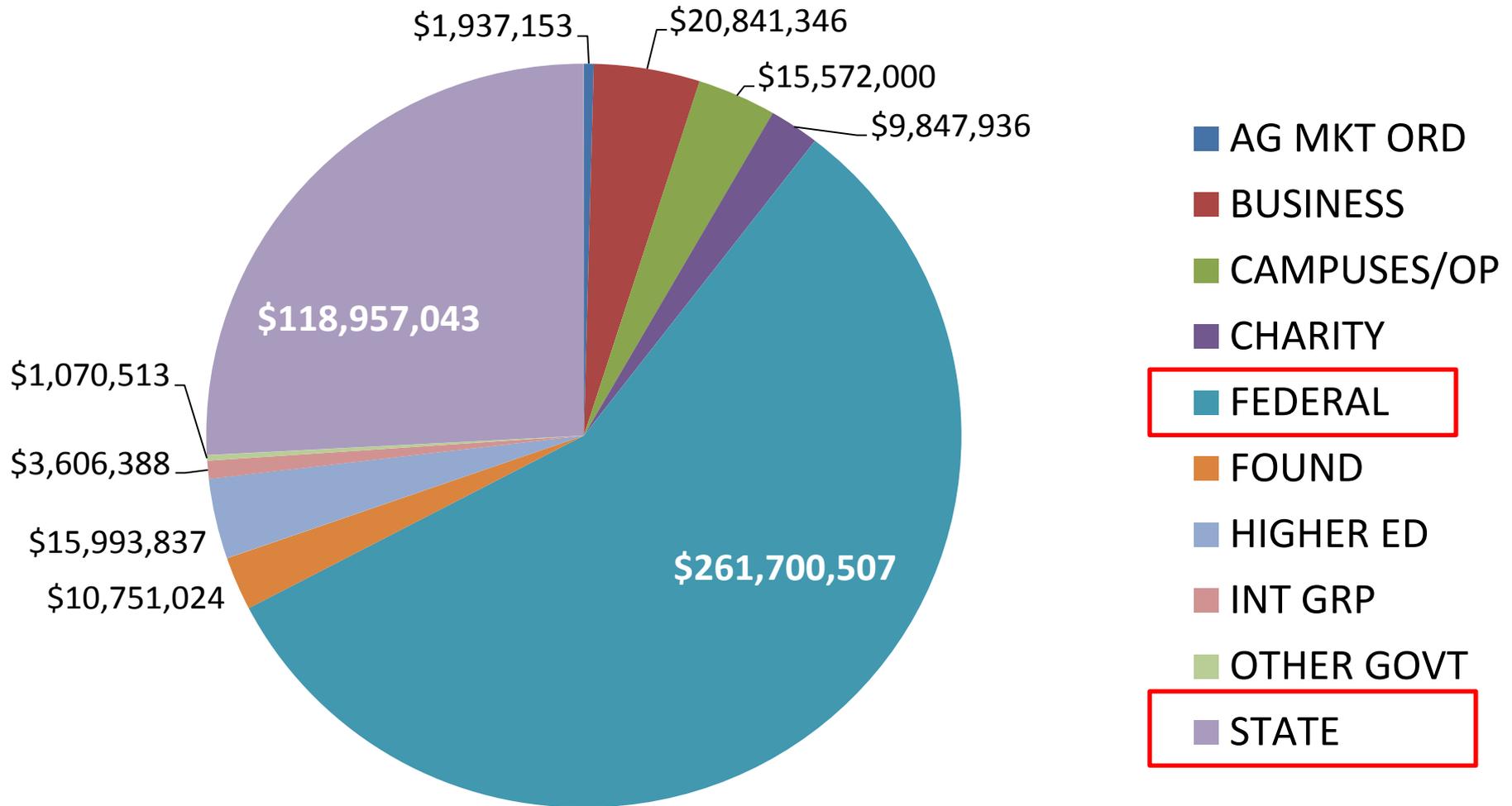
- **Lark Coffey** (PMI): Development of macaque model of Zika virus infection and impact on fetal development
- **Josh Stern** (VME): Phenotypic and genomic characterization of naturally occurring left ventricular hypertrophy
- **Sara Thomasy** (VSR): Ophthalmic and ocular characterization of geriatric rhesus monkeys



# Research Expenditures



# SVM Research Award Sources 2011-2016



# Veterinary Scholars Coming to UC Davis

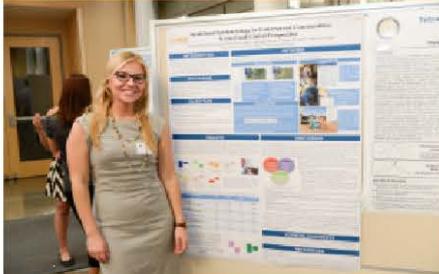
## Welcome to the 2015 Merial - NIH National Veterinary Scholar Symposium

July 30 - August 2, 2015

UNIVERSITY OF CALIFORNIA

Welcome to the 2015 Merial - NIH  
National Veterinary Scholar  
Symposium

### POSTER PRESENTATION INFORMATION



Poster requirements, location and poster session schedule.

[More information](#)

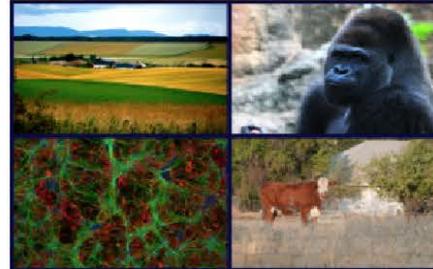
### VISITING UC DAVIS AND SURROUNDING AREAS



Things to do and places to see in and around UC Davis!

[More Information](#)

### SYMPOSIUM SCHEDULE AND ABSTRACTS



Complete Symposium proceedings and schedules (.pdf)

[More Information](#)

### SYMPOSIUM NEWS

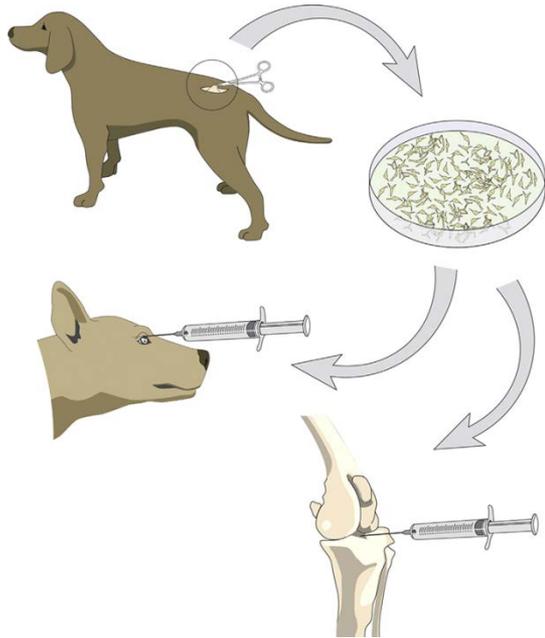
[SYMPOSIUM SCHEDULE](#)

[ABSTRACT SUBMISSION INSTRUCTIONS](#)

[LINKS TO LODGING](#)

[CURRENT WEATHER IN DAVIS, CA](#)

# Veterinary Scientists



*Uniquely contribute to biomedical research through specialized training in animal biology and medicine to the modeling of human physiology and disease -NIH and UCOP Studies*

# Developing Future Veterinary Scientists



## STAR (Students Training in Advanced Research) Program

- Funding opportunities on a competitive basis to veterinary students
- Experience veterinary and biomedical research during the summer months
- Insight into a career in research, stimulating them to pursue a career
- Evidence-based science principles and applications
- Communications and career networking

## Research Training → Career Opportunities



- **Kimberly Conway, a 2nd year veterinary student**, chosen for the Smith-Kilborne **Foreign Animal Disease Program**
- Follow up to her experiences last summer - worked as a contractor under USDA-APHIS as an **Avian Influenza Emergency Responder**



- **Dr. Roxann Brooks Motroni** an alumni of the Veterinary Scientist Training Program completed a Ph.D. in Comparative Pathology (2012) and a DVM (2013)
- Now serves as **AAAS Science and Technology Policy Fellow** with the U.S. Department of Homeland Security, Agriculture Defense Branch

Since 1999, 24 graduates have completed the VSTP and gone on to leadership careers in academia, government, and industry

# Research Impact



*Cecilia Giulivi, (VMB) and a team of researchers from UC Davis MIND Institute found that a **gene** responsible for **suppressing cellular damage from environmental stressors** is nearly twice as likely to be defective in children with autism spectrum disorder. *Pediatrics* April, 2016*

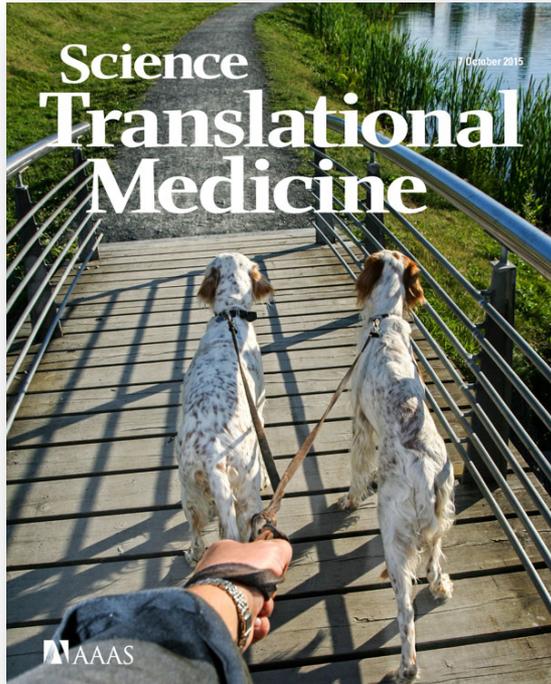


*Joshua Stern, (VME) and colleagues **Severity of Mitral Valve Degeneration Is Associated with Chromosome 15 Loci in Whippet Dogs**. Oct. 2015, *Plos One**

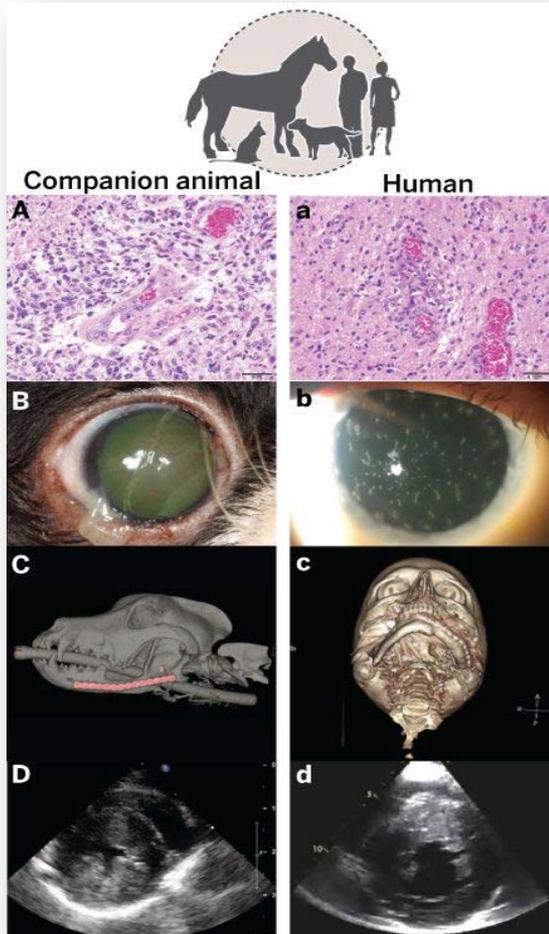


I. Pessah, et al. (VMB) **Scorpion Venom Yields Clues for Developing Better Pharmaceuticals** -Proc. Natl. Acad. Sci, 2016

# Parallels Between Veterinary and Human Patients with Related Naturally Occurring Diseases



Companion animals ideal models for naturally occurring diseases, in the cover article *Science Translational Medicine*



Glioblastoma

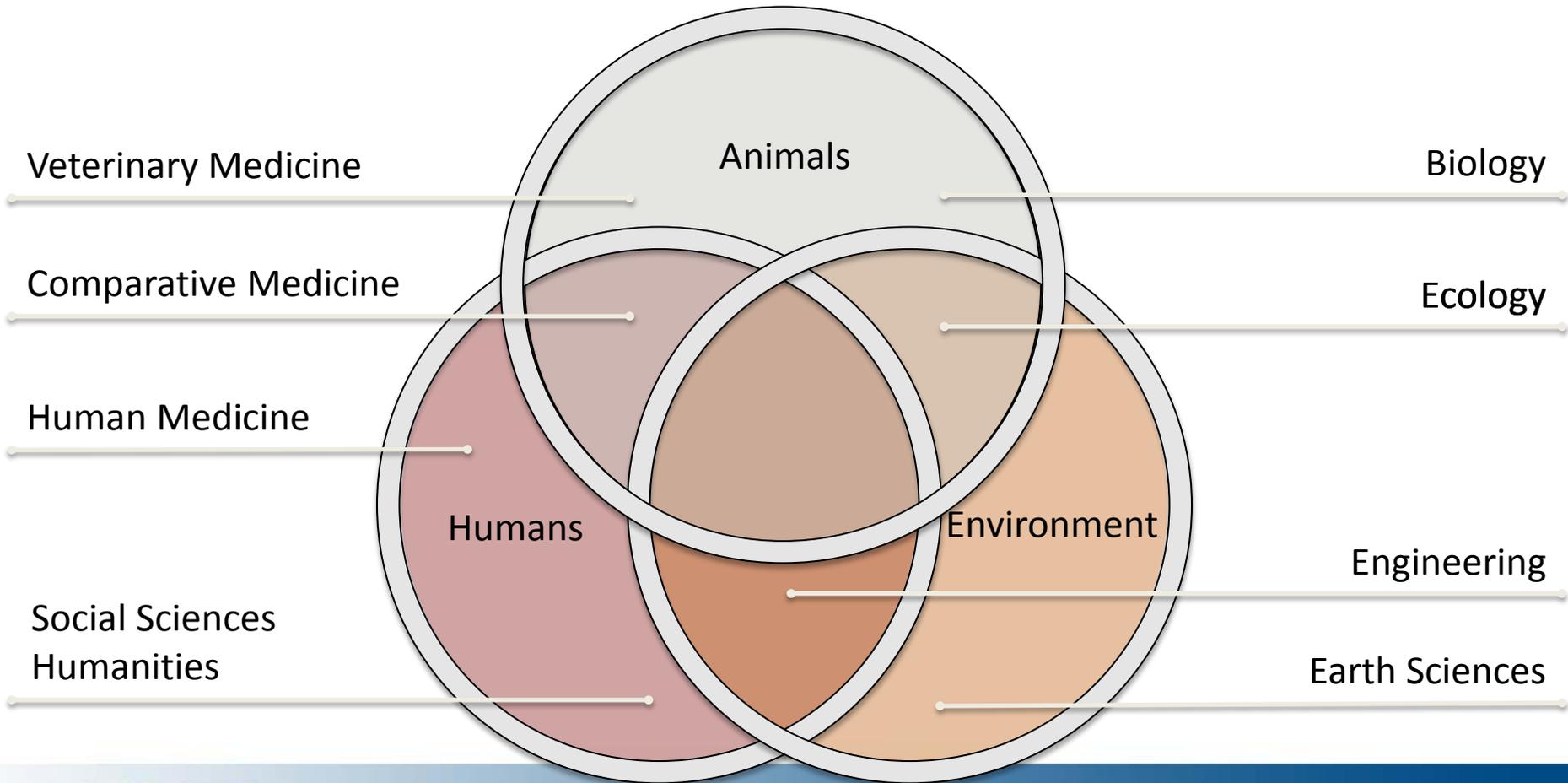
Corneal Lesions (KCS)

Mandibular Reconstruction

Cardiomyopathy

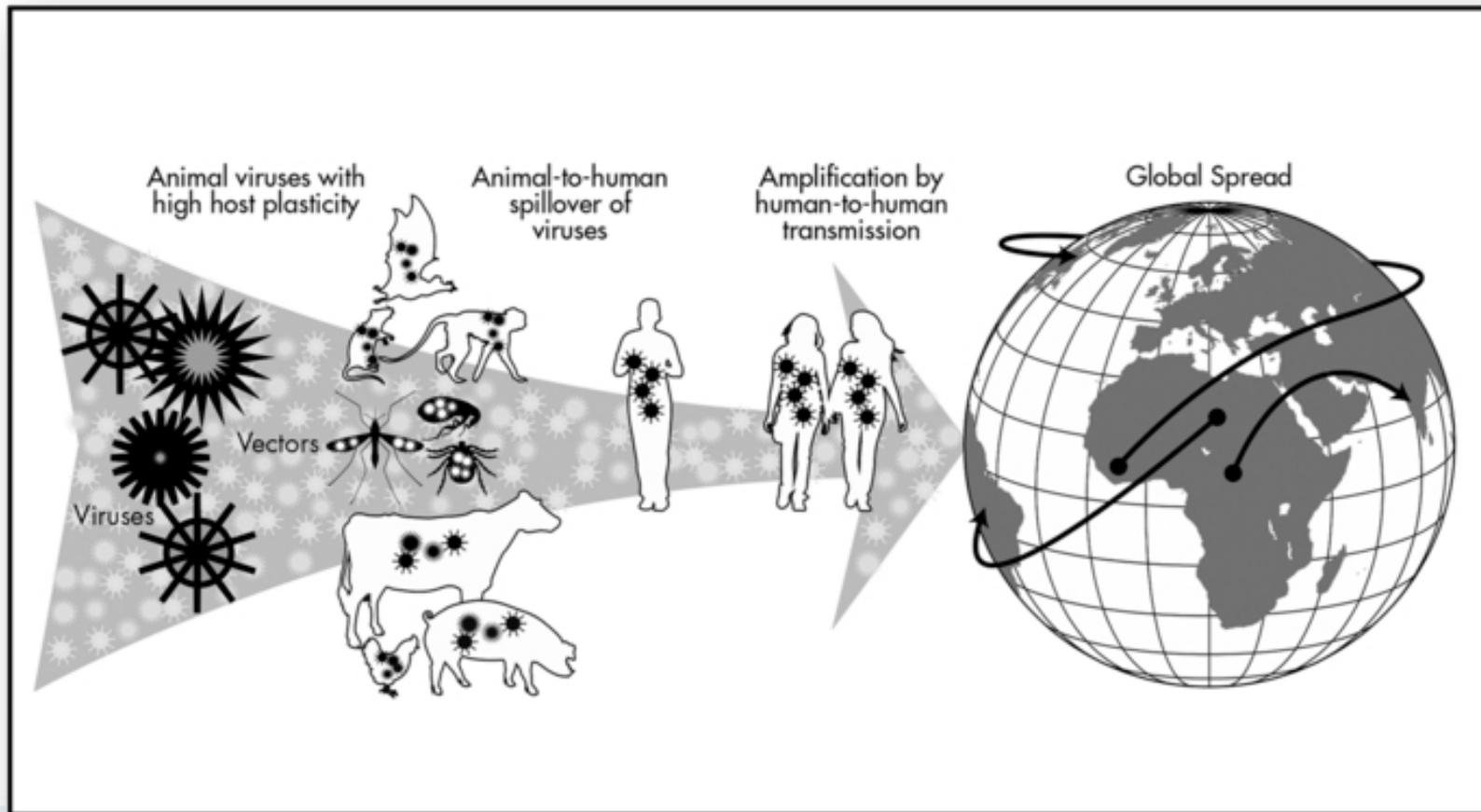
Oct. 7, 2015 Science Translational Medicine

# One Health Approach



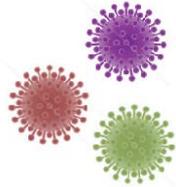
# Spillover and pandemic properties of zoonotic viruses with high host plasticity

Christine Kreuder Johnson, Tracey Goldstein, Jonna K. Mazet , et al.,  
Scientific Reports 5, Article number: 14830 (2015) (*Nature.com*)

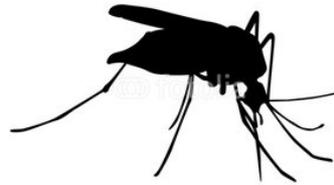


# Zika virus: the virus, vectors, and hosts

Do viral genetic changes modify transmissibility and pathogenesis?



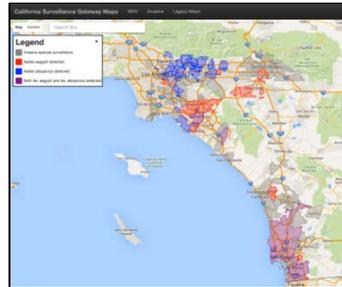
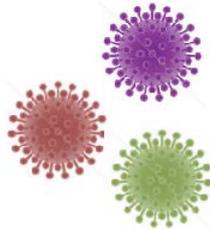
Are California mosquitoes competent Zika virus vectors?



Can we predict Zika virus spread in the Americas?



Macaques as models for human Zika virus infections



Where are Zika virus vectors found in California?

## SVM Investigators:

Lark Coffey  
Chris Barker  
Patricia Pesavento  
Barbara Byrne



Leading Veterinary Medicine, Addressing Societal Needs

# Wildlife Health



## Oiled Wildlife Care Network

- World-leading program expanded to include inland spill response

## SeaDoc Society

- Wild Killer Whales to Get Personal Health Records

## Gorilla Doctors

- Disease prevention a boost to human health and great ape conservation

## California Conservation

- Scientists outfox ear tumors in endangered Catalina Island foxes

## California Raptor Center

- New Flight Cages and Master Plan

## KCDWHC Fellowships

- Support for wildlife-focused student projects

# Center for Companion Animal Health



Faculty support	\$760,851
Resident support	\$ 58,673
Equipment	\$150,000
VMTH Information System	\$32,892

**Total Support** **\$1,002,417**

- Rebound Immune Suppression Boosts Anti-tumor Effects of Radio-Immunotherapy . J Clin Cancer Res. 2016 A. Montezeb **Michael Kent** and W. Murphy et al.
- Frequency of Neutropenia Associated with FDA Approved and Compounded Formulations of Lomustine in Dogs with Cancer. J Vet Intern Med 2015 **Jennifer Burton, Robert Rebhun** et al.
- Million Cat Challenge shelter-based campaign to save the lives of one million cats in North America over 5 years. **Kate Hurley and team**



# Equine Research Programs

## RESEARCH REVIEW 2015

New and Potential Discoveries in Equine Medicine



- **History** - Supported 130 researchers
- Funded **\$12,000,000** in research over the last 30 years
- Numerous **resident projects**
- Valuable **pilot data/career development**
- **Publications** and scientific presentations
  - Center for Equine Health
  - VMTH Equine Clinical Programs
  - Cal An Health Food Safety Labs
  - Maddy Analytical Chemistry Lab
  - JD Wheat Veterinary Orthopedic Lab
  - Veterinary Inst. Regen Cures (VIRC)





# Equine Research

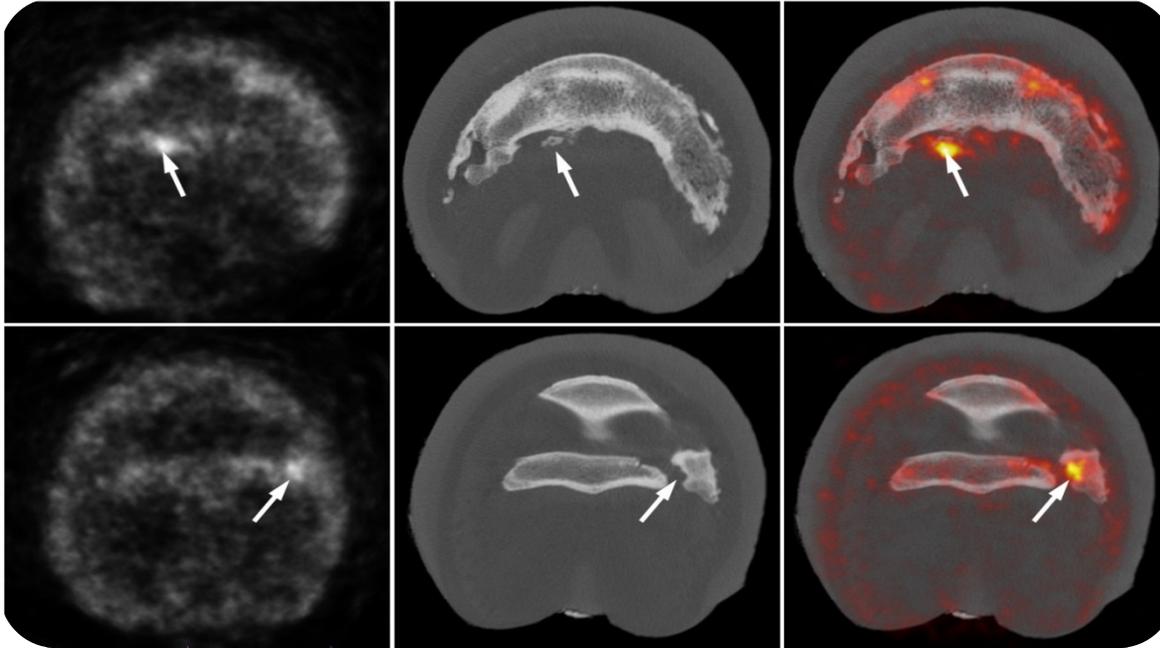
## Footings on Limb Load and Strain

- Role of arena surface on soundness
- Role of surface characteristics on injury prevention
- Advanced modeling to predict injury
- Dressage and Jumper studies



# New Imaging Technology

## Positron Emission Tomography



**PET Equine Foot -  $^{18}\text{F}$ -Fluoride**



# Protecting Water Supplies for Both Animals and People



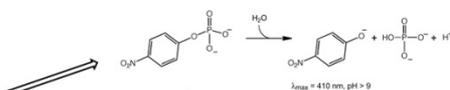
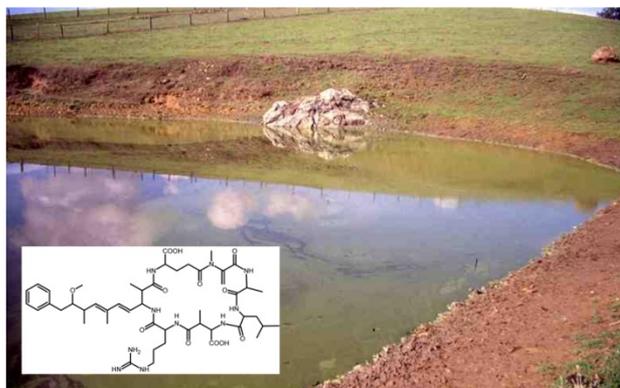
Mar. Drugs 2016, 14(3), 54; doi:10.3390/md14030054

Open Access

Article

## Comparison of Protein Phosphatase Inhibition Assay with LC-MS/MS for Diagnosis of Microcystin Toxicosis in Veterinary Cases

Caroline E. Moore<sup>1</sup> ✉, Jeanette Juan<sup>1</sup> ✉, Yanping Lin<sup>1</sup> ✉, Cynthia L. Gaskill<sup>2</sup> ✉ and Birgit Puschner<sup>1,\*</sup> ✉

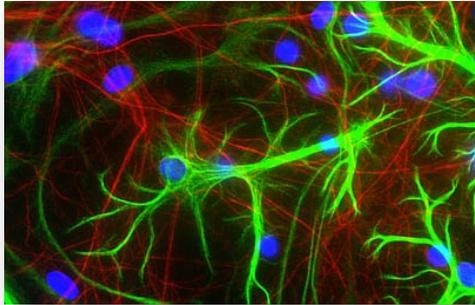


Comparison of PPIA and LC-MS/MS Data



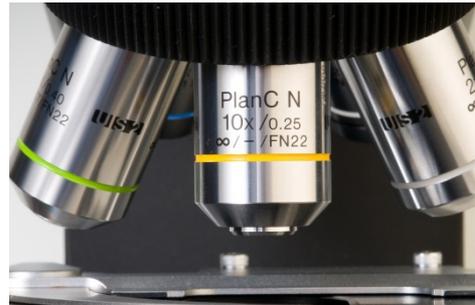
# UC Davis CounterACT Center of Excellence

- **UC Davis CounterACT Center of Excellence** dedicated to identifying improved medical countermeasures for chemical threat agents that cause seizures in humans



- Pamela Lein, Center Director
- Isaac Pessah, Project Leader

- **NIH CounterACT Network Research Symposium**, hosted by UC Davis, June 15-17, 2016



The screenshot shows the website for the NIH CounterACT Network Research Symposium. At the top left is the UC Davis Veterinary Medicine logo. To the right is a search bar and the text 'NIH Symposium'. Below the logo is a navigation menu with links: Home, Schedule of Events, Speakers, Poster Sessions, Quad Charts, Registration & Lodging, Check-in Information, Facilities / Directions, Critical Dates, FAQ's, Sponsors, and SVM - Home. The main content area features the NIH logo and the text '10th Annual NIH Countermeasures Against Chemical Threats (CounterACT) Network Research Symposium June 15-17, 2016'. The background of the main content area is a blue and white graphic with a human silhouette and anatomical diagrams of the brain, lungs, and heart.

# Provide cutting-edge clinical programs that support education, research and service

- Provide outstanding patient care
- Foster excellence in clinical teaching
- Capitalize on the large and diverse clinical caseload to support excellence in translational and clinical research





## Excellence in Animal Patient Care

*VMTH consistently ranks at the top among all academic veterinary hospitals in reputation and patient visits, caring for ~51,000 patients per year through 34 specialties.*

- More than **120 board-certified faculty members**
- More than **340 staff members**
- **109 house officers** training in 34 specialty disciplines
- More than 135 4th year students
- VMTH now has 15 Veterinary Technician Specialists – certification of specialty discipline for RVTs

## Quality Customer Service – VMTH Staff Success Daily



***The best way to find yourself is to lose yourself in the service of others.***  
Mahatma Gandhi

# Valley/Butte Fires September 2015

- VMTH faculty and staff worked around the clock for 3 weeks to care for injured animals
- Collaborative effort between VMTH, VERT, CEH and IAWTI, with several government agencies
- Led by:
  - Drs. Patricia Andrade, Eric Davis, John Madigan and Claudia Sonder in the field.
  - Drs. Steven Epstein, Kate Hopper, Pam Hullinger, Gary Magdesian, Jane Sykes and Erik Wisner at the VMTH
- More than **150 faculty and staff members** contributed
- **18 media** interviews in less than 2 weeks



# Large Animal Care

## New Services, Quality Care



- **Expert Neonatal Care** - A foal treated by NICU - first documented case of a horse surviving type A botulism



- **Equine Ophthalmology Service** - continued service growth, new clinical trials and world-class care, including returning a champion eventer horse to winning ways



- **New Cattle Breed to U.S.** - Utilizing embryo transfer, the Livestock Herd Health and Reproduction Service helped a Nevada rancher introduce Gascon cattle to the U.S.



- **Equine Dentistry** - Routine and advanced equine procedures, integral part of equine practices

# Advancements in Companion Animal Medicine

## Minimally Invasive Procedures

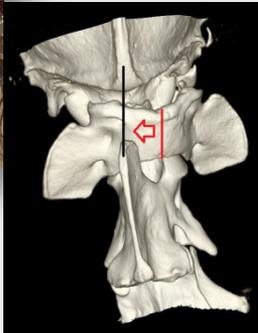
- Soft Tissue Surgery Service continues to increase offerings in minimally invasive procedures not available a decade ago

## Translational Discoveries Through Clinical Trials

- Studies on the use of thermal ablation to treat canine tumors
- Stem cells to treat feline chronic gingivostomatitis
- Clinical trials and research projects in cancer
- Alternatives treatments canine subaortic or pulmonic stenosis
- New Comparative Ophthalmic Imaging Laboratory

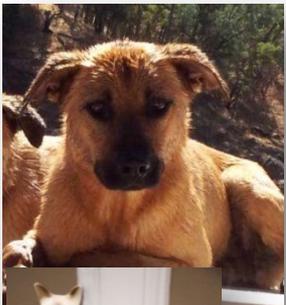
## Advanced Surgical Techniques

- Dentistry and Oral Surgery Service reconstruct the skull of a Rottweiler whose head was run over by a car, resulting in numerous maxillofacial, mandibular and vertebra fractures



## Innovative Approaches to Advance Animal Health

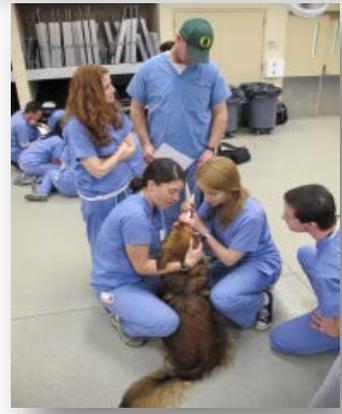
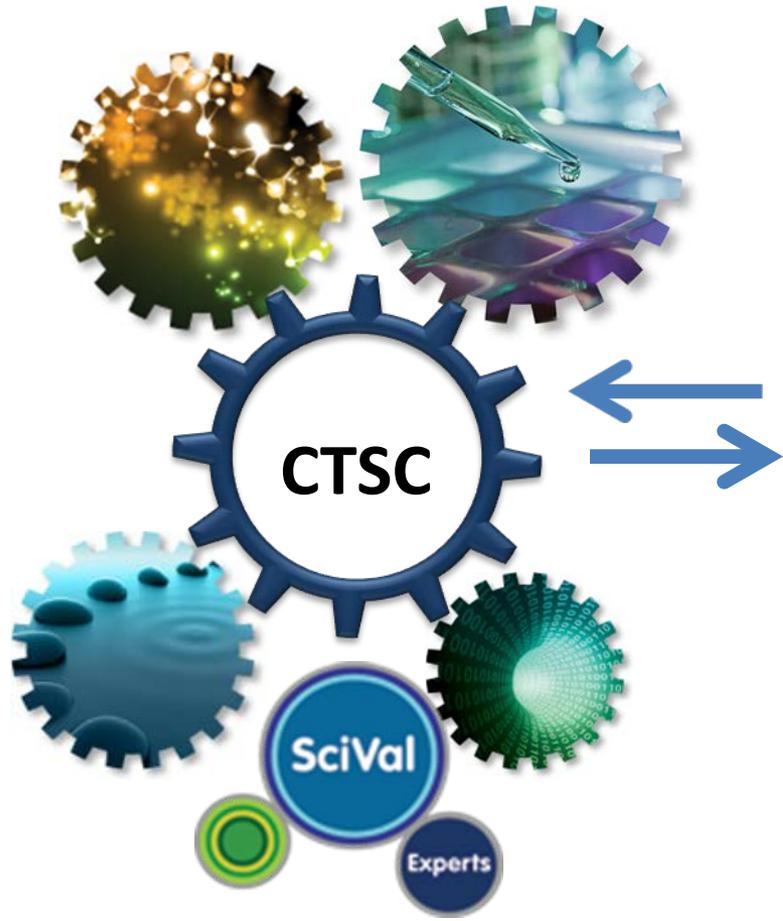
- UC Davis Veterinary Radiologists Help Save Dog with **Foxtail Near Aorta**
- UC Davis Veterinary Surgeons Utilize **Artificial Ureter** in Kitten
- **New biomarker** under consideration to guide **early kidney disease** recognition
- UC Davis' Pioneering **Nasolacrimal Endoscopy & Stenting** Procedure Successful in First Cat



# Comparative Oncology – Key Role of Veterinarians



- Comparative Oncology Program, CCC
- National Comparative Cancer Consortium → Clinical Trials to New Drug Discovery



# Veterinary Center for Clinical Trials

- Increased Clinical Trials & Administrative Support
  - **2 new employees**
- Added Biostatistics Expertise/Support
  - Partnership with CADMS
- Clinical Trials Activity
  - **64 active clinical trials** posted on VCCT website
  - 2014-15: 3 externally funded trials, \$670,419
  - **2015-16: 4 externally funded trials, \$524,915**



Leslie Nemeth  
Analyst



Mike Bannasch  
Coordinator



Beatriz Martinez-  
Lopez  
CADMS

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

- Identify pressing societal problems where the School can make an impact and align efforts to develop meaningful solutions
- Broaden the diversity of the veterinary medicine community at UC Davis and beyond



# Office of Global Programs



**Mission:** Promote, facilitate and support global programs that advance the health of animals, people and the environment



## **Selected Accomplishments:**

Strengthened partnerships across campus and UC :

- UCD Squared Symposium in Dublin, Ireland
- One Health Field Course in Sri Lanka
- USAID Pakistan project – Al Conley & Catalina Cabrera



## **SVM Student Support**

2015 & 2016 provided **support to 55 SVM students** for global projects and externships

Examples: Canada, Scotland, Italy, Ethiopia, Uganda, South Africa, Malaysia, Sri Lanka, etc.

# SVM Faculty and Staff Engaged Globally



© Mapbox © OpenStreetMap Improve this map

# Coastal and Marine Studies and Programs



A banner featuring a close-up of a seal's face on the right. On the left, there is a logo for 'THE SEADOC SOCIETY' with a fish icon and the tagline 'PEOPLE AND SCIENCE HEALING THE SEA'. Below this is the 'UC DAVIS VETERINARY MEDICINE' logo and the text 'Karen C. Drayer Wildlife Health Center'. On the right side of the banner, the text reads 'Wildlife veterinarians using science to heal the Salish Sea'. At the bottom right, there is an orange button with the text 'Learn more'.

- **Ocean clean up** to marine mammal research to protect the coastal and marine environment
- Southern resident population of **killer whales**, currently numbering 84, **individually identified**

# Reducing Antimicrobial Resistance Pressure



Dr. Hillary  
Feldmann, 1<sup>st</sup> yr  
Dairy Production  
Medicine  
Resident



## Alternatives to antibiotics

- Clinical trials using zinc compounds to prevent diarrhea in young dairy calves

## Judicious use

- Research to reduce or eliminate 'blanket treatment' of all cows at end of lactation

## Better diagnostics

- Validated Bovine Respiratory Disease (BRD) Scoring System
  - Earlier and more accurate detection
  - Identify when to treat; when to wait



*Preventing 'Foothill Abortion' in Cattle Through Vaccine Development*  
-- Dr. Jeff Stott

## Center for Food Animal Health

**Mission:** To create, apply and disseminate new knowledge to enhance **health and well-being** of food-producing animals, promote food **safety** and **healthy environment**

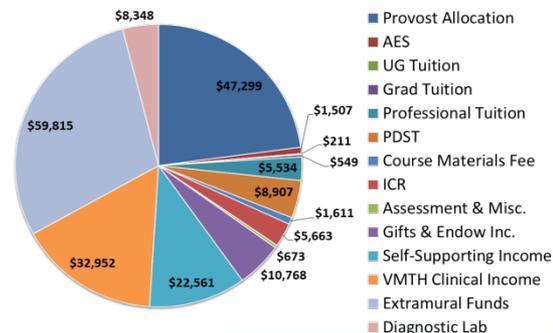
### High Priority Areas to Fund:

- Related to antimicrobial stewardship:
- Alternatives to antimicrobial drugs
- Antimicrobial and anti-parasitic drugs: judicious use, stewardship and resistance
- Disease prevention, control & surveillance

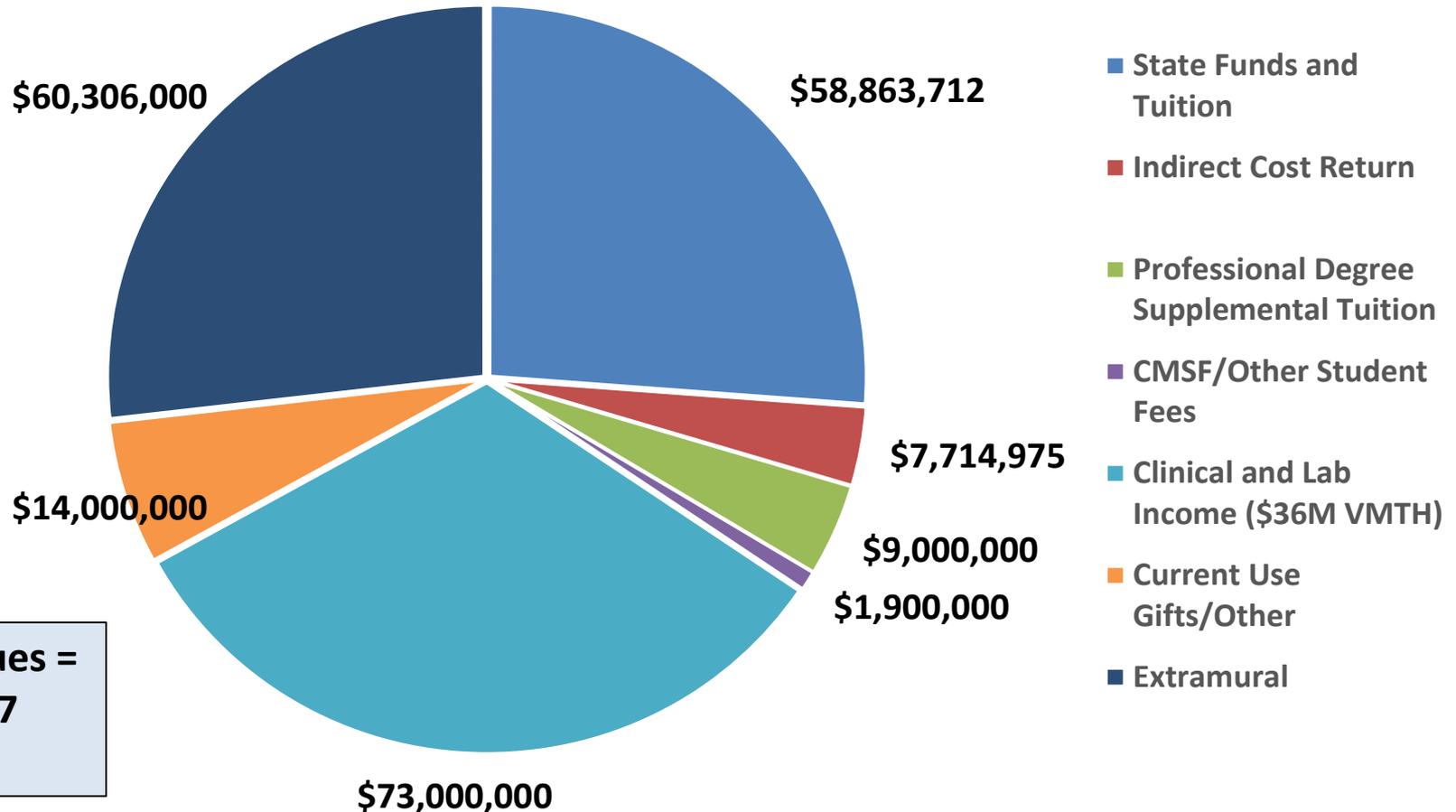
- CFAH serves as the veterinary medical component of the **USDA Agricultural Experiment Station (AES)**
- 30 faculty members among 4 SVM departments have AES assignments (11.37 FTE)
- **New assignments for 4 faculty members this year**

# Ensure effective School-wide management infrastructure and sustainable financial resources for the future

- Optimize the financial position of the School of Veterinary Medicine
- Strengthen internal communication, transparency and collaboration
- Elevate the School's capability in marketing, branding and public relations
- Review and optimize the School's organizational structure



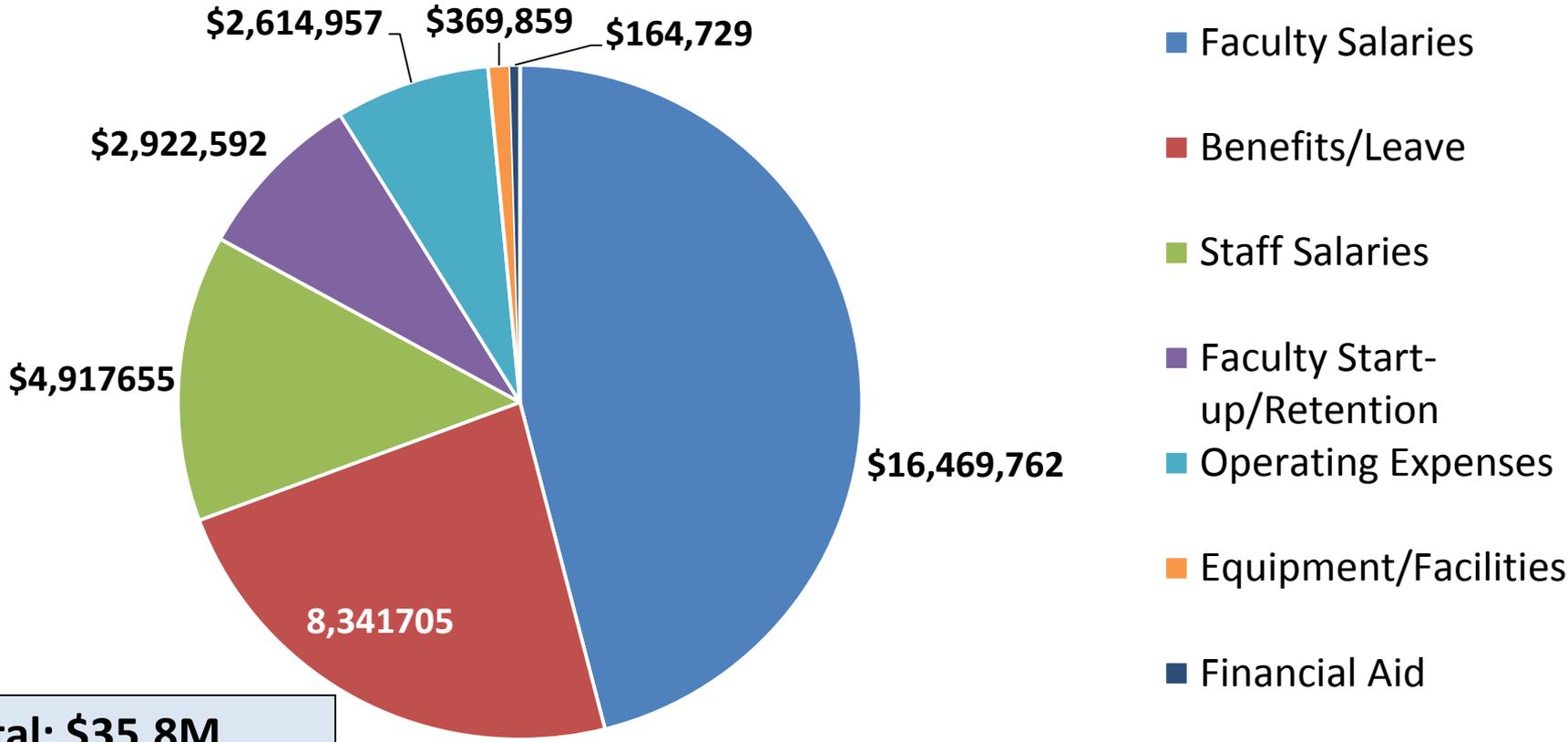
# Total SVM Projected Revenues 2015-16



**Total Revenues =  
\$224,784,667  
(All Funds)**

**Total Core Funds = \$75.58M**  
Core Funds = State Funds/Tuition, ICR, and Professional Fees

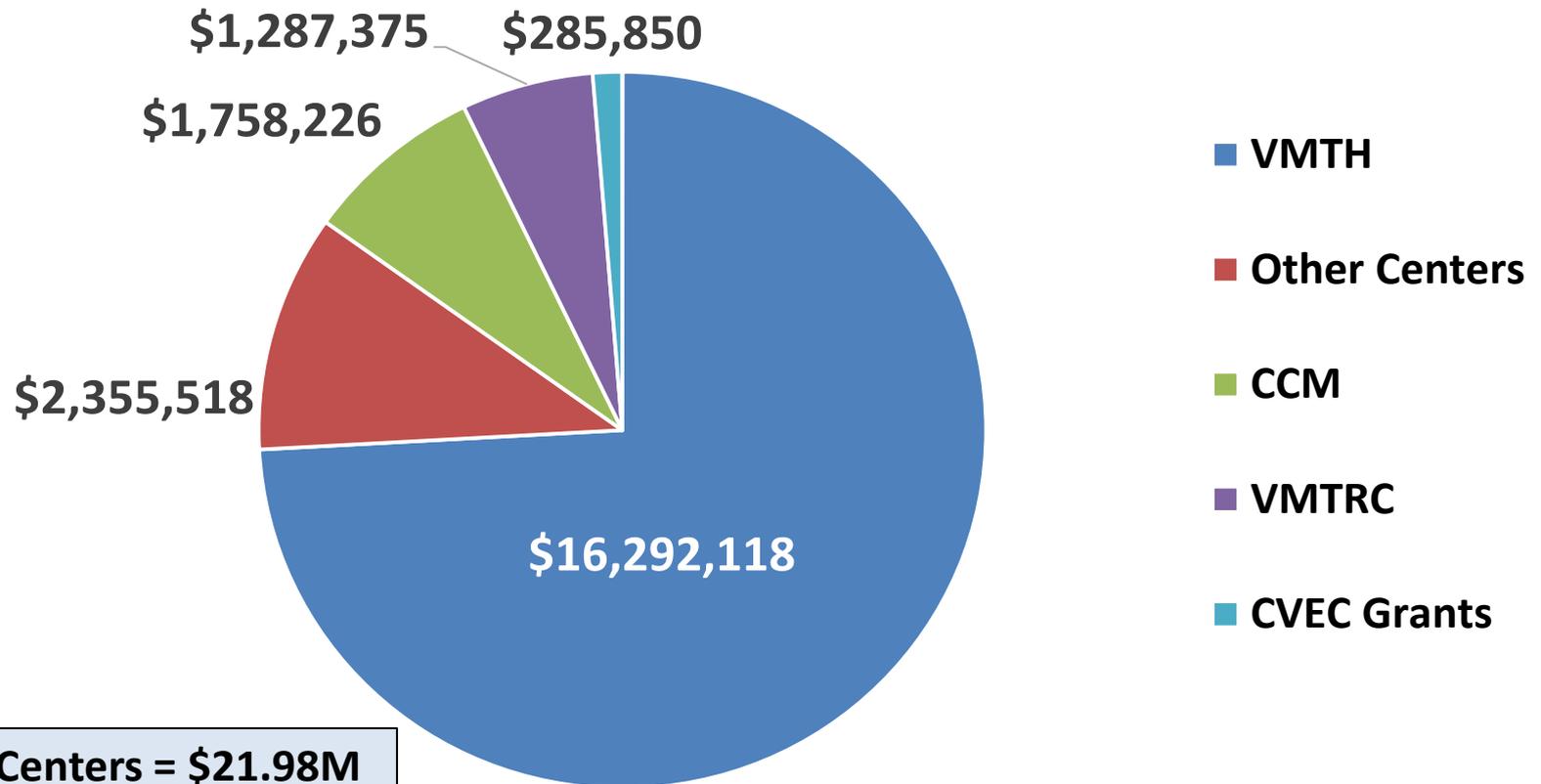
# Core Funds – Academic Departments 2015-16



**Total: \$35.8M**  
**47% of core funds**

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

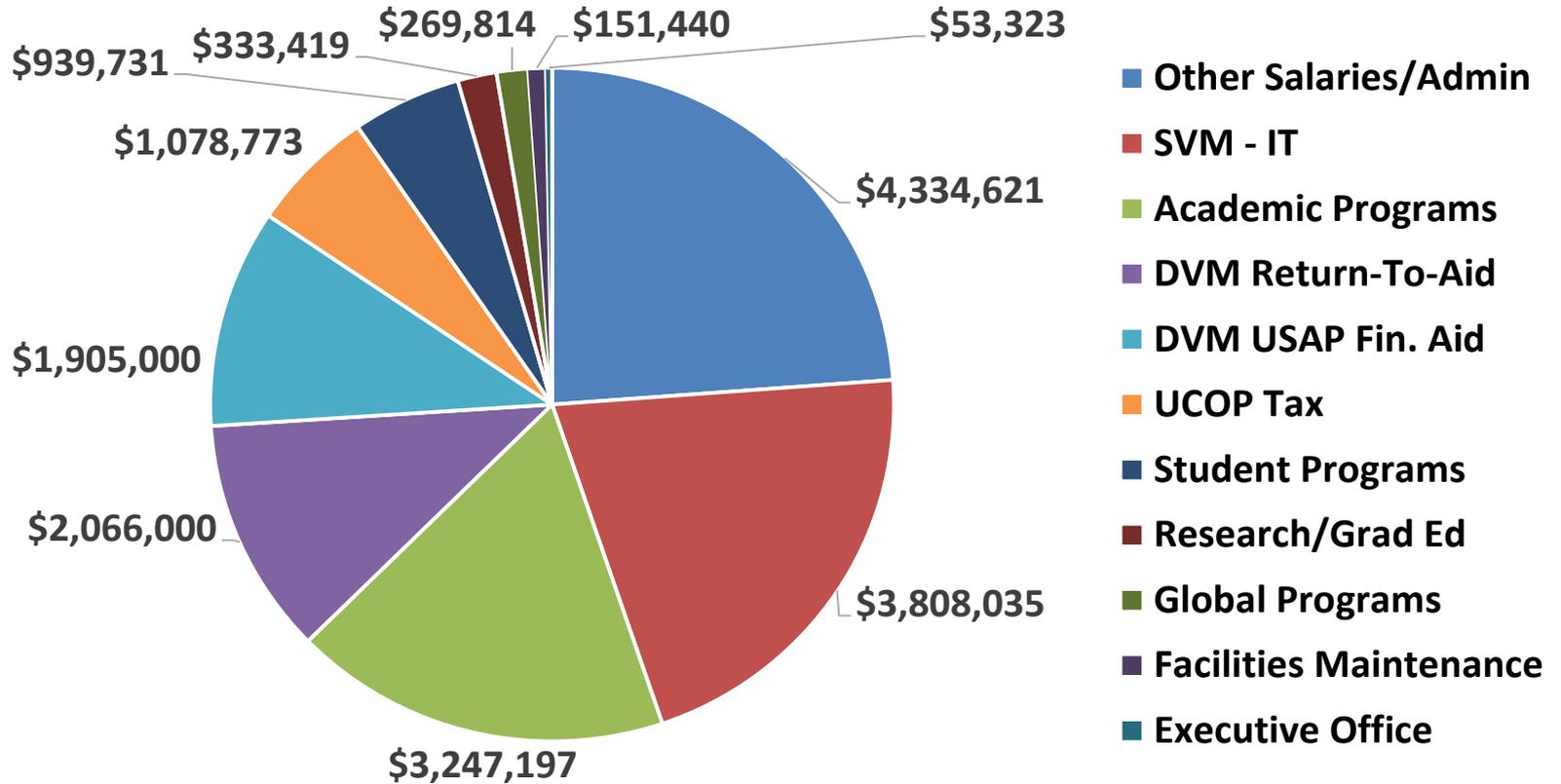
# Core Funds – VMTH and Centers, 2015-16



**VMTH & Centers = \$21.98M**  
**29% of Core Funds**

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

# Core Funds - VMDO, 2015-16



**VMDO = \$18.19M**  
**24% of Core Funds**

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

## SVM Priority Investments: Teaching and Student Focus

- **Continued Development of clinical skills laboratory**
- **Scholarships and Outreach**
  - USAP funds for targeted outreach
  - Continued Efforts for Scholarship Program
- **Continued Enhancements of Grad Group support:**
  - Support Grad Coordinators' salaries and benefits
  - Graduate fellowship program
  - Graduate group for outreach events



# Student Services and Administration Building

**\$3.3M SVM investment, overall cost of \$27.9M**, expected to be completed by December 2016.



# Student Services and Administration Building



Video Link

VMSSAC Building Construction Timelapse

[www.youtube.com/watch?v=1ldu-pnyOlw](http://www.youtube.com/watch?v=1ldu-pnyOlw)

# Student Services and Administration Building and New “Scrubs Café”



## Examples of Major Investments in 2015-16

- **Faculty Start-up Packages** \$2.78 million
- **CNPRC Director Start-up** \$400,000 and 1.0 FTE
- **VMTRC Residential Units** \$880,000
- **VHIS Project** \$300,000

## Planned Investments for 2016-17

- **Faculty Start-up Packages** \$2.8 million (est)
- **VMSSAC Operational Costs** \$1.0 million
- **VMSSAC Furnishings & Equip** \$1.0 million
- **VHIS Project** \$200,000

# SVM Priority Administrative and IT Investments

## Rebuild our Veterinary Healthcare Information System (VHIS)

- Timeline: final release cycle expected to conclude 2021
- Budget (funded with unrestricted gift funds): \$980,000 in total, \$300K in 15-16, \$200K in 16-17.

## UC Path HR/Personnel Shared Service Center

- Create a collaborative center staff and academic personnel and payroll transactions Aim to launch in July 2017- budget neutral

## PerfectForms – approval routing process

- Form software to facilitate prior approval for budgeting
- Routes from departments to Dean's office, eliminates funding commitment confusion

# SVM Priority Investments: Research Initiatives

## Research mentoring, core facilities management, and web resources

- New Horizons Seminar Series
- Grant Writing Courses and Workshops

## Veterinary Center for Clinical Trials

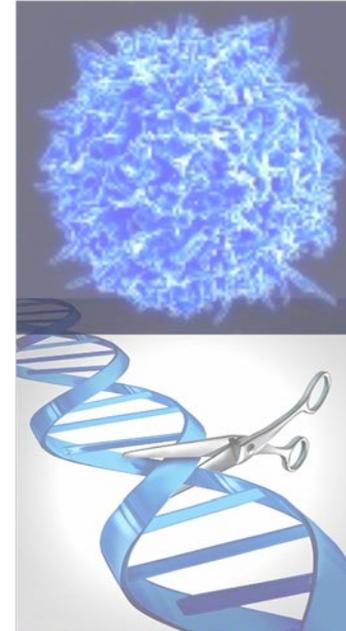
- Staff and Administrative Support

## Pharmacokinetic-Pharmacodynamic Research Core

- New faculty and staff (gift funded)

## Biomedical and Engineering Entrepreneurship Academy

- Innovation Funds



# Innovation Fund Investments Examples 2015-16



- **Faculty Global Affairs Seed Grant** - \$5,000
- **Faculty Clinical Translational Research Training Program** - \$155,000
- **Biomedical and Engineering Entrepreneurship Academy** - \$15,000
- **2nd UC Davis Postdoctoral Research Symposium** - \$3,000
- **Coastal and Marine Institute** - \$15,600
- **Emerging Leaders in Policy and Public Service** - \$9,150
- **Veterinary Institute of Regenerative Cures** - \$65,000
- **Poultry Farm Research Project** - \$10,000
- **Small Animal Ultrasound Simulator** - \$40,000
- **VMTH Emergency Fire Fund** - \$15,000
- **Fix the Debt Symposium** - \$3,000
- **International Recruitment Center** - \$21,000



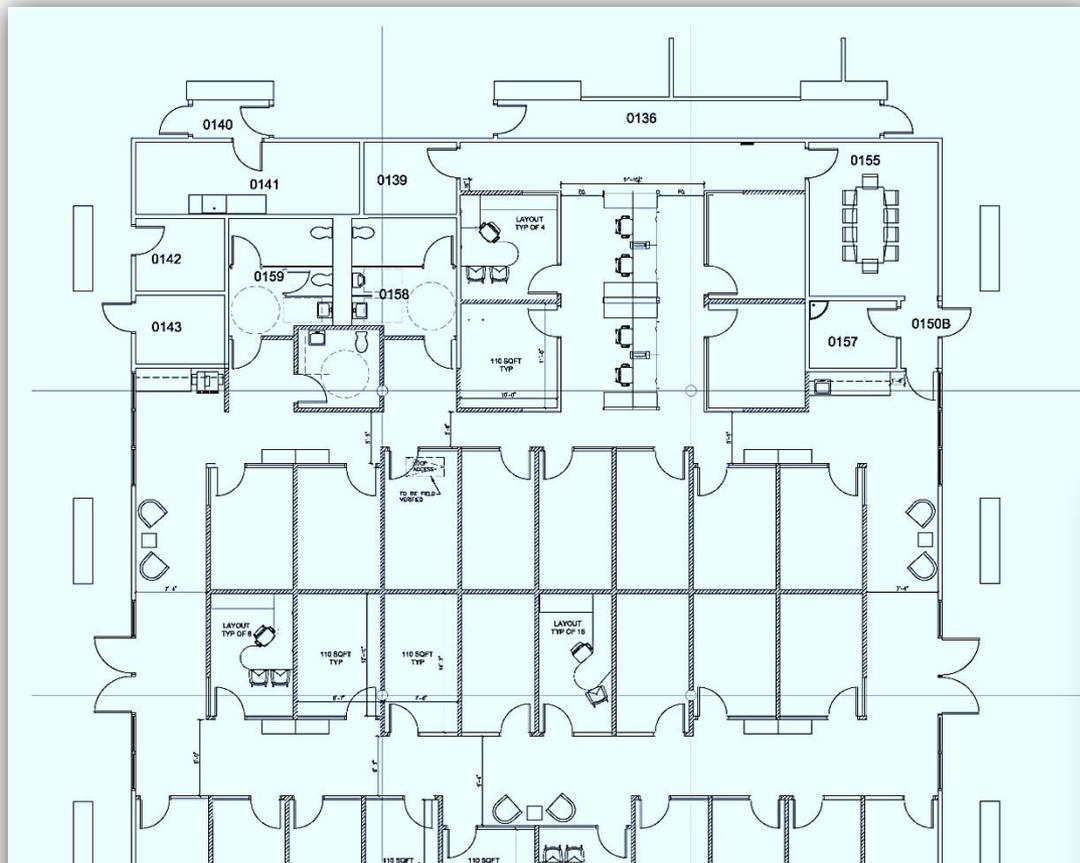
## Space Renovation and Development Goals– Career Center, Office and Lab Planning



### Medical Sciences Library Space

- With VMSSC opening redirect current Office of the Dean to a Student Career Center for DVM students
- Office space for Director of Career Development and a Student Affairs Officer
- Student Career Center for career workshops, interviews and meetings with potential employers, and a networking space for career-seeking students

# Scrubs Office Space Draft Layout



## Current Scrubs space will accommodate 30-31 faculty offices

- Developing design and funding model
- Obtaining pricing (~\$3.6M) and timeline
- Prior to Tupper Hall renovations





## SVM-IT Highlights 2015-2016

### Clinical Service

- Launched the 3-year VHIS project to improve VMACS; hired 3 new Java programmers

### Academic Service

- Created Eval360, the Enhanced VIPER Evaluation System to support peer and clinical evaluation (replaces VOLES)

### Administrative Service

- Launched the PerfectForms electronic forms and workflow system

### Research Service

- Worked with Dr. Kevin Keel to implement PMI's slide scanning and morphometry service

### Enterprise Computing Service

- Migrated the SVM to Microsoft Office 365 cloud email, calendaring and application suite
- Installed Wi-Fi networking in the William R. Pritchard building
- Replaced aging data storage units with new EMC equipment
- Resolved over 12,500 Help Desk service requests

## Role of Development in our Mission

“At the heart of our success are our philanthropic partners”



- Engage SVM community in **building relationships** with grateful clients and long-term donors
- **Leverage the veterinary hospital** to generate interest in school and its programs with donors
- Establish **clear, focused programmatic goals** to facilitate fundraising and support research that advances clinical medicine



*For your consideration, gift options to help  
the School of Veterinary Medicine*

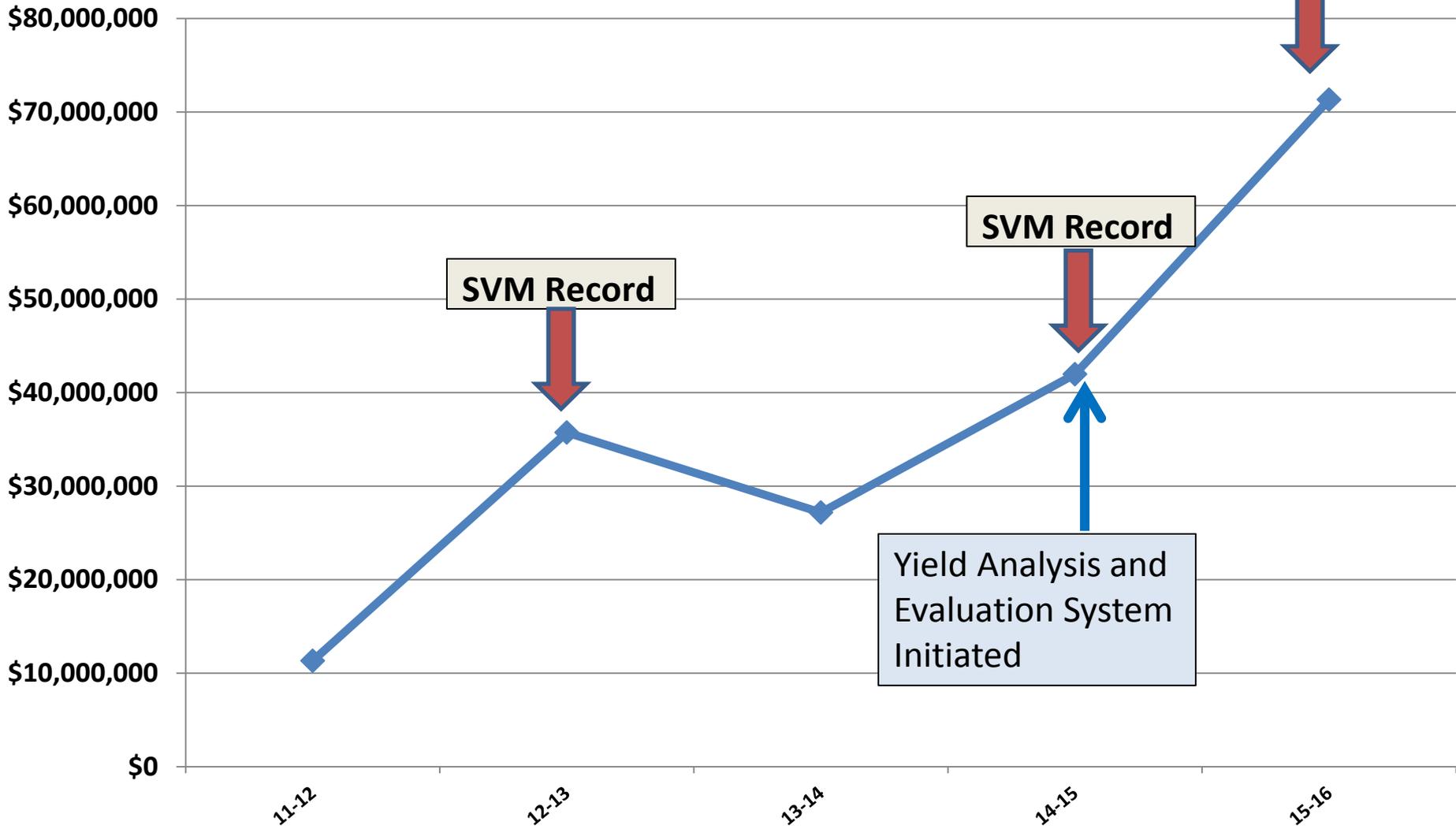
## Office of Development New and Expanded Team



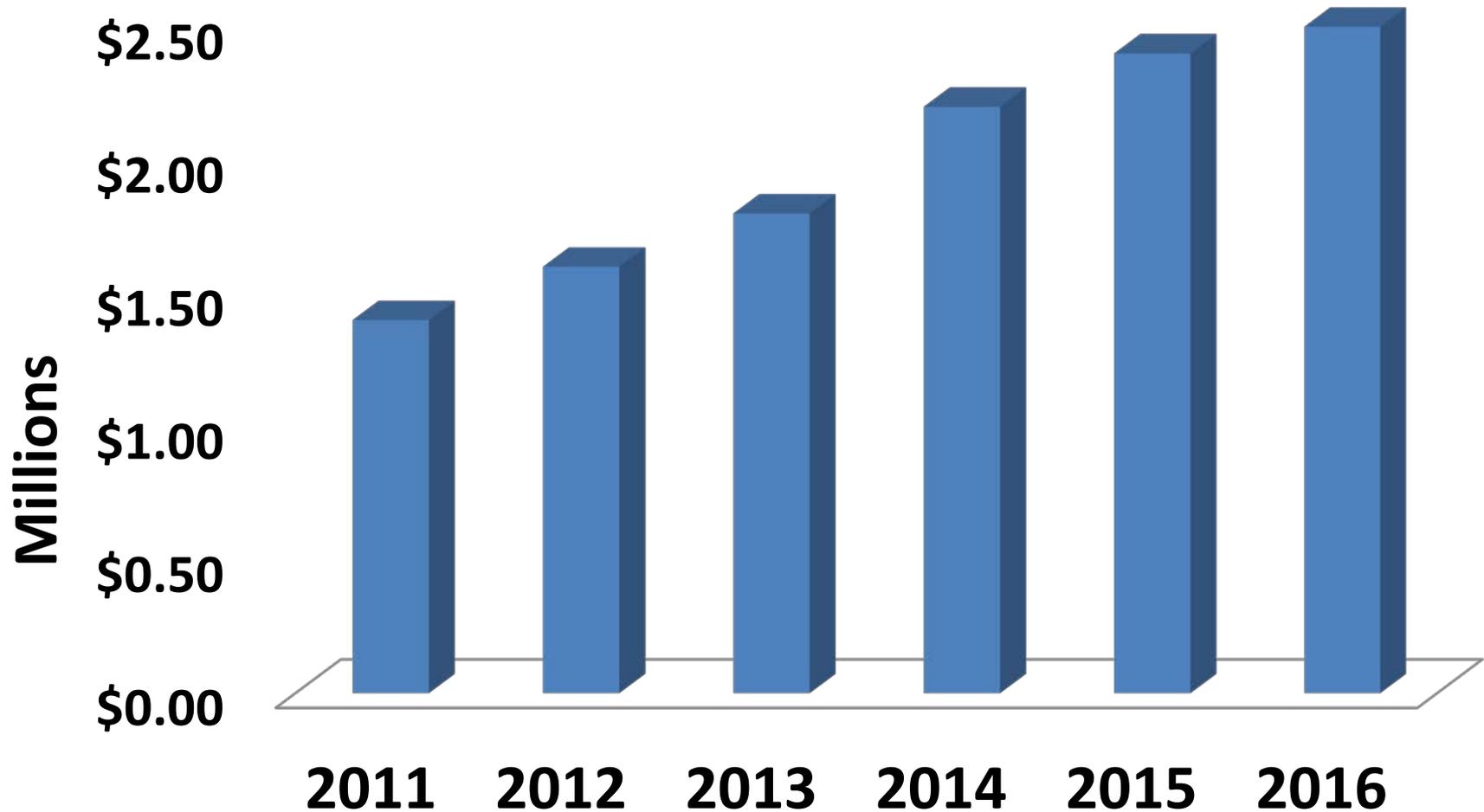
- Trish Bloemker Sowers – Assistant Dean of Advancement
- Debbie Wilson – Senior Director of Development
- Hyemi Sevening – Senior Director of Development
- Cheryl Cobbs – Senior Director of Development
- Bob Ware – Director of Development (Retired)



# UC Davis School of Veterinary Medicine Philanthropic Giving 2011-2016



## Scholarship Trends 2011-2016



# Student Scholarships



- Scholarship program, gifts and endowments, ~\$2.5 million
- Additional \$4.2 million in grants, → **\$6.7 million in total support**

- **70% of students receive scholarship & fellowship awards**
- 15 new scholarships in '15-16
- Alumni scholarships, reunion class celebrations → 26 classes with endowed scholarships
- Many department and unit-based **graduate fellowships**
- 2 new endowed support funds for the **Veterinary Scientist Training Program** (graduate/DVM support)

# IMPACT OF GIVING – ANOTHER RECORD YEAR!

## Gifts to date – FY 2015-16

- Total: **\$71,370,672** from **7,396** gifts
- 85 gifts of \$25K or more
- 1 gift of \$500K or more
- 3 gifts of \$1M or more
- 1 gift of \$50 million



## 10 major **alumni/donor-focused** events:

- Evening of Gratitude 220 Guests
- Alumni Reunion Weekend – 280 alumni and guests,
- Alumni and friends receptions – PacVet, AVMA, NAVC, AAEP, WVC, ACVIM, Burbank and Rancho Palos Verdes
- Heritage Society for Animals reception and Spring Showcase
- Two site visits for representatives of major funders

More than \$3.1M in **estate gifts** since July, 2015

**Online giving:** \$139,367 /1,222 transactions, average gift of \$114

## IMPACT OF GIVING – EXAMPLES



- **Rupert and Maryellie Johnson - \$964,000** for ophthalmology internship program
- **Betty Bower estate - \$1,130,000** for the Center for Companion Animal Health, *started with a \$200 gift in 2001*
- **Calm Winds Trust (bequest) - \$1,385,000** Unrestricted (VMC, CEH Endowed Directorship, VSTP program, various programs)
- **Meadowview Foundation - \$1,000,000** (feline research and endowment, fire disaster fund, hospital equipment and veterinary hospital information system)
- **Frank and Eva Benson Buck Foundation - \$250,000** for VMC Equine Performance Center

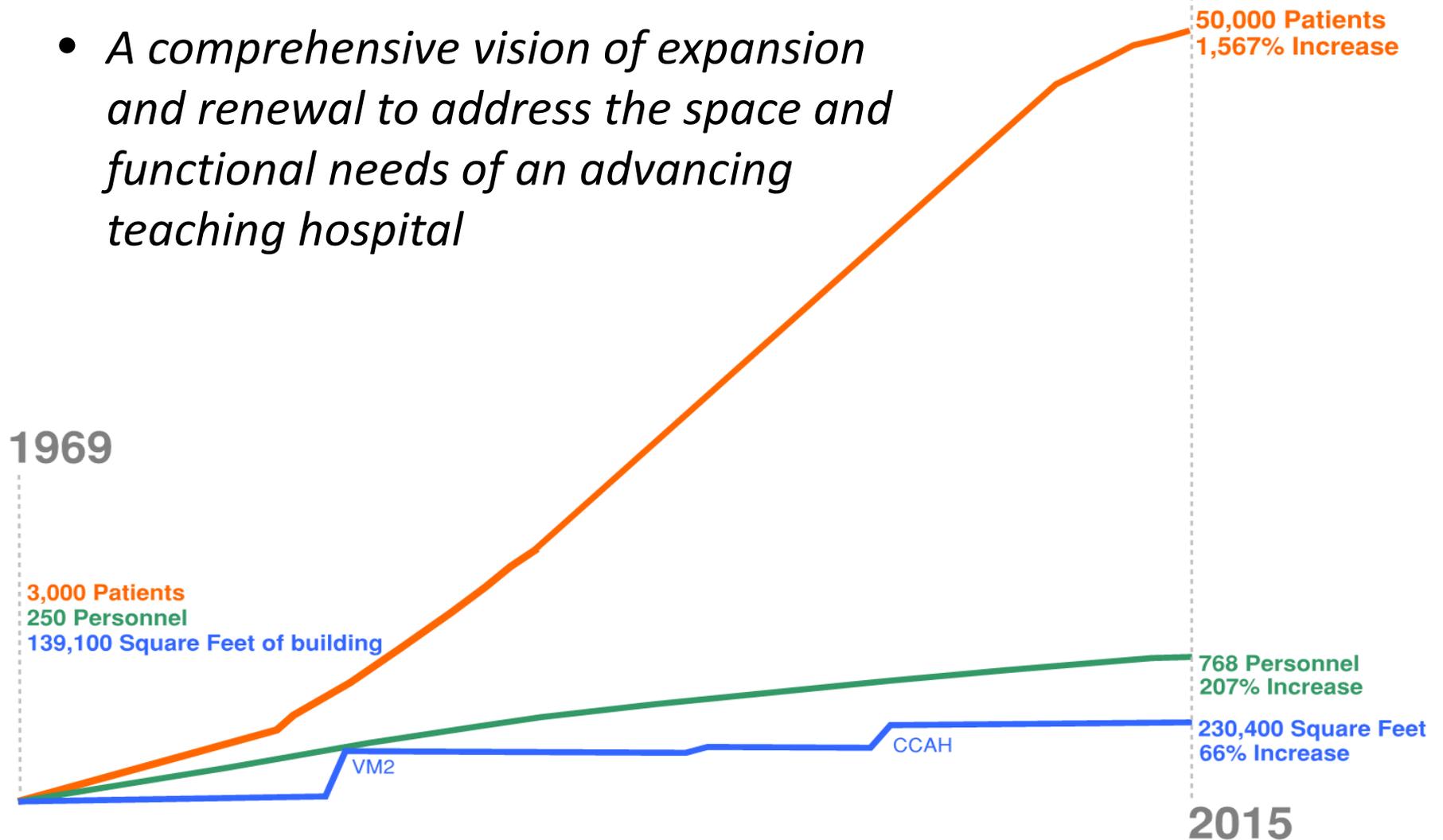
# Veterinary Medical Center

## Vision



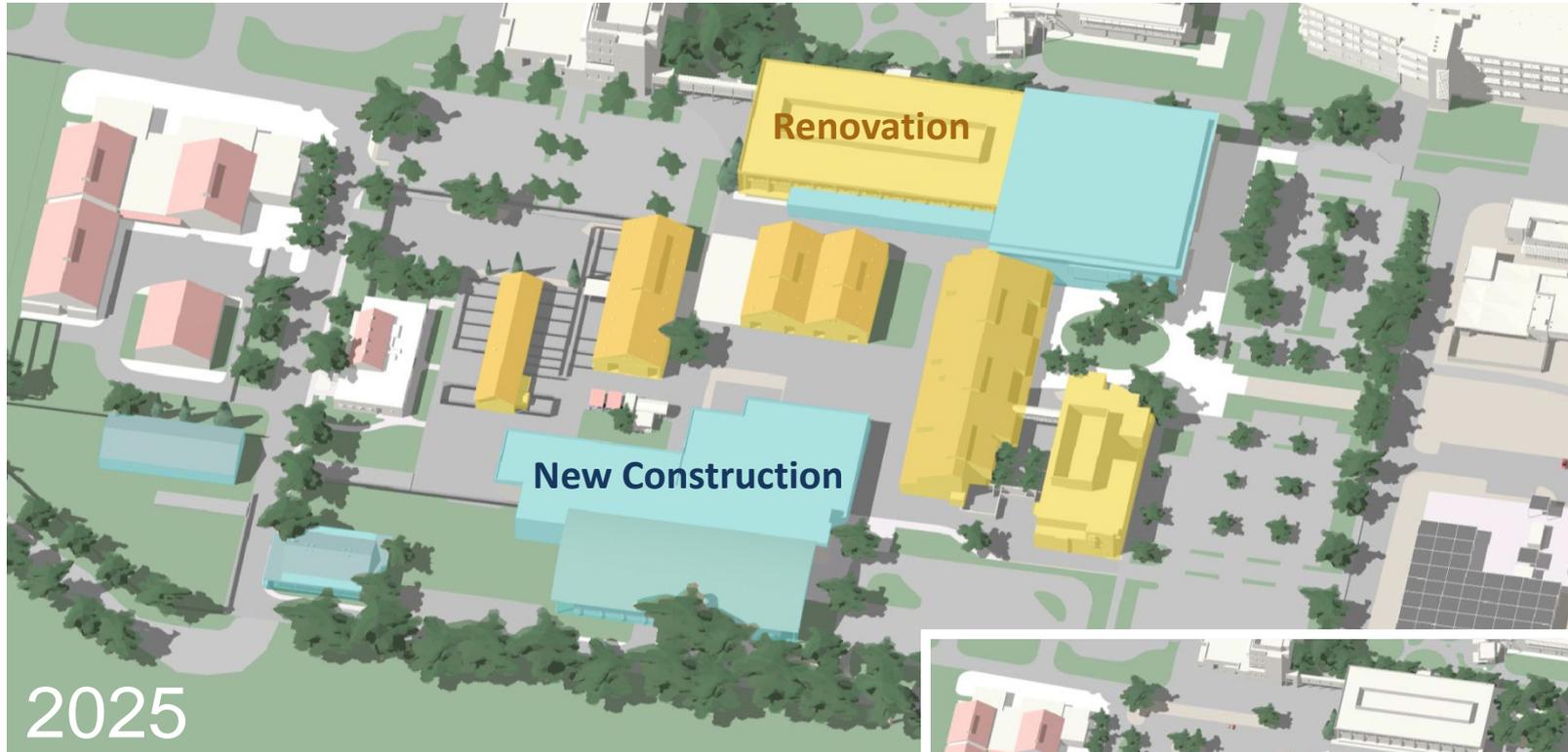
# Veterinary Medical Center

- A comprehensive vision of expansion and renewal to address the space and functional needs of an advancing teaching hospital*



# Veterinary Medical Center

*Create the VMC while maintaining the current standard of patient care and quality of training*



**A 10 year master plan integrating new construction, renovation & site improvements to achieve the VMC vision**





# Building for the Future

## *-New Veterinary Medical Center*



## FUND RAISING GOALS

- **Articulate the priorities**, benefits, and impact of VMC
- Speak with **one voice** internally and externally on importance
- **Engage academic and volunteer leadership** in support of philanthropy for the VMC and SVM
- **Maintain focus** by Faculty, Staff, Administration, & gift officers
- Procure significant **lead gift** commitments
- **Planning and Building Funds Established**

# Recruit, retain and cultivate excellent and productive faculty and staff

- Recruit faculty to support strategic initiatives and succession planning
- Provide a supportive environment to foster faculty and staff success



# Examples of Faculty Excellence



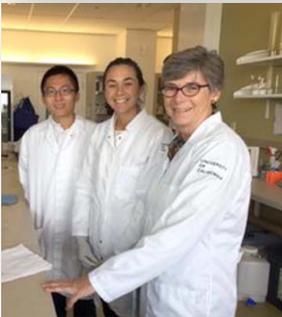
**Julie Dechant** (VME) Academic Senate Distinguished Teaching Award



**J. Claudio Gutierrez**, (APC) Student American Veterinary Medical Association (SAVMA) for his excellence in teaching



**Melissa Bain** (VME) Named 2016 Bustad Companion Animal Veterinarian of the Year



**Helen Raybould** (APC) Honored as Inaugural Fellow of American Physiological Society

# Examples of Faculty Excellence



**Andrea Fascetti (VMB)** -2016 AVMF/Winn Feline Foundation Research Award



**Sue Stover (APC)** – 2016 AVMA Lifetime Excellence in Research Award



**Kirsten Gilardi (WHC)**, 2015 American Association Zoo Veterinarians Emil Dolensek Award

# Investments in Faculty Career Development



**Munashe Chigerwe** - pursuing Masters degree in Veterinary Medical Education at Royal Veterinary College



**Jenna Burton** - K12 Paul Calabresi Career Development Award – Comprehensive Cancer Center



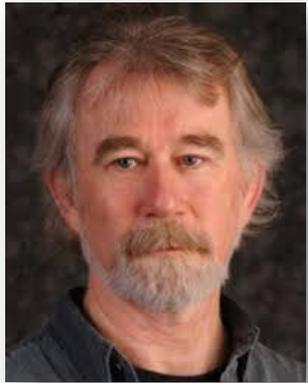
**Jonathan Dear** – Clinical and Translational Sciences Center - Faculty Clinical Translational Research Training Program

# Faculty Diversity and Inclusion

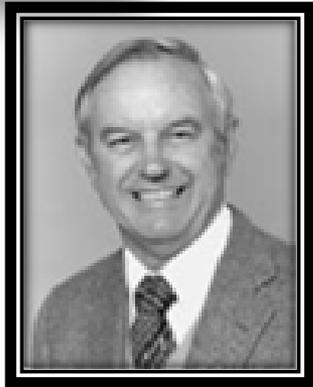


- UCD SVM ranks among top for all U.S. veterinary schools for **faculty ethnic diversity**
- All faculty members serving on search committees are required to take **training sessions on unconscious bias** and diversity goals
- All faculty searches are made aware of our SVM Strategic Goals in diversity and inclusion
- SVM one of the first participants in the National Science Foundation, **CAMPOS program** and from this hired Dr. Lilian Cruz-Orengo

## Endowed Chairs – Enhancing Faculty Support



- John P. Hughes Endowed Chair in Equine Reproduction – **Alan Conley (PHR) Recommended May 2016**



### Current Endowed Chairs:

- Robert and Carla Henry Endowed Chair in Emergency Medicine and Critical Care - **Gary Magdesian (VME)**
- Maxine Adler Endowed Chair in Genetics – **Danika Bannasch (PHR)**
- Maxine Adler Endowed Chair in Oncology – pending



## Progress on Faculty Salary Improvements



- **SVM-funded Faculty Equity Program:** 2% increase for Associate and Full Professors without off-scale salaries with normative professional progress effective April 1, 2015
- **UCOP-funded Across the Board Equity Program:** 1.5% increase applied to all faculty members' salaries effective July 1, 2015
- **UCOP-funded Equity for Faculty Members:** 1.5% increase applied to all faculty members' salaries with lower than average off-scale salaries effective July 1, 2015
- **Campus-funded Equity (1.0% to UCOP program),** applied to all faculty members' salaries with lower than average off-scale salaries effective July 1, 2015
- Received campus Academic Senate and campus administrative support to remove non-patient care consulting fees from our Strict Full-Time (SFT) salary plan → Next steps request review and approval by the Regents

# Communications and Marketing Team Excellence Award Winner



Linda Ybarra, Director  
Communications/Marketing



Katie Blakewell, Analyst  
Communications/Market



Rob Warren, VMTH  
Communications/Marketing  
Officer



Trina Wood, Schoolwide  
Communications  
Officer

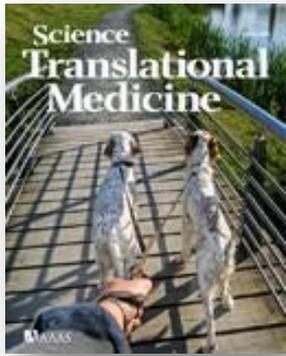


Monique Garcia Gunther,  
Communications Officer  
Animal Agriculture



- Association of American Veterinary Medical Colleges (AAVMC) 2015 Communications Excellence Award
- Designed to recognize the important role communications plays in advancing academic veterinary medicine and the profession
- Seeks to inspire higher levels of performance among our members

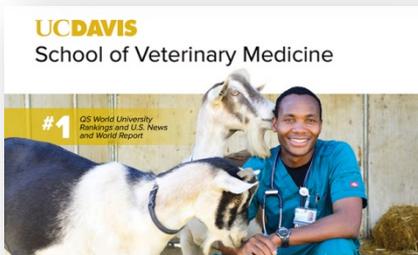
<http://www.vetmed.ucdavis.edu/communications/index.cfm>



## Communications and Marketing Activities

### Strategically Emphasized Themes for Communication/Marketing Activities:

- Vet Med Center – Imaging, 4 -SA and 3-LA Services, Clinical Trials, Regenerative Cures
- One Health, Diversity & Inclusion, Strategic Planning Goals 1-7



Responded to **500+ Media Inquiries**

**300+ posts to News & Events web page**

**7 of UCD top 10 stories for 2015 – Vet Med**

Robust **Social Media** -- Facebook= 37,500 (up 15,500);  
Twitter= 12,200 (up 2,500), Instagram = 3,000+

**Web Projects** – Diversity/Inclusion; CCAH; News/Events;  
Comm/Marketing; History; VMTRC; Multi-media  
Page

# Communications and Marketing Activities

**VMC Campaign Communications** - integrated messaging, topic planning, Previews for donor cultivation, video, web/social media coordination,

**Publications** - Advance (Vet Med News – revamped/named); Activities & Impacts; Heartbeat; Davis Dispatch; School Brochure; CFAH Annual Report

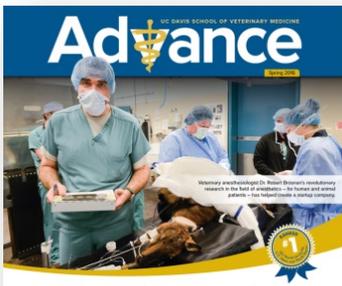
**Videos** – Fire Outreach; SVM-Regents; Livestock & Equine Services; Evening of Gratitude; One of a Kind (Arzi); shorts for social media

Valley/Butte Fire **Outreach** – 1M FB views 1<sup>st</sup> week, reunited animals, raised \$100K

**Jeopardy** – aired 10/21/15, 1/12/16 & 4/27/16

**Branding** – E-mail banners; posters; flyers; web; PPT; pubs

**Events & Conferences** - Labor Day Doggie Dash; AAEP; WVC; World Ag Expo; Picnic Day; Farm-to-Fork; Horse Expo



## Expanding the Horizons of Anesthetics

A UC Davis professor and veterinarian, Dr. Robert Rossman, has led one of the most successful research programs in the history of the UC Davis School of Veterinary Medicine. Over the past several years, he has led a team of researchers in the development and implementation of a novel anesthetic protocol for horses and other large animals. This protocol has been used to successfully anesthetize hundreds of horses and other large animals for a variety of procedures, including surgery, dental work, and diagnostic testing. The goal is to reduce the risk of anesthesia-related complications and improve the overall quality of care for these animals.

Equine anesthesia, a new startup company, partners a novel approach to developing safer anesthetics with the business acumen to bring their research to operating rooms.



# Veterinarians and Physicians Team Up to Fight Cancer



Video Link

Physicians, Veterinarians Team up to Fight Cancer

[www.youtube.com/watch?v=OYjFOr0KuLo](http://www.youtube.com/watch?v=OYjFOr0KuLo)

# Staff Excellence Rewarded



- **Denise Berger and Matt Nichols - 2015 Rachel Smith Awardees**



- **Harold Davis – 2015 California Registered Veterinary Technicians of the Year Award**



- **Cheryl Cobbs, 2015 Development Employee of the Year**



- **Cherie Felsch, 2016 Disability Awareness Recognition Award**

# Build strong collaborations across UC Davis and with other academic, government, agricultural and business partners

- Strengthen external collaboration in all mission areas
- Promote collaboration with other schools and programs at UC Davis



# Partnerships with California Department of Food and Agriculture -Protecting the Food Supply & Public Health

## ★ Veterinary Teaching, Research and Clinical Service Locations

The image features a map of California with four red stars indicating service locations: Davis, Turlock, Tulare, and San Bernardino. Each location is accompanied by a small inset image: a cow in a field for Davis, a chicken for Turlock, a cow in a feedlot for Tulare, and a large modern building under construction for San Bernardino. Below the map, there are three larger images: two people in lab coats working in a laboratory, and a man holding a baby.

# Early Warning Systems to Track Diseases



**Better protect California  
poultry industry!**



Network to warn of increased risk  
of an outbreak of avian influenza  
in poultry farms

R. Gallardo and Beatrice Lopez Martinez et al.

# Academic, Government, Industry Collaborations



## California Dairy Research Foundation

- **New Feed Industry Internship Program at VMTRC (12 months)**

### Dr. Heidi Rossow

- VMTRC Dairy Nutritionist
- Internship Program Leader



### First Intern – **Kelly Mitchell**

- Enrolled in Animal Science MS program at UC Davis
- From Tulare, CA
- BS Animal Biology - UC Davis 2015
- Experience working in father's dairy veterinary practice
- Goal is to be a consulting nutritionist (PhD or DVM)



- ◆ Healthy Cows ◆
- ◆ Productive Herds ◆
- ◆ Confident Consumers ◆

# UC Davis SVM Cooperative Extension



## Specialist Positions

### Approved for 2015-2016:

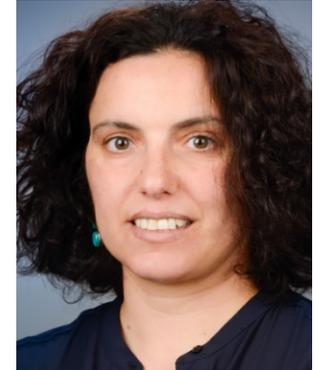
- **Beef Cattle Herd Health Extension Veterinarian**
  - Under recruitment
- **Dairy Production Health Management**  
*(Health Economics Focus)*



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

# UC Davis Pastured Poultry Farm



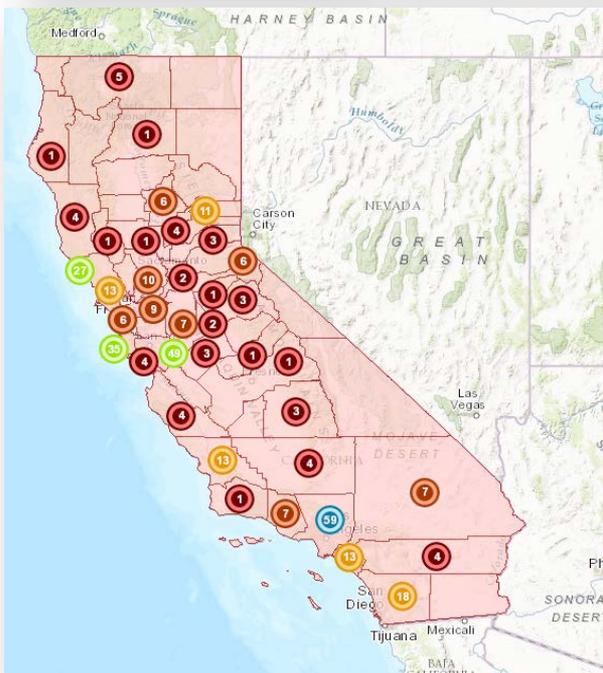
**INNOVATIONS:**  
CURTAIN-SIDED DOORS



**Maurice Pitesky**, CE Assistant Specialist and Collaborating faculty in UC Agriculture and Natural Resources, UC Plant Sciences, and Engineering

**Innovation, Research** and **Outreach** hub for:

- Free-range commercial poultry producers
- Researchers/educators – e.g., Innovations in Sensors
- Auditors and other stakeholders



**INNOVATIONS:**  
SENSOR ARRAYS



Monitoring  
Environmental  
Lighting



Tracking Water  
and Feed  
Consumption



Maintaining Pasture

Tracking Individual Hens, Counting Egg Production, etc.

# Small-scale Farms & Urban Agriculture

## Small Scale Farms



## Farmers Markets



## Farm & Ranch Direct Marketing



## Urban & Peri-Urban Areas



# Small-Scale Farms & Urban Animal Agriculture in Western States

- 4 States (CA, OR, WA, CO)

- Collaborators
- CE Specialists
- Farm Advisors
- **Western Consortium Ruminant Health**



## Needs Assessment Survey

- **Small Scale Farms/Urban Ag Owners**
- **CE FARM ADVISORS/ SPECIALISTS/ AES RESEARCHERS**
- **VETERINARIANS**

A. Pires

# UC Veterinary Medical Center and Center for Veterinary Sciences and Comparative Medicine– San Diego

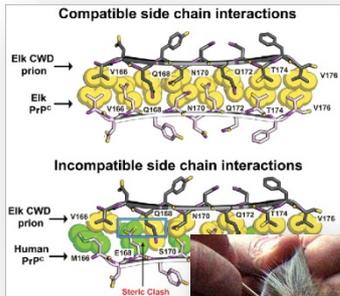


- The University of California **Veterinary Medical Center – San Diego** - specialized clinical services to veterinarians and pet owners living in Southern California
  - Clinical Pharmacology, Nephrology, Cardiology
  - International Renal Interest Society - Renal Week at the UC Davis SVM



## Center for Veterinary Sciences and Comparative Medicine

- Train veterinarians in biomedical research, laboratory animal medicine residencies, and mentor pre-veterinary students
- Conduct basic research that impact human and animal health
- Provide unique services in comparative medicine



*Pathology and Epidemiology of Ceruminous Gland Tumors among Endangered Santa Catalina Island Foxes in the Channel Islands, USA, Plos One, 2015*

# Partnerships in Food Safety and Security

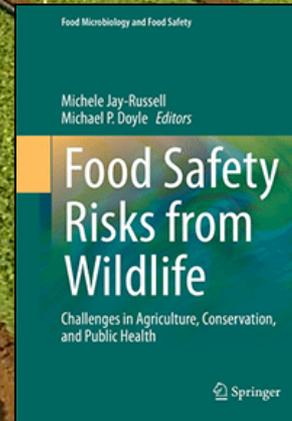
- **Western Institute for Food Safety and Security:** unraveling the medical ecology of microbial contamination of the US produce food supply: *vertebrate pathogen sources, fate & transport, molecular epidemiology of enteric zoonoses*



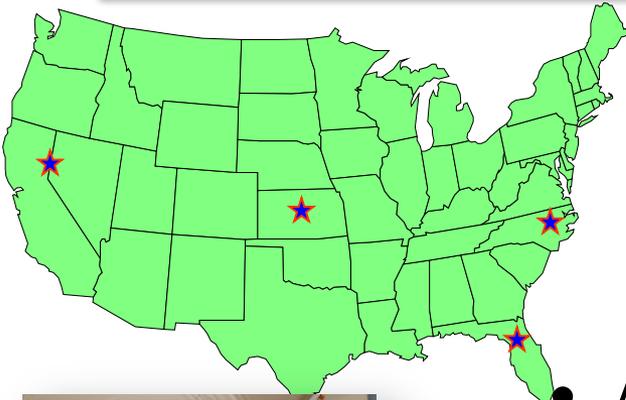
WESTERN INSTITUTE for  
FOOD SAFETY & SECURITY



FDA FOOD SAFETY  
MODERNIZATION ACT



# Food Animal Residue Avoidance and Depletion Program



- **Federal program** → animal products (i.e. milk, meat) free of drug residues and safe
- Advise regarding **regulatory aspects** of on-label vs. extra-label drug use
- **Recommend withdrawal intervals** for extra-label drug use for major and minor food animal species
- **Contamination cases**
  - ✓ Feed mill mistakes
  - ✓ Pesticide exposures

# New Grant to Protect Food Supply



- 2015 - Food Emergency Response Network awarded the California Animal Health and Food Safety Laboratory System a 5-year grant for food safety emergency preparedness and response
- \$1.8 million to respond to contamination threats in the food supply involving animals



# Biomedical and Bioengineering Innovation and Entrepreneurship Academy



**UCDAVIS**

CHILD FAMILY INSTITUTE FOR  
INNOVATION AND ENTREPRENEURSHIP

- School of Veterinary Medicine, School of Medicine, College of Biological Sciences, College of Engineering and UC Office of Research
- Started 2012, 168 attendees (~25-30 SVM) - faculty, graduate students and post-docs (teams) working on research with a potential commercialization application
- Brings together researchers with leading industry executives, investors, and entrepreneurs
  - ✓ Analyzing, enhancing, communicating the potential of your project
  - ✓ Exploring commercialization opportunities and strategies
  - ✓ Developing a presentation pitch for your project/concept
  - ✓ Developing a network of mentors and industry connections



## 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
- Fundraising for new Veterinary Medical Center – largest capital project in SVM history
- Faculty salary scale and gap among peers
- Increasing benefit costs for faculty and staff
- Managing conflicts and professional behavior
- Balancing wellness in a high-performance environment
- Diversification of 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
  - Innovation and entrepreneurship among faculty and staff
- 
- Funding base in California and beyond – capacity
  - Stakeholder engagement and support – partnerships to enhance mission
  - Client-base and community support
  - Alumni – as network to enhance mission and connect to School
  - Scientific impact of discoveries to advance animal, human, and environmental health

## Video Regents



### Video Link

School of Veterinary Medicine – Leading the 21<sup>st</sup> Century

[www.youtube.com/watch?v=iNMu8hqabiU&feature=youtu.be](http://www.youtube.com/watch?v=iNMu8hqabiU&feature=youtu.be)

# Questions?

