

RESEARCH NEWSLETTER

A Publication of the Research and Graduate Education Programs, UC Davis School of Veterinary Medicine

Fall 2006

New Faculty Members Join the School of Veterinary Medicine

The School of Veterinary Medicine welcomes the following faculty members.

Paulo de C. Duarte, DVM, PhD, assistant professor with Animal Population Health Institute (APHI) within the College of Veterinary Medicine and Biomedical Sciences at Colorado State University has joined the department of Medicine & Epidemiology (VME) as a visiting assistant professor. Dr. Duarte's research focuses on the epidemiology of infectious diseases.

Eric G. Johnson, DVM, assistant professor of clinical diagnostic imaging has joined the department of Surgical and Radiological Sciences. Dr. Johnson received a DVM degree from UC Davis in 2001. He completed an internship in small animal medicine/surgery at a private veterinary hospital in 2002 and completed a residency program in radiology at UC Davis in July 2006.

Katherine Skorupski, DVM, Diplomate ACVIM (Oncology) has joined the department of Surgical and Radiological Sciences as an assistant professor of clinical medical oncology. Dr. Skorupski received a DVM degree from Texas A&M in 2000. She completed an internship in small animal medicine/surgery at a private veterinary hospital in 2001, then another in small animal medicine/surgery at the Ohio State University in 2002. She entered a residency program in oncology at the University of Pennsylvania, which she completed

in 2005. She was employed as a lecturer at the University of Pennsylvania until June 2006.

Beverly K. Sturges, DVM, recently joined the department of Surgical and Radiological Sciences as assistant professor of clinical neurology/neurosurgery. Dr. Sturges received her DVM from Oregon State University in 1986. She completed a residency program in neurology/neurosurgery service at UC Davis in 1998. From 1998 until 2005, Dr. Sturges served as a lecturer in neurology/neurosurgery service at the Veterinary Medicine Teaching Hospital (VMTH) and in the department of Surgical and Radiological Sciences. During 2005 she held the title of associate veterinarian at the VMTH.

Mary "Betsy" Vaughan, DVM, has been appointed assistant clinical professor of large animal ultrasound with the department of Surgical and Radiological Sciences. Dr. Vaughan's current research focuses on general equine ultrasonography and equine abdominal ultrasonography with a focus on abdominal neoplasia and systemic *C. pseudotuberculosis* infection.



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**Extramural Contracts, Grants, Research Gifts and Business Agreements
received and recorded by the School of Veterinary Medicine Dean's Office
from 1/1/2006 through 8/10/2006**

PI	Title	Sponsor	Award totals
Angelastro, J.	Functional Role of ATF5 in Regulating the Cell Cycle in Neural Tumors	UCD - Cancer Research Coordinating Committee	\$45,000
Ardans, A.	Bovine Spongiform Encephalopathy Laboratory Testing Services	USDA - Animal/Plant Health Insp'n (APHIS)	\$592,788
Ardans, A.	National Network of Diagnostic Laboratories for Animal Disease Monitoring and Diagnosis (NAHLN: CA)	USDA - CSREES/Natl Res Initiative Comptv Grnt Prog (NRICGP)	\$310,000
Ardans, A.	Laboratory Support for the Surveillance and Eradication of Brucella abortus and pseudorabies in California Livestock	USDA - Animal/Plant Health Insp'n (APHIS)	\$190,052
Ardans, A.	Classical Swine Fever Surveillance	USDA - Animal/Plant Health Insp'n (APHIS)	\$85,843
Bannasch, D.	The Molecular Basis for an Animal Model of Inherited Hyperuricosuria	NIH - Natl Inst of Diabetes and Digestive and Kidney Diseases (NIDDK)	\$181,808
Barthold, S.	Pacific-Southwest Center for Biodefense and Emerging Infectious Disease Research	University of California, Irvine	\$334,129
Barthold, S.	Comparative Medical Science (Laboratory Animal Medicine) Training Program	NIH - Nat. Center for Research Resources (NCRR)	\$333,583
Barthold, S.	Mouse Model of Lyme Borreliosis	NIH - Natl Inst of Allergy & Infectious Disease (NAID)	\$326,274
Barthold, S.	Veterinary Student Research Training Program	NIH - Nat. Center for Research Resources (NCRR)	\$55,822
Barthold, S.	Fifth Comparative Medicine Resource Center Director Meeting	NIH - Nat. Center for Research Resources (NCRR)	\$32,780
Benton, H.	Identification and Function of Adenosine Receptors in Osteoblasts	Shriners Hospital for Children	\$94,454
Brault, A.	West Nile Viral Determinants of Avian Pathogenesis	NIH - Natl Inst of Allergy & Infectious Disease (NAID)	\$332,865
Buckpitt, A.	Mechanisms of Lung Injury by Naphthalenes	NIH - Natl Inst of Environmental Health Sci (NIEHS)	\$341,063
Conley, A.	New Paradigms of P450-Mediated Steroid Metabolism	NIH - Natl Inst of Child Health & Human Dev (NICHD)	\$13,370
Cortopassi, G.	Mitochondrial Mechanisms in Optic Neuropathy	NIH - National Eye Institute (NEI)	\$408,634
Cortopassi, G.	Friedreich's Ataxia, Mitochondria and Cell Death	NIH - Natl Inst of Aging (NIA)	\$282,769
Cullor, J.	Development of Improved Methods for Botulinum Toxins Detection	California Dairy Research Foundation	\$214,000
Cullor, J.	Unrestricted gift in support of the Dairy Food Safety Laboratory, mastitis research	Pfizer Animal Health	\$30,000
Fascetti, A.	UCVMC-SD/Waltham Clinical Nutrition Program for San Diego and Southern California	Masters Foods, USA, a Mars Incorporated Company	\$56,892
Fascetti, A.	Gift: Vet Med Educational grant	Hill's Pet Nutrition, Inc.	\$55,367
Ferraro, G.	Unrestricted Contribution to CEH	Oak Tree Racing Association	\$22,503

Ferraro, G.	Resident Research Training Support	Patterson Dental Foundation	\$12,000
Gardner, I.	John's Disease Integrated Program: Project #1: Epidemiology and Transmission	University of Minnesota	\$44,444
Gietzen, D.	Brain Signaling of Essential Amino Acid Deficiency	NIH - Nat'l Inst of Neuro'l Disorders and Strokes (NINDS)	\$48,013
Gilardi, K.	Marine Ecosystem Health Program	Laurel Foundation	\$20,000
Gilardi, K.	Envirovet Summer Institute	University of Illinois	\$10,000
Giulivi, C.	Coordination of Nuclear and Mitochondrial Genomes in Colorectal Cancer	Elsa U. Pardee Foundation	\$100,000
Grahn, R.	Inherited Chondroplasia Mutation Identification in Munchkin Cats	Human Growth Foundation	\$7,500
Hedrick, R.	Gift to further Dr. Hedrick's research into the understanding of resistance of certain rainbow trout strains to whirling disease	Whirling Disease Foundation, Inc.	\$91,000
Hedrick, R.	Effects of UV on Attachment, Invasion, and Early Replication of the Triactinomyxon Stages of Myxobolus cerebralis in Rainbow Trout	Trojan Technologies, Inc.	\$40,000
Hedrick, R.	International Symposium on Aquatic Animal Health	California Sea Grant College	\$5,625
Hurley, K.	Support for the Shelter Medicine Program at the UC Davis School of Veterinary Medicine	PETSMART Charities	\$136,150
Hurley, K.	Fort Dodge Animal Health Resident Postdoctoral Scholar Program	Fort Dodge Animal Health	\$135,750
Hyde, D.	Rhesus Asthma Model Microarray Experiments	Genentech, Inc.	\$272,348
Jang, S.	Marine Wildlife Veterinary Care and Research (MWVCRC)	California Department of Fish & Game	\$43,340
Kent, M.	Modulation of Canine Malignant Melanoma Radiosensitivity	Morris Animal Foundation	\$99,360
Kent, M.	Genetic Determinants of Canine Malignant Melanoma	American Kennel Club	\$33,534
Kinde, H.	Evaluation of real-time PCR rapid method for detection of salmonella SPP in cheese	California Department of Food & Agriculture	\$28,726
Lanzaro, G.	The Role of Sand Fly Saliva in Visceralization of Leishmania Parasites	NIH -Nat'l Inst of Allergy & Infectious Disease (NAID)	\$371,053
Lanzaro, G.	Training in the Biology of Malaria Vectors in Mali	NIH - Fogarty International Center (FIC)	\$141,588
Lasley, B.	Estrogen and the Aging Brain - Core A	Mt. Sinai School of Medicine- NIH FFT	\$23,651
Liu, I.	Equine Reproduction	McBean Family Foundation	\$40,000
Lloyd, K.	UCD Mutant Mouse Regional Resource Center	NIH - Nat. Center for Research Resources (NCRR)	\$3,728,134
Lloyd, K.	Simple and Cost-Effective Storage of Mouse Sperm Using Evaporative Drying	Massachusetts General Hospital	\$204,892
Lloyd, K.	Advance Research (YEAR) Program for Vet Students	NIH - Nat. Center for Research Resources (NCRR)	\$119,656
Lloyd, K.	Merck-Merial Scholars in Animal Health	Merck Company Foundation	\$20,400
Lloyd, K.	Vitamin A Regulates Th1/Th2 Development via RXR Pathway	NIH -Nat'l Inst of Allergy & Infectious Disease (NAID)	\$6,525
Lowenstine, L.	Marine Mammal Biomonitoring: Contaminant Genotoxicity and Estrogen Receptors in Sea Lions with Cancer	National Oceanic & Atmospheric Administration	\$50,000
Lyons, L.	Genetic Mapping Resource for Common Mammalian Diseases	NIH - Nat. Center for Research Resources (NCRR)	\$389,983

Lyons, L.	Identification of the Mutation of an Inherited Feline Craniofacial Defect	Winn Foundation	\$15,000
Lyons, L.	Heritable Progressive Retinal Atrophy in Persians	Winn Foundation	\$10,570
Mazet, J.	Veterinary Pathologist of the Marine Mammal Center (TMMC)	University of California Santa Cruz	\$59,189
Mazet, J.	Veterinary Pathologist for The Marine Mammal Center (TMMC)	University of California Santa Cruz	\$23,000
Mazet, J.	Characterization of Nutritional Status in Gray Whales (<i>Eschrichtius robustus</i>)	Sea World & Busch Gardens Conservation Fund	\$10,000
Miller, C.	Mechanisms of Protection in Live-attenuated AIDS Vaccines	NIH - Natl Inst of Allergy & Infectious Disease (NAID)	\$1,969,451
Miller, C.	Innate Immune Receptors and Adjuvant Discovery	Coley Pharmaceutical Group, Inc.	\$600,260
Miller, C.	Basic and Clinical Studies of CpG ODN in HIV Disease	Rush Presbyterian St. Luke's Medical Center/ChicIL	\$386,902
Neff, M.	A Canine Linkage Map with More Than 2000 New Markers Mined from the Genome Sequence	American Kennel Club	\$299,000
North, T.	Molecular Mechanisms of HIV Post-Integration Latency	Gladstone Institute	\$584,093
North, T.	Combinatorial Chemistry for HIV Entry Inhibitors	NIH - Natl Inst of Allergy & Infectious Disease (NAID)	\$360,333
North, T.	A Monkey Model for Anti-Cytomegalovirus Therapy	NIH - Natl Inst of Allergy & Infectious Disease (NAID)	\$221,910
Osburn, B.	Construction Funding for Veterinary Medicine III B Building (VM3B)	Wayne and Gladys Valley Foundation	\$5,000,000
Osburn, B.	The National Center for Foreign Animal and Zoonotic Disease Defense	Texas A&M University	\$1,787,351
Osburn, B.	Histopathology Services	California Department of Fish & Game	\$4,999
Oslund, K.	Thioredoxin in Neutrophil-airway Epithelial Interactions	NIH - Natl Inst of Environmental Health Sci (NIEHS)	\$122,864
Pedersen, N.	Shelter Medicine Program at UC Davis School of Veterinary Medicine	Koret Foundation	\$1,000,000
Pedersen, N.	2006 Advances in Canine and Feline Genomics conference	Purina PetCare Global Resources, Inc.	\$80,000
Pedersen, N.	Shelter Medicine Program Support	Bernice Barbour Foundation, Inc.	\$25,000
Pedersen, N.	Phase II Studies on the Heritability of Resistance/Susceptibility to Feline Enteric Coronavirus Infection in Randomly-bred, Colony Reared, Domestic Cats	Winn Foundation	\$15,000
Pedersen, N.	Unrestricted gift to the Center for Companion Animal Health, Grant #06-0103	Koret Foundation	\$7,500
Pessah, I.	Children's Health Research Center - Environmental Factors in the Etiology of Autism	US Environmental Protection Agency	\$724,940
Pessah, I.	E-C Coupling: Signaling Between Calcium Channels	Brigham & Women's Hospital - NIH FFT	\$214,493
Pessah, I.	Structure Function Studies of RyR-1 in a Myogenic Knockout	Brigham & Women's Hospital - NIH FFT	\$162,725
Plopper, C.	Developmental Lung Toxicity and the Immature Clara Cell	NIH - Natl Inst of Environmental Health Sci (NIEHS)	\$63,062
Pypendop, B.	Tramadol: A New Analgesic for Cats?	Winn Foundation	\$11,492

Raybould, H.	Glucose-Sensing and Intestinal Feedback Inhibition	NIH -Nat'l Inst of Diabetes and Digestive and Kidney Diseases (NIDDK)	\$306,697
Raybould, H.	Cholecystokinin - Role in Postprandial Gastric Motility	NIH -Nat'l Inst of Diabetes and Digestive and Kidney Diseases (NIDDK)	\$293,069
Reisen, W.	Testing for West Nile Virus	Public Health Foundation Enterprises, Inc.	\$56,489
Santos, J.	Unrestricted gift in support of Dr. Jose Santos' laboratory	Balchem Corporation	\$10,000
Sparger, E.	Feline Immunodeficiency Virus Orf-A: A Model for HIV Vpr	NIH -Nat'l Inst of Allergy & Infectious Disease (NAID)	\$290,021
Sparger, E.	SIV Delta vif Reservoirs in Vivo	NIH -Nat'l Inst of Allergy & Infectious Disease (NAID)	\$113,625
Stott, J.	Characterization of Protective Immune Responses Against Erysipelas in the Bottle-Nosed Dolphin: A Comparison Between Natural Infection and Vaccination	US DOD -Office of Naval Research	\$89,237
Stott, J.	Immuno-suppression Study on Manatees at Homosassa Springs Wildlife State Park	US Fish and Wildlife Service	\$5,000
Stover, S.	Bone Studies for Pivotal Target Species Safety Study of Code 145R1 (tiludronic acid) in the Horse	CEVA SANTE Animal	\$198,348
Teh, S.	Groundwater Ambient Monitoring and Assessment Program-Hexavalent Chromium and Endocrine Disrupting Chemicals	State Water Resources Control Board	\$164,094
Uzal, F.	The Virulence Plasmids of Clostridium Perfringens	University of Pittsburgh	\$84,300
Uzal, F.	The Mechanism of Action of C. perfringens Enterotoxin	University of Pittsburgh	\$24,270
Vulliet, P.	Repair of Feline Corneal Ulcers with Mesenchymal Stem Cells	Winn Foundation	\$8,672
Wakenell, P.	Gift to Support Dr. Patricia Wakenell's Research in Embryo Vaccination	Embrex, Inc.	\$73,400
Wakenell, P.	Gift for Dr. Wakenell's research in embryo vaccination	Embrex, Inc.	\$41,800
Werner, I.	Lake Tahoe Basin Treated and Untreated Storm Water Runoff Toxicity Testing	California Department of Transportation	\$217,296
Werner, I.	SJSUF Contract Account #22-1509-3421 (31931), SWRCB Master Contract #03-195-250-2	San Jose State University Foundation	\$157,739
Werner, I.	Task Order 98-004-92, OEH 03004-2 Scientific Peer Review of Health Goal Document	California Environmental Protection Agency	\$3,000
Wilson, D.	Postdoctoral Training in Environmental Pathology	NIH -Nat'l Inst of Environmental Health Sci (NIEHS)	\$243,390
Wilson, D.	Particulate Matter Research Centers	US Environmental Protection Agency	\$172,608
Wilson, D.	The Response of Endothelial Cells to Ultrafine Metal Oxide Particles	Health Effects Institute	\$20,771
Woolcock, P.	Gift in support of Dr. Woolcock's proposed research on project "Protection duration of vaccination against mutated avian influenza virus over time".	Pacific Egg & Poultry Association	\$3,180
Wu, R.	IL-17 Mediated MUC Gene Expression in Airway Epithelium	NIH - Nat'l Heart Lung & Blood Institute (NHLBI)	\$340,875
Yilma, T.	Innate Immunomodulating Genes of Smallpox Vaccines	NIH -Nat'l Inst of Allergy & Infectious Disease (NAID)	\$358,109
Ziccardi, M.	Effects of Chemically and Physically Dispersed Oil on Wildlife Response	California Department of Fish & Game	\$36,658

(*) Includes directs + indirects. This year only.

Current News

\$1 Million Koret Foundation Gift Benefits Vet School Shelter Medicine

A program at the UC Davis School of Veterinary Medicine dedicated to improving the health and well-being of shelter animals has received a \$1 million gift from Koret Foundation Funds of San Francisco. The UC Davis Koret Shelter Medicine Program -- as it will be known during the course of Koret's five-year funding commitment -- is the nation's first program to emphasize shelter medicine as a veterinary specialty.

Study Shows How Secondhand Smoke Injures Babies' Lungs

UC Davis researchers recently described in unprecedented biochemical and anatomical detail how cigarette smoke damages the lungs of unborn and newborn children. The new UC Davis research was reported in the May 2006 issue of the American Journal of Respiratory and Critical Care Medicine. The lead author is Cai-Yun Zhong, a former UC Davis graduate student now working at ArQule Biomedical Institute in Boston; the co-authors are Ya Mei Zhou, also a former UC Davis graduate student and now investigating breast cancer signaling pathways at Buck Research Institute in Novato, Calif.; Jesse Joad, a UC Davis pediatrician who studies children's lung development and cares for sick children in the UC Davis Health System; and Kent Pinkerton, a UC Davis professor of pediatric medicine and director of the UC Davis Center for Health and the Environment.

Ben Norman: 30 Years Tending to the State Fair Flock

Dr. Ben Norman, a Cooperative Extension veterinarian emeritus and his team of UC Davis veterinary students performed health checks for all 7,000 animals at the State Fair this year. Dr. Norman has done this every August for 30 years.

UC and Mosquito Control District Report Spraying Results

The Sacramento-Yolo Mosquito and Vector Control District carried out two aerial sprayings for mosquitoes in August 2006 in Davis and Woodland. People can

contract West Nile virus when bitten by infected mosquitoes. The disease can be fatal in people, though most who are infected do not develop any disease at all, state and federal health authorities say.

From the UCD Office of Research

A number of federal agencies, including the National Institutes of Health (NIH), the Environmental Protection Agency, and the National Oceanic and Atmospheric Administration, amongst others, are transitioning from forms-based submissions to electronic submissions using **Grants.gov**. In preparation for the transition, the Sponsored Programs unit from the UC Davis Office of Research, will be conducting training sessions for principal investigators and departmental personnel on submitting their proposals through the new system. As of June 1, 2006, NIH began requesting R03, R21, R21/R33, and R34 mechanisms to be submitted using **Grants.gov**; NIH will require the R01 applications use **Grants.gov** on February 1, 2007.

Listed below are the training sessions offered by the UC Davis Office of Research, Sponsored Programs unit. Individuals may enroll into these sessions through *Staff Development* (<http://sdps.ucdavis.edu/>).

Dates	Location	Times
October 13, 2006	130 Hoagland Hall	8:30-4:30
November 3, 2006	130 Hoagland Hall	8:30-4:30
December 12, 2006	136 Hoagland Hall	8:30-4:30
January 16, 2007	136 Hoagland Hall	8:30-4:30
April 5, 2007	136 Hoagland Hall	8:30-4:30

Recent Honors at UC Davis, School of Veterinary Medicine

John Pascoe, PhD, a faculty member since 1983, was recently bestowed with the 2006 Alumni Achievement Award, the school's highest honor. Pascoe, currently the executive associate dean at the School of Veterinary Medicine, was honored for his exceptional vision, energy and passion for the School of Veterinary Medicine. He is currently overseeing the implementation of the school's \$354 million long-range facilities plan.

Kent Pinkerton, PhD, who taught veterinary anatomy, toxicology, and development courses as a professor-in-residence in the department of Anatomy, Physiology and Cell Biology, recently received the School of Veterinary Medicine Faculty Teaching Award. Pinkerton currently directs the Center for Health and the Environment.

Alan Conley, PhD, was honored with the 2006 Pfizer Animal Health Award for Research Excellence. Conley is currently a professor in the department of Population Health and Reproduction. His research has advanced a variety of studies, ranging from gender differentiation to the nature of sex hormones, to the evolution of reproduction in different species.

Reen Wu, PhD, was also honored with the 2006 Pfizer Animal Health Award for Research Excellence. Wu is a professor in the department of Anatomy, Physiology and Cell Biology and holds a joint appointment in the School of Medicine. Wu's research focus is on airway epithelial cells, which play a critical role in maintaining airflow, in defense against microbial infection, and in protection from injury by noxious inhaled air pollutants. In addition to these passive roles, airway epithelial cells are active participants in the initiation of various chronic lung diseases, such as asthma, cystic fibrosis, chronic obstructive pulmonary disease, and various lung cancers.

During a recent American Veterinary Medical Association (AVMA) convention in Honolulu, **John Madigan**, DVM, DACVIM of the School of Veterinary Medicine, was honored with the Animal Welfare

Award. Madigan was recognized for his dedication to animal care and also for his community involvement. Aside from being a professor of medicine and epidemiology, Madigan also is in charge of the Veterinary Emergency Response and Helicopter Rescue teams.

RESEARCH NEWSLETTER is a publication of the School of Veterinary Medicine, Research and Graduate Education Programs, University of California, Davis
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