

# NETERINARY MEDICINE

Vol. 32, No. 1, Winter 2015



Brian Bird (PhD '08, DVM '09) outside an Ebola Treatment Unit in Kenema, Sierra Leone, with a group of kids who had recovered from the virus and were celebrating their discharge.

# **Virus Hunters**

As Sierra Leone became a hotspot for the Ebola outbreak last September, two veterinary scientists who received their PhD degrees from the school traveled to the frontlines to battle the largest Ebola epidemic since the deadly virus was identified in 1976.

Kim Dodd, a current combined degree student (PhD '14, DVM '15), joined her mentor Brian Bird (PhD '08, DVM '09) at an Ebola Treatment Unit in Kenema. Bird serves as a veterinary medical officer in the Viral Special Pathogens Branch of the CDC and was serving as the lead of the CDC Ebola Field-Laboratory there. This field-laboratory supports the international response to this unprecedented outbreak in partnership

Continued on page 3

# John Madigan Delivered Milne Lecture

This past December, Distinguished Professor John Madigan delivered a rousing Milne Lecture at the 60th annual American Association of Equine Practitioners (AAEP) Convention in Salt Lake City. A capacity crowd of more than 3,000 gathered in the convention center's largest auditorium to hear "Gumshoe Sleuthing in the World of Infectious Disease and Neonatology: Discoveries That Changed Equine and Human Health."

Madigan gave attendees an inside glimpse into the process of infectious disease investigation, specifically related to mysterious clusters of fevers of unknown origin and pursuit of causes of colitis symptoms in adult horses. He also discussed specific disorders of neonatal foals and practices that veterinarians in the field can implement.

Madigan's significant accomplishments in the field of equine medicine over the past 40 years include 160 peer-reviewed scientific publications and the 4th edition of *Manual of Equine Neonatal Medicine*. He has received numerous awards throughout his career, including the Pfizer Award for Research Excellence, AVMA Animal Welfare Award, Red Cross Hero Award, AAEP Distinguished Service Award, Legend of Academic Medicine Award from Kansas State University and SVM Alumni Achievement Award, the school's most prestigious award.

Named after AAEP past President Frank J. Milne, the Milne Lecture is a hallmark tradition at the convention, drawing thousands of spectators. The lecture is also known as the State-of-the-Art Lecture for its groundbreaking qualities and potential to change the paradigms by which veterinarians and researchers understand that topic in the horse. The AAEP Convention is the largest gathering of equine practitioners in the world.



John Madigan delivered a lecture on investigating equine health issues to thousands of veterinarians at the AAEP convention.

#### IN THIS ISSUE

Treating Cornea Disease	2
Honoring Excellence	4
Increasing Diversity	6
Gift Advances Regenerative	
Medicine	7

# **New CAHFS Building Will Boost Animal Health and Public Safety**

Beef or dairy cattle affected with acute respiratory distress and death, suspected bovine tuberculosis, a disease outbreak on a poultry farm—all of these types of cases come to the Tulare branch of the California Animal Health and Food Safety Laboratory System (CAHFS). Soon, the facility will be able to handle even more cases with a new building, slated to be completed in December 2015.

For nearly 30 years, CAHFS has been co-located in Tulare with the Veterinary Medicine Teaching and Research Center. The new facility will provide state-of-the-art diagnostic laboratory and support amenities. Designed with an open-laboratory concept, the one-story, 45,000-square-foot building will accommodate current biosafety and biosecurity needs, and provide the flexibility to adopt ever-changing diagnostic technologies.

John Adaska, branch chief of the Tulare laboratory, added that they will be able to offer PCR testing (currently sent to the Davis lab), additional serologic testing and other diagnostics not currently available at the Tulare location.

"The new facility will allow us to improve our turnaround times on critical tests as well as our efficiency in delivering services to



our clientele," Adaska said. "Those improvements will help keep us on the forefront of providing disease surveillance for California's livestock and poultry and also safeguarding public health."

# Ophthalmologist Successful in Treating and Researching Cornea Disease

Sara Thomasy, a vision researcher in Surgical and Radiological Sciences, has come to know German shorthaired pointers (GSP) well over the past year. She is investigating an ocular disease that is more common in GSPs, which suggests that the disease may have a genetic component. If she can find that causing gene, veterinary scientists will be able to create a genetic test that may allow breeders to avoid producing dogs with corneal endothelial dystrophy (CED), eventually eliminating it from future generations of GSPs.

CED is an eye disease that causes premature degeneration of endothelial cells, which are critical to pumping fluid out of the cornea



Sara Thomasy, right, examines a German shorthaired pointer during her research on CED.

and maintaining transparency. It is a devastating disease in dogs that can result in blindness and severe ocular pain from secondary complications.

There are palliative treatments such as hypertonic saline to decrease corneal bullae formation, but the only definitive treatment for this condition is a corneal transplant. Unfortunately, transplants are rarely performed in canine patients with CED due to the expense of the surgery and follow-up care, relatively high risk of complications, and lack of appropriate donor tissue.

There may be hope on the horizon, though, for an alternative surgery to treat CED. Thomasy has performed the promising surgery several times on many breeds, including a GSP. The superficial keratectomy and conjunctival advancement hood flap surgery thins the cornea, improving a dog's vision. To date, the surgery has been successful in nine dogs.

Thomasy's research is part of an ongoing clinical trial at the school. For more information on this and more than 70 other current clinical trials, please visit the Veterinary Center for Clinical Trials' website at www.vetmed.ucdavis.edu/clinicaltrials.

# **Virus Hunters**

Continued from page 1

with the Sierra Leone Ministry of Health, the World Health Organization and other international collaborators. The laboratory also serves as a regional reference laboratory to provide rapid Ebola testing.

Veterinary scientists such as Dodd and Bird play a critical role in conducting the laboratory testing to identify cases so that rapid tracing of patient-contacts can begin and to reduce the transmission of Ebola within the population. Professor James MacLachlan, their mentor at UC Davis, says veterinary researchers like Dodd and Bird with the joint skillset of a DVM and PhD are invaluable in dealing with One Health situations like this outbreak where emerging and zoonotic diseases have such a devastating impact on global health.

Ebola may be the current virus in the headlines, but it's only one of thousands of emerging infectious diseases two-thirds of which are zoonotic. Over the past five years, researchers with the PREDICT program, directed by Jonna Mazet of the school's One Health Institute, have identified 800 new viruses in an effort to halt outbreaks before they advance to epidemic proportions. This USAID-funded network of scientists hunts viruses in disease hotspots in 20 countries from Africa, Asia and Latin America. In recognition of how important the research has proven, PREDICT was recently granted an additional \$100 million for the next five years.

While Bird and Dodd's involvement in the outbreak response highlights the value of veterinary scientists in global public health challenges, it also illustrates the need for more individuals in the public health field with training in veterinary medicine, human medicine, diagnostics, and epidemiology to support international One Health efforts.

Dodd's emails while in Africa bring home the urgency with which these professionals are needed.

"The impact of the outbreak is devastating with so many families reeling from loss of loved ones, including many young children," she wrote.

Yet there were bright moments.

"Today was a good day – a total of 20 patients (survivors) were released to their families after fully recovering and finally testing negative. I spoke to the father of a 6-year-old girl who had been in the treatment center for 21 days," Dodd wrote. "When she walked out, small yet brave in a new shirt two sizes too big for her, he and I both wept."

# Hospital Laboratories Serve Worldwide Clientele

While the Laboratory Services at the veterinary hospital handle all in-house testing needs, veterinarians from around the world also utilize their highly-specialized resources. With few laboratories capable of its level of expertise, the hospital's lab is a much soughtafter testing facility. Samples can be easily shipped overnight, and its central receiving hub expedites submissions for swift turnaround times. Board-certified veterinary experts in chemistry, cytology, hematology, immunology-virology, microbiology and parasitology lead the labs, and are available to clients for consultations on any submissions. To help clients utilize their services, the lab website was recently updated to include a searchable test database and requirements for submissions. Clients from all 50 states and dozens of countries have taken advantage of the lab's top-notch customer service. To see how the hospital's lab can benefit your veterinary needs, please see www.vetmed.ucdavis.edu/vmth/lab\_services.



# Teaching Hospital Welcomes Equine Ophthalmologist

The school welcomes Mary Lassaline, DVM, PhD, MA, DACVO, who will lead the teaching hospital's new Equine Ophthalmology Service. Lassaline is one of the nation's premiere large animal eye specialists, and joins the hospital from the University of Pennsylvania, where she spent the last eight years as a faculty member developing and leading their equine ophthalmology program.



Mary Lassaline

# **Honoring Excellence**

The school honored the following individuals for research, service, teaching and clinical expertise in 2014 at the Fall Faculty Reception.

**Dori Borjesson**, professor and chair of Pathology, Microbiology, and Immunology, received the Zoetis Excellence in Research Award for the exceptional quality and productivity of her studies in regenerative medicine. Her research emphasizes the use of mesenchymal stem cells (from bone marrow, adipose tissue, and umbilical cord blood/tissue) as a therapeutic option for both orthopedic injury (bone and tendon damage) and immunomodulation. This groundbreaking work is opening up novel therapeutic strategies and generating several ongoing clinical trials. The potential of this work



Associate Dean Isaac Pessah presents Professor Dori Borjesson with the Zoetis Excellence in Research Award.

patient care, clinical instruction for DVM and residency training, and research expertise to advance her field. She is also recognized for her investment in teaching veterinary students and young specialists to excel in their chosen fields of professional interest. Sturges has a specific interest in intracranial and spinal neurosurgery, and stem cell therapy for brain and spinal cord injury. She has been described as one of the premier neurosurgeons in veterinary medicine.

Joie Watson, associate professor of equine medicine and chair of Medicine and Epidemiology, was honored with the school's Distinguished Faculty Teaching Award for excellence in teaching, mentoring others in new teaching methodologies, and contributions to furthering educational scholarship. She has embraced the ideals to

is also recognized by funding agencies, including the NIH, who have awarded significant grant funding.

**Geraldine Hunt**, professor of small animal surgery, was honored with the Zoetis Distinguished Veterinary Teacher Award in recognition for her passion, enthusiasm, leadership and innovation in teaching DVM students. She serves as co-leader (with Joie Watson) for the Clinical Foundations and Comparative Medicine blocks. Hunt brought together a diverse team of anesthetists, surgeons, radiologists and clinical pathologists to teach clinical foundations. Students consider this one of the most organized and successful blocks in the curriculum, which brought together many of the concepts the students had learned in previous blocks and applied them in clinical scenarios.

John Maas received the school's Distinguished Service Award in recognition of his outstanding efforts to advance livestock animal health, deliver educational programs on food safety, cattle diseases, nutritional requirements and environmental impacts, and leadership in state and national cattle organizations. He served the veterinary profession for 40 years with a dedicated focus on livestock animal health, first as a private practitioner, then as a diagnostician at the SVM. An active cattle rancher, Maas has been widely recognized over the years by the cattle industry for his leadership and liaison efforts with the scientific and veterinary communities.

**Beverley Sturges**, professor of clinical neurology and neurosurgery, received the school's newly established Faculty Clinical Excellence Award in recognition of exceptional commitment to "develop a curriculum that will set a new standard in veterinary medical education and serve the profession and society well into the future." Watson is respected as an exceptional instructor in didactic and clinical teaching settings, receiving the Favorite Teacher Award (equine) in 2009.

## **Partnering in Leadership**

Janet Foley and Shirley Luckhart will serve as interim co-directors of the Center for Vector-borne Diseases. Foley is a veterinarian and ecologist in Medicine and Epidemiology in the school who has worked on tick-borne disease, plague, mange and others. Luckhart is a professor in the Department of Medical Microbiology and Immunology at the School of Medicine who has worked on a variety of vectorborne diseases and is currently working to develop strategies to block malaria transmission. They will bring diverse expertise to promote collaborative training and research to understand, prevent, and manage vector-borne diseases. They will also support and enhance national and international partnerships to strengthen both basic and translational research, and help develop vector-borne disease policy locally, nationally, and internationally.



Janet Foley



Shirley Luckhart

# Velcome new faculty

#### Lillian Cruz-Orengo

Assistant Professor of Neuroimmunology, Department of Anatomy, Physiology and Cell Biology

#### Education

· PhD, University of Puerto Rico, 2006

#### Recent **Experience**

- · Post-doc research scholar, Washington University, St. Louis, 2006-2013
- Lecturer, University of Puerto Rico, 2001-2006

#### **Special Interests**

· Biological basis of sexual dimorphism in autoimmune disease

#### **Melanie Gareau**

Assistant Adjunct Professor, Department of Anatomy, Physiology and Cell Biology

#### Education

· PhD, McMaster University, Canada, 2006

#### Recent **Experience**

- Assistant Professor, UC San Diego, 2014
- Post-doc fellow, The Hospital for Sick
- Children, Toronto, 2006-2011

#### **Special Interests**

· Changes in gut microbiota that initiate changes in brain behavior and physiology

#### Meera Heller

Assistant Professor of Clinical Livestock Medicine and Surgery, Department of Medicine and Epidemiology

#### **Education**

- PhD, UC Davis, 2009
- Diplomate, American College of Veterinary Internal Medicine, 2005
- DVM, UC Davis, 2001

#### **Recent Experience**

- Assistant Professor, University of Missouri, • 2011-2014
- Associate veterinarian, UC Davis, 2009-2011

#### **Special Interests**

· Internal medicine and surgery of ruminants, especially goats, and swine.

#### Alda Pires

Assistant Specialist in Cooperative Extension, Department of Population Health and Reproduction, Assistant Epidemiologist in the Agricultural Experiment Station (AES) for Urban Agriculture and Food Safety

#### Education

- PhD, Michigan State University, 2012
- MPVM, UC Davis, 2007
- DVM, Universidade de Trás-os-Montes e Alto Douro, Portugal, 1999

#### **Recent Experience**

- Research Associate, UC Davis, 2014 Research Associate, Michigan State
- University, 2012-2013
- Resident, UC Davis 2005-2008

#### **Special Interests**

• Disease surveillance, food safety, public health, foodborne and zoonotic diseases, epidemiology of infectious diseases

#### **Colin Reardon**

Assistant Professor of Neuroimmunology, Department of Anatomy, Physiology and Cell Biology

#### Education

• PhD, University of Calgary, 2008

#### **Recent Experience**

- Post-doc fellow, La Jolla Institute for Allergy and Immunology, 2012-2014
- · Post-doc fellow, University of Toronto, 2008-2012

#### **Special Interests**

· Host immune responses; experimental models of human disease



#### Simone Stoute

Assistant Professor of Clinical Diagnostic Veterinary Medicine, Department of Population Health and Reproduction

#### Education

- PhD, The Ohio State University, 2012
- · Diplomate, American College of Poultry Veterinarians, 2009
- DVM, University of the West Indies, Trinidad, 2004

#### **Recent Experience**

- Director, Cornell University Duck Research Laboratory, 2012-2014
- Resident, CAHFS Turlock, 2007-2009

#### Special Interests

 Documenting new or unusual diseases; very virulent Infectious Bursal Disease Virus; diseases affecting waterfowl

#### Lance Visser

Assistant Professor of Clinical Cardiology, Department of Medicine and Epidemiology

#### **Education**

- Diplomate, American College of Veterinary Internal Medicine, 2014
- MA, The Ohio State University, 2014
- · DVM and MA, Michigan State University, 2010

#### **Recent Experience**

- · Resident, The Ohio State University, 2011-2014
- · Internship, North Carolina State University, 2010-2011

#### **Special Interests**

· Noninvasive assessment of cardiac structure and function













# **Increasing Diversity - To Reflect California's Population**

Associate Dean Sean Owens and Diversity Officer Yasmin Williams are leading the school's efforts to promote diversity within our student population by increasing underrepresented students and fostering a supportive and inclusive learning environment. Multiple strategies have been identified including:

- Creation of a Multi-Cultural Advisory Board
- Development of a Multi-Cultural Seminar Series
- Identification of grant funding to support programs
- Establishment of a "VOICE" Chapter Veterinary Students as One in Culture and Ethnicity – to increase awareness and sensitivity to socio-cultural issues and celebrate multiculturalism in the veterinary profession

# California State Summer School for Mathematics and Science (COSMOS)

The school regularly participates in the COSMOS program for high school students in the "biomedical cluster." This four-week residential program allows students who excel in math and science to work with veterinary and human medicine faculty and students to learn more about the fields.

#### **Veterinary Medicine Exploration Academy**

The academy, part of the UC Davis Early Academic Outreach Program, annually provides high school students with a first-hand

#### The Seven Strategic Goals

- Educate world leaders in academic veterinary medicine
- Perform high-impact transdisciplinary research
- Develop cutting-edge clinical programs
- Promote animal and human well-being
- Maintain school infrastructure and sustainable resources
- Retain excellent faculty and staff
- Promote academic, government, industry collaboration

look at the fields of study that make up veterinary medical education. This three-day program challenges students to engage and learn as participants in laboratory practical analysis, anatomy review, pathology, radiology and a variety of lectures presented by veterinary faculty, graduate students and staff.

#### **Pre-vet Students Visit Campus**

More than 8,000 undergraduate underrepresented students attended the 12th Annual Pre-Medical and Pre-Health Professions Conference last October. The conference, entitled "Empowering the Next Generation of Health Care Professionals," was planned and sponsored by pre-medical/pre-health students. Advisors from more than 500 U.S. medical, dental, pharmacy, nursing, veterinary and public health schools participated in the pre-health professions school fair.

The conference featured addresses by 45 of the nation's leading health-care voices including Richard Carmona, the 17th United States surgeon general, and Barbara Numann, the first woman president of the American College of Surgeons. The conference consisted of 350 workshops and panel discussions, of which 58 were focused on a broad array of veterinary medical topics. More than 800 students attended the veterinary sessions.



High school students participating in the UC Davis Early Academic Outreach Program visit the anatomy lab at the veterinary school.

# THANK YOU NOTES

# Gift Spurs Regenerative Medicine to New Heights

Dick and Carolyn Randall continue to play a major role in advancing stem cell and regenerative medicine research at the school, recognized as a national and international leader in this area. Through their vision and dedicated generosity, they are instrumental in helping the school develop groundbreaking treatment.

Since 2008 the Randalls have contributed \$3.4 million to the school, including their most recent gift of \$900,000 over five years—creating the Veterinary Institute for Regenerative Cures. The institute will create a cohesive, sustainable, long-term program in veterinary regenerative medicine that exemplifies great research, teaching and service.

"Dick and Carolyn's support has been instrumental in generating data and leveraging funding for every regenerative medicine team here," said Dori Borjesson, professor and chair of Pathology, Microbiology and Immunology. "They have helped advance training, education, and scientific discovery that have led to cell-based therapies that help our patients and inform human clinical trials . . . I can't thank them enough!"



Carolyn and Dick Randall

Inspired by their love of animals, the Randalls are committed to exploring regenerative medicine as a treatment option for companion animals and horses—to alleviate suffering in animals through the repair of damaged tissues. As long-time clients, they fully understand and appreciate the range of advanced medicine available at the veterinary hospital.

"The first horse of mine to undergo stem cell therapy, Hustler, went on to continue showing and winning, and he is still active today. That means success to us," Dick Randall said. "This technology has already helped thousands of equine and canine patients. We strongly believe that the work being done may also translate for people too."

For information about making a gift to support the Veterinary Institute for Regenerative Cures, please contact the Office of Development at (530) 752-7024.

# Planning for the Future and Leaving a Legacy

You don't have to be wealthy to make a significant gift. Sharing a commitment to animals are philanthropic partners of the school, many of whom have chosen to express their dedication through their estate plans.

Estate gifts create enduring impact. Donors are remembered well after their lifetimes for making a difference in the health of animals. For example, through his estate, Paul O' Bannon left \$30,000 to the Center for Companion Animal Health Feline Health Endowment, helping cats enjoy healthier and longer lives. Linda Waite, inspired by

her passion for animals, left an estate gift of \$19,500 to support clinical nutrition research.

Grateful for their thoughtful generosity, the school honors donors, who have arranged for a planned



gift, through the Heritage Society for Animals. Each year, new members are welcomed during a reception held in spring. Growing in number, the society's membership now totals to nearly 700.

Estate preparation does not need to begin late in life—foresight and generosity today can make a significant impact on the well-being of animals in the future. Estate planning options include bequests made through wills, revocable living trusts, and life income agreements such as charitable remainder

trusts and gift annuities.

For more information about joining the Heritage Society for Animals and exploring the benefits of planning for an estate gift, contact the Office of Development at (530) 752-7024.



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Veterinary Medicine News is published by the University of California, Davis, School of Veterinary Medicine: Michael D. Lairmore, dean; Trina Wood, editor; Linda Ybarra, Katie Blakewell, Carolyn Sawai, Robert Warren, Don Preisler, UC Davis News Service, contributors. For subscription questions contact the Office of Development (530) 752-7024 or development@vetmed.ucdavis.edu. The University of California does not discriminate in any of its policies, procedures or practices. The university is an affirmative action/equal opportunity employer.

CE Calendar

#### **Veterinary Continuing Education**

(530) 752-3905 • Fax: (530) 752-6728 tweddale@ucdavis.edu

From behavior to wildlife, the school is committed to life-long learning through its Veterinary Continuing Education. As this program thrives with a variety of nearly 20 new offerings, this newsletter will highlight a few courses, but this list is not complete. *Please visit their website for a comprehensive listing of events at* www.vetmed.ucdavis.edu/CE/.

> February 28 Behavior Symposium, UC Davis

March 28-29 Winter Conference, UC Davis

#### April 11-12

Wildlife and Exotic Animal Symposium, UC Davis

#### July 25-26

8th Annual Back to School Seminar, UC Davis

### **Seeking New Associates?**

Looking to add a stellar team member to your veterinary practice? The school produces an annual directory of graduating seniors with a summary of each student's career and educational focus, as well as descriptions of their special training and other experiences. Licensed veterinarians seeking associates for their practice may access the Class of 2015 Student Directory at **www.vetmed.ucdavis.edu/seniordirectory**. For more information regarding recruiting opportunities, please also visit **www.vetmed.ucdavis.edu/students/clw/career/employers**. Questions? Contact vetmedjobs@ucdavis.edu or (530) 752-3801.

### **Students Gain Valuable Bovine Experience**

Through the school's Early Veterinary Student Bovine Experience Program, DVM students benefit from an opportunity to work with cattle, and by doing so increase their awareness of career paths in food animal practice. The majority of incoming veterinary students have no prior livestock experience; through this program they are introduced to working on a dairy or beef operation or with a food animal practitioner during a four-week period in the summer. Led by faculty member John Angelos, the program is helping to address state and national needs for veterinarians working with food producing animals. Thanks to generous scholarship support from Zoetis, more than 170 students have gained experience through this program since 2005.

For more information about the program, visit www.vetmed.ucdavis.edu/evsbep. To make a gift, please contact the Office of Development at (530) 752-7024.



Julie Conner, Class of 2016, gained hands-on experience working at several dairy farms.

### **Stay Connected**

School of Veterinary Medicine Social Media Hub:

www.vetmed.ucdavis.edu/about/social.cfm

