

Emma (left) has enjoyed a longer life with her buddy Louie, thanks to cancer treatment.

Pioneering Cancer Treatments

UC Davis continues to lead the way in fighting cancer. In the past year, the school added to its team of radiation oncologists, and faculty surgeons have developed several new techniques. The greatest development, though, is the acquisition of a new TrueBeam™ linear accelerator.

The TrueBeam™ system is the leading linear accelerator on the market, and will allow radiation oncologists to deliver faster, more powerful cancer treatments with pinpoint accuracy and precision. As no other veterinary facility in the world has this equipment, the school is able to offer the most advanced cancer treatments anywhere.

One of the recent recipients of that dedicated work in fighting cancer is Emma, a 10-year-old English springer spaniel. In early 2013, Emma started

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Ruling Out Mad Cow Disease

A new cattle virus recently identified by a team of researchers including scientists from the school, may look like mad cow disease, but it's not—and that's what ranchers and consumers want to know when neurologic symptoms appear in a cow.

While this particular new virus is unlikely to pose a threat to human health or the food supply, the new findings are critically important. They provide researchers with a relatively simple diagnostic tool that can rule out bovine spongiform encephalopathy—BSE or mad cow disease—as the cause of neurologic symptoms when they appear in cattle.

Cattle displaying neurologic symptoms are vigilantly screened to safeguard the human food chain from disease-causing microbes and toxins. These diseases—caused by bacteria, parasites, viruses, toxins or nutritional disturbances—include rabies, salmonella, listeria, chlamydia and BSE.

BSE has become a major public health concern after a connection was discovered between the disease in animals and a similar rare, and devastating, human ailment called variant Creutzfeldt-Jakob disease.

Early and rapid recognition of the causes of neurologic disease in cattle is therefore of the utmost importance; however, such diagnosis is labor-intensive, costly and challenging because of the large number of microbes and disorders that can cause neurologic diseases.

“Understanding the role of this virus is crucial for veterinarians, as well as for the dairy and beef cattle industries,” said Patricia Pesavento, a veterinary pathologist and corresponding author on the paper, which appeared online in the September issue of the *Emerging Infectious Diseases Journal*.

Other collaborators on the study include Santiago Diab, Sabrina McGraw, Bradd Barr, Ryan Traslavina, Robert Higgins, Pat Blanchard, and Guillermo Rimoldi, all of UC Davis or the school's California Animal Health and Food Safety Laboratory on the Davis campus.



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Crime Busters

At hair stuck to a shower curtain used to wrap a dead body, dog urine on a rape suspect's truck tire—animal evidence like this left at a crime scene can prove critical in solving a case. Investigators send that evidence to be analyzed at the school's Veterinary Genetics Laboratory (VGL) Forensics Unit.

The VGL has long led the world in DNA parentage testing for horse registries, like the American Quarter Horse Association, but increasingly, technicians find themselves analyzing crime scene data from around the globe. Director Beth Wictum and her colleagues, Teri Kun and Christina Lindquist, benefit from access to animal DNA databases from decades of research at the VGL, which offers tests for animal parentage and genetic diseases. The databases include DNA from cats, dogs, various livestock animals and even some wildlife species.

"If you have a pet, you know that animals leave a lot of DNA wherever they go," Wictum said. "Hair, urine, feces, saliva—all of those can help solve a wide range of cases like animal cruelty, animal attacks on humans, robbery, rape, murder or even cattle rustling."

Sometimes the animal is the victim, sometimes the perpetrator, and sometimes just present at the scene of a crime. Animal DNA can be drawn from sources including skulls, saliva, a single spot of dried



Forensic scientist Christina Lindquist uses an alternative light source to detect bodily fluids for DNA analysis.

blood on a piece of wood, dander off a comb, dead skin, urine, feces and museum hides.

"We have all the same techniques and tools as labs dealing with human DNA," Wictum said.

In the past year, the forensics unit has handled approximately 100 cases and remains the only accredited forensic laboratory in the country for DNA profiling of domestic animals.

"We know there are cold cases out there with animal evidence that can help solve them," Wictum said. "We're trying to make more people aware that we can use it to bring closure."

For more information about the VGL: vgl.ucdavis.edu.

Continuing Education Gets a Boost

Karl Jandrey assumed directorship of Veterinary Medical Continuing Education last February. Since his appointment, CE offered by the school has increased dramatically with multiple unique seminars.

Jandrey, who joined the faculty in 1999, has developed and coordinated CE programs that promote the school's recognized excellence throughout the spectrum of veterinary medicine. With increased webinar availability, the programs can now be developed to not only meet the needs of California veterinarians, but practitioners throughout the United States and the world. The recent success of the inaugural Donkey Welfare Symposium proved that with sold-out sessions and attendees from 26 states and four countries. As donkeys are now the world's leading working animal, their wellness is an area of emerging importance in veterinary medicine.

This symposium was a great example of the effectiveness of continuing education using distance learning. As a worldwide leader in veterinary medicine, UC Davis' commitment to bring new medical information to lesser served areas of the globe is greatly improved with live interactive webinars.

The CE office continues to expand its reach and course offerings to meet the needs of veterinarians, registered veterinary technicians, veterinary assistants and clients. To streamline operations and provide a cohesive "homebase" for all CE, this expansion now encompasses partnerships with student organizations. Beyond just approving the courses (as it previously did with student-run events), the CE office now works closely with student groups to plan, market and present those events. This helps the school provide the most comprehensive CE seminars to the veterinary community, including the upcoming Winter and Summer Veterinary Conferences that will combine multiple CE events into one setting. These cumulative events will be the largest and most diverse learning opportunities the school has ever offered, providing more than 60 hours of CE at one event, an opportunity usually designated to large, national veterinary conventions.

For the latest CE offerings, please see the CE Calendar on this issue's back page.



Veterinary Cancer

Continued from page 1

having tremors while sleeping and seemed unbalanced. Emma's owners—Jeff and Jen Collins of Chico—brought her to their veterinarian who diagnosed her with an inoperable tumor on her brainstem, and gave her two months to live. Determined to help her, the Collins' were referred to the Veterinary Medical Teaching Hospital. They met with faculty oncologists Alain Theon and Michael Kent, who suggested treating Emma with stereotactic radiation. While not a cure, it could improve her quality of life and hopefully increase it.

In early May, Emma underwent radiation treatment and followed that with an oral medication regimen. Her condition improved over the next few months. On August 8, 2013, Emma celebrated her 10th birthday, a day her owners never thought she'd see.

"Nearly four months later, we are so thankful for the care she has received," said Jen on Emma's birthday.

As Emma's condition evolves, her veterinarians have had to alter her medications, but she remains as comfortable as possible. The Collins' are grateful for the additional time they've had with Emma, as is their other dog Louie, who is happy to have his partner feeling better.

"Emma continues to do better," said Collins. "This has been very difficult, but with Dr. Theon's help, she is responding to her medications. We are very thankful to UC Davis."



Karen C. Drayer Wildlife Health Center

Karen C. Drayer, a loyal and long-time friend of the school, was honored in December at the dedication of the newly named Karen C. Drayer Wildlife Health Center, a fitting legacy to her passion and commitment to wildlife. Karen and her husband Phil are visionary leaders in addressing complex issues of conservation and wildlife health in a changing world and have been instrumental in shaping the center since its inception. Through their heartfelt generosity, the Drayers established a perpetual endowment that ensures the center's excellence well into the future. From left: Dean Lairmore, Karen Drayer, Jonna Mazet, Phil Drayer and Dean Emeritus Bennie Osburn.



A Quantum Leap in Fighting Cancer

Dean Lairmore, second from the right, dedicated the new TrueBeam™ linear accelerator during a ribbon cutting ceremony in November. The system offers the latest treatment advances in fighting cancer and enables the school to provide expanded options to help save lives with targeted precision, using image-guided radiotherapy. Pictured in the front are Vaneck (the dog) with Felipe Santiago from The DMARLOU Foundation in memory of Dorothy and Martell Kaliski, which generously contributed a lead gift for the equipment. Also pictured from the school are faculty members Niels Pedersen, Michael Kent and Katherine Hansen. The school offers the most advanced veterinary radiotherapy treatments anywhere in the world.

Honoring Excellence

The following individuals were honored for their research, service and teaching at the Fall Faculty Reception.

Munashe Chigerwe, assistant professor of food animal medicine and surgery, received the 2013 SVM Distinguished Faculty Teaching Award for excellence in teaching and student mentoring, sustained efforts in planning and implementing the new professional curriculum, and contributions in educational scholarship. Chigerwe emphasizes mechanistic understanding rather than memorization. He understands what motivates students in terms of teaching style, tests, and studying and his content is always presented clearly and concisely, with pictures relevant to the topic. Students comment how well he connects with them, calling on them by name in class, and how his story-telling breaks are not only relevant to veterinary medicine, but to life in general.

Murray B. Gardner was awarded an SVM 2013 Distinguished Service Award for his outstanding service spanning three decades in support of veterinary pathology education, comparative animal/human research, leadership in animal and animal model research, vision, and contributions to the Center for Comparative Medicine. A retired physician, Gardner has been a member of the center's academic team since its inception in 1997. As a School of Medicine faculty member, he brought his expertise and enthusiasm to this joint medicine/veterinary medicine center, where he led research investigations and teaching efforts with veterinary and medical students.

Ellen Jackson of Victory Rose Thoroughbreds was awarded an SVM 2013 Distinguished Service Award for her support of numerous equine performance-related research studies, her critical contributions to improving equine neonatal foal care, and her dedication to the school's educational training programs for veterinary students. Over the years, Jackson has generously granted faculty and students access to her facilities and horses, making possible significant discoveries that have improved the health and well-being of horses and advanced the veterinary profession.

Matthew Mellema, assistant professor of small animal emergency and critical care, received the 2013 Zoetis Distinguished Veterinary Teacher Award in recognition for exceptional, sustained, and significant accomplishments in teaching DVM students. Mellema is an outstanding critical care specialist who provides efficient, high quality patient care. Professional students highly appreciate the comfortable yet challenging clinical learning environment he creates, and residents appreciate strong mentorship and preparation for specialty certification. He is known for his enthusiasm, effectiveness, wonderful sense of humor, and overall investment in didactic teaching and curriculum development. Colleagues appreciate his "no nonsense" approach and ability to bring clarity to most discussions.



In accepting the 2013 Distinguished Faculty Teaching Award, Munashe Chigerwe said: "I'm really humbled—I've learned so much from all of you. I come from a country where the village is so important. I consider you a good village. Thank you so much."

Paul Russell, a researcher in the Department of Surgical and Radiological Sciences, received the 2013 Zoetis Excellence in Research Award for innovative study aimed at understanding mechanisms underlying glaucoma, a clinically prevalent eye disease in both humans and companion animals. Russell focuses on determining how biophysical cues of topography and substrate stiffness contribute to the disease process. He has cleverly fabricated synthetic matrices that model the stiffness of the normal and glaucomic extracellular matrices, which are valuable for identifying new therapies. His work has been supported by the National Institutes of Health and he has published more than 150 articles.

Leading the Way

Pam Lein, a neurotoxicologist, now serves as vice chair of the Department of Molecular Biosciences. As vice-chair, Lein will provide oversight of departmental research efforts, management of department research infrastructure, and chair faculty search committees. She will also share oversight of the departmental budget. Lein's scholarship is focused on the biology of neurodevelopmental disorders induced by environmental toxins.



Welcome NEW FACULTY

Santiago Diab

Assistant Professor of Clinical Diagnostic Veterinary Pathology, California Animal Health and Food Safety Laboratory System

Education

- Diplomate, American College of Veterinary Pathologists, 2010
- Animal Health Specialist degree, Instituto Nacional de Tecnologia Agropecuaria, Argentina, 2004
- DVM, National University of La Pampa, Argentina, 2002



Experience

- Veterinary diagnostician, CAHFS San Bernardino, 2011-2013
- Resident, CAHFS San Bernardino, 2006-2009

Special Interests

- Pathogenesis and diagnosis of gastrointestinal diseases of horses and diseases of food animals

Beatrice Martinez-Lopez

Assistant Professor of Infectious Disease Epidemiology, Department of Medicine and Epidemiology

Education

- PhD, Complutense University of Madrid, VISAVET-UCM center, 2009
- MPVM, UC Davis, 2007
- DVM, Complutense University of Madrid, Spain, 2004



Experience

- Post-doc researcher, National Wildlife Research Institute of Spain, 2012-2013
- Associate Professor of Veterinary Epidemiology, University Cardenal Herrera-CEU, Spain, 2009 -2011
- Post-doc researcher, VISAVET-UCM center, 2009-2011

Special Interests

- Development and application of novel epidemiological methods (with an emphasis on risk assessment, modeling, social network analysis and spatial epidemiology) for supporting more cost-effective disease prevention, surveillance and control

Birgit Puschner, a veterinary toxicologist, now serves as chair of the Department of Molecular Biosciences. As chair, Puschner is responsible for academic personnel actions, staff management and oversight of departmental teaching efforts. She will also share oversight of the departmental budget. Puschner has been active in developing the DVM curriculum, serving as a leader for three blocks: Foundations, Pharmacology/Toxicology, and Nutrition.



Pramod Pandey

Assistant Specialist in Cooperative Extension; Assistant Microbiologist in the College of Agricultural and Environmental Sciences Department of Population Health and Reproduction

Education

- PhD, Iowa State University, 2012
- MS, Washington State University, 2007

Special Interests

- Agricultural engineering
- Microbial pathogens in dairy manure and watersheds
- Hydrological modeling to reduce microbial pathogens of liquid and solid animal waste



Maurice Pitesky

Assistant Specialist in Cooperative Extension for Poultry Health and Food Safety Epidemiology, Department of Population Health and Reproduction

Education

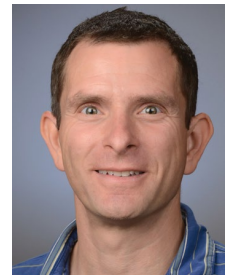
- Diplomate, American College of Veterinary Preventive Medicine, 2013
- MPVM, UC Davis, 2009
- DVM, UC Davis, 2008
- MS, California Polytechnic State University, San Luis Obispo, 1999

Experience

- Veterinarian, California Department of Food and Agriculture, 2010-2013

Special Interests

- Surveillance methods for *Salmonella enteritidis* utilized by the FDA and the State of California
- Epidemiology of very virulent infectious bursal disease in California
- Surveillance of avian diseases using GIS and spatial statistics



Kevin Woolard

Assistant Professor of Anatomic Pathology Department of Pathology, Microbiology and Immunology

Education

- Diplomate, American College of Veterinary Pathologists, 2013
- PhD, North Carolina State University and National Institutes of Health, 2010
- DVM, North Carolina State University, 2003

Experience

- Fellowship, National Cancer Institute's Neuro-Oncology Branch, 2012
- Residency, North Carolina State University, 2006

Special Interests

- Identification and study of glioma stem cells from human and canine brain tumors
- Neural stem cell biology
- Diagnostic neuropathology



A Love of Learning

How would you like to go back to school to learn about all the cool, new things that weren't around when you graduated 20 years ago? That's exactly what Abbie Whitehead did when she participated in the Don Low Fellowship program last year at the William R. Pritchard Veterinary Medical Teaching Hospital.

Whitehead obtained her DVM in 1990 from the University of Florida, started in equine practice and later moved on to small animal medicine. Retaining her love for surgery, she sought the fellowship to expand her surgical repertoire while on the Small Animal Soft Tissue Surgery Service.

"I enjoyed scrubbing in on unusual cases and being part of the team," said Whitehead, who was



Abbie Whitehead

able to continue practicing as a relief and shelter veterinarian and certified animal chiropractor during her fellowship.

"The experience really opened my eyes to new techniques available," she said. "I feel that I can advise my clients better by knowing their full range of options and what types of cases to refer to yield the best outcomes for my patients."

The Don Low Fellowship offers 72 continuing education credits earned over 20 days of intense professional growth (over the course of a year) in a specialty program of the fellow's choice. Applications are due in May. For more info, visit: www.vetmed.ucdavis.edu/CE/don_low/.

Essential Investments in Veterinary Scientific Training

Advanced training for veterinarians provides opportunities for academic, scientific and government agency career paths. Programs offered at the school include:

STAR – The Students Training in Advanced Research program provides funding on a competitive basis to veterinary students to experience all aspects of veterinary and biomedical research during the summer months in between their professional DVM training.

YEAR – The Yearlong Exposure to Advanced Research program is sponsored by an NIH T32-predocutorial training grant award. First-, second- and third-year veterinary students may apply to experience animal-oriented, hypothesis-driven, biomedical research uninterrupted for an entire year. The YEAR program adds one extra year to the participant's 4-year veterinary curriculum for a total of five years. Students have the opportunity to choose which mentors and research themes to experience, scheduling up to four 3-month research blocks during the year.

MPVM – The Master of Preventive Veterinary Medicine program is open to veterinarians and other medical professionals. Graduates have gone on to national and international leadership

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

positions in the areas of livestock herd health, wildlife health, shelter medicine, laboratory animal medicine, public health and epidemiology at universities, private industry, international agencies, non-governmental organizations and governments.

MPH/MS/PhD – More than 170 graduate academic students are pursuing graduate degrees under the mentorship of faculty in the school. Known for state-of-the-art research facilities, productive laboratories and a progressive spirit, the faculty in the school and across campus provide outstanding interdisciplinary research training while addressing real-world challenges.

VSTP – The Veterinary Scientist Training Program is a unique program that provides veterinary students with a 7-year formal training program, enabling them to graduate with dual DVM and PhD degrees. These graduates are especially well prepared to meet evolving scientific, social, ethical, political and humanitarian challenges facing animal and public health. Students pursue training in basic biological sciences, biomedical engineering, information technology, epidemiology, cancer biology and emerging infectious diseases.

THANK YOU NOTES

DEAN'S CLUB HONOR ROLL

The Dean's Club honors alumni who have given generous gifts to support the school's mission — providing the best veterinary education and advancing the health of animals, people and the environment. The following alumni contributed to the Dean's Club from January 1, 2012, through October 31, 2013.

John Anderson, '61
Richard Bachman, '82
Stephen Barthold, '69
Cathleen Beausang, '92
Paul Bettelheim, '72
James Bittle, '53
Janice Sondag &
Robert Bradford, '82
Richard Breitmeyer, '80
Dale Brooks, '59
Gaylord Brown, '78
Leslie Bullock, '63
Kristina Burling, '87
Kelly Byam, '97 *
Bruce Carstens, '91
Eugene Cherry, '63
Anne Chiapella, '73
Pedro Cisneros, '85
James Clark, '88
Pam Clark, '85 *
James Codington, '80
James Correa, '78
Ian Coster, '58
Gregg Cutler, '74
Paul Deauville, '59
Ann DePaoli, '91

Steven Diehl, '92 *
Renee & Gary Dillon, '74
Timothy Doherty, '81
Elisa Dowd, '87
David Fairchild, '62
David Feldman, '90
David Festa, '92
Robert Fleck, '72
Michael Floyd, '61 *
Lloyd Freitas, '59
Robert Garcia, '72
Patricia Gilbert, '84 *
Dana Gleason, '03
Daniel Goodcase, '63
Richard Hack, '69
Donald Hambey, '63
Larry Herbert, '62 *
Gerald Huff, '69
Kent Humber, '82
Linda Iburg, '87
Jock Jocoy, '54
Richard Johnson, '77
Richard Keagy, '59
Kevin Keenan, '72
H. Jay Kerr, '77
William Kidd, '75

Larry Kidwell, '58
Donald Klingborg, '72
Kristian Krause, '97
David Lamb, '81
Keith Lansing, '56
Morton La Pittus, '61
Barbara Lee, '84
Julia Lewis, '94
Charles Liskey, '82
Nancy Martin, '91
Jonna Mazet, '92
Jennifer McComb, '92
Sandra McNeel, '72
Kay Gullikson Mehren, '65
Debra Melcon, '77
Leslie Miller, '91
Woutrina Ann Miller, '01
Adrienne Munn, '95
Kirsten Murphy, '00
Charles Nelson, '55 *
Michael O'Brien, '76
Nancy O'Day, '92
Dennis Olin, '72
Kathryn Orr, '73
Anthony Pardo, '84
Niels Pedersen, '67 *

Lloyd Pilch, '75
Alison Pillsbury, '88
Mark Pio, '85
Philip Plocher, '54
David Reinhard, '69
Christopher Rodi, '93
William Rood, '72
Walter Rowntree, '88
Robert Sahara, '72
Randall Scagliotti, '73
Debra Scheenstra, '92
Christianne Schelling, '93
Gregory Schmidt, '72
Cheryl Scott, '94
Maremaro Shibuya, '59
Donald Shields, '87
John Shirley, '52
John Simpson, '63
Arleene Skillman, '69
Julie Smith, '92
Thomas Snortum, '55
Mary Somerville, '91
Joseph Spinelli, '63
Ruth Sobeck, '90
Leigh Stevens, '92
John Stuelpnagel, '83

Elizabeth Szucs, '87
Toki Takhar, '63
Bud Tennant, '59
Laura Tomaszek, '91
Paul Toste, '84
Katherine True, '91
Thomas Tucker, '03
Katharine Tyson, '03
Richard Uchimura, '65
Paul Umeda, '82
Floyd Ventress, '61
Alice Villalobos, '72
Pamela Carroll
vonMatthiessen, '76
Charles Walls & Michele
McCabe-Walls, '91
William Wetmore, '55
Mary Whitehill, '84
Dennis Wilds, '77
Laura Williamson, '87
Elizabeth Winchester, '91
Jon Wolfson, '82
Tilahun Yilma, '70
John Zimmerman, '62

Celebrating Alumni Weekend

The class of 1963 (pictured at right) enjoyed sharing many fond memories at their milestone 50th anniversary reunion during Alumni Weekend in October. The school also welcomed the founding classes of 1952 and 1953, as well as the classes of 1959, 1963, 1973, 1993 and 2003. Classmates graduating in 1983 and 1988 reunited at earlier events. Thanks to excellent education and preparation, many alumni have enjoyed long, rewarding careers as practitioners, researchers and in public service. This year's reunion classes have carried on the tradition of philanthropy and raised over \$50,000 so far to support student scholarships—helping today's veterinary students achieve the same heights.



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CE Calendar

Veterinary Continuing Education

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

February 1

Charles Heumhphreus Memorial Lecture,
UC Davis

February 1-2

Inaugural Winter Veterinary Conference,
UC Davis

March 1

Theriogenology Club Symposium – Canine
Reproduction 101, UC Davis

March 8

Equine Medicine Club Symposium –
Maximizing Your Horses' Health, UC Davis

March 29-30

Wildlife and Aquatic Animal Medicine Club
Symposium, UC Davis

*For information on these and other events,
please visit www.vetmed.ucdavis.edu/ce.*



A group of more than 30 veterinarians, physicians, technicians, students and administrators from the Veterinary Medical Teaching Hospital, the Wildlife Health Center, the Sacramento Zoo and Sutter Medical Group joined forces to perform a minimally-invasive surgery on Castro, a 15-year-old, endangered Sumatran tiger from the zoo. To prevent stone

blockage and any potential pain, the veterinarians and physicians placed a ureteral stent – a thin, flexible tube that will help drain urine from the kidney to the bladder. Castro's recovery was uneventful, and he quickly resumed his normal activities.

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 2013 Student Directory at www.vetmed.ucdavis.edu/students/placement_services. Employers may also post career positions and part-time job openings on this site at no charge. Questions? Contact svmplacement@ucdavis.edu or (530) 752-1383.

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