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Wise Guy N, an 8-year-old Dutch Warmblood, is loaded into the MREquine coach at the MU Veterinary Medical Teaching Hospital. MU veterinarians use the mobile magnetic resonance imaging technology to diagnose the cause of the champion horse's subtle lameness.



Wise Guy shows off the championship form that earned him top awards in elite dressage contests before his performance began to suffer due to an injury that was difficult to detect.

University of Missouri Introduces MRI for Equine Athletes

For decades, magnetic resonance imaging (MRI) technology has provided accurate diagnosis of orthopedic ailments. Athletes, in particular, have benefitted from the detailed images MRI studies provide. Now, the University of Missouri College of Veterinary Medicine provides equine athletes with the same competitive advantage. This is welcome news for equine lameness experts whose focus is keeping these horses in top health.

The University of Missouri is among a handful of institutions in the Midwest with access to MREquine services, an independently owned mobile unit equipped with a high-field MRI unit sensitive enough to identify very subtle changes in bone and soft tissue. It is an imaging modality that allows the interface of bone and soft tissue simultaneously, with tremendous detail.

The elite coach housing this technology cannot pull up and provide services at just any location. The MREquine unit requires a specific electrical unit and docking station, as well as veterinary staff and facilities equipped to perform all aspects of anesthesia and patient management, from induction to recovery. In most cases, an attending veterinarian works in collaboration with the horse's own veterinarian. The University of Missouri easily meets these criteria.

The first to board the mobile MREquine at the University of Missouri was Wise Guy N, an 8-year-old Dutch Warmblood. Laurie Daniels, who owns and operates Tree Top Farm V in Troy, Mo. imported the upper-level dressage horse from Europe. "He is my once-in-a-lifetime horse," Daniels said.

Since his arrival in the United States in 2007, Wise Guy has earned top awards in elite competitions. But in 2011, Daniels and the horse's trainer, Pamela Davies of Royal Oaks Equestrian Center in Foristell, Mo., noticed that Wise Guy's physical performance was just a little off. "In dressage competition, a hair off is significant, and cause for investigation," Daniels explained.

Wise Guy's veterinarian, Dr. Mark Cassells of Pacific, Mo., performed exams, X-rays, ultrasounds and nerve blocks, but they provided no clue to the source of the horse's subtle lameness.

Then, serendipity stepped in.

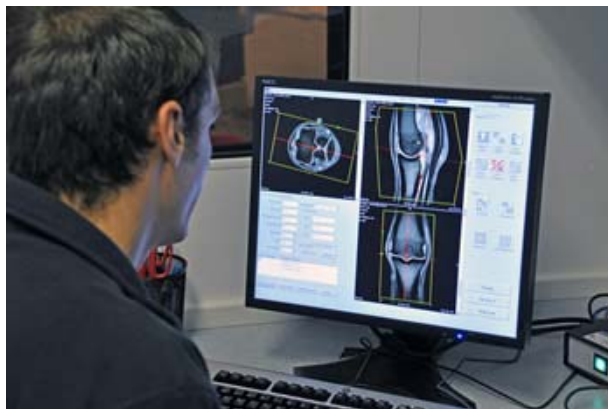
Around the time that Cassells, an MU CVM alumnus, was pondering Wise Guy's condition, he learned that his alma mater would soon provide equine MRI services. Wise Guy was promptly scheduled to take advantage of this technology.

Wise Guy came through his MRI experience — from initial anesthesia to an overnight stay at the MU Veterinary Medical Teaching Hospital — without incident. His MRI report indicated a bone bruise and fluid build-up deep within the distal cannon bone, which is a major long bone in the leg of the horse that is part of the fetlock joint. The injury was likely the result of trauma.

The attending CVM veterinarian in Wise Guy's case was Shannon Reed, DVM, DACVS, who specializes in equine lameness.

"Our ability to perform MRI greatly enhances our ability to provide top-notch care for performance horses," said Reed. "The MRI successfully diagnosed the cause of the lameness in Wise Guy, a diagnosis that would have been very difficult to come to without it. It's a huge capability."

"It was a great experience, from start to finish," said Daniels. "We received a warm greeting and were escorted through the entire process. They kept us informed at each step."



Within the MREquine coach, Wise Guy is examined. His MRI scan reveals a bone bruise and fluid build-up deep within the distal cannon bone.

Wise Guy's rehabilitation plan dictated conservative measures, including rest, treatment with a drug to help bone healing, and rehabilitation before resuming under-saddle training. However, in other cases, the detailed images gleaned from equine MRI pave the way for more advanced rehabilitation approaches. There are medications and surgical approaches for rehabilitation therapy such as stem cells, platelet rich plasma, interleukin-1 receptor antagonist protein injections, shockwave therapy, arthroscopic surgery for debridement and repair of cartilage, as well as programs using physical therapy, and treadmill and pool exercise. In fact, as the use of equine MRI studies increases, so does the development of innovative surgical and non-surgical and rehabilitation programs for equine athletes.

The MREquine unit returns to the MU Veterinary Medical Teaching Hospital once or twice monthly depending on demand.

Bald Eagle Release Fulfills Dream for Hospice Patient

Ruth Payton is an 82-year-old hospice patient with terminal hemolytic anemia who resides in the Macon, Mo., area. She loves birds and recently acquired two cockatiels that she enjoys watching and listening to throughout the day. When her Hospice Compassus nurse learned that Mrs. Payton's long-held dream is to see an American bald eagle "in real life," she passed the information onto her hospice social worker, Randi Petre. Mrs. Petre contacted the University of Missouri College of Veterinary Medicine to inquire if the College's Raptor Rehabilitation Project could assist the hospice Dream Team in making Mrs. Payton's wish a reality.

As fate would have it, Raptor Rehabilitation Project members have been treating a mature bald eagle they named Watson. Watson was brought to the MU Veterinary Medical Teaching Hospital Dec. 5, 2011, by a Missouri Conservation agent. Watson was unable to stand and showed many signs of a neurologic problem consistent with lead poisoning. Lead toxicity is a common problem in bald eagles. It is typically caused by an accumulation of lead during the lifetime of the bird from eating contaminated fish and other prey.

An initial blood test for lead showed levels too high to register a result. X-rays also revealed some abnormal material in his digestive tract. Watson was anesthetized and the material, which looked like rotten liver, was removed. He was given fluids and antibiotics and started on a treatment that removes lead from a bird's body. The initial lead treatment lasted for one week, at which time he showed great improvement. However, a blood test showed that the amount of lead in his blood (0.39 parts per million) was still too high (normal is less than 0.1 parts per million), so the treatment was repeated.

When Watson's blood lead level reached normal, he was moved from the hospital to a flight cage on Dec. 27, where he has been regaining strength and flight muscle.

Watson is now ready to be returned to the wild and will be released by members of the Raptor Rehabilitation Project at 1 p.m., Jan. 8, 2012, near the Long Branch Marina Store and swimming beach parking lot within Long Branch State Park in Macon, Mo. The event will provide the opportunity for Mrs. Payton to not only see a bald eagle in person, but also to witness its release, while providing Watson an ideal habitat for his continued good health. This event is free and open to the public.

The MU Raptor Rehabilitation Project educates the public about birds of prey, combining natural history and species information with personal experience to deliver educational programs throughout mid-Missouri. The project also gives veterinary students, community members, and other students the opportunity to work hands-on with professional veterinary medical faculty and cutting-edge technology to rehabilitate and release injured or ill birds. The College of Veterinary Medicine provides the vital financial support for medical care, housing and food for these majestic creatures, and project funds are supplemented by private donations. The project currently has four other birds being rehabilitated for their eventual return to the wild and is also caring for nine birds that cannot be released, which are valuable for educational outreach to the public.

More information is available at: www.raptorrehab.missouri.edu

Former CVM Faculty Member Passes Away

Dr. Hermann Meyer, 84, of Fort Collins, Colo., died Jan. 1, 2012, at Poudre Valley Memorial Hospital in Fort Collins. He born March 29, 1927 in Frauenfeld, Thurgau, Switzerland.

Meyer completed his doctoral work in veterinary anatomy at the University of Zürich in 1952. He came to his adopted country from Switzerland in 1952 and completed a second Ph.D. in veterinary anatomy at Cornell University in 1957. In America he found his life's work – preparing students at Colorado State University, the University of Missouri, and the Ohio State University for the practice of veterinary medicine. A devoted family man and proud Rotarian, Meyer was an active member of the Fort Collins community for over half a century. He is survived by his wife Marti, his three children, and their families: Corina and Masa Kojima; Steffen and Sheryl Meyer and daughter Annelise; Re Meyer Evitt and son Nik. A celebration of his life was held on Jan. 7, at First Presbyterian Church of Fort Collins.

Veterinary Medical Colleges Hit Hard By Financial Cuts In Public Support

Washington, D.C. – The nation’s 28 schools and colleges of veterinary medicine (CVMs) have been hit hard by steep reductions in state appropriations to higher education, leading to cuts in faculty, significant tuition increases, and increased student debt, according to the Association of American Veterinary Medical Colleges (AAVMC) at an economic summit in Orlando, Fla.

MU College of Veterinary Medicine Dean Neil C. Olson recently participated in a joint economic summit between the deans of U.S. schools and colleges of veterinary medicine and the American Veterinary Medical Association. During that summit, the AAVMC reported that cuts in state support for academic veterinary medicine, particularly over the past couple of years, have seriously affected the ability of schools to maintain academic programs and course offerings, as well as hire and retain faculty. CVMs report that they have been unable to fill 120 faculty positions and that state cuts have affected the colleges’ ability to update or maintain campus infrastructure, invest in new technology, and maintain academic programs and course offerings for students.

Tuition at the nation’s schools and colleges of veterinary medicine has nearly doubled over the past decade and now tops an average of \$38,000 annually for out-of-state students and \$18,000 for in-state students. “Even though tuition has gone up, that revenue barely begins to make up for more than \$104 million in state cuts in just the past two years,” said Dr. Gerhardt Schurig, AAVMC president and dean of the Virginia-Maryland Regional College of Veterinary Medicine. “These are challenging times for veterinary medical education and higher education in general. What’s particularly alarming is how schools report that this is affecting their ability to hire and maintain faculty and provide students with the course offerings that they need.”

While tuition has climbed over the past decade, the average amount of institution-provided financial aid remained flat during the same period at about \$3,300 annually per student. Students now graduate with a student debt load on average of more than \$140,000.

New federal programs allow the students who enroll in them to pay off student loans based upon income within 20 years or — if they work in the nonprofit sector — within 10 years. However, most graduating veterinarians who enter the workforce navigate to for-profit, private practices that don’t allow for participation in the nonprofit debt forgiveness program but do allow them to work directly with people and pets, which is often what initially attracts students to the practice of veterinary medicine.

“I think we need to fight to sustain and garner public support, but we will also have to start looking at alternative funding sources and educational models if we want to maintain quality,” Dr. Schurig said. “We also need to work with other stakeholders of academic veterinary medicine to find ways to increase student financial aid.”

In 2011, the AAVMC released “Roadmap for Veterinary Medical Education in the 21st Century: Responsive, Collaborative, Flexible,” a report found at www.aavmc.org/roadmap, that was compiled by the North American Veterinary Medical Education Consortium (NAVMEC). The report recommends that colleges of veterinary medicine provide a cost-effective, quality education through the sharing or educational resources and partner with the AVMA and other stakeholders nationally, internationally, and locally, to develop economically viable approaches to veterinary medical education.

CVM Alumnus Awarded Merial Lifetime Achievement Award

In recognition of his commitment to helping identify the causes of and treatments for laminitis, Donald M. Walsh, a 1969 graduate of the MU College of Veterinary Medicine, was awarded the Merial Lifetime Achievement Award at the seventh annual International Equine Conference on Laminitis and Diseases of the Foot. The award is given annually to a veterinarian or farrier who has dedicated their career to treating horses with laminitis and whose commitment goes beyond the day-to-day care of the horse.

Walsh currently serves as the director of clinical research at Homestead Veterinary Hospital in Pacific, Mo. In private practice since 1969, he has dedicated his career to understanding equine laminitis, a debilitating disease that continues to plague horse owners.

In addition to publishing significant original research and speaking to horse owners, veterinarians and farriers about the topic, Walsh founded and is the president of the Animal Health Foundation, a St. Louis-based organization dedicated to raising research funds for laminitis-founder complex in horses. Through Walsh's efforts, the foundation has been able to award more than \$1.8 million to researchers since its establishment in 1984.

“We are honored to present this award to Dr. Walsh,” says Beckie Peskin, product manager for Merial. “His lifetime of dedication to researching the causes and treatment of this devastating disease is inspiring and very important to horse owners and veterinarians around the world.”

In addition to this recent recognition, Dr. Walsh has been inducted into the International Equine Veterinary Hall of Fame of the American Farriers Association and the St. Louis National Charity Horse Show Hall of Fame, and has been recognized by the Missouri Hunter Jumper Organization as Man of the Year.



CVM's Robert Miller named Veterinarian of the Year

The Missouri Veterinary Medical Association (MVMA) named Robert B. Miller, DVM, as its Veterinarian of the Year. Miller, of Columbia, retired from the MU College of Veterinary Medicine as an associate professor of veterinary pathology in 1999. He is currently the director of the College's Missouri Institute for Cattle. He operated a mixed animal practice in Warrensburg, Mo., before entering academia.

The MVMA Board of Directors selects the Veterinarian of the Year based on the candidate's contributions to their community, their state, and to people whose lives they have touched. Miller is a 1955 graduate of Kansas State University College of Veterinary Medicine and received that college's 2004 Alumni Recognition Award. He is diplomate emeritus and past-president of the American Board of Veterinary Practitioners. He was the 2011 MVMA West Central District president and is an honorary member of the Missouri Academy of Veterinary Practice. He has published numerous articles in various veterinary journals. Miller and his wife, Phyllis, have three children, Deborah, Raymond and Karen.

Miller was honored during the MVMA's 120th Annual Convention Awards banquet on Jan. 28 in Saint Charles, Mo. More than 600 veterinarians, veterinary technicians, practice staff and veterinary students attended the convention, which offered 60 continuing education lectures to participants.



**Robert B. Miller, DVM, was named the
Missouri Veterinary Medical
Association Veterinarian of the Year.**



(From left) Newly installed MVMA officers are pictured with AVMA executive board member Clark Fobian, Sedalia, Mo.: Dr. James Schuessler, president, Kirkwood, Mo.; Dr. Craig Payne, Columbia, Mo., president-elect; Dr. David Prigel, Republic, Mo., vice president; Dr. Shelia Taylor, Springfield, Mo., secretary-treasurer; and Dr. Dana Gillig, Sedalia, Mo., board chair.



Jimi Cook, William and Kathryn Allen Distinguished Professor in Orthopaedic Surgery at the MU College of Veterinary Medicine, and inventor of the TightRope CCL, taught a wet lab to instruct veterinarians in using the implant and technique to stabilize the canine stifle. The lab took place a part of the MVMA Convention education opportunities and was held at the Mizzou Animal Cancer Care facility in Wentzville.



The Veterinary Business Management Association speed networking event gave CVM students the opportunity to meet with practicing veterinarians to discuss preceptorship possibilities and career opportunities.

Other awards given included:

The President's Award. This award is given to individuals who were instrumental to the president's efforts to advance the veterinary profession for the betterment of animal health in the state. Dana Gillig, MVMA executive board chair, presented this year's award to Michael C. Muhlbauer, DVM, of St. Louis, Mo., the 2011 chair of the MVMA Animal Welfare Committee. Muhlbauer is a board certified veterinary radiologist. He received his Doctor of Veterinary Medicine degree from the CVM in 1983. He was in private practice for five years before pursuing advanced training in diagnostic imaging. Muhlbauer completed a dual residency program in radiology and veterinary biosciences/nuclear medicine at the University of Illinois College of Veterinary Medicine in 1992. He also earned a master of science and is board certified by the American College of Veterinary Radiology. In 1994, Muhlbauer co-founded Veterinary Imaging Specialists, P.C., headquartered in St. Louis, Mo.

Distinguished Service Award. Gregory Popp, DVM, Jefferson City, Mo., and Ann White received the Distinguished Service Award from the Missouri Veterinary Medical Foundation. Popp has been a dedicated volunteer and fundraising chairman for more than 20 years and has helped expand the foundation's mission of public education and charitable giving to worthy organizations. Popp is owner/practitioner at Weathered Rock Veterinary Clinic, Jefferson City, Mo. For the past 13 years, Ann White has been the foundation's secretary and treasurer and coordinator of many fundraising events, including the drawing and silent auction held during the MVMA annual convention. During White's tenure, the foundation has been able to further its goal of reaching the public with information about the importance of animals in our lives.

Honorary Membership Award. Richard D. Antweiler received the Honorary Membership Award of the Missouri Academy of Veterinary Practice (MAVP). Antweiler has been the executive director of the association for 12 years assisting the membership with professional education, legislative issues and public relations initiatives to enhance the quality of veterinary medicine in Missouri. He is also secretary and treasurer of the MAVP and past president of the American Society of Veterinary Medical Association Executives. MAVP honorary members are individuals who have rendered distinguished or meritorious service to the veterinary profession.

Volunteerism Award. Linda J. Scorse, DVM, Joplin, Mo., was presented the MVMA's 2012 Volunteerism Award for her many years of service to veterinary medicine in Missouri, and her dedication to relief efforts following the Joplin, Mo., tornado in May 2011. Scorse is owner/practitioner at Joplin Veterinary Hospital. She is an ex-officio member of the MVMA Executive Board and is presently Missouri's delegate to the American Veterinary Medical Association. The award is presented for outstanding commitment as it relates to service to animals and their owners in a time of crisis.

Bruce P. Whittle, DVM, Trenton, Mo., was honored with an **award for his educational efforts** to members of the Missouri legislature on behalf of veterinary medicine. Dr. Whittle and his wife, Gayla, are owner/practitioners of Honey Creek Veterinary Hospital, Trenton, Mo.

Niemeyer Lecture Series Presents Dr. Nicholas Jeffery

http://cvm.missouri.edu/news/Niemeyer_Jeffery.pdf

2012 MU Pfizer Dental CE Weekend

http://cvm.missouri.edu/news/dental_clinic.pdf

MU Equine Veterinarians Solve Diagnostic Puzzle

When a yearling American quarter horse was brought to the University of Missouri Veterinary Medical Teaching Hospital with what seemed to be colic, the Equine Clinic team found itself piecing together a diagnostic puzzle.

The colt had recently been shown in Texas during extremely hot conditions. Upon his return to Missouri, he began demonstrating agitated behavior, such as rolling, sweating, lying down, circling and pawing at the ground. His owners suspected that he had consumed too little water for the Texas heat and they consulted their local veterinarian. However, despite receiving five liters of mineral oil and an intravenous treatment of saline solution, the horse continued to demonstrate discomfort.

His owners transported him to the MU College of Veterinary Medicine where his condition continued to worsen. He alternated between lying down and walking in circles. His heart rate became elevated and he began having muscle spasms that would last up to 30 minutes. During the most severe episodes, his symptoms were described as seizure-like.

As the equine team continued to rule out possible causes behind the colt's distress – encephalitis, tetanus, West Nile, influenza – they turned their focus on the possibility that hyperkalemic periodic paralysis (HyPP), a genetic disease found in quarter horses and for which the horse was known to be heterozygous, was at the root of his clinical symptoms.

After several days of therapy targeting HyPP, no improvement was seen. "It was confounding," said CVM fourth-year veterinary student Ashley French, "because the treatment for HyPP was not working. There would be an episode every two hours or so. A 1,200-pound horse flailing in his stall can be very dramatic." French helped treat the colt under the direction of MU CVM Assistant Teaching Professor Alison LaCarrubba, DVM, ABVP, and intern Kirsty Husby, DVM.

As HyPP seemed less and less plausible as a diagnosis, the equine clinicians and veterinary students expanded their search for a cause to include muscle disorders and neurological diseases. However, muscle biopsies and an electromyography performed by a CVM board certified neurologist revealed no abnormalities. Further adding to the mystery – the colt's herd mates began to display similar symptoms.

Undeterred in their quest to help the young horse, they sent the muscle biopsies and a video of the horse to a muscle specialist. While the MU equine team had already performed an examination of the ailing colt's ears, the specialist recommended that a deep ear examination be performed under sedation.

Deep within the horse's ear canals the problem was found – multiple spinose ear ticks. While the ticks are rare in Missouri, they are endemic in the Southwest United States. The parasites feed in the host's ears causing pain, inflammation, convulsions and muscle spasms. They can also spread to other horses, as well as deer, big horn sheep, domestic cats, dogs and even humans.



Ashley French, a fourth-year veterinary student at the University of Missouri College of Veterinary Medicine is pictured with one of her favorite MU horses. French won a second place award for a paper she authored that documented a puzzling illness that caused seizure-like symptoms in a horse she helped care for at the Veterinary Medical Teaching Hospital.

The ticks were removed and the horse's ears were treated to kill any ticks that evaded the forceps. Back home, the colt's regular veterinarian sedated the MU patient's herd mates and discovered they too had been infected. Within 72 hours of treatment, the colt's symptoms disappeared and he was cleared to return home.

French found the unusual case so interesting she wrote a paper about it. That report, "Case Study of the Spinose Ear Tick in an HYPP Yearling American Quarter Horse" captured second place honors in the American Board of Veterinary Practitioners 21st Annual Case Report Contest. The contest is sponsored by Merial and Elanco. According to the ABVP, winning case reports include appropriate diagnostic workups, as well as medical or surgical managements, a clear demonstration of veterinary expertise, the application of sound medical principles in diagnosis and treatment, and the communication of medical observations and data in an organized manner.

PET Scanner Helps Veterinarians Battle Cancer in Pets

-MU One of Only Four Veterinary Schools in the Country with PET Technology

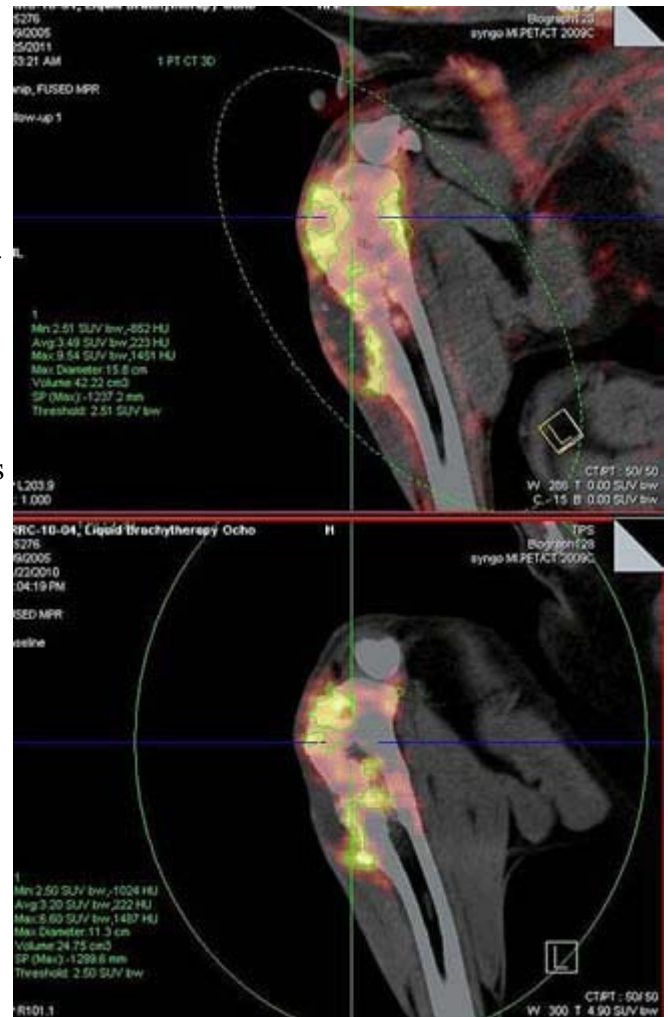
Veterinary oncologists at the University of Missouri College of Veterinary Medicine have a powerful new tool at their disposal in the battle against cancer. Thanks to a gift from Stan and Judy Stearns of Houston, Texas, the Veterinary Medical Teaching Hospital recently received delivery of a positron emission tomography (PET) scanner, as well as a trailer in which the scanner is housed.

The state-of-the-art equipment is the only veterinary PET scanner in Missouri and one of only a handful in the country. The PET scanner requires only minimal anesthesia and is one of several imaging tools MU veterinarians can now use to detect cancer in dogs and cats and assess whether the disease has spread. PET scans involve introducing radioactive glucose into the animal's bloodstream and then using the device to detect areas of increased metabolic activity, as measured by abnormally increased uptake of the glucose as occurs in tumors. Additionally, alternate radioactive tracers can be used to detect areas of increased cell growth and areas of altered oxygen usage.

A radiograph (x-ray) may reveal that an animal has nodules in its lungs, but is limited as a diagnostic tool because the nodules may indicate tumors, or may be scar tissue from an old infection. Another challenge that veterinarians face in diagnosing and treating cancer is measuring the response of the illness to the therapy. Combining the PET scan technology with computed tomography (CT) scans or magnetic resonance imaging will allow MU veterinary oncologists to co-register an abnormality, effectively creating a three-dimensional image that shows not only the size of a growth, but also its metabolism.

“Sometimes a tumor is responding to therapy, but it doesn't immediately shrink, and it may never shrink, but it may have been neutralized and no longer poses a threat,” said Kim Selting, a veterinary oncologist at the MU Veterinary Medical Teaching Hospital. “The PET Scanner allows us to look at a tumor and determine that while the growth may still be present, the therapy has effectively killed it.” Conversely, if a tumor is still showing metabolic activity, a clinician may consider a different course of treatment, such as adding or changing the chemotherapy protocol. PET scans are also useful in seeking out cancers that may be hiding somewhere in an animal's body.

The PET Scanner can also be used by other veterinary services within the MU Veterinary Medical Teaching Hospital. The scanner can be used to look for infections, evidence of fracture healing and abnormal bone activity, and the source of seizure activity. In addition to advancing patient care, veterinary PET scan capability is expected to put MU in the forefront to attract new research studies and cancer therapy trials focusing on translational medicine. The availability of the PET scan technology, as well as both a



Comparative Oncology Program and Comparative Internal Medicine Laboratory, has already attracted a new two-year study to test a new immunotherapy. The therapy uses detoxified bacteria to stimulate the immune system to control tumors without the use of chemotherapy drugs, explained MU veterinary oncologist Jeffrey Bryan. The agent has shown promise in treating dogs with carcinomas, skin cancers and some oral cancers.

“We will be selecting dogs for the study, evaluating them with the PET scan and treating them,” Bryan said. “Our Comparative Internal Medicine Lab will evaluate the immune response in the study dogs. This project could not have come together in this way without the PET scanner, and MU is one of only a few institutions that could conduct this trial. Having this PET scanner also positions us to participate in select trials through a national trials consortium to which we belong (the Comparative Oncology Trials Consortium through the National Cancer Institute). Those trials are designed to evaluate therapies in dogs with cancer that are destined for translation to use in people. That way, both animals and people can benefit from the same cancer therapy.”

Stan and Judy Stearns, who donated the scanner, know all too well the emotional toll cancer can take on the family of an affected pet. Their St. Bernard, Gabriel, was diagnosed and ultimately succumbed to bone cancer leaving them with a desire to find better treatments for this disease. Having worked with biomedical instrumentation for many years, Stearns has invested substantial time, effort, and resources into developing tools to treat bone cancer. His generosity has extended to many veterinary schools across the country as he has supported unique needs of individual oncology programs.

Storage Time for Cartilage Transplant Tissue Doubled by MU Researchers
New method will increase likelihood of success in cartilage grafting procedures

March 13, 2012

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<http://munews.missouri.edu/news-releases/2012/0313-storage-time-for-cartilage-transplant-tissue-doubled-by-mu-researchers/>

Veteran Rancher and Veterinarian Joins CVM

Within the MU Veterinary Medical Teaching Hospital, Bob Sager has decorated the walls of his office with two reminders of Montana. This first is a photograph depicting a stark winter landscape. A jack fence stretches along the edge of a pasture, marking the boundary between Sager's 300-acre ranch and a snow-covered plain that recedes into the foothills of the Crazy Mountains rising up in the distance. The second is the mounted head of Oscar, a bison bull that was culled from a herd in Yellowstone after testing positive for brucellosis.

Oscar is not only a memento of home and a conversation piece; he's also a reminder of a mishap from the long career in veterinary medicine that Sager, DVM, MS, brings to his new position at the College of Veterinary Medicine. In 1983, while vaccinating cattle against brucellosis, Sager accidentally stuck a needle in his own hand infecting himself with the same organism that led to Oscar's demise. The mishap nearly killed Sager too, but he has so far survived eight relapses of the disease that in humans stays persistent in the lymph nodes and blood cells.

"The attenuated vaccine mimics the disease in cattle," Sager said. "Cattle naturally develop immune status, but the amount of the organism I gave myself was overwhelming."

Despite a pronounced limp – a consequence of the illness – he dismisses the incident with a good-natured shrug as a hazard of spending a lifetime around cattle. Sager was born in south central Montana and raised on his parents' cattle ranch. He received a bachelor of science in animal nutrition at Montana State University and his DVM at Colorado State University. He then returned to Montana where he spent four years working as an associate in another veterinarian's practice before opening two of his own practices. He treated all species, but focused on beef cattle.

Sager spent more than three decades practicing veterinary medicine and with his wife raised seven children. But he said he always had a desire to return to school, citing a belief that when taking the Veterinarian's Oath, practitioners commit to a lifelong process of self-improvement and education. He became board certified with the American Board of Veterinary Practitioners in 2008, which further stimulated his interest in advancing his education. He sold his practice to two associates and in 2009 returned to Montana State. Last spring, he completed a master's degree in ruminant nutrition with an emphasis on micromineral nutrition as it affects the immune system of beef cattle.

Sager recently left the wide-open spaces of his home state to accept a position at MU as a food animal clinician working in the field and with the ambulatory service. He also lectures in ruminant nutrition. He hopes to further his own education by pursuing a PhD in the future.



Dr. Bob Sager relocated with his border collie, Tess, to Columbia, where he has joined the MU College of Veterinary Medicine as a food animal clinician who teaches veterinary students ruminant nutrition.

“I mentored 243 students in my career and I had been missing that. I was blessed with this opportunity to work and have a second career in an area where I have a real passion. I’m hopeful I can help the departments and be of value teaching the students here,” he said.

“Dr. Sager brings a wealth of food animal experience as a rancher and veterinarian, and his dual perspective will be beneficial to both our clients and students,” said John R. Dodam, chairman of the College’s Department of Veterinary Medicine and Surgery. “Just as important, Dr. Sager has great enthusiasm for agriculture, veterinary medicine and for teaching. His certification by the American Board of Veterinary Practitioners and recent completion of a graduate degree in ruminant nutrition are evidence of his passion for veterinary medicine and education. We are happy that he chose to join us.”

Sager’s desire to continually improve himself isn’t limited to academics. He has competed for more than 30 years in national and international track and field individual throwing events, such as shot put, weight, discus and javelin, capturing two bronze World Masters Athletics medals. Not satisfied, in his mid-40s he stepped up his training and started throwing the hammer too so that he could also compete in the throws pentathlon. In addition to competing, he has served as a track and field official for 30 years and is certified to officiate in all throwing events, as well as weights and measures. Sager, who has officiated at two Olympic trials and numerous college competitions, has already provided assistance at MU’s home track and field meets. “I’d like to become involved in activities throughout the campus,” he said.

Sager jokes that when he came to Missouri he brought Oscar the bison, his books and a beloved border collie – leaving his wife behind to tend to their ranch and 100 head of cattle. However, he will return to Montana this spring, albeit briefly, to collect his master’s degree. He delayed graduation in order to go through the ceremony at the same time as his son, who will also graduate from Montana State with a bachelor of science degree in sports nutrition.

“Seven children and none of them wanted to be a veterinarian,” he said.

FOR EXPERT COMMENT: Pets Benefit Aging Adults' Health, MU Researcher Says
Eldercare facility acknowledges benefits and accommodates residents' pet ownership

April 03, 2012

Story Contact(s):

Jesslyn Chew, ChewJ@missouri.edu, (573) 882-8353

<http://munews.missouri.edu/expert-comment/2012/0403-for-expert-comment-pets-benefit-aging-adults%E2%80%99-health-mu-researcher-says/>

MU and Central Missouri Humane Society Join Forces to Help Animals
Partnership will give surgical experience to veterinary students and save animal lives

April 10, 2012

Story Contact(s):

Nathan Hurst, hurstn@missouri.edu, 573-882-6217

By Jerett Rion

<http://munews.missouri.edu/news-releases/2012/0410-mu-and-central-missouri-humane-society-join-forces-to-help-animals/>

As Deadly Cat Disease Spreads Nationally, MU Veterinarian Finds Effective Treatment
Cat owners should keep cats indoors, use tick preventatives to reduce chance of disease

April 17, 2012

Story Contact(s):

Nathan Hurst, hurstn@missouri.edu, 573-882-6217

<http://munews.missouri.edu/news-releases/2012/0417-as-deadly-cat-disease-spreads-nationally-mu-veterinarian-finds-effective-treatment/>

MU Veterinary Surgeons Use Advanced MRI Technology to Locate Dangerous Tumor
Procedure saves therapy dog, beloved pet from cancerous brain tumor

April 18, 2012

Story Contact(s):

Nathan Hurst, hurstn@missouri.edu, 573-882-6217

<http://munews.missouri.edu/news-releases/2012/0418-mu-veterinary-surgeons-use-advanced-mri-technology-to-locate-dangerous-tumor/>

CVM's Ron Cott Earns Award for Out-of-Classroom Contributions

Ron Cott, associate dean of Student and Alumni Affairs and director of Development at the MU College of Veterinary Medicine, was named as one of this year's Excellence in Education Award recipients. The University of Missouri Division of Student Affairs, in partnership with the MU Parents Leadership Council, presents the award to faculty, staff and administrators who are involved in out-of-class learning experiences with students and who have demonstrated a long-standing commitment to student learning and development. These are individuals who have created innovative learning programs, served as organization advisors, mentored students, or played a role in helping student organizations realize their full potential.

Dr. Cott, MU CVM '73, was recognized in particular for his efforts working with two programs at the College.

The Veterinary Enrichment Team Building Program, also known as VET, is an orientation program, which Cott initiated for the College. VET involves bringing incoming first-year veterinary students together for several days prior to the start of classes. During an intense three days of fun and educational activities the students learn about communication styles – their own, their classmates and their future clients – and develop skills, such as conflict resolution and teambuilding. They also have an opportunity to get to know their fellow classmates as well as faculty and staff at the College.

Cott was also commended for his contribution accompanying a group of veterinary students to South Africa so they could earn preceptorship hours while gaining experience in the care of exotic animals. For the past two years, the recipient has traveled with students to a game preserve where they spent several weeks assisting the game preserve staff veterinarian in providing medical care to a variety of wild animals. Among their experiences was spaying a full-grown female lion in the back of a pick-up truck. Cott will escort another group of students to the preserve in July.

Cott was one of 10 members of the MU faculty and staff to receive a 2012 Excellence in Education Award. Students and colleagues nominated a total of seven members of the CVM faculty this year. Other CVM nominees were: Frank Booth, professor in the Biomedical Sciences department; Craig Franklin, professor in the Veterinary Pathobiology department; Rebecca Johnson, associate professor in the Veterinary Medicine and Surgery department; Marie Kerl, associate teaching professor in Veterinary Medicine and Surgery; Shannon Reed, assistant teaching professor, Veterinary Medicine and Surgery; and Kimberly Selting, associate teaching professor, Veterinary Medicine and Surgery.



Dr. Cathy Scroggs, vice chancellor of Student Affairs at the University of Missouri, presents Dr. Ron Cott, associate dean of Student and Alumni Affairs and director of Development at the MU College of Veterinary Medicine, with a 2012 Excellence in Education Award.

Laboratory Named in Honor of Carsons

University of Missouri Professor Emeritus Bill Carson, PhD, and his wife, Toni, were recently recognized for their influence in the growth and success of the University's Comparative Orthopaedic Laboratory. A room within the Veterinary Science Building that is part of the COL was named "The Bill and Toni Carson Biomechanics and Bioengineering Lab" in their honor.

The naming of the lab recognizes the Carsons' recent commitment of \$150,000 through an estate gift to the COL. However, the impact the Carsons have had on the research that takes place at the COL is far more extensive. Dr. Carson was the first person at the University of Missouri, and one of the first in the world, to engage in translational research in orthopaedic biomechanics and bioengineering. Already a pioneer in human orthopaedic research, in particular the field of spinal stabilization, Carson worked with and generously mentored veterinary surgeons and residents as they worked on numerous projects. His willingness to give his time and talent is credited as being a key to the founding of MU's COL, which has grown into the foremost comparative and translational orthopaedic research laboratory in the world.

In requesting the naming honor, CVM Dean Neil C. Olson and Director of the COL and Professor of Small Animal Surgery James Cook noted that Carson has contributed to the growth and development of the COL through \$8 million received in extramural funding, \$2 million received in gifts and hundreds of presentations and publications. Carson also coordinated the multi-department joint funding, corporate donations and logistics involved in purchasing, installing and using major equipment in the lab. His efforts helped foster the One Health/One Medicine collaboration between orthopaedic surgery, veterinary medicine and engineering at MU.

In addition to backing her husband in his research initiatives, Toni Carson has participated directly in the COL's fundraising efforts throughout the years and has been an avid MU supporter.

The announcement of the naming of the lab in the Carsons' honor was made during the annual Comparative Orthopaedics Day held at the Missouri Orthopaedic Institute.



Bill Carson receives a plaque commemorating the naming of the The Bill and Toni Carson Biomechanics and Bioengineering Lab. He is pictured with (from left) his wife, Toni, Director of the COL and Professor of Small Animal Surgery James Cook, and College of Veterinary Medicine Dean Neil C. Olson.

Honor Societies Tap Three from CVM

Three members of the MU College of Veterinary Medicine community were recently inducted into campus honorary organizations during the 85th annual Tap Day. Six organizations – LSV, Mortar Board, Mystical Seven, Omicron Delta Kappa, QEBH and Rollins Society – announced their new members who were tapped into the organizations during a ceremony held at Jesse Hall.

Upper-class and graduate students are eligible to be tapped based on exemplary academic performance, extracurricular activities, scholarship, leadership and service. Faculty and staff members also may be “honor tapped” in recognition of their contributions to students. The identity of the honorees is kept secret until they are led, hooded, to the stage. One by one they are introduced, their accomplishments are described, and their hoods removed revealing the new inductees.

Fourth-year CVM student Laura Wineinger was selected for membership in the Rollins Society. The Rollins Society was established in 1994 by the Graduate and Professional Council. The society recognizes graduate and professional students who have significantly advanced the well-being of self-defined communities beyond the scope of their academic work. The society takes its name from James S. Rollins, a former Missouri senator considered the “Father of the University.”

The Rollins Society also selected Dr. Ron Cott, CVM associate dean of Student and Alumni Affairs and director of Development, for an honorary tap into its organization.

Luis King, an alumna of the CVM who is now pursuing graduate studies at the College, was tapped, in absentia, into Mortar Board. The Friars Chapter of Mortar Board was established in 1918. The organization provides opportunities for continued leadership development while promoting service to the University and encouraging lifelong contributions to the global community.



Fourth-year College of Veterinary Medicine student Laura Wineinger applauds after Dr. John Dodam, chairman of the Department of Veterinary Medicine and Surgery, removes a hood covering the head of Dr. Ron Cott and revealing him as a new honorary inductee in the Rollins Society. Moments earlier Wineinger had been announced as a society 2012 inductee. Dr. Tony Mann, professor at the CVM, also participated in the ceremony, leading Wineinger to the stage and removing her hood.

Phi Zeta Day Celebrates Research

Members of the MU College of Veterinary Medicine chapter of Phi Zeta held their 35th annual Research Day May 4. Veterinary students, interns, residents and graduate students within the college had an opportunity to present their studies and findings in either a poster or a lecture format. A total of 51 presentations were made.

Carolyn Henry, DVM, MS, professor of oncology in the Department of Veterinary Medicine and Surgery, director of the Scott Endowed Program in Veterinary Oncology, interim associate director of research at Ellis Fischel Cancer Center and One Health/One Medicine Mizzou Advantage facilitator, presented the keynote address, “An Opportunistic Researcher’s Guide to Making Lemonade.”

An evening banquet featured the induction of new members into the honor society. There were 11 members from the Class of 2012, 10 members from the Class of 2013, three interns and five honorary members welcomed into the local chapter. Phi Zeta was founded in 1925, with the CVM Pi Chapter chartered in 1965. The event was sponsored by The CVM Dean’s Office, the Office of Research and Nestle Purina.

The following students captured awards for their presentations:

Poster Categories:

Veterinary Professional Students

Douglas Suntrup — first place

Ryan Birks — second place

Nadia Fridman — third place

Second- and Third-year Residents and Graduate Students

Rachel Scott — first place

Chamisa Herrera — second place

Carrie Lasky — third place

Presentation Categories:

Veterinary Professional Students

Zijin Zhou — first place

Danan Bradley — second place

Second- and Third-year Residents and Graduate Students



CVM student Tony Dank discusses the results of his research with Dr. Marlyn Whitney, an associate clinical professor in the CVM Department of Veterinary Pathobiology.



Lindsay Donnelly, a graduate student in biomedical sciences, captured first place honors in the poster category during the 35th Phi Zeta Research Day. She discusses her research with Dr. Senthil Kumar, a researcher with MU’s Comparative Oncology Laboratory.

Jacqueline Glascock — first place
Anna Cunningham — second place/tie
Glenn Jackson — second place/tie

Combined Poster and Presentation Categories

Interns, First-year Residents and Graduate Students

Lindsay Donnelly — first place
Kevin Donnelly — second place
Carmela Pratt — third place

Best Overall Veterinary Professional Student

Jacob Moskowitz

Best Overall Intern, Resident or Graduate Student

Brandie Morgan

Honorable Mention Veterinary Professional Students

Klay Lapa
Kaitlin Steele
Lauren Henderson
Carissa Wood and Whitney Phipps
Sarah Timmerman
Jennifer Menning

New Biomarker Test Predicts Arthritis at Much Earlier Stage, MU Researchers Say
Early detection system would allow better treatment options

May 15, 2012

Story Contact(s):

Nathan Hurst, hurstn@missouri.edu, 573-882-6217

<http://munews.missouri.edu/news-releases/2012/0515-new-biomarker-test-predicts-arthritis-at-much-earlier-stage-mu-researchers-say/>

Breast Cancer Effectively Treated with Chemical Found in Celery, Parsley by MU Researchers
Apigenin Slowed Progression of a Human Cancer Accelerated by Hormone Replacement Therapy

May 15, 2012

Story Contact(s):

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<http://munews.missouri.edu/news-releases/2012/0515-breast-cancer-effectively-treated-with-chemical-found-in-celery-parsley-and-spice-by-mu-researchers/>

Students and Faculty Honored During Annual Honors Banquet

University of Missouri College of Veterinary Medicine students received more than \$267,000 in awards during the 2012 Honors Banquet, held May 8 at the Holiday Inn Executive Center in Columbia. The annual event featured the presentation of nearly 200 awards, including scholastic acknowledgment, clinical proficiency, academic and activity recognition, and awards presented in memory of former students and beloved pets.

Professional veterinary medical students shared the evening's spotlight with faculty members and house officers, and also presented awards to those mentors whose teaching and leadership have helped guide them through the veterinary curriculum.

Students in each academic class selected an outstanding teacher to receive 2012 Golden Aesculapius Awards. Winners were Dr. Cheryl Rosenfeld, honored by the Class of 2015; Dr. Lisa Britt, honored by the Class of 2014; Dr. Dusty Nagy, recognized by the Class of 2013; and Dr. Tim Evans, who was the honoree chosen by the graduating Class of 2012.

Other faculty members also received recognition. Dr. Carol Reinero, associate professor in the Department of Veterinary Medicine and Surgery and director of the Comparative Internal Medicine Laboratory, received the Pfizer Animal Health Award for Research Excellence. This year's Dadd Award, which is given for excellence in veterinary medicine teaching by faculty peers, was presented to Dr. Joanne Kramer, an associate teaching professor in the Department of Veterinary Medicine and Surgery. The final award of the evening was the Pfizer Animal Health Distinguished Teacher Award. Each year, the graduating class selects as the recipient an outstanding teacher, who through ability, dedication, character and leadership, contributes to the advancement of the profession. The 2012 honoree was Dr. Tim Evans, an associate professor in Veterinary Pathobiology.

[View the complete list of the 2012 awards presented and the recipients.](#)



Dr. Carol Reinero received the Pfizer Animal Health Award for Research Excellence from CVM Dean Dr. Neil Olson (left) and last year's recipient, Dr. Craig Franklin.



Dr. Neil Olson, CVM dean (left), and last year's Dadd Award winner, Dr. F.A. (Tony) Mann, presented the 2012 Dadd Award to Dr. Joanne Kramer.



The CVM Class of 2012 selected Dr. Tim Evans (center) as the recipient of the Pfizer Animal Health Distinguished Teacher Award. He received a plaque noting his achievement from CVM Dean Dr. Neil Olson and last year's honoree, Dr. Alison

‘CVM Mom’ Named Deaver Award Finalist

MU College of Veterinary Medicine Admissions Advisor Kathy Seay was honored during the University’s Staff Recognition Week as a finalist for the 2012 Mick Deaver Memorial Award. The Staff Advisory Council established the Mick Deaver award in 1980 to honor staff members who exemplify Deaver’s concern for fostering good relations with students. Major Mick Deaver was the associate director of the University Police Department. He was killed in an automobile accident in 1980.

Seay has served as the admissions advisor the CVM for the past 14 years. Among the comments made by her nominators for the honor were: “Kathy’s alternative title should be ‘CVM Mom.’ For veterinary students, academics and life in general can be very stressful — but they all know that Kathy’s door is always open, her hugs are genuine and the candy dish is full.” “Her personality is warm, nurturing and upbeat; students just know they can find help for anything from her. Even during the admissions interview process, when a couple hundred nervous and scared potential vet students come to the College, it’s Kathy that helps calm that stressful time.”

Prior to the joining the College, Seay was the admissions advisor for the MU School of Medicine, a position she held for 17 years.

A Missouri native, she and her husband, Bill, have lived in Columbia for the past 34 years and raised their three children here.



**CVM Graduates 70
New Veterinarians**

When James Gilkerson received his Doctor of Veterinary Medicine in what was the “new” Hearnes Center in 1974, his plan was to move to Mount Vernon, Mo., open a veterinary practice, and spend his career there. For nine years, that is what he did. But as the years passed, an awareness within himself grew that his plans had not taken him down a path that was right for him.

“I knew I needed to enjoy where I was, or change where I was,” he said. In search of greater career fulfillment, Gilkerson left the veterinary practice and took a job with a company developing cardiac rhythm devices for people with heart conditions. He now holds the title of distinguished corporate fellow and medical advisor for research and development at Boston Scientific Corp. “Every day I am working on something that hasn’t been done before. We’ve turned ideas into reality. That’s how I’ve satisfied my intellectual needs,” he said.

Gilkerson, who delivered the commencement address on May 11 to the MU College of Veterinary Medicine Class of 2012, advised the 70 graduates to evaluate their emotions with clinical detachment and find out what makes them feel good about themselves and be willing to embrace change.

“This above all: To thine own self be true,” he said, quoting Shakespeare.

In addition to following their hearts, he counseled the new veterinarians to develop a relationship with a confidante they trust, and to become skilled veterinarians. “A lot of patients need your help. You are their doctor. They didn’t choose to be patients, but you chose to be a doctor,” he said.

He also stressed the need to remain current with developments within the scientific community. “The things you learned in veterinary school, didn’t exist when I was in veterinary school.” He also asked them to give back by becoming leaders in their communities and sharing their knowledge.

Members of the Class of 2012 selected Michael Hupp to give a response on their behalf. Hupp began by describing his classmates as they were four years earlier in terms as if they were a clinical patient whose case he was describing. He went on to talk about the bonds that developed during their professional veterinary medicine education. He recounted how they had helped each other not only through academics, but also



College of Veterinary Medicine graduates recite the Veterinarian’s Oath during the May 11 graduation ceremony.



Tim Evans, associate professor, assisted by Linda Berent, interim associate dean for academic affairs, hood CVM graduate Joshiah

through life-threatening illnesses, childbirth, and even the loss of family members. He joked that the evidence of their closeness was demonstrated by the number of students who had married each other.

James Schuessler, president of the Missouri Veterinary Medical Association, led the graduates in reciting the Veterinarian’s Oath. Ron Cott, associate dean for Student and Alumni Affairs and director of Development, presented the graduating class for investiture, which was conducted by Joanne Kramer, associate teaching professor, Tim Evans, associate professor, and Linda Berent, interim associate dean for academic affairs. David Bradley, chairman of the UM Board of Curators conferred the Doctor of Veterinary Medicine degree to the class members.

Veterinarians completing internships, residencies and graduate programs at the CVM also received recognition during the ceremony.

CVM Dean Neil C. Olson, who served as the master of ceremonies, shared with the class a quote from George Washington Carver: “How far you go depends on your being tender with the young, compassionate with the aged, sympathetic with the striving, and tolerant of the weak and the strong—because someday you will have been all of these.”

He also acknowledged the support the students have received through the years by recognizing the parents, grandparents, other relatives, friends and mentors in the audience.



Backstage, Brian Frappier, associate clinical professor, offers some last-minute instructions to Rachael Cohen.



Michael Hupp gives the Class of 2012 response on behalf of his classmates.



(Right) New DVM Kimberly Dears and her fiancé Mike Bencivenga, CVM '11, pose with College mascots Tim and Terry following commencement.

Dogs on call

Veterinary clinic's team of greyhounds saves pets

- Story by Nancy Moen
- Photos by Shane Epping
- Published: May 29, 2012

<http://mizzouwire.missouri.edu/stories/2012/donor-dogs/index.php>

Once-Injured Race Horse Climbs Back Into the Winner's Circle
MU veterinary team credited with race horse's resurgence on the track

June 14, 2012

Story Contact(s):

Nathan Hurst, hurstn@missouri.edu, 573-882-6217

<http://munews.missouri.edu/news-releases/2012/0614-once-injured-race-horse-climbs-back-into-the-winner%E2%80%99s-circle/>

Motion Sensors Detect Horse Lameness Earlier Than Veterinarians, MU Study Finds
MU-developed “Lameness Locator” system helps diagnose lameness sooner, makes treatment easier

July 02, 2012

Story Contact(s):

Nathan Hurst, hurstn@missouri.edu, 573-882-6217

<http://munews.missouri.edu/news-releases/2012/0702-motion-sensors-detect-horse-lameness-earlier-than-veterinarians-mu-study-finds/>

CVM Alumnus to Serve as Technical Veterinary Delegate During Olympics

As the start of the 2012 Olympics draws near, fans eagerly await the start of contests in their favorite sports. For fans of international equestrian competitions, that start will be July 28 with eventing. Other Olympic equestrian contests will be held in dressage and jumping. However, before the first horse is permitted to take to the arena, it has to be judged fit to compete. When each of the riders trots their horse before a judge, whose job it is to rule whether they will be allowed to go for the gold, the judge making those decisions for 2012 Olympics will be University of Missouri College of Veterinary Medicine alumnus Kent Allen.

Allen, DVM '79, is the owner of Virginia Equine Imaging in Middleburg, Va. On July 22, he will head across the Atlantic to serve as the foreign veterinary delegate for the London Olympics. With three other people who make up the Veterinary Commission, it will be the commission's responsibility to make sure the regulations and structure established by the Federation Equestre Internationale (FEI) are followed.

"The challenge is in making rules that work anywhere in the world," he said. "The rules have to work all the way down to the bottom end of the sport."

While team veterinarians will be there to provide hands-on care for any illness or injury in the horses, the Veterinary Commission will oversee the welfare of the animals from what Allen says is more of a "10,000-foot level."

The Veterinary Commission will also oversee the drug testing process to ensure that equestrian athletes, human and equine, don't give themselves a competitive advantage through performance enhancing drugs.

"Both the horse and the rider are athletes. If either one tests positive (for a prohibited substance) the entire team is disqualified," Allen said.

While a variety of rules are in place to determine in advance which horses must be drug tested and other circumstances may arise that prompt the Veterinary Commission to demand blood samples, the group will also become involved in investigating allegations of sabotage, for instance if someone claims that their horse has been improperly injected with a substance by someone else.

This will be the third Olympics for Allen, whose Virginia practice specializes in lameness. He began working with event horses in the mid-1980s. He served as the veterinary services manager for the Atlanta Olympics and was also the foreign veterinary delegate in the Sydney Olympics.

We will follow up with Allen about his experiences during the games when the Olympics are complete.



Gene Therapy Treatment Extends Lives of Mice with Fatal Disease, MU Study Finds
Spinal Muscular Atrophy affects one in 6,000 children; no known cure

July 16, 2012

Story Contact(s):

Nathan Hurst, hurstn@missouri.edu, 573-882-6217

<http://munews.missouri.edu/news-releases/2012/0716-gene-therapy-treatment-extends-lives-of-mice-with-fatal-disease-mu-study-finds/>

CVM Alumnus Named to Arizona Hall of Fame

Hal Jenkins, a 1962 graduate of the University of Missouri College of Veterinary Medicine, was recently inducted into the Arizona Hall of Fame for extraordinary dedication and commitment to the Arizona veterinary community and the veterinary profession.

Jenkins, of Tempe, Ariz., was owner and operator of Baseline Animal Clinic for 48 years. He graduated from MU in 1953 with a bachelor's degree before going on to earn his DVM. Jenkins was active in the Central Arizona Veterinary Medical Association where he served as a director and held several officer positions, including president. He then went on to hold these same positions in the Arizona Veterinary Medical Association. He held the office of Western States Veterinary Medical Association president and also served on the organization's board for seven years. Jenkins was the Arizona delegate to the American Veterinary Medical Association for eight years and served one term on the AVMA Judicial Council. In 1978, he was honored as Arizona Veterinarian of the Year.

Jenkins has attended several World Veterinary meetings as a delegate including meetings held in Australia, Austria, Romania, England and Tunisia, where he co-authored and presented a paper.

Carrying on the family tradition, his son, Jeffrey Jenkins, DVM, owns and operates Awhatukee Animal Care Hospital in Phoenix, Ariz.



CVM Alumnus Selected as AVMA Future Leader

(SCHAUMBURG, Illinois) August 6, 2012 – Dr. Kelvin G. Urday, a 2011 graduate of the University of Missouri College of Veterinary Medicine, is one of 10 veterinarians selected to participate in the American Veterinary Medical Association’s (AVMA) Future Leaders Program.

This year-long program, created by the AVMA and supported by Pfizer Animal Health, will help develop leadership skills in the selected group of volunteer leaders for the future of the AVMA and other veterinary groups. This is the second class of 10 Future Leaders involved in the program. They were selected from approximately 60 AVMA member nominees who had graduated from veterinary school within the last 15 years.

“This program appealed to me because of the opportunity to learn more about organized veterinary medicine as well as a chance to better my communications skills,” Urday said. “I also saw this program as a prospect to join a network of progressive veterinary professionals. I hope that together we can develop a program that benefits our constituents and shows our profession how beneficial organizations like the AVMA can be.”

Urday is a mixed animal private practice veterinarian in Keller, Texas, and he has a long history in this style of practice. As a child in north Texas, he lived next door to a mixed animal veterinarian, where he volunteered and ultimately learned to love veterinary medicine. While at the CVM, Urday was active in the Missouri Veterinary Medical Association and also served as vice president of the Student Chapter of the American Veterinary Medical Association and president of the Student Chapter of the American Animal Hospital Association.

The year-long Future Leaders Program started at the AVMA Convention in San Diego, Calif., that is currently taking place. This select group will have the opportunity to work with a professional facilitator Dr. Ken Andrews of High Impact Facilitation to receive project management and leadership training. Over the year they will collaborate on a project to provide the AVMA with solutions to help increase the leadership skills develop valuable resources for of veterinarians nationwide to use. The final results of their efforts will be presented during the AVMA Convention in Chicago, July 19-23, 2013.

“The hardest part of picking each class over the past two years has been narrowing down the list of nominees to just 10 participants, because of the qualifications, diverse interests and energy of all the outstanding nominees,” said Dr. Ron DeHaven, chief executive officer of the AVMA. “Many of these Future Leaders are already leaders, having accepted leadership roles at the state and local levels, so we’re excited by not only by what we can teach them but how much they’ll be able to teach us. The inaugural class of Future Leaders has been inspiring and accomplished so much, so I expect a lot from the second class.”



The first class of Future Leaders focused on creating a web-based Future Leader Toolkit that uses videos, instructional tools, media materials and other information and instruments that AVMA members can use to improve their leadership skills on the job or within the profession.

MU Raptor Rehabilitation Project Will Return Bald Eagle to the Wild

The University of Missouri Raptor Rehabilitation Project will release a mature bald eagle named “Dysprosium” back into the wild at 1 p.m., Saturday, Aug. 18, following seven months of medical and surgical rehabilitation. The event will take place at the Swim and Tennis Cove at the Village of Four Seasons at the Lake of the Ozarks.

Dysprosium was found down at the Lake of the Ozarks in January by an astute member of the community who noticed that the eagle could not fly normally. He was then brought to the Veterinary Medical Teaching Hospital at the University of Missouri by a Conservation Department agent. He was severely anemic and very thin. He had two fractured bones at the tip of his left wing, called the major metacarpal and minor metacarpal. These bones were already healing, so they did not require surgery. He was treated for the anemia and started gaining weight. He was recovering well, when an infection developed in his healing bones. As a result, he had to have surgery to remove the infected pieces of bone. After he recovered from surgery, he was moved to a flight cage, where he has been regaining strength and flying ability.

When the eagle was brought in, the project’s current naming theme was elements of the periodic table. The unusual name comes from element 66, a very rare type of metal. The Raptor Rehabilitation Project will sell chances for the opportunity for one lucky person to release Dysprosium! Tickets are \$1 each, or seven for \$5.

The Raptor Project is a nonprofit organization and all money raised will be used to care for injured birds, as well as provide ongoing care for the organization’s nine resident birds that cannot be returned to the wild. The project educates the public about birds of prey, combining natural history and species information with personal experience to deliver educational programs throughout mid-Missouri. The project also gives veterinary students, community members, and other students the opportunity to work hands-on with professional veterinary medical faculty and cutting-edge technology to rehabilitate and release injured or ill birds. The College of Veterinary Medicine provides the vital financial support for medical care, housing and food for these majestic creatures, and project funds are supplemented by private donations.



This event is free and open to the public. The Raptor Rehabilitation Project encourages community members and students to volunteer for opportunities, including helping to feed and care for birds of prey, as well as participating in its educational programs. More information is available online at:
www.raptorrehab.missouri.edu

Clark Fobian Elected AVMA President-elect

Dr. Clark K. Fobian of Sedalia, Mo. was unanimously elected president-elect of the American Veterinary Medical Association (AVMA) by the AVMA House of Delegates at its annual meeting in San Diego, Calif. Fobian is a graduate of the University of Missouri where he earned a bachelor of science in wildlife biology in 1972 and his doctor of veterinary medicine degree in 1977.

Fobian's term as president of the AVMA will begin next summer at the AVMA's Annual Convention in Chicago, Ill. during the 150th anniversary of the organization. He will succeed Dr. Douglas G. Aspros, whose term as president began Aug. 7.

"I'm proud and excited about being the president-elect of the AVMA. I come to this position from a practitioner's point of view, because that's who I am and that's who a significant number of our members are — they are practitioners. I respect all areas of the veterinary profession, which includes regulatory veterinarians, members of academia, researchers, and food animal practitioners. I want to help ensure that the people who own and interact with animals receive excellent care from the veterinary profession," Fobian said. "I look to the AVMA mission statement for guidance. It states that the goal of the association is to 'improve animal and human health' and that's and that is my goal as president."

Fobian, who grew up in suburban St. Louis, has approximately 30 years of experience as a mixed and small animal veterinarian. From 1972 to 1978, Fobian served in the U.S. Army Reserve as a medic for the 5503rd Army Hospital.

He has had an active role in the Missouri Veterinary Medical Association, including serving as its president in 2003 and chairman of its board. In January of 2006, the MVMA named Fobian Veterinarian of the Year. In 2011, he was honored as Alumnus of the Year by the University of Missouri College of Veterinary Medicine.



EXPERT AVAILABLE: Drought Conditions Make Corn Dangerous to Feed to Livestock, MU Expert Says
High nitrate levels in corn can cause miscarriage, sudden death for animals

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<http://munews.missouri.edu/expert-comment/2012/0815-expert-available-drought-conditions-make-corn-dangerous-to-feed-to-livestock-mu-expert-says/>

Stent Opens up Research Progress

Canine prostate cancer is an aggressive disease that commonly invades the bladder and urethra and can lead to urinary difficulties. Although researchers continue to make strides toward more effective treatments for this disease, the urinary complications caused by the cancer can create significant research challenges.

Sandra Axiak, DVM, ACVIM, an assistant professor of veterinary oncology at the University of Missouri College of Veterinary Medicine encountered such obstacles while enrolling subjects for a canine prostate cancer study using radioactive gold nanoparticles as a treatment. Many dogs that were otherwise good candidates for the study and that could potentially have benefited from the treatment were ineligible due to urethral obstruction. It was essential that participants be able urinate on their own, without catheterization.

However, Axiak's colleague Deborah Fine, DVM, MS, associate professor of veterinary cardiology, stepped in to assist by providing a procedure that created the opportunity for the dogs to be eligible to be enrolled in the study. The procedure involves inserting a urethral stent into the dogs. Fine's approach is a minimally invasive alternative to major surgery. It not only serves to ease urinary discomfort and improve the animal's quality of life, but by opening up the urethra dogs that previously were ineligible were given a second chance to participate in the study.

The intra-luminal stent that Fine uses in the procedure essentially functions as a tiny spring. She begins by injecting dye into the bladder and urethra to identify the location of the tumor and to map out the appropriate path for the stent placement. The stent is then inserted to cover a length of urethra that extends beyond either side of the tumor.

Fine has performed about a half dozen urethral stent placements for dogs in Axiak's research, and is believed to be the only veterinarian in Missouri offering this specific procedure.

Axiak's study, Phase I Trial of Gum Arabic coated radioactive gold nanoparticles (GA-198AuNPs) in the treatment of canine prostatic carcinoma, aims to determine the safety and effectiveness of injecting radioactivity directly into the tumor, with the hope of decreasing side effects associated with radiation therapy while increasing overall tumor control. Enrollment is opened to qualified participants.

Three Individuals. Three Individualized Learning Experiences. One Veterinary Clinic.

The quest for the ideal preceptorship can be daunting.

University of Missouri College of Veterinary Medicine students are fortunate to have an experienced guide to assist them: Student Services Coordinator Angela Tennison, DVM.

Tennison tries hard to listen to the students' interests and find a preceptorship location — clinic, hospital, or other business — that meets the individual's goals. She also aims to find veterinarians who enjoy teaching.

Recently, the ideal fit for three CVM students happened to be Brentwood Animal Hospital.

Ashley Seder, John McCarty and Timothy Hutson each served a preceptorship under the tutelage of Dr. William Shore, a managing partner of the clinic and a proud MU alumnus.

Shore attended the University of Missouri and graduated with a bachelor's degree in biology in 1974 and a Doctor of Veterinary Medicine degree in 1979. Today, he and his colleagues, many of who are also MU alumni, welcome MU students to work alongside them in the clinic.

Fourth-year CVM student Ashley Seder spent two weeks with Brentwood Animal Hospital at different times. "Everything worked out and I loved my experience so much that I decided to have a second go."

One of the highlights of Seder's preceptorship was being able to explore her interest in acupuncture under the tutelage of Dr. Sherry Headrick, who provides acupuncture and physical rehabilitation one day a week at Brentwood Animal Hospital. "It was fascinating to see alternative medicine in action, and Dr. Headrick was eager to discuss her training and the benefits she has seen in some of her patients."

"The most important lesson that I took away from this preceptorship was being able to work with your fellow veterinarians and staff as a team," Seder said. "Brentwood Animal Hospital is a shining example of teamwork."

Seder enjoyed the people and the atmosphere of the clinic, and the way everyone was eager to answer her questions and share stories and advice.

"Dr. Shore told me a story about how he gained an internship by agreeing to suture a wound on the spot during his interview. The veterinarian was impressed because other applicants had declined because they didn't feel comfortable," Seder recalled. From this, she said she learned that even if you don't feel particularly confident, you have the knowledge base and the capability to perform, and accepting the challenge will set you apart.

Seder's advice to preceptors, "Keep an open mind when entering a preceptorship, ask questions about why things are done the way they are, ask to participate in procedures. "



Ashley Seder

It was Dr. Shore's enthusiasm for veterinary medicine and the reputation of his clinic that led fourth-year student Timothy Hutson to choose Brentwood Animal Hospital.

"Dr. Shore's enthusiasm came through on many occasions. He would say that after all his years in the profession he still enjoys waking up to come to work," Hutson said.

Hutson was particularly interested in gaining experience in dermatology, dentistry, and radiology. "I was able to work with cases in all of my areas of interest," Hutson said. "I enjoyed being able to see so many cases and how the doctors at the clinic treated them." Hutson also appreciated learning about the business side of the clinic.

"Choose a clinic that is excited to have you come in as a preceptor," Hutson advises. "The best places have doctors who are happy to not only share what they know with you, but are also enthusiastic to learn from you."

John McCarty, also a fourth-year student at the CVM, valued the opportunity to learn various methods of doing things and to explore most areas of medicine during his preceptorship. Each clinician in the practice had an interest or area of strength, McCarty said. "Dr. Shore allowed me to help him with some surgeries. Dr. James Ryterski and Dr. Chandra Heider liked to talk about cases and quiz me a little about pathogenesis or differentials."

Some of the cases made a particular impact. "I remember seeing a cat with typical textbook clinical signs of uremia," McCarty said. "It was a really distinct image that I will never forget, and made me feel like I was really putting together the lecture end of school with the practical real life end of veterinary medicine."

McCarty's advice to those entering a preceptorship is to not fixate on one area. "At this point we need to really just get thrown into the mix, even if it is the seemingly easy stuff," he said. "Try drawing blood, doing a cysto', or take a history during these preceptorships. Let the clinic put you to work a bit."

Dr. Shore, a strong supporter of getting involved, told McCarty, "Whether it is in the community or volunteering or joining clubs, it is valuable to you in some way."

Shore first learned the value of community involvement during an unofficial preceptorship he served in a veterinary clinic during college. "One vet was very involved in the community," Shore said.

This involvement made an impression on Shore, and he has followed the same path. He is currently vice president of the Missouri Veterinary Medical Foundation and past president of the University of Missouri College of Veterinary Medicine Alumni Board. He has served as president of the Greater St. Louis Veterinary Medical Association and St. Louis District delegate to the Missouri Veterinary Medical Association.



Timothy Hutson



John McCarty

Shore's preceptorship was his first exposure to the real world of general practice, where he saw that different veterinarians handle cases in different ways, and where he learned to treat various conditions and work with staff.

Today, Shore aims to offer preceptors experiences in various aspects of internal medicine and surgery, as well as practice management. Brentwood Animal Hospital also provides students a chance to see that private practices do things differently than a university clinic, and that veterinarians must discern when it's time to consider a referral.

Shore and his colleagues strive to offer individualized preceptorship experiences based on the student's areas of interest. But Shore also strongly encourages students, "Learn as much about things you don't think you are interested in. Be open minded."

Shore says he loves working with students and keeping in touch with them after they finish their preceptorship. "They are fun and energetic," Shore said. "The staff enjoys it, too. Sometimes things even get a little silly, with lots of laughter."

"The bottom line? We get as much out of it, if not more." Shore said. "Dr. Tennison is great and Mizzou has a great program."

Former CVM Patient on the Track to Victory

Nate's Mineshaft was a 5-year-old thoroughbred racehorse running mid-level contests when a racing-related injury left him sore.

With a month of rehabilitation at the University of Missouri Veterinary Medical Teaching Hospital (VMTH) — and the diligence of his new trainer, Austin Smith — Nate's Mineshaft was back on the track.

Nate was not only racing again, but he was racing — and winning — higher stake races.

In fact, during his comeback to date, Nate's Mineshaft has won five races — including two graded stakes races in Louisiana and one in Texas, one of which, as serendipity would have it, was a race named after his sire, the Mineshaft Handicap. Nate's performance earned him kudos from the racing world and widespread media attention.



Dr. Shannon Reed and Nate's Mineshaft

“It's a Cinderella story,” said Shannon Reed, the MU veterinarian who led the MU veterinary team responsible for the rehabilitation of Nate's Mineshaft. “Nate was purchased for less than \$10,000 and has now won over a half-million (dollars).”

Nate was always fast and showed promise in the mid-level races. His success in the more competitive graded stakes is particularly impressive considering his injuries and his long road back to recovery.

Nate arrived at MU VMTH with serious inflammation in both front fetlocks. “They were the size of softballs,” Reed said. “He couldn't even bend.”

Nate's owners, Pete Reiman and Scott Reiman of Windy Hill Farm in Campbell Hill, Ill., chose to bring Nate to the University of Missouri Equine Clinic because of the advanced treatment options available. “They keep up with new treatments, and are on the cutting edge,” Scott Reiman said.

Reed said, “Racehorses experience the wear and tear of being an athlete. They need time to heal. We work with them to get them back to being the athletes that they are.” There is no masking the pain with medication, and, in Nate's case, no steroids. The focus is on healing and injury prevention.

It is with this philosophy that veterinarians at the MU Equine Clinic approach the treatment of equine athletes.

The Reimans own a few dozen racehorses, and are firm believers in MU's progressive approach to equine care. So much so that, since 2009, they have brought more than 35 of their horses to the University of Missouri for veterinary care, including Jake Wil Gallop, a 6-year-old who also returned to racing success after a similar therapeutic protocol.

“The three hours each way is time well spent,” Scott Reiman said. “I get an honest assessment of what’s going on. By the time I leave, I know what’s wrong.” Scott Reiman is impressed by MU faculty innovation and inventions, such as the **Lameness Locator**.

A crew of staff and students devoted around two hours each day for 30 days to Nate’s rehabilitation. During this time, Nate received a full range of therapeutic treatment, including a novel therapy known as Interleukin-1 Receptor Antagonist Protein (IRAP).

Interleukin-1 is a cytokine that stimulates the degeneration of cartilage damage and bone remodeling. IRAP treatments block Interleukin-1 in order to slow the progression of damage and decrease inflammation.

The horse’s blood is drawn and placed in a syringe to stimulate the production of a unique protein. After 24 hours, the protein is separated from the blood cells – and the concentrated plasma solution is injected into the horse’s joint. Because this treatment uses the horse’s own blood, there is no risk of disease transmission or immune rejection from foreign proteins.

Nate received IRAP injections into his fetlocks once a week for four weeks.

Nate also followed an exercise and rehabilitation regimen similar to those of human athletes: warm-up, range-of-motion exercises, cardio time on a treadmill, cool-down. Even Nate’s post-workout cooling device was an adaptation of one designed for human use. The Game Ready machine, donated by a VMTH client, uses a circulating system to keep cold water on the horse’s joints, thereby reducing inflammation.

For racehorses, such as Nate’s Mineshaft, stepping onto the equine treadmill is both a treat and a source of some frustration. The aim is to keep the horse at a steady walk or trot. The horse, of course, wants to run.

Nate’s Mineshaft is healthy enough to run now. And run, he has. He currently has a lifetime earnings of \$638,214 of which \$576,646 has been earned since his rehabilitation at Mizzou. He has won Horse of the Meet at both Fairgrounds Racetrack in New Orleans, LA and Lonestar Park in Dallas, TX.

“The entire staff at the University should be very proud of Nate's accomplishments,” said Pete Reiman. “Without Dr. Reed and her staff's excellent care and knowledge of what to do for Nate, he would never have accomplished what he has.”

The Reimans have supported student education by sponsoring student, intern and resident travel for on-site evaluation of racehorses and by donating two of their retired racehorses to the College of Veterinary Medicine teaching herd.

A 2012 graduate, Kim Doller, DVM, was one of the students who worked with Dr. Reed in treating Nate. One of the highlights of Doller’s education was traveling with Reed to Louisiana watch some of the Reimans’ horses race. Doller said that what she learned from this experience was that working in a clinic is generally pretty structured, but that working on site is different — sometimes requiring veterinarians to be more flexible and adaptable.

“It has been very exciting to work with racehorses. We are lucky to have horses of this caliber come through here,” said Doller. “Their victory is our victory.”

Longtime CVM Librarian Takes on New Duties

College of Veterinary Medicine Dean Neil C. Olson recently announced changes in the operation of the College's Zalk Veterinary Medical Library due to the consolidation of the veterinary and health sciences historical collections under way at the MU Libraries.



The collections will be curated by a librarian with an outstanding reputation for scholarship in the history of veterinary medicine. Trenton Boyd, longtime CVM librarian, has accepted the position as the distinguished librarian curator of medical and veterinary historical collections for the MU Libraries. Boyd is renowned for his scholarship in veterinary history and his long-term, visionary leadership in the field of veterinary librarianship at the national and international levels. The appointment is the culmination of 42 years of veterinary librarianship directing the operations of the veterinary library.

In his new role, he highlights publications of historical interest related to veterinary and medical sciences housed in the MU Libraries, bringing visibility and scholarship to the veterinary and health sciences historical collection. His duties include curating the archives of the College of Veterinary Medicine. However, he continues to be available to respond to questions pertaining to the College's history.

Kate Anderson has assumed the role of interim head, at the Zalk Veterinary Medical Library, based on her seven years of successful service as specialized services librarian in the Health Sciences and Veterinary Medical Libraries. During the past two and a half years, Anderson has also served as the Mizzou Advantage liaison for the MU Libraries.

Early Diagnosis, Attentive Owner Keep Dog's Disease in Check

Brutus was recovering from knee surgery a few years ago when his owner, Carol Morris of Columbia, took him and his half sibling, Panda, to the local dog park. They returned home on the brisk winter day and Moore noticed that her young dog's eye was swollen. Thinking Brutus may have gotten something in his eye while playing at the park, she brought him to the MU Veterinary Medical Teaching Hospital where he was examined by the veterinary ophthalmology service and treated for a severe case of uveitis, or inflammation inside of the eye. While diagnostic tests ruled out an infection or tumor, the cause of the problem was not immediately determined.

Dylan Buss, DVM, MS, Diplomate, American College of Veterinary Ophthalmologists, who was at the time a veterinary resident in comparative veterinary ophthalmology at the Teaching Hospital, re-examined Brutus when Morris returned with the blue chow for a follow-up visit 10 days later. Buss had recently read a study about uveodermatologic syndrome (also known as VKH-like disease in dogs), which is a condition that manifests with both ocular and dermatologic lesions. This disease more prevalent in Akitas, Chow-Chows, Siberian Huskys and other northern breeds, and it is thought to be due to an immune mediated response against melanin. Buss, together with his faculty attending clinician, noticed that a spot below Brutus' nose had developed a pink tinge, indicating a possible loss of pigment. He also determined that the uveitis appeared consistent with uveodermatologic syndrome. Although there is no diagnostic test for uveodermatologic syndrome, a skin biopsy, the presence of uveitis, depigmented skin lesions and Brutus' breed supported the diagnosis.



"I was told, if we didn't treat it, Brutus could get glaucoma and go blind," Morris said. "I'm not willing to let him go blind on me."

Ann Bosiack, DVM, an ophthalmology resident at the Veterinary Medical Teaching Hospital, has been helping to treat Brutus for more than two years since his original diagnosis. She said that while uveodermatologic syndrome is not curable, it can be controlled with immunosuppressive medications. Brutus is on a regimen of immunosuppressive drugs that have helped him avoid devastating visual complications such as detached retinas.

"A lot of times, the disease is quickly progressive," Bosiack said, "but Brutus is doing really well." Bosiack credited Morris' attentiveness for the ophthalmology section's success in staving off the progression of the disease. "A lot of his success thus far has to do with the owner. She brings him back in to see our service as soon as she notices any depigmented lesions on his nose, tongue or lips so that we can modify his medical treatment before the disease causes more damage to his vision."

Morris, in turn, said she appreciates how reassuring Bosiack has been throughout Brutus' treatment. She said she also likes to utilize the services of the Veterinary Teaching Hospital because she welcomes the opportunity to help veterinary students learn about an uncommon disease, as well as gain experience treating a Chow-Chow, a breed that some people find intimidating.

"I figure it's good for my dogs as well as the students. I enjoy bringing him over. As much as anything, it gives me confidence that he's continuing to do well."

CVM's Dr. Alex Bermudez Passes Away

Dr. Alex Jose Bermudez, 55, of Columbia, an associate professor in veterinary pathobiology at the University of Missouri College of Veterinary Medicine and the director of the Veterinary Medical Diagnostic Laboratory, passed away suddenly on Monday, Oct. 8, 2012.

Visitation for Dr. Bermudez will be held from 4-8 p.m. on Thursday, Oct. 11, at Memorial Funeral Home, 1217 Bus Loop 70 West, Columbia, Mo. His funeral will be held at 11 a.m. on Friday, Oct. 12, at Evangelical Free Church, 600 Silvey St., Columbia, Mo.

He was born on Feb. 25, 1957, in St. Croix, U.S. Virgin Islands. He earned a bachelor of science degree from Bates College in Maine, and a master's degree in 1984 and doctor of veterinary medicine in 1986 from the University of Illinois. In 1980, he married Lisa Lundelius of Pennsylvania.

Following an avian medicine internship at North Carolina State University, and positions at the University of Connecticut and The Ohio State University, he became a faculty member and avian pathologist at the University of Missouri Veterinary Medical Diagnostic Laboratory in 1991. Since 2005, he served as the director of the laboratory.

Dr. Bermudez had served on numerous professional committees and boards. He was a member of the American Association of Avian Pathologists and the American College of Poultry Veterinarians of which he was elected president in July. He also represented the ACPV on the American Veterinary Medical Association, American Board of Veterinary Specialties from 2001 to 2007. He had been an associate editor for the journal *Poultry Science* for 10 years and served on the editorial board of *Avian Diseases*. He also served on the editorial board of the of the *Avian Disease Manual* published by the American Association of Avian Pathologists (1994 – 2006) and was a contributing author to the text "Diseases of Poultry" (10th, 11th, and 12th Editions). He faithfully served the University and professional groups in many capacities.

Dr. Bermudez was an active member of Evangelical Free Church and later the International Community Church. He served both churches as elder, teacher, Bible study leader, and most importantly, a tireless helper to those in need. Whether it was leading an organizational meeting or bringing his pickup truck to help international students move, his gentle spirit and dedication to others had an impact on the lives of his church family, from the youngest children in Sunday school to its oldest members and staff.

From childhood he had an abiding love of nature. An avid bird-watcher, enthusiastic fisherman, and persistent (if rarely successful) hunter, his great joys were spending time in the countryside and at the beach.



He is survived by his wife, Lisa, and children, Alexa, Steven (Carla), and Peter, all of Columbia, his father, José Bermudez of Puerto Rico, and half-brother, Jan Henle (Dee) of New York City. He was preceded in death by his mother, Atti Vandenberg Bermudez.

In lieu of flowers, the family would like memorials to go to the International Community Church, 1107 University Ave., Columbia, Mo., 65201, or to the University of Missouri, W210 Vet Med Building, Columbia, Mo., 65211. Memo: College of Veterinary Medicine, in memory of Alex Bermudez.

College Associate Professor, VMDL Director Passes Away

The University of Missouri College of Veterinary Medicine community was shocked and saddened to learn of the sudden death of Dr. Alex Bermudez on Oct. 8, 2012.

“The passing of Dr. Bermudez is a terrible loss to the College of Veterinary Medicine, on both a personal and professional level,” said CVM Dean Neil C. Olson. “Dr. Bermudez was a great friend and mentor to so many within the College and to so many former and current students. He was an inspiring teacher and an exceptional leader. He was also an accomplished researcher and his work, especially in avian medicine, has greatly advanced our scientific understanding within the one health/one medicine model.”

Olson announced that Dr. Gayle Johnson has agreed to serve as interim director of VMDL effective immediately.

“Dr. Johnson has served as associate director of the VMDL for several years and is well qualified to assume the duties as the interim director of the diagnostic laboratory during these difficult times,” Olson said.

Johnson is a professor of veterinary pathobiology at the College of Veterinary Medicine. She earned her doctor of veterinary medicine degree at the University of California-Davis. She also possesses master of science and master of preventive veterinary medicine degrees from UC-Davis. She earned a PhD in veterinary sciences from Washington State University. She is a diplomate in the American College of Veterinary Pathology. Dr. Johnson is involved in tracking the epidemiology and pathogenesis of West Nile viral infection by monitoring spontaneously infected horses and other domestic animals. She also investigates neurological disease, other infectious diseases and small ruminant lentiviruses.

The faculty and staff of the VMDL conduct tests determining the causes of animal deaths and illnesses, and pursue research into the toxins, biochemical changes, tissue alterations and pathogens that cause animal and human disease. The laboratory conducts approximately 200,000 diagnostic tests annually.

CVM Alumna Takes a Walk on the Wildlife Side



One of Dr. Andrea Miller's colleagues places his hand next to the track left in the snow by a bear. As part of her research into stress factors for Scandinavian brown bears, Miller, working with other veterinarians and biologists, would locate bears by following their tracks, then call in a helicopter crew to anesthetize the bears. Once the bears were anesthetized, the team on the ground would move back in and fit the animals with radio collars, VHF transmitters and heart rate and temperature monitors. Hair and blood samples would also be collected for ongoing studies. (Photo by Nikolaus Huber)



Dr. Andrea Miller administers oxygen to a moose as part of an experiment to try to counteract the effects of hypoxemia, low blood oxygen, which some combinations of anesthetic drugs can induce. (Photo by Marianne Lian)

The website for Hedmark University College advises prospective students and visitors that its Evenstad campus is “in the middle of nowhere.” While the nearest town is 20 kilometers away, the online survival guide advertises that there is a canteen on campus that specializes in moose burgers. For students who prefer to prepare their own meals, the guide notes that there is a small shop that sells groceries situated close to campus just across the Glomma River. It can be reached by foot in about 10 minutes, however, in winter students can slip across the frozen river, cutting their trip for supplies in half. When the volume of snow makes walking impractical, the university library stocks not just books, but also skis that students can borrow. According to the website, surrounded by forests, mountains and lakes, Evenstad, in southeast Norway, is “the Place for Wild Hearts.”

Andrea Miller, DVM, felt right at home in this wild place for the past year. Miller, who earned a bachelor of science, fisheries and wildlife degree at the University of Missouri in 2005, and a doctor of veterinary medicine from the MU College of Veterinary Medicine in 2009, recently completed a year-long fellowship as a Fulbright Scholar based at the Evenstad campus. While there, she drew blood from wolves and roe deer, helped assess the effects of an anesthetic protocol on moose and tracked a bear that she then performed surgery on in the field.

In her understated manner she admits, “I do have a sense of adventure.”

Evenstad is a long way from the small mid-Missouri town of Bonnots Mill where Miller grew up and first developed an interest in working with wildlife. Her interest deepened while attending MU as an undergraduate and during her professional education at the College of Veterinary Medicine. As a veterinary student, she participated in the Raptor Rehabilitation Project and in the Zoo and Exotics Club. She also spent three weeks in South Africa with a group called Vets-in-the-Wild. There, she learned wildlife medicine, wilderness survival, and chemical immobilization techniques. Her academic achievement, research activity, and extracurricular participation earned her the Gary D. Weddle Wildlife and Exotic Animal Award in 2009.

After graduating from the CVM, she pursued an internship in avian and exotic animal medicine in Houston, Texas. But it was during the summer after her internship ended when the

cosmic tumblers clicked into place and would point her compass 4,000 miles to the east, ultimately changing the course of her career.

The Road to Nowhere

Miller spent the summer of 2010 as a volunteer research technician in Nome, Alaska. She assisted with the University of Alaska-Fairbanks Reindeer Research Project, collecting virology and bacteriology samples from reindeer herds on the Arctic tundra. The work was an effort to determine the cause of eye infections in the animals. Miller’s supervisor on the project was Alina Evans, DVM, a previous Fulbright Scholar herself. At the end of the summer, Evans moved on from the Alaska project to begin pursuing a PhD in Evenstad under the tutelage of Jon Arnemo, DVM, PhD, and wildlife veterinarian. Miller, meanwhile, returned to Missouri and began work as a research technician in a laboratory, and as a veterinarian, first at the Central Missouri Humane Society, and then at a rural mixed animal practice in central Missouri. She also began the application process to be selected as a Fulbright Scholar with the guidance of longtime mentor John Dodam, DVM, PhD, chairman of the CVM Department of Veterinary Medicine and Surgery, Marie Kerl, DVM, MPH, CVM associate teaching professor of small animal internal medicine, Natlie Antinoff, DVM, of Gulf Coast Veterinary Specialists, and Leona Rubin, PhD, CVM associate professor of biomedical sciences.

“I have known Dr. Miller since she enrolled at MU as a freshman undergraduate student,” Dodam said. “I served as her Pre-Veterinary Scholar mentor during her undergraduate training. I also had the opportunity to teach her in the classroom, laboratory, and on the clinic floor when she was enrolled in our College of Veterinary Medicine. Finally, I supervised her on research projects and employed her as a teaching assistant for our didactic anesthesia and surgery laboratory. She was invaluable as a research assistant because of her attention to detail, her participation in development of experimental methodology and logistics, and her reliability.”

One of the requirements necessary to be selected as a Fulbright Scholar is to know someone in the country where the applicant is applying to study. With Evans and Arnemo now in Norway, Miller had the contacts she needed to pursue her own studies there. She also began learning Norwegian under the tutelage of Carla Waal Johns, a Columbia resident and MU professor emeritus, who had also been a Fulbright Scholar to Norway.

“She not only taught me language basics, but also the culture. We would have tea, speak Norwegian and she would tell me about her experiences there and what to expect,” Miller said. “We even had a May 17



Dr. Andrea Miller traveled to Norway and Sweden as a Fulbright Scholar to research the effects of stress in Scandinavian brown bears. (Photo by Alina Evans)

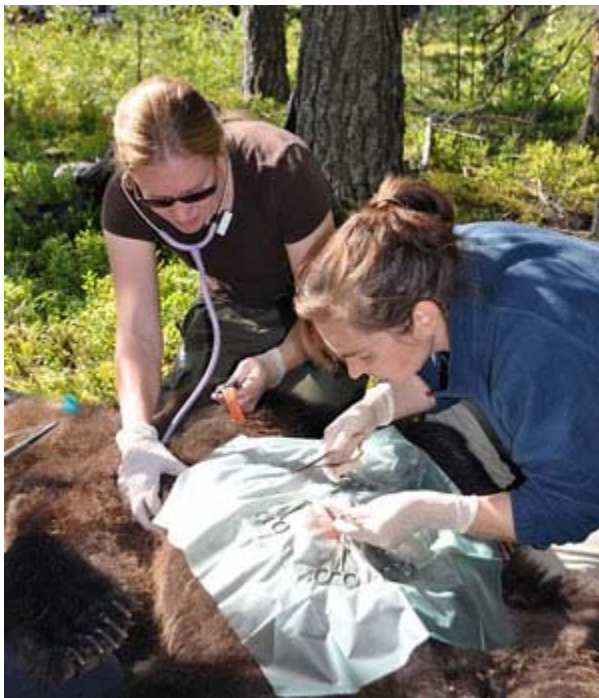


Dr. Andrea Miller (left), Dr. Krista Jones and Dr. Jon Armeno are pictured with one of the Scandinavian brown bears they captured and fitted with a radio collar, heart rate and temperature sensors and intra-abdominal VHF transmitter. The bandana reduces light stimulation to the eyes while the animal is under anesthesia. (Photo by Jon Arnemo)

(Norwegian Constitution Day) party before I left. Because of her teaching, I felt comfortable in Norway right away.”



Veterinarians Andrea Miller and Krista Jones examine a brown bear’s teeth and check its capillary refill time (CRT), which is the rate at which blood refills empty capillaries and can be used to assess whether an animal is dehydrated. CRT can be measured in animals by pressing on their gums.(Photo by Jon Arnemo)



Dr. Andrea Miller monitors a bear’s vital signs including its heart rate while Dr. Krista Jones, a fellow Fulbright Scholar, performs her first surgery on a Scandinavian brown bear. (Photo by Jon Arnemo)

Miller began her studies overseas by attending an intensive language course in Norwegian at the Oslo International Summer School. She credited Johns’ instruction with enabling her to immediately jump to level two Norwegian. After completing the course, Miller left Oslo for the Evenstad campus where she began her year with several months of coursework in ecology and statistics as part of her program leading to a master’s degree. Fieldwork began shortly after Christmas last year with Miller working on a variety of wildlife ecology projects under Arnemo’s direction.

On Bears and Bugs

Her first field assignment took her to Sweden to assist with the Scandinavian Wolf Project. Local and government trackers would spend days searching for wolf tracks. Once they located tracks, they would call in a helicopter crew to locate and anesthetize the wolf from the air using a dart gun. With coordinates provided by the helicopter team, the crew on the ground would then race to the wolf’s location. As the biologists would take measurements and place a tracking collar on the wolf, Miller and other veterinarians would monitor the anesthetized wolf while collecting hair, skin and blood samples for genetic tests and other ongoing research. Once all samples were collected, Miller would administer drugs to reverse the anesthesia and then remain with the wolf until it was recovered. That process could take several hours.

“My first night I got to help recover two wolves in a field under a gorgeously clear starry Swedish sky. It was fun, but a bit cold,” she said.

The following week found her helping to capture roe deer, place collars on them and take blood samples. Since the deer didn’t require anesthesia, the time between capture and releasing the deer to run free was less than 10 minutes.

In addition to helping with other scientists’ roe deer, wolf and moose projects, Miller worked on her own research. She and her colleague Evans partnered on the Scandinavian Brown Bear Research Project, which is centered at Tackåsen field station in Sweden. Their fieldwork included tracking, darting and capturing bears. Some of the bears had been caught previously and fitted with radio collars with GPS transmitters allowing researchers to track their moves. They also captured bears that had never previously been studied. While

anesthetized, the bears were fitted with new collars, VHF transmitters were surgically inserted into their

abdomens, heart rate sensors were placed under their skin and temperature loggers were placed beneath their skin and in their abdomens. Miller also collected hair samples, which the project uses to identify each bear and in studies assessing how these Scandinavian bears are related to each other and to bears elsewhere in Europe.

Miller performed the abdominal surgeries in the field under a variety of conditions. Her first full surgery was on a 10-year-old brown bear that weighed 200 kg (more than 440 pounds). She performed another surgery on a 100 kg male bear in the forest as snow fell. In August she performed surgery on four more bears. While snow was not a problem in August, dusk brought out swarms of biting insects that attacked Miller's arms during surgery and triggered a mild allergic reaction.

The intra-abdominal temperature loggers provide Miller with readings on the bears every one to three minutes. She is collecting the data as part of her master's thesis, which examines the animals' stress. She will analyze the bears' temperatures during the summer, when they encounter humans, and if they are approached by hunting dogs. She hopes to have her master's project completed in about 18 months, but said that is an "optimistic" target.

Pursuing a New Quarry

Miller said her experience as a Fulbright Scholar opened up other opportunities. Although her program has ended, she will remain in Scandinavia to pursue a PhD. She recently relocated from Evenstad to Uppsala near Stockholm, Sweden, where she will pursue her studies at the Swedish University of Agricultural Sciences (SLU). She has been selected to work on a research project that is a collaboration between scientists in Sweden, Denmark, Latvia, Finland and Switzerland. However, instead of capturing 200 kg bears for study, she will be focusing on a parasite, *Echinococcus multilocularis*.

Echinococcus multilocularis is a tapeworm that is normally transmitted between rodents and foxes. However, if humans accidentally ingest the parasite eggs, it can cause alveolar hydatid cyst disease. This causes parasitic tumors in the lungs and other organs and can be fatal without treatment.

"It's big news in Europe. People are advised to wash all wild berries before eating them, because that is one of the ways people can accidentally eat the parasite eggs" Miller explained. However, until recently, *Echinococcus multilocularis* had never been found in Sweden. "The parasite was identified in a fox that was shot in a hunt in southwestern Sweden. The parasite may have originally come to Sweden in a dog that hadn't been dewormed properly." Miller said the four-year project will focus on the epidemiology of *Echinococcus multilocularis* in rodents in Sweden.



Dr. Andrea Miller draws blood from the leg of a wolf for analysis. In addition to her own research focusing on bears, she assisted researchers who were studying wolves, roe deer and moose. (Photo by Jon Arnemo)

Home is Where the Wild Heart is

She said although she has felt some homesickness for the United States, she quickly embraced the Scandinavian culture. In Norway, Miller lived on a small farm about three kilometers from school. Because Evenstad is so far north, it gets dark early in the winter. From October to March she would walk or ski home from campus under the stars. As the



One of the biggest challenges Dr. Andrea Miller faced after moving to Norway was learning to ski, a national pastime among Norwegians and a necessity for getting around the countryside in the winter months. (Photo Credits: Andrea Miller)

house was only heated by two wood stoves, Miller quickly learned how to chop wood. A more daunting challenge was learning to ski, which is a national pastime in Norway and without a

car, a necessity to get around in the winter. “It was frustrating, but exhilarating when I had moments of breakthrough. What’s even funnier is skiing hooked up to a dog, or ‘skikjoring’. I didn’t have good balance, and I had a dog that was easily distracted,” she laughed. “One of the strangest things I had to get used to was going to class in my socks. In Scandinavia it is part of the culture to take off your shoes when you go into someone’s house. It’s not a suggestion; it’s actually rude to wear your shoes past the entryway. At Evenstad the main classroom building is also like that, so all of the students go to class in socks and the teachers lecture in socks.”



(From left) Marianne Lian, who was working on earning a master’s degree and doctor of Veterinary Medicine, and veterinarians Andrea Miller and Alina Evans wait with wolves after collecting blood and hair samples from the animals. Making sure the wolves suffered no ill effects from the anesthesia that was administered and were kept safe until they could fully wake up could take several chilly hours. (Photo Credits: Jon Arnemo)

Miller even embraced Nordic dietary habits. She says moose burger is very good. She also enjoyed moose barbecues and reindeer roasts. One of her favorite lunches is mackerel in tomato sauce on crackers and sliced hard boiled eggs with caviar on top. Waffles with brown cheese or sour cream and jelly are another staple.

Although her research will keep her in Sweden for four years, she would like to return to the United States at some point, but hopes to continue to collaborate on projects in her adopted home.

Thorne is 2012 Alumnus of the Year

Dr. James Thorne, DVM '61, is the University of Missouri College of Veterinary Medicine 2012 Alumnus of the Year. Thorne was honored during the College's Alumni Reunion Weekend held Sept. 14-15. Thorne earned both a bachelor of science degree in agriculture in 1960 and doctor of veterinary medicine in 1961 at the University of Missouri. He went on to complete a PhD in physiology at the University of Georgia and earn a master of preventive veterinary medicine degree at the University of California–Davis.

Thorne began his professional career in 1961 at the Green Hills Animal Hospital in Marceline, Mo. He also worked as the director of veterinary services for the U.S. Veterinary Corps at Bergstrom Air Force Base in Austin, Texas, and in general veterinary practice at the Wellsville Animal Clinic, in Wellsville, Mo. He became an instructor at the University of Georgia College of Veterinary Medicine Department of Medicine and Surgery in 1969 before being named a research associate in the department of Physiology and Pharmacology, and in 1972, a veterinary medical resident in physiology and pharmacology.

In 1974, he returned to the MU College of Veterinary Medicine as an associate professor in Veterinary Medicine and Surgery. He served as the director of Veterinary Continuing Education and Extension from 1982 to 1988 while concurrently earning his MPMV at UC-Davis. Since 1988, he has served as a clinical epidemiologist at the CVM, where he is also an associate professor. Thorne is also well-known for his role as an advisor and sponsor of the CVM Mule Club. He has spent countless hours traveling the state with the club, driving the mule team and serving as a goodwill ambassador for the College.

In accepting his award, Thorne commented, "If you see a turtle on a post, you can be sure he didn't get there by



himself." Thorne's service extends to his community. He has been an active member of his church, is involved with the Missouri River Steam Engine Association, is an amateur radio operator, and has volunteered in numerous capacities with the Boy Scouts, including as a scoutmaster, Wood Badge course director, and National Jamboree Health officer. He received the Boonslick District Award of Merit in 1983 and the Silver Beaver Award in 1993 from the Great Rivers Council.

Members of the Raptor Rehabilitation Project brought some of the birds they care for to the alumni breakfast.

Thorne and his wife, Mary Jane, have three children and



The highlight of the alumni reunion banquet, which was held in the Adams Conference Center, was the presentation of the Alumnus of the Year Award. Dr. James Thorne, CVM '61, was this year's honoree. Thorne, who is an associate professor at the College, is pictured with his wife, Mary Jane, and other members of his family along with the bronze plaque he received in recognition of his service and accomplishments.



During the annual breakfast with retired faculty, Dr. Ron Cott (right), associate dean of Student and Alumni Affairs and director of Development at the College, thanks Dr. William Shore, CVM '79, for his service as president of the CVM Alumni Association .

several grandchildren and great grandchildren.

The announcement of the Alumnus of the Year award was made during the reunion banquet for the classes held at the Adam's Conference Center. The following morning alumni were invited to have breakfast with retired and current faculty members. A tailgate party was also held at the College before the football game against Arizona State.



Dr. Neil C. Olson, dean of the College, welcomes guests to the reunion dinner.



Dr. James Thorne, CVM '61, visits with Dr. BJ Lauhoff, CVM '62, during the social hour preceding the alumni banquet.



College Alumni take a walk down memory lane as



(Left) CVM faculty members, Dr. Ron Cott, associate dean of Student and Alumni Affairs and director of Development, and Dr. Joan Coates, professor of neurology and neurosurgery, were elected to the CVM Alumni Association Board during the organization's business meeting held during Alumni Weekend. Cott will serve another two-year term as the organization's secretary/treasurer. Coates was elected as vice president.

Educating the Next Generation of Veterinarians at MU

At the University of Missouri College of Veterinary Medicine (CVM) commencement this past May, alumnus Dr. James Gilkerson, CVM '74, addressed the graduating class. He spoke eloquently of his journey from owning a mixed animal practice in a small community in rural Missouri to a career in research and development designing cardiac devices that extend and improve people's lives. Among his most telling remarks, "The things you learned in veterinary school didn't exist when I was in veterinary school."

Since its beginnings, the veterinary profession has been in continuous transition as our understanding of and relationships with animals have evolved. This remains no less true today. As Dr. Gilkerson pointed out in his address, the rapid change and evolution of our profession brings with it a challenge: Will we determine our future place in society or will we respond reactively, and thus allow our role to be determined for us? If we choose the latter, our profession will surely contract and become less relevant to societal needs.

There has been much discussion surrounding the recently released National Research Council (NRC) for the National Academy of Sciences study, "Workforce Needs in Veterinary Medicine," (<http://dels.nas.edu/Report/Workforce-Needs-Veterinary-Medicine/13413>). The NRC report points to a number of uncertainties, including those for practices involving companion animal care, due to the continuing economic recession accompanied by a lack of documented evidence that there is a widespread shortage of veterinarians. Importantly, the report affirms the College leadership's position that rather than an excess of DVMs, there exists a maldistribution within the profession. The report notes that the original objective in establishing veterinary schools at land grant colleges, such as the University of Missouri, was to support agriculture and food animal medicine. The MU CVM Mission Statement (below) encompasses this historic purpose and addresses the complexities of meeting current and future requirements of developing a workforce trained to meet society's needs:

"We are Missouri's only College of Veterinary Medicine. Our mission is to educate and train outstanding clinicians and scientists, generate new knowledge, and foster economic growth, all of which promote and protect the health and welfare of animals and people. We are guided by a One Health/One Medicine philosophy, strengthened by campus wide collaborations with human medicine, animal and life sciences, agriculture, engineering, and the other health professions."

The NRC report emphasizes the critical distinction between workplace shortages and unmet societal needs. Indeed, societal needs for veterinary expertise are substantial and growing and the potential contributions of veterinary medicine have not yet been realized. "The veterinary workforce of today may bear little resemblance to the one 10 to 15 years from now," according to Dr. Andrew Maccabe, executive director of the Association of American Veterinary Medical Colleges. "As the population increases and veterinary medicine evolves, we expect that veterinarians will fill more roles in a broad range of careers not typically linked in the public's mind with veterinary medicine ..." It is clear that long-term planning for the future of the profession requires decades of effort, and that we look beyond immediate economic scenarios and short-term needs. At MU, we are very well positioned to educate the next generation of veterinarians who will serve all the needs of our diverse profession including the One Health/One Medicine initiative. In fact, even in the face of a sluggish economy, unemployment and the struggle to start careers seen by graduates in numerous other fields, the CVM prides itself on a 100 percent job placement rate for all of our graduates.

Nearly four years ago the CVM increased the number of students admitted. The decision to increase the class size was made after a great deal of reflection based upon available data of anticipated societal needs, our graduates' employment rates, our ability to adapt our curriculum to ensure that our students' education would remain top-quality, and finally the projected impact on the college if we failed to take this step. We currently

admit 60 Missouri residents and 60 non-resident students into each class. We are, of course, accountable to the state we serve, our graduating students and certainly our alumni. In order to assuage concerns that the companion animal market in Missouri was becoming oversupplied and that increasing the class size would aggravate that potential issue, we drew the additional students we admitted from the pool of out-of-state applicants. As there are only 28 schools and colleges in the United States conferring the DVM degree, there are many students who lack the opportunity to seek their professional veterinary education within the borders of their home states. However, through their intellect, motivation and willingness to sacrifice, they have proven time and again to be exemplary students and future leaders in our profession. Upon graduation, we expect that nearly all of the out-of-state students will leave Missouri to begin their careers.

Despite our success in placing our graduates, we have long recognized that increased emphasis must be placed on sectors of the profession outside of companion animal medicine. Accordingly, we adjusted our admissions standards to award credit to aspiring veterinary students for experience in public health and research. We also modified our curriculum to accommodate the opportunities in veterinary sectors outside of companion animal medicine. Assessment and evolution of our curriculum will continue as part of our strategic planning process and to allow us to improve quality of education and flexibility of training. Among our most dynamic and recent initiatives was the development of a program that allows students to pursue concurrently a DVM and a Master of Public Health degree. We currently have 12 students enrolled in the dual DVM/MPH program. In addition, our students have the capability to pursue graduate training in other areas.

The NRC report also addressed the importance of the veterinary profession investing in its future through biomedical research. We are proud of the CVM Veterinary Research Scholars Program (VRSP), which was established to encourage students to explore research projects while learning to appreciate the challenges, stimulation and career growth potential of the field. The program was established in 2005 and in its inaugural year had 10 students participating, each assigned to a faculty mentor. In 2012, the VRSP had its most successful year to date with 33 students engaged in scientific research under the mentorship of faculty. Our students also have the option to pursue research training by enrolling in other graduate programs while completing the DVM degree. For example, we currently have two students who are obtaining a master's degree in animal science concurrent with their DVM training. It is also of note that up to 30 percent of our graduates pursue post-doctoral training and up to 40 percent report entering sectors of veterinary medicine other than private practice immediately following graduation.

Decreasing state investment in education and increasing student debt are also threats to the veterinary profession. Indeed, during the past several decades declining state support has placed enormous financial constraints on the College. Since 2001, state appropriations to the University of Missouri have decreased 12 percent while total university enrollment increased 47 percent. Missouri is now 44th nationwide in spending on higher education. Sensitive to the increasingly disproportionate student debt burden in relation to average starting salaries for veterinarians, we have attempted to minimize tuition and fee increases. With in-state tuition and fees set at \$20,092 per year, and out-of-state tuition at \$49,398, MU remains an extraordinary value when compared to other DVM programs. We also offer one of the most accommodating policies to students attempting to qualify for in-state student status. The average debt load for all members of the MU CVM Class of 2012 was \$117,804. Compare that to a national average in 2011 of \$142,613, and our commitment to addressing the College's financial pressures without exacerbating the looming crisis of affordable education is clear. The College also employs a financial counselor who speaks with all of our veterinary students and offers advice on managing their financial affairs and debt reduction strategies, and makes sure they are provided with information on grant and loan opportunities.

Without an influx of additional tuition revenue, the CVM would have been placed in the untenable position of being forced to cut faculty positions, halt research programs, discontinue utilizing the latest technologies, and scale back clinical, diagnostic and pathological services. Our ability to educate veterinarians, care for

companion animals, secure the health of food animals, and fight diseases affecting both animals and humans would have been curtailed. Indeed, this very issue faced by veterinary schools and colleges is addressed in the NRC report:

“A major trend affecting veterinary academe is the precipitous decline in state support for faculty positions and tuition support, resulting in reduced hiring, layoffs, and the elimination of whole programs from veterinary schools. . . . Colleges and schools of veterinary medicine face a precarious situation. They are in desperate need of trained graduates for faculty positions in structural biology, physiology, pharmacology, pathology, clinical pathology, infectious diseases of animals and zoonotic diseases, virology, microbiology, food safety, epidemiology, and nutrition. . . . In the near future, the profession will experience major setbacks if veterinary schools lack a sufficient number of experts to serve as faculty. Unfortunately, the trends suggest that the academic veterinary community will not meet its own needs, let alone those of state diagnostic laboratories, federal research and regulatory agencies, or the pharmaceutical and biologics industry.”

To forestall this dire scenario, we became entrepreneurs. We opened a cancer treatment center proximate to our St. Louis clients to facilitate cancer treatment for their pets, and we improved our financial position through the sale of RADIL. Thus, increasing class size was one of several proactive steps we have taken to protect the future of Missouri’s only College of Veterinary Medicine.

Moving forward, we recognize that we need to increase our efforts to attract students who are motivated to work in those sectors of the profession that the NRC has identified as being underserved — academia, food animal production and security, water safety and security, wildlife and ecosystem health, and zoonotic and bioterrorism threats — and we must further tailor our curriculum to meet the academic needs of these future scientists who will embark upon careers in an ever-expanding field of veterinary disciplines. To have responded to the complex needs of the global community with inaction was not a course we could in good conscience follow.

CVM Alumnus to be Honored for Contributions to Agriculture

MU College of Veterinary Medicine alumnus Dr. Paul Nicoletti has been named to the Florida Agricultural Hall of Fame. The organization honors men and women for their lasting contributions to Florida agriculture and for mentoring youth. He and his fellow 2013 inductees, Dan Botts of the Florida Fruit and Vegetable Association, former Agriculture Commissioner Charles Bronson, and Dr. Eugene Trotter, founder of the Wedgworth Leadership Institute for Agriculture and Natural Resources, will be honored during a banquet Feb. 12, 2013.

Dr. Nicoletti was born in 1932 in Goodman, Mo., and grew up on a small dairy farm. He graduated from the University of Missouri College of Veterinary Medicine in 1956. In 1962, he earned a master's degree from the University of Wisconsin, where he wrote his thesis on brucellosis.

He spent the bulk of his career with the USDA and the University of Florida's College of Veterinary Medicine. Nicoletti made a lasting contribution to Florida agriculture by improving the procedures used to control bovine brucellosis, or Bang's disease. He is an internationally recognized authority on bovine brucellosis, and his efforts led to the

eventual eradication of the disease in Florida. Brucellosis is a bacterial disease that can affect humans as well as animals. In cattle the most common clinical sign is spontaneous abortion. In humans, symptoms include fevers, weakness, anemia, headaches, depression and muscle pain. Brucellosis is an occupational hazard for farm workers, slaughterhouse workers, and veterinarians, who might be exposed to infected animals.

"Dr. Nicoletti has had a long and distinguished career in veterinary medicine," said MU College of Veterinary Medicine Dean Neil C. Olson. "His scientific contributions have dramatically improved our understanding of public health threats and have improved food safety for all people. He truly is a credit to the College of Veterinary Medicine, to which he has remained a tireless champion and a loyal friend. I'm happy to congratulate him on this latest honor."

From 1962 to 1968, Nicoletti worked as a USDA regional epidemiologist in Albany, New York. In this capacity he began conducting field investigations of brucellosis. From 1968 to 1972, he served in Iran as an epizootiologist for the United Nations' Food and Agriculture Organization. He then returned to the United States and his work as a regional epidemiologist with the USDA. In 1975 he was transferred to Gainesville, Fla., where his focus was once again brucellosis.

When Nicoletti began his work in Gainesville, the national brucellosis control program was a subject of controversy. The major elements of the program were vaccination of young cattle and slaughter of cattle that were positively identified for the disease by a blood test. Compliance was compulsory, and cattle owners were only partially compensated for their losses.

Nicoletti became convinced that current brucellosis protocols were wasteful and ineffective. His field studies in Florida led to modifications in the use of brucellosis vaccine, including the inoculation of adult cattle.



Before Nicoletti's adult vaccination program began, cattle owners would have to wait years before calf hood vaccination would begin to help their herds. Adult vaccination made protection for entire herds possible within a matter of days. Nicoletti also improved the brucellosis blood test, making it more accurate. These changes resulted in an 80 percent reduction in cattle losses.

Nicoletti's leadership helped mitigate the economic toll of brucellosis on the Florida cattle industry. Even more important, his efforts led to improved food safety and better protection of human health.

In 1978 Nicoletti joined the faculty at the University of Florida's College of Veterinary Medicine, where he taught courses in infectious diseases, epidemiology, public health, and food safety. He influenced many young veterinary students to consider careers in agriculture and public health. He retired from the University of Florida in 2003.

Nicoletti is a member of the American Association of Bovine Practitioners, the Florida Cattlemen's Association, and the American Association of Food Hygiene Veterinarians. He is a past president of the American Veterinary Medical Association, the American College of Veterinary Preventive Medicine, the Florida Veterinary Medical Association, the Alachua County Veterinary Medical Association, and Animal Disease Research Workers in the Southern States.

Over the course of his long and distinguished career, Nicoletti has received numerous awards and honors. He received the University of Missouri National Alumni Association's Distinguished Alumni Award in 1987 and the MU College of Veterinary Medicine Alumni Association Alumnus of the Year award in 2000. In 1994 he was named Veterinarian of the Year by the Florida Veterinary Medical Association, and in 2003 he was presented with the Distinguished Service Award by the University of Florida's College of Veterinary Medicine. His most prestigious award came in 2010 when he was recognized with the Meyer-Steele Gold Head Cane Award, the highest honor of the American Veterinary Epidemiology Society. This award recognizes scientists who have significantly advanced human health through the practice of veterinary epidemiology and public health.

Dr. Nicoletti has generously supported the MU College of Veterinary Medicine over the years. In 2001, he and his late wife, Earlene, endowed a scholarship for students, which is awarded annually. He has two grown daughters, Julie and Nancy.

Gold Nanoparticle Prostate Cancer Treatment Found Safe in Dogs, MU Study Shows
New treatment may have fewer side effects than traditional cancer therapy

Oct. 15, 2012

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<http://munews.missouri.edu/news-releases/2012/1015-gold-nanoparticle-prostate-cancer-treatment-found-safe-in-dogs-mu-study-shows/>

Students Celebrate Next Step and Don White Coats



The Class of 2014 listens to Dr. John Dodam, chairman of the Department of Veterinary Medicine and Surgery, as he welcomes them to their clinical training.



Briana Kaiser pins her husband, Zach Kaiser, with the Missouri Veterinary Medical Association lapel pin after the ceremony.



Dr. Neil C. Olson, CVM Dean, congratulates the Class of 2014 at the 11th Annual White Coat Ceremony.



Billy Kowalski receives his white laboratory coat from mentor, Dr. Kathy Fauth.

Intern's Clever Cupcakes Capture Attention of Homemaking Magnate

As a fourth-year student at the University of Florida College of Veterinary Medicine, Nicole Puza was charged with leading the Class of 2012's morale committee. She had her work cut out for her. As the group immersed itself in the intensive study needed to prepare for the North American Veterinary Licensing Exam, Puza felt a growing need to lift her own, as well as her classmates' spirits.

"Everyone was so stressed," she said, "I wanted to make people smile."

Puza had always possessed a passion for arts and crafts. When she was just 13, she painted a mural on her bedroom wall of angels playing trumpets with a music staff flowing between them. She also enjoyed hobbies like decorating pottery and knitting. However, making woolen scarves for all 84 of her classmates was neither feasible, nor particularly needed in the Florida climate, so she turned her creative energy in a new direction. She found a book on making cupcakes and began baking.

"It's an instant gratification craft," she said. "When I had time and didn't have something I had to do, I would make cupcakes as a de-stressor."

Puza, who is now undertaking a small animal rotating internship at the MU College of Veterinary Medicine, said her first batch of morale-boosting cakes for her classmates was timed to coincide with Thanksgiving last year. In keeping with the holiday, she created turkey shaped treats that were quickly gobbled up.

Her creativity continued whenever she had time to spare. She soon moved beyond the ideas she found in the cupcake book and started drawing on her own imagination for inspiration. Her cupcakes were as much sculpture as indulgence. One time her former classmates were treated to cakes that resembled broken eggs. She designed another batch of cupcakes to look like blood cells on a slide. Classmates were not the only beneficiary of her baking therapy; she also made cupcakes for her "Angry Birds-crazy" nephews. She experimented with various melting chocolates, but wrestled with how to assemble the video game birds' comically oversized heads. Eventually she decided to make heads by lining the inside of plastic Easter eggs with chocolate.

"A lot of it is trial and error," she said. "I stand in the candy aisle a lot and look at the candy and decide what I can do with it. A lot of candy, like Starbursts and chewy Jolly Ranchers, can be molded, kind of like clay."

A classmate shared photos of Puza's turkey cupcakes with family members, including an uncle who is the chief financial officer of Martha Stewart Living. The creation so impressed him that he asked to see additional photos of Puza's cupcake creations and ultimately invited the Connecticut native to visit the set of The Martha Stewart Show the next time she was in New York City.

Preparing for a trip home last spring, Puza responded to the invitation. She received two tickets via email to the April 10 show. However, less than a week before the show was scheduled to be taped in front of an



Nicole Puza on the set of The Martha Stewart Show with Martha Stewart. Dr. Puza, an intern at the MU Veterinary Medical Teaching Hospital, demonstrated how to make cupcakes that look like cheeseburgers and turn pound cake into French fries.

audience, she received a second email from the show's producers. Stewart had learned that Puza would be in the studio audience and requested that instead the veterinary student appear as a guest and demonstrate how to make one of her cupcake recipes.

In a flurry of emails and telephone calls, Puza provided the program's baking staff with recipes and instructions to make cupcakes, brownies, pound cake and icing, which the bakers completed prior to the taping. During her six-and-a-half-minute segment on the air, Puza showed Stewart how to split the vanilla cupcake to resemble a hamburger bun. The brownie became the patty. Frosting was colored red for ketchup, yellow-orange to resemble American cheese and green to look like lettuce. White sprinkles became "sesame seeds" on the top of the bun. A crinkle knife was employed to fabricate french fries from pound cake. The fries were then toasted to provide the final aesthetic touch.

Puza said she was nervous prior to the taping, but received some sage advice from the producers who told her to relax and enjoy the experience otherwise it would just be a blur in her memory. She said Stewart herself also put her at ease.

"I met Martha in the commercial break before my segment as our make-up was being touched up and our microphones were being put on. She was so poised and calm and genuinely kind. She made me feel very comfortable. She complimented many of my previous cupcake designs and remarked how she had been hoping to meet me for months. All of the staff on the show were so upbeat and welcoming. They all made me feel like I belonged there."

Since her brush with fame, Puza has completed her doctor of veterinary medicine degree and brought her veterinary knowledge and cake decorating talents to the MU Veterinary Medical Teaching Hospital. She has already impressed her colleagues here with such offerings as cupcake rubber ducks, sheep and ants at a picnic.

Puza's internship is a year long, after which she hopes to secure a residency in internal medicine. Although the appearance on the Martha Stewart Show gave her reason to briefly consider pursuing her cupcake craft professionally, she said at this stage in her veterinary career, she does not have the time to view it as more than a hobby and a means to relieve stress.

Facebook Plea Connects CVM to Critically Ill Cat a Thousand Miles Away

Dee Roche of Baltimore adopted her domestic shorthair cat, Squashies, four years ago. Last month when Squashies suddenly became lethargic, Roche took her in to see her regular veterinarian. Tests revealed mild anemia, but the cause of her illness remained unclear. Squashies, whose age is estimated at 12 or 13, was placed on antibiotics and steroids and sent home.

“I made an appointment with a hematologist for the following Monday,” Roche said. “But her health crashed over the weekend.”

Convinced her cat would not survive until the Monday appointment, Roche took her to the Emergency Veterinary Clinic. Squashies’ packed cell volume, which measures the percentage of red blood cells, was found to be 10 percent. A normal count for cats is between 24 and 45 percent. However, the cause behind the cat’s rapid deterioration remained elusive. A series of tests, including three separate blood tests for feline leukemia virus and exams to determine if the cat was bleeding internally, failed to give her emergency veterinarians any leads as to what disease they should be treating. They took the cat off the antibiotics, which seemed to be making her sicker, placed her in an oxygen tent and advised Roche that her pet needed a blood transfusion to stay alive until they could determine why she was so ill.

However, Roche and Squashies’ veterinary team now faced another challenge — the type of blood needed for the transfusion could not be quickly located.

The major blood group system in cats contains three different types of blood: A, B and AB. The vast majority of cats in the United States have type A blood. Squashies has the far less common type B, which is mostly found in purebred cats. Although there are animal blood banks throughout the country, securing the needed type B for the life-saving transfusion became a race against time.

Roche is part of the Cat Blogosphere, an online group with a shared interest in and affection for cats. She shared the details of Squashies’ illness and the frantic search for suitable blood with her online friends. They responded by joining the quest.

A thousand miles from Baltimore, the University of Missouri College of Veterinary Medicine maintains a colony of cats and dogs that serve as blood donors for animals being treated at the Veterinary Medical Teaching Hospital. One of Roche’s fellow cat bloggers found a [Facebook page the CVM created](#) to share information about the blood donor dogs and cats. The six blood donor cats live in the Tiny Tigers’ Lair, a room within the Veterinary Hospital, until they are needed to supply blood to animal patients who are injured, ill, or undergoing surgery. After a one-to-two-year stint as donors, they are adopted to loving homes. Roche’s



Keeter, an 8-year-old Selkirk Rex, a former MU College of Veterinary Medicine blood donor cat, was adopted by veterinary technician Matt Haight. When a cat in Baltimore became critically ill, Keeter’s rare blood type provided the needed transfusion.

friend posted a plea for help even offering to pay all expenses for someone to bring a type B blood donor cat to Baltimore.

Longtime veterinary technician Matt Haight, who manages the CVM's blood donor program, found the Facebook message when he went to work that Monday morning and contacted Roche. He advised her that the CVM didn't currently have any donor cats available with type B blood; however, his own cat, Keeter, a Selkirk Rex who had previously been one of the CVM's donors, was a suitable blood type.

Haight went home to collect Keeter and return with her to the Veterinary Hospital. Keeter had other ideas. She was hiding. She remained in hiding for the rest of the day. The reluctant life-saver finally emerged Tuesday night and Haight was able to take her into the hospital to draw blood. He shipped the blood via Federal Express to the waiting veterinarians in Baltimore in the hopes of buying time for Squashies.

The emergency transfusion worked. Squashies' condition improved dramatically.

With Squashies' health restored, the veterinary hematologist in Baltimore was able to perform a bone marrow test that had been deemed too risky when her health was compromised. The cat was found to have a focal infection with feline leukemia virus (FeLV) in the bone marrow, a condition she had probably had since she was a kitten, but that had remained dormant until recently. FeLV is incurable, but Roche said Squashies is now being treated with interferon and is doing well. Roche said she will always be grateful for the long-distance help from the CVM, Haight and Keeter in helping to treat her beloved pet.

Experts in Comparative Respiratory Medicine Meet at MU

The University of Missouri hosted the 2012 Veterinary Comparative Respiratory Society's 30th Annual Symposium Oct. 22-25, at the Donald W. **Reynolds Alumni Center**. The VCRS is a not-for-profit organization that provides a forum for the discussion of the anatomy, physiology, and pathophysiology of the respiratory system, and the diagnosis and treatment of respiratory disease in all animals. The theme for the 2012 symposium was Mucosal Immunity, Inflammation and the Lung.

Carol Reiner, DVM, PhD, an associate professor of small animal internal medicine at the MU College of Veterinary Medicine, is the 2012 president of the VCRS and was responsible for organizing the conference.

"It was a wonderful opportunity for the University of Missouri to host this international conference and bring together the experts in the field of comparative respiratory medicine," Reiner said. "We had representation from eight countries and from all over the U.S. attending the symposium, and presentations of clinical and basic science respiratory research in mice, cats, dogs, sheep, cows, horses and humans. Our College of Veterinary Medicine has taken a strong lead in promoting the "One Health/One Medicine" initiative, and by hosting this 74conference, we again highlight our active international leadership in this arena."

Among the highlights of the symposium was a one-day laboratory on the use of flow cytometry in respiratory research applications presented by Peggy Just, research and development director at eBioscience, and Emily Zalamea, technical support manager at eBioscience. Flow cytometry is a technology routinely used in the diagnosis of health disorders, but that also has applications in research and clinical trials. The lab included an introduction to flow cytometry, a look at intracellular flow cytometry, apoptosis, or cell death, cross-reactivity for veterinary species and applications for the technology in veterinary research.

The scientific meeting also featured thematic presentations by international experts and presentations of oral and poster research abstracts by graduate students and other attendees. Presentations included a number of topics including, "Pulmonary mucosal immunology: The basis for designing vaccines to protect the respiratory tree," "Epigenetic contributions to lung disease," "Chronic respiratory inflammation, air pollution, and the role of epithelial cells,"



Dr. Elizabeth Rozanski of Tufts University, treasurer for the Veterinary Comparative Respiratory Society (left), presents Dr. Carol Reiner, 2012 president of the VCRS, with a plaque recognizing her contributions to the organization.



Dr. Jeff Bryan, associate professor of veterinary oncology at the MU College of Veterinary Medicine, listens to a question from the audience following his presentation on the topic "Epigenetic contributions to lung disease," during the VCRS symposium.

“CT imaging of inflammatory lung diseases in awake dogs and cats: What do we gain, what do we lose?”
“Gamma herpes viruses and lung fibrosis: Lessons learned from equine herpes virus-5,” “Innate immune responses of the perinatal lung and susceptibility to respiratory syncytial virus,” “Bioinformatics of host-pathogen interactions: Linking data and phenomena,” “New insights into stem cell modulation of airway inflammation in asthma,” “Surprising connections between allergic asthma, immunity and breast cancer,” and “Tyrosine kinase inhibitors as a treatment for allergic asthma.”

VRSP Exposes Students to a Different Side of Veterinary Medicine

Nathanial Kollias is a self-described nerd who reads scientific journals for fun. The Wheaton, Ill., native is a second-year student at the MU College of Veterinary Medicine simultaneously pursuing a master's degree in public health. He said that rather than seeking work in a traditional private veterinary practice after graduation, he aspires to find a position with the federal Centers for Disease Control or a similar organization.

"I know that research is crucial to public health," he said.

To increase his knowledge of that research, Kollias became one of 33 students who participated in this past summer's Veterinary Research Scholars Program. The program, first established at the CVM in 2005, exposes veterinary students to research career opportunities through a faculty-mentored experience. To participate, students with at least one year in the CVM or those who have been accepted into the incoming class must submit an application that includes current veterinary school GPA, resume, statement of interest, and one letter of reference. Students also choose three mentors with whom they would like to work.

Participants who are selected receive a stipend during the full-time research activity portion of the program, which takes place during their summer break. However, work begins months earlier with mentor meetings and attendance at a weekly course, Foundations in Veterinary Research and Discovery.

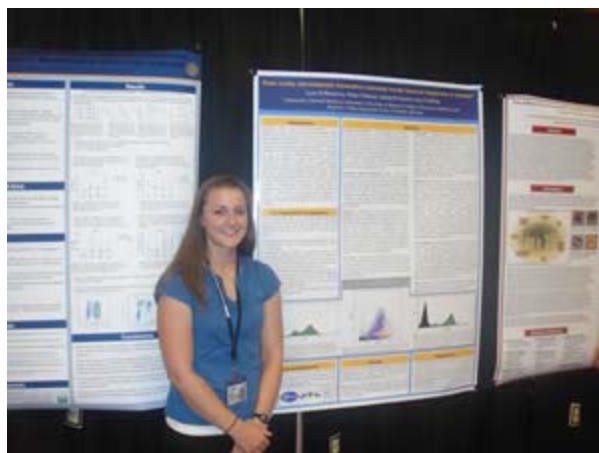
Kollias focused his research project on examining Johne's Disease. Johne's is a bacterial infection that affects the small intestine of ruminants, usually cows, causing wasting. It can be fatal. Kollias proposed examining the prevalence of the infection in goats, which is one of the fastest growing populations of food animals.

Under the tutelage of mentor Dr. Patrick Pithua, an assistant professor at the CVM, Kollias collected blood samples at 30 farms and found positive tests for John's Disease at eight of them.

He said he notified the farmers of the results and advised them to contact their veterinarians; however, providing veterinary medical advice and care was not within the scope of his research project.



Although the Veterinary Research Scholars Program involves several intense months engaged in scientific research, students also enjoy some recreational activities during the duration of the program. While in Loveland, Colo. to present the findings of their studies at an annual research convention, the VRSP scholars took time to enjoy the scenery with a hike in the mountains.



Senior scholar Lynn Brockway, who has participated in the VRSP for two years, presents the results of her study on inflammation in horses during the convention in Colorado.

For Beverly Thompson her interest in research is rooted in the One Health/One Medicine concept. She worked on a project under the direction of Dr. Rebecca Johnson, director of the Research Center for Human-Animal Interaction.

“My project dealt with children undergoing forensic interviews after alleged abuse,” she explained. Thompson collected data on the children’s heart rates, peripheral skin temperatures and their self-assessed level of fear before, during and after the interviews.

A control group was examined following current standard of care guidelines, while a second group of children had a specially trained therapy dog present with them during their interviews.

Thompson, who hails from Chatham, Ill., said the project increased her awareness of the unique role veterinarians have and the importance of being an active member of the community.

Previously, students were allowed to participate in the VRSP for one year only. Two years ago, program director Dr. Craig Franklin implemented a “Senior Scholars” component that allows several students to return for a second year of the program while serving as mentors to the first-year participants.

Minnesota native Lynn Brockway said she had such a positive experience her first year, she applied to become one of this year’s senior scholars.

“Research can be overwhelming when you first step into it. I encouraged the students to keep going and to be proactive about their projects and in contacting their mentors,” she said. Brockway and two other senior scholars also took on organizational duties, such as coordinating some of the social activities that included touring research facilities, taking a float trip, and going hiking while the group was in Colorado for the annual research convention.

A second year of participation also allowed Brockway to take her research project from her first year to the next level. Brockway, who is also pursuing a master’s degree in veterinary public health, worked with mentors Dr. Philip Johnson, a professor in equine medicine at the CVM, and Dr. Amy DeClue, CVM assistant professor in small animal internal medicine and associate director of MU’s Comparative Internal Medicine Laboratory. Brockway examined the effects of a compound in reducing the inflammatory response in horses. During her first year in the VRSP, her research was confined to a laboratory setting treating blood with the compound and measuring responses. This past summer, she was able to treat horses with the compound and measure differences in the inflammatory response before and after treatment.

Franklin said the goal of the program is to spark the kind of interest that infected Brockway, Thompson and Kollias to develop a much-needed community of veterinary research scientists.

“Veterinarians with their broad-based knowledge of multiple animal species and comparative mindset offer a unique perspective to scientific questions and as a result are very valuable contributors to biomedical research both as primary investigators and collaborators,” Franklin said. “Moreover, here at MU, we’re fortunate to have the best and the brightest and it is an absolute thrill to watch them explore research through the VRSP.”

Funding for the program was supplied by Merial, Pfizer, Boehringer Ingelheim, Bayer, Morris Animal Foundation, RADIL endowment, the Comparative Orthopaedic Laboratory and the MU College of Veterinary Medicine Dean’s office and all three CVM departments.

EXPERT AVAILABLE:Recent Drought Causes Spike in Horse Infections in Missouri, MU Expert Says
Nov. 12, 2012

Story Contact(s):

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<http://munews.missouri.edu/expert-comment/2012/1112-expert-availablerecent-drought-causes-spike-in-horse-infections-in-missouri-mu-expert-says/>

CVM Alumnus Bud Hertzog Receives Dual Honors

Dr. Robert “Bud” Hertzog received two honors at the recent American Royal/UPHA Saddlebred Horse Show in Kansas City’s Kemper Arena. His first honor was being named “Horse Person of the Year” by the American Royal’s Saddlebred Horse Committee. During this presentation it was also announced that a gift of \$500,000 honoring him will be given to the University of Missouri College of Veterinary Medicine.

The planned gift will be used to create the “Dr. Robert E. Hertzog Fund for Excellence in the Office of Student Affairs, College of Veterinary Medicine.” This will be an endowment to be utilized at the discretion of the dean in consultation with the associate dean for Student and Alumni Affairs to address veterinary student needs and events. The donor of the gift wishes to remain anonymous. Dr. Hertzog is a 1956 graduate of the MU CVM and has remained an active supporter of the University and the American Royal.

“Dr. Hertzog is so closely identified with the American Royal that it is truly unique among the other shows,” American Royal Chairman Brant Laue said. “He is recognized by the veterinary medical associations. He’s just one of these admired personalities that has accomplished a great deal in life, and the American Royal has been fortunate enough to be associated with him.”



Veterans train shelter dogs from Humane Society in study about PTSD

- [BY KAYLIE DENENBERG](#)

- Nov 20, 2012

http://www.columbiamissourian.com/news/veterans-train-shelter-dogs-from-humane-society-in-study-about/article_4913f1dd-1f87-5a6e-b928-be8aa3f7b807.html

Trial Tests Cancer Drug's Ability to Stimulate Immune System

Jeffrey Bryan, DVM, MS PhD, ACVIM, associate professor of oncology at the MU Veterinary Medicine Teaching Hospital, is enrolling dogs in an immunotherapy trial to test whether a detoxified bacteria can be effective in attacking cancerous tumors in dogs and triggering an immune response within the dogs.

The study will involve 30 dogs total that each will be treated over a six-week period. So far two have been treated with the bacterial agent, Clostridium novyi-NT. Bryan is seeking dogs with soft tissue sarcoma and melanomas or carcinomas of the mouth or skin. The trial pays all costs for eligible dogs including costs associated with treating any complications, should they arise.

Because tumors have low levels of oxygen, the modified bacterial agent is expected to selectively grow in the tumor environment and attack the tumor itself while stimulating the immune system to respond to any future cancerous growths. The Veterinary Hospital recently acquired a positron emission tomography (PET) scanner, which will allow Bryan to effectively create a three-dimensional image that shows not only the size of a tumor, but also its metabolic activity.

Bryan is working on the study with Amy DeClue, DVM, MS, ACVIM, director of MU's Comparative Internal Medicine Laboratory. DeClue's lab is proving serial immunological evaluations to determine how dogs respond to the therapy.

There is also a human trial component to the study that is taking place at Johns Hopkins Hospital in Baltimore, Md.

For more information or to inquire about enrolling a dog in the study, contact the Oncology Clinical Trials Service at the Veterinary Medical Teaching Hospital, 866-895-7267. Additional details about the study and other cancer trials under way at the MU College of Veterinary Medicine can be found at cvm.missouri.edu/oncology/current.html.

Preceptorship Program Takes Flight

As the student services coordinator at the University of Missouri College of Veterinary Medicine, Angela Tennison, DVM '01, works with veterinarians to develop preceptorship programs for veterinary students. A transplanted Southerner who dislikes winter weather, Tennison recently found her own horizons expanded when her search for opportunities for students to broaden their hands-on learning experiences took her to Alaska.

“It’s truly one of the most beautiful places I’ve ever seen, and I have traveled fairly extensively,” she said.

Tennison’s journey into America’s last frontier began when she became aware that the American Bald Eagle Foundation offers preceptorships to veterinary students and internships to undergraduates. She contacted Dan Hart, OD, a retired optometrist who is the raptor curator for the foundation, and began working with him to develop a program that would give MU’s veterinary students the chance to spend time studying bald eagles and other birds and working an avian medical specialist in Alaska.

“We have a lot of students interested in avian medicine. I wanted to find some more opportunities for them,” Tennison said.

Haines, Ala., where the American Bald Eagle Foundation is based, is located in the Chilkat River Valley. From September through early December, thousands of bald eagles converge at the Chilkat Bald Eagle Preserve attracted by the salmon run. Between 3,000 and 4,000 bald eagles join the migration making it the largest gathering of the birds in the world.

The foundation and the community celebrate the event with an annual Alaska Bald Eagle Festival, which this year was held Nov. 14-18. The festival features guest speakers and photography workshops. Hart and the foundation invited Tennison as their guest to speak about “Effects of Lead in Nature.” Tennison discussed how sick birds, especially raptors, can be treated, and the most common causes of lead ingestion in eagles. While most festival attendees were simply there because of an interest in raptors, there were also a number of hunters in the audience, Tennison said. She talked to them about the danger of birds scavenging on the remains of animals killed with lead shot and fragmented bullets. She also noted that hunters are often the most likely individuals to encounter an ailing bird because they are out in the wild with them. She explained how to



MU College of Veterinary Medicine Student Services Coordinator Angela Tennison, DVM, recently visited Alaska’s American Bald Eagle Foundation, which offers preceptorships to veterinary students. She took a break from lectures and workshops to build a snowman with her daughter.



anyone with an interest in birds or nature,” Tennison said.

Thousands of bald eagles are attracted to Haines, Ala., each year when the salmon run takes place in the Chilkat River.



With the Chilkat Mountains in the background, a bald eagle takes flight.

recognize the symptoms of lead poisoning and how to identify and help a sick bird. Tennison also presented information about Mizzou’s own Raptor Rehabilitation Project, in particular the project’s efforts to heal eagles and other raptors that have lead poisoning.

Since she initiated the CVM’s partnership with the foundation, one Mizzou undergraduate with an interest in veterinary medicine has traveled to Haines to complete an internship. However, Tennison said the Alaska Bald Eagle Festival is an experience that has much wider appeal. “I would recommend attending the festival to anyone with an interest in birds or nature,” Tennison said. Although travel to Haines is not direct — Tennison flew from Missouri to Juneau and then took a ferry up the river to Haines — the festival attracts people from around the world. She said the community was welcoming and she met a number of fascinating and adventurous people, including a local resident who scaled Mount McKinley in the 1950s, and astronaut Edgar Mitchell, who served as the festival’s keynote speaker.

The highlight, however, was seeing thousands of eagles, Tennison said.

“I was able to go watch the eagles every day I was there. Seeing the birds against the backdrop of the mountains, it was just beautiful.”

(Photos by Josh Tennison)

Group Honors CVM Professor Nat Messer for Long-term Contributions

The American Association of Equine Practitioners honored Nat Messer, DVM, University of Missouri College of Veterinary Medicine professor of equine medicine, as a Distinguished Lifetime Member. Dr. Messer was recognized Dec. 4, 2012, during the AAEP's 58th Annual Convention in Anaheim, Calif.

The Distinguished Lifetime Member award honors regular and international members of the association who have made outstanding contributions to the organization throughout their career. The AAEP nominating committee and the board of directors select the recipient of the award, which is one of the organization's highest honors.

Dr. Messer, who has retired, but still teaches at the CVM on a part-time basis, earned his doctor of veterinary medicine at Colorado State University. He is a diplomate of the American Board of Veterinary Practitioners, certified in equine practice with more than 40 years' experience as an equine practitioner. He is extremely active in the equine industry, and has served on multiple committees within the AAEP and the American Quarter Horse Association. He is active in many issues relating to equine welfare and has served on the Animal Welfare Committee of the American Veterinary Medical Association. Messer's clinical teaching at the CVM focuses on equine laminitis, endocrine disease, respiratory tract disease, neonatal disease and dental disease.



The American Association of Equine Practitioners, headquartered in Lexington, Ky., was founded in 1954 by a group of 11 charter members who saw that together they could direct the focus of equine veterinary medicine. Today, more than 10,000 veterinarians and veterinary students in 57 countries are members of the AAEP. The group's mission is to improve the health and welfare of the horse, to further the professional development of its members, and to provide resources and leadership for the benefit of the equine industry.

VetMed Projects Receive Mizzou Advantage Funds

Researchers at the University of Missouri College of Veterinary Medicine recently were awarded Mizzou Advantage grants for research projects in comparative medicine. The awards of up to \$25,000 each will facilitate teams working on research projects in taking their work to the next level. This fall, faculty and staff were invited to submit proposals for Mizzou Advantage funds. Forty requests were submitted, of those, 26 projects received funding. Three projects involving researchers at the College of Veterinary Medicine were selected for funding.

The goal of the Mizzou Advantage program is to increase MU's stature and impact. MU faculty and staff have formed networks to collaborate on projects in four strength areas: Food for the Future: The culture, economics and production of healthy, affordable food; Media of the Future: New ways to communicate, educate and market; One Health/One Medicine: The convergence of animal and human health; and Sustainable Energy: Developing and distributing renewable energy sources.

CVM projects receiving funding are:

“Projects of Dogs and Men: Roots of Prostate Cancer”

The principal investigator on the project is Jeff Bryan, DVM, PhD, associate professor of veterinary oncology. Collaborators on the project represent veterinary medicine, radiology, physics, bioinformatics, medical research and the MU Research Reactor.

According to Dr. Bryan's proposal, “This year 28,170 men will die of prostate cancer. While most cancers are defined by gene mutations that can be targeted, prostate cancer is not. Prostate cancer is driven by loss of normal control of gene expression. One mechanism, DNA methylation, silences critical genes controlling cell behavior and causes genes driving growth and invasion to be expressed. The challenge is finding the “drivers” of cancer among the “passenger” changes. Like men, companion dogs naturally develop prostate cancer, experience spread of the tumor, and die of the painful consequences. Identifying gene control changes in dogs that also exist in men will expose those that are most biologically relevant. The DNA methylation changes (methylome) and the resulting gene messages (transcriptome) will be sequenced simultaneously in man and dog. This will allow the identification of the critical changes common to both species.”

“Developing Canine Models of Neurodegenerative Disease”

The principal investigator on the project is Dennis O'Brien, DVM, PhD, professor of veterinary neurology and Chancellor's Chair of Excellence in Comparative Neurology. Collaborators on the project represent veterinary medicine, veterinary pathology and animal science.

According to the proposal summary, “Hereditary neurologic diseases that affect people also occur in dogs. By applying whole genome sequencing techniques to the unique population structure of dog breeds, we have developed a gene discovery pipeline here at Mizzou that can efficiently identify the mutations responsible. Though hereditary forms of a disease such as Parkinson's disease may be rare compared to the common acquired disease, understanding the pathways involved in hereditary disease can provide insights into the cause of the selective neurodegeneration that occurs in Parkinson's disease. This project will bring together researchers at MU to apply that paradigm to a newly discovered mutation responsible for a hereditary movement disorder in dogs. If we can identify how the mutation leads to disease, it will open avenues for therapy in the dogs which can ultimately help humans with the disease as well.”

“Targeting Tumors Using a Combined Imaging Agent and Anticancer Drug”

The project is a collaboration between Assistant Professor of Chemistry Mark Lee, PhD, and Associate Professor of Veterinary Oncology, Michael Lewis, PhD. The project summary describes their planned effort, “Over 1.6 million people are diagnosed with cancer each year in the United States, resulting in nearly 600,000

deaths. There is a tremendous unmet need for new anticancer agents that are both more potent and tumor selective. A new and promising approach to the treatment of cancer is the development of Image Guided Drug Delivery (IGDD), a form of therapy that can provide a real time validation and quantitation of the delivery of drugs to tumor tissue, while simultaneously measuring the therapeutic response. Funding of this proposal will combine existing areas of research on the MU campus to pursue IGDD projects. These efforts will utilize some of Mizzou's unique research strengths; existing small animal cancer models, radiopharmaceutical production at MURR, biomolecular imaging, and a family of potent anticancer agents developed on the MU campus."

Targeted Micro-Bubbles Detect Artery Inflammation, MU Study Finds

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<http://munews.missouri.edu/news-releases/2012/1212-targeted-micro-bubbles-detect-artery-inflammation-mu-study-finds/>