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## Previous Studies on Toxic Effects of BPA Couldn't be Reproduced, says MU Research Team

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## **CVM's Cross Honored for Teaching Excellence**

Dr. David Cross, an assistant teaching professor in the MU College Veterinary Medicine Biomedical Sciences Department, has been named the recipient of the 2012-2013 SAVMA Teaching Excellence Award. SAVMA is the student chapter of American Veterinary Medical Association. The organization created the Teaching Excellence Award to recognize outstanding teachers in the veterinary profession who go above and beyond to inspire and encourage their students to exceed their own expectations.

CVM students nominated Cross for the honor. Cross teaches the anatomy of dogs, cats, oxen, horses, chickens, lab animals and reptiles to students during the first year of the veterinary curriculum. As the winner of the Teaching Excellence Award, he will receive a stipend, a crystal plaque and has been invited to attend the 2013 Student Symposium at Louisiana State University in Baton Rouge, La., March 21-23, to receive his award and address the delegates.

Cross is an alumnus of the MU College of Veterinary Medicine. He also earned a master of science in animal husbandry at Michigan State University, a master of science from the University of Wisconsin, and a PhD in animal science focusing on reproductive physiology at The Ohio State University.



## CVM's Thorne, Buckaloo Honored by Missouri Veterinary Medical Association

Missouri Veterinary Medical Association members named University of Missouri College of Veterinary Medicine professor emeritus Dr. James Thorne as Veterinarian of the Year. The announcement was made during the veterinary organization's 121st convention awards banquet. The gathering took place Jan. 18-20, 2013, in Kansas City. 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.

Thorne is also an alumnus of MU and the College of Veterinary Medicine having earned a bachelor of science degree in agriculture in 1960 and doctor of veterinary medicine as a member of the CVM Class of 1961. 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.

He worked in private practice beginning in 1961 at the Green Hills Animal Hospital in Marceline, Mo. He was also director of veterinary services for the U.S. Veterinary Corps at Bergstrom Air Force Base in Austin, Texas, and worked for a time 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 came 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. Thorne also serves as an advisor and sponsor of the CVM Mule Club, traveling with club members and the Mule Team to events throughout the state as goodwill ambassadors.

CVM adjunct faculty member Dr. George Buckaloo was also honored during the MVMA convention. Buckaloo, who serves as the director of Mizzou Animal Cancer Care in Wentzville, was chosen as the recipient of the Distinguished Service Award presented by the Missouri Veterinary Medical Association Foundation. Buckaloo was chosen for the honor in recognition of more than 20 years of service to the organization, expanding its mission of public education



Missouri Veterinary Medical Association members named University of Missouri College of Veterinary Medicine alumnus Dr. James Thorne (left) as Veterinarian of the Year. The announcement was made during the MVMA's 121st convention held Jan. 18-20, 2013, in Kansas City. Thorne is congratulated by Dr. Craig Payne (center), MVMA president-elect; and Dr. James Schuessler, MVMA president.



Dr. James Thorne is pictured with members of the University of Missouri College of Veterinary Medicine Mule Club. Thorne, an advisor and sponsor of the club, has spent countless hours traveling the state, driving the mule team and serving as a goodwill ambassador for the College. He was named the Missouri Veterinarian Association Veterinarian of the Year.



Dr. George Buckaloo, Mizzou Animal Cancer Care director, was chosen as the recipient of the Distinguished Service Award presented by the Missouri Veterinary Medical Association Foundation. The award was given during the MVMA's 121st convention held Jan. 18-20, 2013, in Kansas City. Buckaloo was chosen for the honor in recognition of more than 20 years of service to the organization, expanding its mission of public education and charitable giving. Dr. Mac Wilt presented Buckaloo's award.

and charitable giving. Buckaloo has been a member of the American Veterinary Medical Association since 1972 and a member of the Missouri Veterinary Medical Association since 1976. He has served on the board of directors for the Missouri Veterinary Medical Foundation since 1988.

Buckaloo is a 1972 graduate of the MU College of Veterinary Medicine. He began his career at the Care Animal Hospital in Arlington Heights, Ill. In 1976, he returned to Missouri and become first a partner and then the owner of the Crysler Animal Hospital in Independence. He sold his veterinary practice in 2007, remaining with the animal hospital part time as an employee. He joined the MU College of Veterinary Medicine in 2011 to operate Mizzou Animal Cancer Care, a satellite facility for the MU Veterinary Medical Teaching Hospital. The facility offers radiation therapy to cats and dogs referred there for treatment by their regular veterinarians.



The Veterinary Business Management Association sponsored a speed networking session during the Missouri Veterinary Medical Association convention. College of Veterinary Medicine fourth-year student Daniel Tappmeyer participated in the round-robin forum that allowed students to meet with practicing veterinarians.



Several MU College of Veterinary Medicine faculty members presented continuing education workshops during the MVMA convention. Dr. Tony Mann, professor, director of Small Animal Emergency and Critical Care, and chief of the Small Animal Soft Tissue Surgery Service at the Veterinary Medical Teaching Hospital, presented a session on "Suture Selection for Soft Tissue."

Dr. Kim Selting, MU College of Veterinary Medicine associate teaching professor in the Small Animal Medicine Oncology Section presented two continuing education sessions during the MVMA convention: "The Glowing Dog and Cat: Debunking the Myths about Radiation Therapy," and "Current Clinical Trials in Veterinary Oncology: Opportunities for the Forward-Thinking Pet Owner."





Dr. Dusty Nagy, assistant teaching professor in Food Animal and Surgery at the MU College of Veterinary Medicine, presented "Current Issues in Small Ruminant and Camelid Medicine," during the MVMA convention.



Dr. Jeffrey Bryan, associate professor at MU College of Veterinary Medicine, Small Animal Oncology Section chief, director of the Comparative Oncology Laboratory and interim director of the Scott Endowed Program in Veterinary Oncology presented the topics, "What's New for Lymphoma?" and "Urinary Tract Tumors," during the MVMA convention.



## **Extension's Craig Payne is New MVMA President**

Dr. Craig A. Payne, director of the MU College of Veterinary Medicine's Department of Veterinary Extension and Continuing Education and assistant extension professor, was installed as president at the Missouri Veterinary Medical Association's (MVMA) Annual Convention held Jan. 18-20 at the Westin Crown Center Hotel, Kansas City, Mo.

As president, Payne will preside at all MVMA general membership meetings, serve as chair of the Board of Governors, be an ex-officio member of all MVMA committees, and report to the executive board on matters pertaining to the goals of the association.

Payne received his DVM degree from the MU College of Veterinary Medicine in 1993. He spent his first year in practice at the Animal Medical Center in Marshfield, Mo., and then moved to Sedalia, Mo., where he eventually became a co-owner of the Sedalia Veterinary Center. He practiced in Sedalia until 2005 at which time he moved to Kingsville, Texas, where he pursued a master of science in agribusiness at the King Ranch Institute for Ranch Management at Texas A&M. After completing his master's degree in 2007, he accepted a position as an Extension veterinarian for the University of Missouri.

Payne is a member and past president of the MVMA's West Central VMA as well as a member of the AVMA, Missouri Academy of Veterinary Practice, American Association of Bovine Practitioner (AABP) and Academy of Veterinary Consultants (AVC). He currently serves on several MVMA committees including chair of the 2013 Convention Planning Committee and a member of the Missouri Stocker Feeder Quality Assurance Program Committee. He is also on the board of directors for the AVC.



## Change for Animals of Missouri Raises Funds for ReCHAI

Members of the Warrensburg, Mo.,-based organization Change for Animals of Missouri (CAMO) recently presented proceeds raised during the “Hounds for Heroes: Running for Research” 5K run to the University of Missouri Research Center for Human Animal Interaction (ReCHAI). The donation was earmarked to support ReCHAI’s Veterans and Shelter Dogs Initiative. CAMO is a small nonprofit, volunteer-based organization that supports groups and programs that benefit shelter animals throughout Missouri.

The Veterans and Shelter Dogs Initiative is an ongoing research project led by ReCHAI Director Dr. Rebecca Johnson, PhD, RN, FAAN. The study has two goals: The first goal is to assist combat veterans who have served in Iraq or Afghanistan to reintegrate into civilian life and lessen symptoms of Post Traumatic Stress Disorder (PTSD). The second aim is to facilitate successful adoptions of shelter dogs. The initiative pairs war veterans with dogs from the Central Missouri Humane Society in an obedience training program that is led by nationally certified dog trainers. Classes take place twice a week at the Columbia Canine Sports Center.

The “Hounds for Heroes: Running for Research” 5k race took place in Knob Noster State Park on Nov. 3, 2012, in honor of Veterans Day and military service members. One hundred CAMO volunteers, runners and walkers from the community raised more than \$2,000 for the Veterans and Shelter Dogs Initiative. Staff and student volunteers from ReCHAI also took part in the event, as well as one veteran and a shelter dog that is participating in the training program.

“It is so kind of CAMO to apply their energies to support of our Veterans and Shelter Dogs study,” Johnson said. “Their support will help us to train a PTSD Service Dog to help a veteran in need. Our project is making a difference in the lives of veterans who have served our country and deserve our very best support.”

CAMO representatives Melissa Smidt and Sarah Smidt visited Columbia to observe the Veterans and Shelter Dogs class on Jan. 9, 2013, and present the proceeds of their race to Johnson to help support ReCHAI’s study.

For more information about the Veterans and Shelter Dog Initiative or other ReCHAI programs, visit [www.rechai.missouri.edu](http://www.rechai.missouri.edu) or call 573-882-2266.



**Melissa Smidt (left) of Change for Animals of Missouri (CAMO) presents a check totaling \$2,167.13 to Dr. Rebecca Johnson, director of the MU Research Center for Human Animal Interaction. CAMO raised the funds during a 5K race to benefit the ReCHAI program Veterans and Shelter Dogs Initiative.**

## The Lyons' Den is Moving into the Tiger's Lair

Dr. Leslie Lyons, a world-renowned researcher in cat genetics, has accepted a position at the University of Missouri College of Veterinary Medicine. Lyons will be the Gilbreath-McLorn Professor for Comparative Medicine.

Lyons is a professor of genetics at the University of California-Davis School of Veterinary Medicine, Department of Population Health and Reproduction. Her research laboratory, the Lyons' Den, is part of the university's Center of Companion Animal Health. The Lyons' Feline Genetics Laboratory research focuses on the genetics of the domestic cat, the development of genetic tools and resources that assist gene mapping in the cat and other companion animals, the discovery of mutations that cause inherited diseases and phenotypic traits, and population dynamics of breed development and domestic cat evolution.



"Everything you need to know about genetics, you can learn from your cat," Lyons said. "Most species have all the same genes, but when they get turned on and off, and for how long, is what makes us different. We (people) have genes for whiskers and tails, but they aren't turned on, likewise cats have genes like humans that cause blindness, heart disease, and kidney disease," she explained.

Lyons said as the Gilbreath-McLorn professor, her goal is to build a world-renowned cat genetics program at Mizzou, with high expectations for comparative and translational medicine approaches. The endowed professorship was funded by Olive Gilbreath-McLorn in appreciation for the treatment her cat received at the Veterinary Medical Teaching Hospital. The position advances research into the cause, prevention and treatment of disease to benefit people and their companion animals.

A native of Pittsburgh, Lyons earned a master of science in human genetics at the University of Pittsburgh Graduate School of Public Health. She went on to earn a PhD in human genetics, also at Pittsburgh. From 1992-1996, she was a post-doctoral fellow and young scientist in the National Cancer Institute Laboratory of Genomic Diversity in Frederick, Md., studying feline and comparative genetics. She left the East Coast in 1999 to join the UC-Davis faculty.

The opportunity to collaborate and expand her feline research efforts attracted her to the University of Missouri. Lyons said she is looking forward to becoming a Tiger. "There are fantastic resources available and a great group of clinicians and geneticists in the veterinary and animal sciences there. Being able to work with them will augment our cat program greatly," she said.

College of Veterinary Medicine Dean Neil C. Olson said the genetic expertise Lyons will bring to MU is a perfect complement to the University's esteemed One Health/One Medicine Mizzou Advantage program.

"The University of Missouri has leading researchers in bovine, swine, dog and rodent genetics. We are gratified that we have been able to attract someone the caliber of Dr. Lyons whose area of expertise, felines, so perfectly complements our existing translational and comparative medicine studies," Olson said.

While at Davis, Lyons helped develop DNA tests for polycystic kidney disease (PKD), an inherited condition that causes cats to develop kidney cysts. She plans to continue her research into the disease at Mizzou. She is also planning to collaborate with researchers in the School of Medicine to seek cures for inherited blindness. Other translational medicine projects in Lyons' plans include studies in the human-animal bond, particularly examining the effects of interaction with cats on people who have autism, and launching the "99 Lives Project," a joint project with UC-Davis and industry partners to genetically sequence 99 cats.

In addition to a number of cats with heritable diseases from her lab, Lyons will bring several colleagues to MU, including Dr. Barbara Gandolfi, who earned PhD in biotechnology, from the University of Milan and who has been pursuing post-doctoral studies at Davis. Lyons plans to begin her work here in early July.

## Drug Therapy May Bridge DM and ALS

Dr. Joan Coates, a veterinary neurologist and professor at the University of Missouri College of Veterinary Medicine, was recently awarded a grant from the National Institute of Neurological Disorders and Stroke, part of the National Institutes of Health, to explore a potential therapy for canine degenerative myelopathy. The study involves treating dogs diagnosed with degenerative myelopathy (DM) with a drug therapy that is also being tested in people with amyotrophic lateral sclerosis (ALS), or Lou Gehrig's disease.

"What we hope to do is slow the disease progression, and ultimately, halt the disease progression," Coates said.

Coates was part of a team that also includes Dr. Gary Johnson, an associate professor in the MU CVM Department of Veterinary Pathobiology who is involved in genomics research, and investigators at the Broad Institute and Massachusetts Institute of Technology, who established that the same genetic mutation that causes DM in dog also causes some forms of ALS in people. The mutation is wide-spread in the dog population and DM exists in many breeds, such as Pembroke Welsh corgis, Rhodesian ridgebacks, German shepherd dogs, Chesapeake Bay retrievers and boxers.



Both DM and ALS are incurable neurological diseases that cause progressive neurodegeneration in both the central and peripheral nervous systems. The diseases lead to weakness and muscle atrophy, and culminate in paralysis and death. In DM, the onset of clinical signs starts at around 9 years of age with weakness beginning in the hind limbs and affected dogs are usually paralyzed within 11 months. Many pet owners choose euthanasia when their dogs can no longer use their hind limbs. However, if the dogs live longer with DM, the disease would continue to spread through the central nervous system eventually affecting the rest of the spinal cord, muscles, nerves and the brain. In end-stage DM, dogs can develop swallowing dysfunction and lose their bark.

Coates' focus now is the search for a treatment that will benefit DM and ALS patients.

She is collaborating on a drug therapy project with Dr. Timothy Miller at Washington University in St. Louis. Miller is leading a clinical trial in ALS patients. Coates said beneficial effects of the drug have been observed in rodent studies giving hope that those benefits will carry over to treating DM and ALS.

"Possibly more can be learned in treating DM so that we can then go back and expedite therapeutic approaches in treating ALS," Coates explained. "We hope to have pharmacologic studies completed in a year and from there we can take it to a clinical trial in DM-affected dogs."

Similarities between the canine and human nervous systems, and the homogeneity in onset and clinical progression of canine DM, will facilitate translation of therapies into human applications. Furthermore, dogs with DM offer a ready clinical population in which therapies can be evaluated in an environment closely mimicking human clinical trials.

ALS is caused by many different genetic mutations or is sporadic. Moreover, the disease progression and the type of onset are variable. These heterogeneities pose challenges in management of clinical trials for the ALS community.

"The challenge in any therapy involving the nervous system is getting the therapy where the pathology resides — you have to get the treatment into the spinal fluid and the nervous tissue."

To that end, Coates is collaborating on other translational and comparative medicine projects. With her fellow researchers within the College's Comparative Neurology Program, she is working to establish biomarkers — the biochemical signatures of diseases — in spinal fluid and blood in an effort to further characterize DM. She is also

partnering with Dr. Teresa Lever, an assistant professor in the MU School of Health Professions, to study swallowing dysfunction in dogs.

As the links between ALS and DM becomes clearer, Coates hopes that she, together with fellow veterinary neurologists, will foster collaborations with other ALS researchers to expand on different treatment approaches for DM and ALS and eventually a cure.

## MU Raptor Project, Veterinarian Come to Aid of Injured Illinois Eagle

The University of Missouri Raptor Rehabilitation Project recently stepped in to help an American bald eagle that is a resident at a raptor facility in Illinois. Lincoln, who is approximately 7 years old, was discovered with a broken leg and an injured wing the morning of Jan. 28 at the Raptor Rehabilitation Center in Quincy, Ill. Workers at the center don't know just when or how he injured himself, but they suspect that something prompted him to jump and the impact fractured his tibia.



“Birds bones are different from mammalian bones and they are especially susceptible to breaks,” said Derek Fox, DVM, PhD, an assistant professor of small animal orthopaedic surgery at the MU Veterinary Medical Teaching Hospital (VMTH). “Our bones are more dense. Birds’ bones are strong, but they are brittle and they contain air. In the clinic we see two to three fractures each year for bald eagles, but we have two or more owls or red-tailed hawks every month.”

Staff at the Quincy Raptor Center contacted Fox and asked if he would be able to repair Lincoln's broken leg. Although the not-for-profit center lacked funds to pay for the surgery, hospital administrators agreed that the injured eagle could be helped through a collaboration with the Mizzou Raptor Rehabilitation Project. The Raptor Rehabilitation Project is a service and education organization housed at the College of Veterinary Medicine. Veterinary students, community members and other MU students volunteer their time and effort in rehabilitating injured raptors and caring for resident birds. Volunteers also help raise public awareness by giving presentations about the ecological and cultural importance of birds of prey throughout mid-Missouri. The project is supported by the College and through private contributions.

The Quincy facility has a similar mission. Its staff also treats injured birds and returns them to the wild. However, when Lincoln was originally taken there he had an injury to his wing that prevents him from flying well enough to ever be released. He has been training to become one of the center's educational program birds. Wrapped in a blanket and cradled by his handler to keep him calm, Lincoln was brought to the VMTH Jan. 31 for surgery.

Fox was able to use a minimally invasive procedure to repair Lincoln's leg. The availability of an intraoperative fluoroscopy — a type of intraoperative X-ray machine — at the VMTH allowed Fox to use real-time imaging to insert a small rod down the center of the eagle's tibia. He then connected the rod to an external fixator running down the outside of the bird's leg using pins. Lincoln had also sustained an injury to his wing, possibly as a result of the stress of the fracture, which Fox sutured.

The procedure was a success and by Monday the swelling in Lincoln's injured leg had decreased, he was able to use his leg to carry food and perch normally. He returned to his Quincy center home on Monday.

Fox said the collaboration helped not just the bird and its caretakers, but also provided a valuable learning opportunity for the College's veterinary students and Raptor Project members who were able to witness and assist in the recuperation of a bald eagle.

## Minimally Invasive Orthopaedic Repairs Help Speed Recovery

Kenny Rost isn't certain of Angelo's breed. He thinks the dog he adopted five years ago from the Jefferson City Animal Shelter is a mix of German shepherd dog, Australian heeler and Labrador. What is certain — he's no cattle dog.

"He thinks he can work cattle, but he's not very good at it," Rost laughs. Despite his lack of herding skills, Angelo is the cattle farmer's constant companion. "He goes everywhere I go. We have 257 acres, and he has the run of the place."

Angelo was tearing around Rost's Chamois-area farm one Sunday afternoon last summer when a truck suddenly turned from the highway that runs along the property into the driveway, surprising the dog who failed to move out of the way. The accident left Angelo with a shattered tibia in one of his hind legs. Rost took Angelo to a veterinarian in Hermann who, after reviewing radiographs of the dog's injured leg, recommended taking him to the MU Veterinary Medical Teaching Hospital in Columbia.

At MU, James Tomlinson, DVM, MVSci, examined Angelo and determined the dog's injury made him a good candidate for a technique known as minimally invasive osteosynthesis fracture fixation. Tomlinson, a professor of small animal orthopaedic surgery, began developing minimally invasive techniques for orthopaedic surgery in canines about 10 years ago. The MU Veterinary Medical Teaching Hospital is one of only a few places where the procedures are offered.

Tomlinson said that in injuries such as Angelo's comminuted fracture, where the bone is splintered or crushed, he does not attempt to put the bone pieces back exactly in place.

"Among the advantages of using this procedure is we are not disturbing the pieces of the fractured bone, which means we are less likely to destroy the blood supply to the bone. The blood supply is needed for healing," Tomlinson explained.

To repair Angelo's shattered bone, Tomlinson used an I-Loc Interlocking Nail fixator designed by Dr. Loïc M. Déjardin of Michigan State University and manufactured by BioMedtrix to be specific to veterinary patients. The procedure involved inserting a locking nail system into Angelo's tibia using a small incision rather than opening up the skin along the injured bone. Minimally invasive orthopaedic repairs are common in human medicine. Tomlinson can offer them to veterinary patients at the VMTH because of the availability of an intraoperative fluoroscopy — a type of intraoperative X-ray machine. The intraoperative fluoroscopy allows for real-time imaging during the surgery, which makes it possible for Tomlinson to precisely implant the nail within the fractured bone.



Dr. James Tomlinson evaluates Angelo during the dog's return visit to the University of Missouri Veterinary Medical Teaching Hospital. Tomlinson used minimally invasive techniques to repair Angelo's fractured leg.



Minimally invasive fracture fixation is possible at the MU Veterinary Hospital because of the availability of an intraoperative fluoroscopy — a type of intraoperative X-ray machine, which allows for real-time imaging during surgery.

The I-Loc fixator is primarily used in fractures of long bones, such as the tibia and femur. Tomlinson also on occasion uses a device consisting of locking plates developed by Synthes for injured bones that have sustained long fractures. The surgical procedure involves using an instrument to create a tunnel under the animal's skin and then sliding a plate into the tunnel alongside the bone. The plate is then secured in place with locking head screw that locks into place. The plate and screw stabilize the bone until it has healed, a process that usually takes six weeks. Tomlinson first used the locking plate procedure in 2005 and is one of only a small number of veterinary orthopaedic surgeons currently offering the minimally invasive process in small animals.

The I-Loc fixator is used for medium to large dogs due to the size of nails that are available. However, the locking plates can be used on dogs of any size, as well as cats. Tomlinson said he also performs minimally invasive techniques for other types of bone injury, such as fractures of the condyle, or rounded portion, of the elbow and dislocations of the sacroiliac joint in the pelvis.

The advantages of the minimally invasive procedures are less pain for the injured animal, a decreased infection risk, and faster recovery. The procedures are no more costly than conventional orthopaedic surgery. In fact, Tomlinson said, the interlocking nail system is potentially less expensive due to the speed with which he can implant the device means less time is spent under anesthesia.

Rost said he was amazed by Angelo's recovery following his surgery. "After a week or two, we couldn't believe how well he was doing. It was about eight weeks from the accident to him getting the go-ahead to do whatever he wants. Now, you wouldn't know anything had happened to him."



**A radiograph shows the I-Loc Interlocking Nail fixator used to fix Angelo's broken leg.**



## Certain Breast Cancers Have a Trait that Could be Attacked by New Therapies, says MU Researcher

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## **CVM Alumnus Selected to Lead AAVC**

A department head with the Mississippi State University College of Veterinary Medicine has been selected to fill a national role with the American Association of Veterinary Clinicians. The AAVC has elected Ron McLaughlin, head of the college's Department of Clinical Sciences, to serve as president. McLaughlin is a 1985 graduate of the University of Missouri College of Veterinary Medicine. In his role with the AAVC, McLaughlin works with the organization to enhance the quality of veterinary instruction in the United States.

The AAVC was founded in 1958 to ensure that veterinary instruction through clinical teaching, service and research are held to high standards. The organization is made up of veterinary clinicians engaged in teaching and research at the professional, graduate and postgraduate levels. As president, McLaughlin works with faculty in clinical departments at U.S. veterinary colleges, practices and institutions involved in educating veterinarians through internships and residencies.

McLaughlin said AAVC will continue its focus on enhancing the training of those entering the veterinary profession in many ways, especially through the Veterinary Internship and Matching Program.

"The matching program expedites the selection of residents and interns and is of great benefit to its participants," McLaughlin said. "We are keeping the program streamlined and providing a matching system that is easy for students and faculty to use. The AAVC is also taking a leadership role in preparing clinical residents for faculty positions in academia, which helps ensure quality clinical training for the future."

After earning his DVM at Mizzou, McLaughlin completed a surgery residency at the Ontario Veterinary College, taught at Kansas State University's College of Veterinary Medicine and worked in private practice before joining the faculty at Mississippi State in 2000. McLaughlin took the department head position in 2006 and remains a professor and chief of small animal surgery there.



## **Research Foundation Awards \$50,000 to ReCHAI to study Therapeutic Riding Effect on Veterans with PTSD and Traumatic Brain Injuries**

The Horses and Humans Research Foundation awarded its seventh \$50,000 research grant recently to the Research Center for Human-Animal Interaction at the University of Missouri College of Veterinary Medicine. The ReCHAI team will examine the effects of six weeks of therapeutic horseback riding on 40 U.S. military veterans with post traumatic stress disorder and/or traumatic brain injury. Specifically, the multi-disciplinary investigative team will systematically evaluate whether the horseback riding intervention affects participants' experience of PTSD symptoms, including coping skills, emotional regulation and social engagement. The study, "Effects of Equine-Assisted Activities on PTSD Symptoms, Coping Self-Efficacy, Emotion Regulation, and Social Engagement in Military Veterans," is community-based and takes an innovative approach to treating the symptoms of PTSD/TBI which as many as one in five Iraq and Afghanistan veterans experience.

"U.S. military veterans have made great sacrifices for their country," said Rebecca A. Johnson, PhD, RN, FAAN, professor and ReCHAI director, and the study's principal investigator. "After combat deployment, very large numbers of them experience post traumatic stress disorder and traumatic brain injury. These conditions make it extremely difficult for the veterans to readjust to civilian life. Research so far is promising that therapeutic horseback riding can help people with such physical, emotional, and cognitive challenges. But no studies of veterans have been done."

Participants will be randomly assigned to one of two study groups, an experimental group and a control group. The experimental or riding group will spend one hour per week interacting with and riding the same horse at one of three PATH-accredited riding centers in mid-Missouri under the supervision of an occupational therapist. Riding will follow a systematic lesson plan and be directed by a PATH-certified instructor, a leader and side walkers as necessary. Participants will be evaluated when they enter the study, after three weeks of riding, and again after six weeks of riding. Veterans in the control group will be assessed when they enter the study, and three and six weeks later while they wait to switch to the riding group.

"We are so pleased to award a research grant to Rebecca Johnson and her team at the University of Missouri so they can investigate how horses might help veterans in a therapeutic setting," said Lynn Shaw, HHRF Board President. "With PTSD and TBI being the most prevalent injuries we see in returning military personnel, this research is exceptionally timely and important. We are extremely appreciative of the visionary donors who made this grant possible."

This special research fund began with a seed contribution from the Caisson Platoon Equine Assisted Program, which serves the Walter Reed Army Medical Center and the National Naval Medical Center. It is the first of a series of specially focused research initiatives planned by HHRF for the coming years, a departure from the more general research funding that has been available since the organization was founded in 2004.

Horses and Humans Research Foundation is the only organization dedicated solely to funding research to support the equine-assisted activities and therapies field.

## A Peg Leg Pony Named Bunny MU Veterinary Hospital Saves a Horse Named Bunny

Story by Kelsey Allen

This article originally appeared in *Mizzou Magazine*, March 22, 2013

When Shannon Reed first met Bunny, she wasn't sure there was anything she could do. The 22-inch-tall, 70-pound miniature horse was born with severely deformed legs.

Casey Smith, founder of a nonprofit shelter for neglected equines, brought Bunny to MU after rescuing the mini from a large-production breeding farm, more accurately called a mill, Smith says.

"Bunny was not like any other horse I'd ever met," Smith remembers. Smith's 7-year-old daughter suggested calling the bouncing beauty Bunny. "She had so much life for being this crippled tiny min

Smith carted Bunny to Columbia in the back of her SUV in October 2012 to see what — if anything — Reed could do for her.

"Normally, horses are born with their legs straight and their joints aligned to bear weight equally so every time they take a step there is a cushion," says Reed, assistant teaching professor at the Equine Clinic in the MU College of Veterinary Medicine. "Instead of [Bunny's front legs] just being angled, they also rotated so the entire bottom of her legs turned outward."

Smith left the clinic for lunch thinking there wasn't any help for Bunny, but when she returned a few hours later, Reed, DVM '03, had consulted with a team of surgeons, including hospital director David Wilson and small animal orthopedic vet Derek Fox, PhD '04. More similar to a dog in size, the team worked together to find the best solution, settling on a hybrid of procedures typically reserved for canines and of those done in horses.

"When I saw Bunny's X-rays, I thought, 'Wow, we have a lot of work to do,'" Reed recalls. Working side by side with two other doctors and multiple students, Reed performed three surgeries to correct the bones in her legs. "The repair we did is done on horses, but working on the ulna is something that's done on dogs and cats," Reed says. During the three-hour procedure, her right leg, the more severely deformed of the two, was fused together to create a peg leg held together by 12 screws. Bunny spent 11 days recovering in Columbia in a pen built just for her. Students got to calling it Bunny's Clubhouse. "It's hard to describe," Reed says, "but it was impossible not to go in there and bother her. Even the grouchiest couldn't resist going into her stall." Bunny returned home with Smith to Blue Ridge Rescue in Blue Grass, Iowa, where she continues to recover. She was back on campus in January to get fitted for special shoes to adjust her hind legs.



Before Bunny came to MU, she had severely deformed legs; her front legs angled and rotated outward instead of aligning straight.

"She couldn't hold herself upright, and she was sinking in the back end," Reed says. "We put her in special shoes that look like high heels. They're like orthotics for people."

Smith's daughter calls them Bunny's princess slippers.

"We've taken them off, and now she's walking almost 100 percent normal," Smith says. "When we took Bunny to MU, she could barely walk. Now she's running at full speed."

Reed adds: "She is going to live a pretty happy life in the pasture now."



Shannon Reed sits with Bunny in her pen after surgery.



Bunny heads back to Blue Ridge Rescue in Blue Ridge, Iowa, after surgery, now pain free.

## MU Professor Awarded 2013 Kemper Fellowship for Teaching Excellence

University of Missouri Deputy Chancellor Mike Middleton and Commerce Bank Chairman Jim Schatz of Commerce Bank today awarded one of the 2013 William T. Kemper Fellowships for Teaching Excellence to Tim Evans, an associate professor of toxicology in the MU College of Veterinary Medicine.

Middleton, Schatz and a group of professors, administrators and staff surprised Evans by honoring him with the Fellowship, which includes a \$10,000 check. Kemper Fellowships are awarded to five outstanding teachers at the University of Missouri each year.

The William T. Kemper Fellowships for Teaching Excellence were established in 1991 with a \$500,000 gift. Kemper, a 1926 MU graduate, was a well-known civic leader in Kansas City until his death in 1989. His 52-year career in banking included top positions at banks in Missouri, Kansas and Oklahoma. Commerce Bank manages the trust fund.

### Tim Evans

Tim Evans is an associate professor of toxicology in the MU College of Veterinary Medicine. Evans, who has been a member of the MU faculty since 2001, was named an assistant professor in 2003 and was promoted to associate professor in 2010. As an instructor of veterinary toxicology, Evans teaches topics including reproductive pharmacology, veterinary diagnostic toxicology and how chemical agents cause environmental disease. His students say his commitment to teaching extends well beyond the classroom.

"When drought conditions last summer caused nitrates to accumulate in dangerous levels in many crops, Dr. Evans worked tirelessly to educate veterinarians and livestock producers about the danger and how to effectively manage this risk," said Daniel Tappmeyer, a fourth year veterinary professional student. "While Dr. Evans is remarkable for his teaching of toxicology, perhaps the most important thing he teaches veterinary students is the importance of having a sense of humor."

Evans is well known around the College of Veterinary Medicine for his superhero alter-ego he calls "The Antidote". He has been known to make dozens of trips up and down the elevators in the Bond Life Sciences Building dressed in a mask and cape. Evans uses his alter-ego to teach students the concept of "treat the patient, not the poison". "The Antidote" also lectures occasionally on how to treat animals who ingest toxic materials and has been known to occasionally lead toxic plant walks around campus. Evans' quirky teaching style resulted in his being named Mizzou Wire's "2010 Nerd of the Year" in their "Nerds of Mizzou" series.

### VIDEO: [The Antidote](#)

"Dr. Evans is one of the most passionate and enthusiastic instructors I have ever had the pleasure of knowing," said Neil Olson, dean of the MU College of Veterinary Medicine. "These qualities are quickly picked up and appreciated by the students in his classroom. Students at all levels absolutely appreciate his commitment to teaching. He is indeed one of the finest teachers MU has to offer!"

Evans is known as a dynamic lecturer, transforming his classroom into a riveting, interactive experience that facilitates effective student learning and enhances long-term retention and application of important facts and skills. In all of his lectures and student interactions, Evans' unique ability to incorporate humor, along with his unparalleled enthusiasm and expertise, helps keep students relaxed, attentive and highly motivated to learn.



**Dr. Tim Evans**, associate professor of toxicology at the MU College of Veterinary Medicine, is congratulated by his wife, Debbie, and son, Will, after receiving the first of this year's 2013 Williams T. Kemper Fellowships for Teaching. Evans said he felt honored and humbled to win the award for something he loves to do — teach. "I love MU. MU gave me the opportunity to come back into academia and fulfill my dreams."

“Words like ‘passion’ and ‘enthusiasm’ describe Tim Evans,” said Craig Franklin, a professor in the MU College of Veterinary Medicine and Director of the Comparative Medicine Program. “For his classroom lectures, he relentlessly prepares, spending days updating his materials and constantly self-critiquing his teaching style. His teaching does not stop in the classroom and his passion for teaching and love for his students make him an deserving winner of the Kemper Award.”

Outside of the classroom, Evans serves as a mentor for graduate students and veterinary students participating in the Veterinary Research Scholars Program, the faculty sponsor for the Christian Veterinary Fellowship club at MU, and is a member of the MU Faculty Council. Evans has been awarded the 2012 Carl F. Norden-Pfizer Distinguished Veterinary Teacher Award, two Golden Aesculapius Awards, the SCAVMA Teaching Award for Clinical Sciences and the George Dadd Award for peer-reviewed excellence in teaching. He is the only faculty member to claim all of these major honors from the MU College of Veterinary Medicine in the last 12 years. Evans received his doctor of veterinary medicine degree from the University of California-Davis, and master’s and doctorate degrees from MU.

## Couch Potatoes May Be Genetically Predisposed to Being Lazy, MU Study Finds

**April 08, 2013**

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<http://munews.missouri.edu/news-releases/2013/0408-couch-potatoes-may-be-genetically-predisposed-to-being-lazy-mu-study-finds/>



## Vaccine Developer to Address Class of 2013

After three years at Missouri Southern University in Joplin, Mo., Neosho native Jim Rhoades was considering a scholarship offer in Palo Alto, Calif., pursuing a PhD in elementary particle physics. Instead, he applied to enter the MU College of Veterinary Medicine and despite not having the advantage of age like his classmates, was accepted. "My first block was a real eye-opener, but I made it," he said.

Rhoades earned his DVM in 1992. He returns May 17 as the guest speaker for the College's 64th Commencement. Commencement ceremonies will be held at 1 p.m. in Jesse Hall on the MU campus.

He spent six years working primarily as a large animal veterinarian in the Ozarks, during which time he began assisting a small Iowa-based vaccine company, Grand Laboratories, with some field safety trials. When the company offered him the opportunity to join the technical product development team working on new vaccines from concept to market, he gave up practice for research.

Four years later, that company was purchased by the Swiss company Novartis, now the third largest pharmaceutical company in the world.

Rhoades' position as the head of Novartis' Global Technical Services for mammalian vaccines takes him around the world assessing the threats of new viruses and viral mutations and developing vaccines to counter those threats. A recent outbreak of BVD 2C (a mutated strain of Bovine Viral Diarrhea Virus) in Germany prompted an urgent meeting to develop strategies to prevent the virus from spreading to other European Union nations. "Can we make a vaccine against this mutated BVD virus? That's where I come in," Rhoades explained. "I look at the best way to take a virus and make a vaccine out of it. Does it need to be a marker vaccine, for example?"

Rhoades provides technical oversight for research and development and organizes the trials and studies of equine, bovine, caprine and swine vaccines.

"Ninety percent of all projects that begin will fail. Now that's a little hard on the ego, but those 10 percenters that do succeed are probably going to save someone's life," he said.

After living in Europe and North Carolina, Rhoades and his wife, Susan, once again make their home in Missouri. However, he has offices in North Carolina and Switzerland and is part of Novartis research and development teams based in Switzerland, Australia and Iowa.

"Even though I'm a vet and I use the clinical experience and knowledge I acquired in veterinary school, I no longer practice. To me, there is nothing better than pulling a calf and getting it on its legs for the first time. That is like watching a miracle. But there is also a great deal of satisfaction in bringing new vaccines to countries like Thailand to help the people there produce healthier protein sources. There is a need for veterinarians to understand that there are opportunities outside of practice. As a group, we need to broaden our horizons."

Rhoades noted that among those opportunities are helping address the food production needs of a world whose population is expected to swell to nine billion people by 2050.

"Where is the food to feed those people going to come from? Seventy percent will need to come from increased efficiencies in production."



Rhoades noted that at sheep farms in Australia and New Zealand parasites had become resistant to the currently available anthelmintics. Lambs were dying at an early age at an alarming rate because they were so infested with parasites. Novartis was able to develop a class of anthelmintics and bring a new product to market that overcame the resistance and saved the sheep industry from decimation. However, the needed efficiencies in future food production will come less from anti-parasites and antibiotics that treat animals, Rhoades said, but in vaccines to prevent the illnesses.

## Honor Society Taps CVM's Tappmeyer

Mizzou celebrated its 86th annual Tap Day April 19, 2013, recognizing new initiates of six campus honorary societies. 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. Students entered Jesse Hall for the ceremony wearing robes and hoods that masked their identities. New society members then were led to the stage and one by one, introduced, their accomplishments described, and their hoods removed revealing the new inductees. Six organizations welcomed new members: QEBH, Mystical Seven, LSV, Mortar Board, ODK and Rollins Society.

Fourth-year College of Veterinary Medicine student Daniel Tappmeyer 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."

Tappmeyer, who is from Warrenton, Mo., earned a bachelor's degree in chemical engineering at Mizzou, graduating summa cum laude in 2009. His service to the academic community while attending the CVM has included acting as the national treasurer and delegate to the House of Delegates for the Student American Veterinary Medical Association (SCAVMA). He has also been a part of the Missouri SCAVMA chapter, the Bovine Club and American Association of Bovine Practitioners, Veterinary Business Management Association, Veterinary Enrichment and Teambuilding CVM orientation student facilitator, and was a founding member of the Veterinary Outreach and Leadership Committee at MU.



**Dr. Ron Cott, CVM associate dean of Student and Alumni Affairs, who was tapped into the Rollins Society in 2012, waits to remove the hood of CVM fourth-year student Daniel Tappmeyer during Tap Day 2013.**



**Daniel Tappmeyer's hood is removed to reveal him as a 2013 inductee into the Rollins Society at Mizzou.**

## Booth Honored for Discussion-Provoking Reviews

Frank Booth feels a little like Paul Revere — he is trying to sound an alarm to alert people of an impending threat. The threat is not from an external army; however, but from self-created dangers to our own health when we allow ourselves to succumb to a sedentary lifestyle.

Booth's warning: Chronic disease is coming.

Booth, PhD, a professor in the College of Veterinary Medicine's Department of Biomedical Sciences, recently published research that investigated whether there is a genetic predisposition toward inactivity: <http://munews.missouri.edu/news-releases/2013/0408-couch-potatoes-may-be-genetically-predisposed-to-being-lazy-mu-study-finds/>.

In addition to pursuing his own research projects, he has also spent much of the past 40 years examining the studies of other scientists and synthesizing the data about exercise and the link between inactivity and disease. During his career so far, he has drafted 79 review articles in which he has analyzed the information available on various topics from studies within the exercise and physiology field as well as external sources, and offered recommendation for the next needed steps in research. Booth said over the years his reviews have evolved from examining studies of exercise alone to documenting inactivity as a growing public health crisis.



"I am an activist to try to have changes made so that people become aware they are doing themselves harm by being sedentary," Booth said. "If you're inactive, the data is pretty clear."

The American Physiological Society recently paid tribute to Booth for the scientific reviews he has authored with its Annual Reviews Award for Scientific Reviewing — the first time it has presented such an honor. The award was given for excellence in providing systematic, periodic examinations of scholarly advances and provoking discussion that will lead to new research activity. He received the award during the Experimental Biology 2013 conference in Boston on April 23. The meeting brought together members of six sponsoring societies: American Association of Anatomists, American Physiological Society, American Society for Biochemistry and Molecular Biology, American Society for Investigative Pathology, American Society for Nutrition, and American Society for Pharmacology and Experimental Therapeutics.

Booth said that while many people are unaware of the health problems that an inactive lifestyle can trigger, the topic is beginning to gain traction in the media. He hopes an increased focus on the topic of inactivity will help educate Americans to reject a sedentary lifestyle, especially for the sake of their children's health.

"Children should not be allowed to have a lifestyle that allows them to develop Type 2 diabetes. We need to do more for kids who are younger than voting age. These are the things that I'd like to see change."

He said scientists can't hope to make public policy, but they can make their discoveries known to the policy entrepreneurs who can enact change.

## MU Veterinary Team Beats Odds to Save Horse's Vision

For Angel, a 4-year-old Missouri Fox Trotter, the options appeared limited. At the urging of a friend who operates the ranch where the young horse is boarded, Angel's owner, Laurie McCarthy of Bentonville, Ark., took her horse to a local veterinarian for what she suspected was a blood clot in Angel's eye. The veterinarian's diagnosis was far worse. McCarthy was told that Angel's eye was afflicted with a tumor of the iris, which was suspected to be a rare malignant melanoma.

The usual treatment to prevent the potentially deadly cancer from spreading and save an animal's life is removal of the eye. However, McCarthy remained hopeful that another solution could be found.

"She's a young horse and she's very smart," McCarthy said of Angel, whom she had recently started training. "She picks things up quickly. I wanted her to have the best chance to be a well-rounded horse."

McCarthy and her friend Rebecca Christians brought Angel to the University of Missouri Veterinary Medical Teaching Hospital to learn if Angel would be a candidate for treatment other than excision of her eye. Dr. Jacqueline Pearce, a veterinary ophthalmologist, attempted to treat the tumor using a laser procedure. However, the horse's blue eye pigment prevented the procedure, which has been successful in dogs, cats and brown-eyed horses, from working.

Undeterred, McCarthy returned to Columbia two weeks later with Angel ready to take another chance. Pearce had agreed to try to surgically remove the cancerous tumor while attempting to save the eye. While melanomas are not uncommon in the eyes of dogs and cats, they are rare in horses. There had been only one documented case in which a melanoma was removed and the horse's eye saved. The procedure had never been attempted at the MU VMTH.

McCarthy said she knew there was a chance the procedure would not succeed and that long-term preservation of Angel's vision was far from certain, but thought it was important to try, not only for Angel's sake, but also to help veterinary students expand their knowledge.

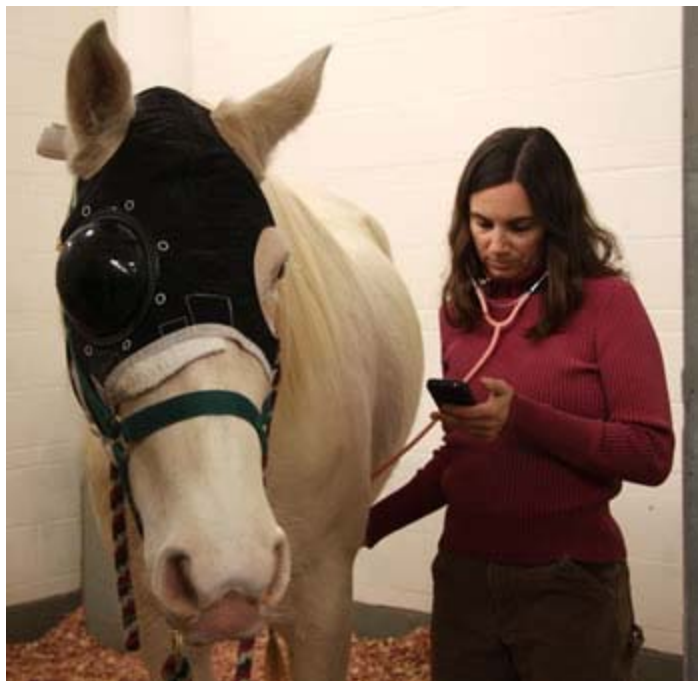
"If there was any way possible this would help other horses by providing a learning opportunity, I thought that was important," she said.

Pearce said she began researching the surgical procedure and contacted the veterinary ophthalmologist in Florida who had successfully performed it on a young horse to learn from his experience.

"There was a high risk of excessive bleeding," Pearce explained. "The eye could fill with blood and we could lose our chance to save vision. We knew there was a high likelihood of complications."



**Jacqueline W. Pearce, DVM, MS**, assistant teaching professor of comparative ophthalmology at the MU Veterinary Medical Teaching Hospital, removes a rare melanoma from the eye of a young Missouri Fox Trotter.



**Alison LaCarrubba, DVM**, assistant teaching professor of equine medicine at the MU VMTH, monitors Angel's recovery after surgery.

Pearce said the use of electrocautery to control bleeding, delicate surgical technique, and sophisticated surgical instruments unique to MU, allowed her to remove the tumor during a 90-minute procedure.

The surgery initially appeared to succeed, but Angel was not in the clear yet. During recovery, she stumbled and banged her head against her stall, injuring her vulnerable eye that had just undergone surgery.

“Her eye filled up with blood. Fortunately, within 48 hours the bleeding had cleared and she could see again,” Pearce said.

Pearce said she treats all species, but most of her work focuses on small animals and some raptors. She credited a team approach, in which she was able to attend just to Angel’s eye while the VMTH equine veterinarians and technicians cared for the horse pre- and post-surgery for the success of Angel’s operation.

“She is visual and she is comfortable, and those are our two main goals; so we consider this a success,” Pearce said.

## Cook Honored for Enhancing Pets' Lives

The World Small Animal Veterinary Association recently named Dr. Jimi Cook of the MU College of Veterinary Medicine as the 2013 recipient of its WVAVA Hill's Pet Mobility Award. Cook, DVM, PhD, ACVS, ACVSMR is the William and Kathryn Allen Distinguished Professor in Orthopaedic Surgery and director of the Comparative Orthopaedic Laboratory. He has a dual appointment in orthopaedic surgery at the MU School of Medicine.

The WVAVA award recognizes the outstanding work of a clinical researcher in the field of canine and feline orthopaedic medicine and surgery. The recipient's research contributes significantly to the well-being of pets' lives and to the human-animal bond worldwide through improvements in the mobility and quality of life of pets.

Cook received a bachelor's degree from Florida State University in 1988. He earned his DVM degree in 1994 at the University of Missouri. He then went on to complete a small animal rotating internship at the University of Minnesota. He returned to the University of Missouri in 1995 for a dual PhD and small animal surgery residency program. He completed his PhD in pathobiology in 1998. His PhD research involved developing a unique in vitro system of chondrocyte culture for studying osteoarthritis.

The author of many peer-reviewed publications in the veterinary and human medical sphere, Cook's interests lie in arthroscopy, minimally invasive fracture repair, orthopaedic tissue engineering and total joint replacement. The Comparative Orthopaedic Laboratory, which he co-founded in 1999, carries out research into osteoarthritis, tissue engineering and articular cartilage physiology.

He has received numerous awards including Morris Animal Foundation's America's Best Veterinarian in 2008, the Orthopaedic Research Society's New Investigator Recognition Award, the Norden Distinguished Teacher Award, MU Alumnus of the Year, MU Faculty- Alumni Award, the Bloomberg Memorial Research Award, the Hohn-Johnson Research Award, the Bojrab Research Award, the MU Graduate and Professional Council Gold Chalk Award, and the University of Missouri Superior Graduate Achievement Award.



## Student and Faculty Achievements Recognized at Honors Banquet

Attendees at the 2013 Honors Banquet for the University of Missouri College of Veterinary Medicine saw \$306,419 in scholarships and other awards presented to some of the College's most accomplished students. The annual event, held this year at the Courtyard by Marriott in Columbia on May 14, celebrates students' scholastic achievements and clinical proficiency. Awards were also given for community service, leadership, and in memory of former students and beloved pets.

Veterinary students shared the evening's spotlight with faculty members, technicians, interns and residents, and also presented awards to peers and mentors whose support, teaching and guidance have helped them succeed as they pursue their goal of earning a DVM.

Students in each academic class selected an outstanding teacher to receive 2013 Golden Aesculapius Awards. Winners were Dr. Eileen Hasser, honored by the Class of 2016; Dr. Deborah Fine, honored by the Class of 2015; Dr. Tim Evans, recognized by the Class of 2014; and Dr. Dawna Voelkl, whom the graduating class selected as its honoree.

Other faculty members also received recognition. Dr. Venkateseshu Ganjam, was posthumously given the Dadd Award. Dr. Ganjam was a professor in the Department of Biomedical Sciences at the MU College of Veterinary Medicine. The award honors excellence in veterinary medicine teaching and its recipients are selected by their faculty peers. The Zoetis Award for Veterinary Research Excellence was presented to Dr. Charles Brown, a professor in the CVM Department of Veterinary Pathobiology. The final award of the evening was the Zoetis Distinguished Teacher Award. The award is supported by Zoetis and chosen by members of the graduating class, who select as the recipient an outstanding teacher, who through ability, dedication, character and leadership, contributes to the advancement of the profession. The 2013 honoree was Dr. Dusty Nagy, an assistant teaching professor of large animal medicine in the CVM's Department of Veterinary Medicine and Surgery.

[For a complete list of 2013 award winners, click link below.](#)

[2013award\\_recipients.pdf](#)



CVM Dean Dr. Neil C. Olson presents the Dadd Award to Dr. Venkateseshu Ganjam's widow, Irene Ganjam, and his daughter, Ricarda Ganjam. Also pictured is Dr. Joanne Kramer, the 2012 recipient of the award.



Dr. Neil C. Olson congratulates Dr. Charles Brown as the recipient of the Zoetis Award for Veterinary Research Excellence. Dr. Carol Reiner, last year's winner, helped present this year's honor.



The Class of 2013 chose Dr. Dusty Nagy as this year's Zoetis Distinguished Veterinary Teacher Award. Presenting the award are Dr. Neil C. Olson and last year's winner, Dr. Tim Evans.



## Newest Veterinarians Learn the Value of Normal

The University of Missouri College of Veterinary Medicine graduated 102 new veterinarians on May 17 during the College's 64th annual commencement. College Dean Neil C. Olson served as the master of ceremonies for the event and introduced the platform party including the speakers.

Peggy Fisher, president of the CVM's Alumni Association, greeted the class on behalf of the organization. Olson then introduced speaker Jim Rhoades, a member of the Class of 1992, who now works in vaccine development for Swiss pharmaceutical giant Novartis.

Rhoades shared with the graduates wisdom he learned from his boss, the president of Novartis, who told him that the key to job satisfaction is recognizing that normal is extraordinary, particularly when a family member or pet is ill. "People want things to get back to normal. You have the skills and talents to restore normal," Rhoades told the CVM Class of 2013.

He also told them those same skills and talents that they developed during their four-year professional veterinary curriculum would allow them to pursue careers they may not know exist.

"You have a degree that will open a million doors," he said.

Rhoades advised the class members to thank the people who had helped them succeed in their veterinary training. He also cautioned them that while they would change lives, they would also be called upon to help future clients through difficult times. "Not everything you're going to do will have a happy ending." He told the class that the best way to console a grieving client is with complete honesty.

He told them not to be afraid to be scared. Rhoades confessed that when he first graduated the College of Veterinary Medicine, he feared that he had not learned enough and would never possess a knowledge base equal to his mentors'. He shared the advice he was given from one of his professors at the time: "You will miss so much more from not looking than you will ever miss from not knowing," he said.

Craig Payne, 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 Dusty Nagy, assistant teaching professor, Brian Frappier, associate clinical professor, and Linda Berent, associate dean for academic affairs. Former



**CVM Dean Neil C. Olson recognizes the friends, family members, mentors and faculty members who helped the CVM Class of 2013 succeed.**



**Jim Rhoades, who gave up practicing large animal veterinary medicine to pursue his interest in animal vaccine development, advises the graduates that their clients will be looking to them in the hope that they can restore normal.**



**Led by Craig Payne, the Class of 2013 recites the Veterinarian's Oath**

Missouri Supreme Court Judge Ann K. Covington, a member of the UM Board of Curators, conferred the doctor of veterinary medicine degree to the class members.



**During the CVM's 64th commencement, 102 new veterinarians are graduated.**

"Today is a dream realized," Daniel Tappmeyer said. Members of the Class of 2013 selected Tappmeyer to give a response on their behalf. He told the audience that none of the country's newest veterinarians had reached that point on their own. All had received support from friends and family. "Thank you so much for loving your veterinarian through the good times and the bad," he said.

He also told his classmates that they should expect bumps in the road during their careers and quoted his father, a veterinarian in Wright City, Mo., and a member of the CVM Class of 1974. "The worst thing that happens Monday morning, often makes the best story by Friday evening."

Tappmeyer talked about the shifts that are under way in veterinary medicine. "The profession is not dying, it's changing," he stated, "we are in a position to ride or create that change as it's happening."

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



**(Above) Linda Berent and Brian Frappier hood new graduate Casey Conklin during the CVM**

(Below) Daniel Tappmeyer gives a response on behalf of the Class of 2013.



## **Former MU CVM Dean Kenneth Weide Has Passed Away**

Dr. Kenneth D. Weide of Lincoln, Neb., who served as the dean of the MU College of Veterinary Medicine from 1973 to 1981, died March 31, 2013, just 49 days shy of his 80th birthday.

He was born at the Horton, Kan. Hospital on May 19, 1933, the only child of Vertis C. and Bernice J. (Randolph) Weide. In 1940, they moved to Topeka, Kan., and he graduated from Topeka High School in 1951. He attended Kansas State University where he received his bachelor of science (1956), doctor of veterinary medicine (1958) and master of science (1958). Following private practice in Platte City, Mo., he attended Michigan State University where he received his PhD in 1962. While working on his PhD, he served on the faculty of the Ohio Agricultural Experiment Station from 1959 to 1962.

Dr. Weide returned to Kansas State where he was associate professor of pathology and the first director of the KSU Veterinary Medical Diagnostic Laboratory. In 1967 he was appointed head of the Department of Veterinary Science and first director of the Animal Disease Research and Diagnostic Laboratory at South Dakota State University. He was credited with originating animal disease diagnostic laboratory services in both Kansas and South Dakota.

In 1971, he was appointed the first extension veterinarian for the State of Arizona and in 1973 became the third dean of the MU CVM. He was appointed the first executive director of the Western Veterinary Conference in 1984, a position he held for 14 years. He retired in 1998 and moved to Lincoln in 2002 to be closer to his family.

He was preceded in death by his wife of 42 years, Thelma F. (Yung) Weide. He is survived by his daughter, Kim C. Weide of Lincoln; two sons, William C. Weide and his wife, Laurie (Ohlson) and granddaughter, Paige Weide all of Portland, Ore., and Lee R. Weide and his wife, Jennifer (Martin) and grandsons, Ryan and Kyle Weide all of Crete.



***Dr. Kenneth D. Weide***

## MU Researchers Develop Radioactive Nanoparticles that Target Cancer Cells

**May 21, 2013**

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<http://munews.missouri.edu/news-releases/2013/0521-mu-researchers-develop-radioactive-nanoparticles-that-target-cancer-cells/>

## Rubin Named Interim Dean of Graduate School, MU Provost Announces

**May 21, 2013**

**Story Contact(s):**

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**By Jerett Rion**

<http://munews.missouri.edu/news-releases/2013/0521-rubin-named-interim-dean-of-graduate-school-mu-provost-announces/>

## MU CVM Researcher Part of Team Receiving Funds for Groundbreaking Canine Cancer Study

The AKC Canine Health Foundation (CHF) and the Golden Retriever Foundation (GRF) announced the joint funding of nearly \$1.5 million in canine cancer research. The foundations worked together to select two canine cancer research projects that will potentially make real progress in the fight against canine cancer. The research results are expected to significantly improve the understanding and diagnosis of canine cancer so that dogs live longer, healthier lives. The research will be conducted through collaborative team efforts of top scientists, bringing unique synergy of talent and resources together for a greater outcome.

Receiving a grant totaling \$404,813 is a research project led by Dr. Jeffrey Bryan of the University of Missouri College of Veterinary Medicine, Dr. Anne Avery of Colorado State University and Dr. Heather Wilson-Robles of Texas A&M University. The study will focus on discovery of novel protein, blood and epigenetic biomarkers to enhance diagnosis and treatment of cancer in dogs.

Lymphoma strikes one in eight golden retrievers, making them one of the most commonly affected breeds. Through the investigation, the researchers expect to identify aberrant epigenetic (DNA methylation) changes in lymphoma cells to develop biomarkers of each class of lymphoma, and in turn, identify new therapy targets for affected golden retrievers. More significantly, because DNA methylation changes occur so early in the process of cancer formation, they may serve as biomarkers of risk, allowing medicine or diet to prevent lymphoma in golden retrievers before it develops. Another component of the study aims to fully phenotype cancer stem cells in lymphoma by surface markers and DNA methylation changes for the purpose of targeting cells that feed cancer metastasis. The discoveries made in each segment of the study can be combined, correlated, and translated into biomarkers of risk, diagnosis, and prognosis to advance the prevention and management of lymphoma in golden retrievers. Based on data from other species these investigators expect epigenetic changes to occur across all breeds and anticipate this study will open the door for a deeper understanding of cancer in all dogs.



**Dr. Jeffrey Bryan**

The CHF and GRF also funded a collaborative study by Dr. Jaime Modiano of the University of Minnesota, Dr. Matthew Breen of North Carolina State University and Dr. Kerstin Lindblad-Toh of The Broad Institute of MIT and Harvard. They will focus their efforts on the establishment of genetic risk alleles, defining the gene expression profile and the role of cellular activation in lymphoma and hemangiosarcoma.

"These grants are an exciting step forward in the field of cancer research for dogs," said Dr. Shila Nordone, CHF's chief scientific officer. While the research grants will primarily focus on golden retrievers, both projects emphasize a better understanding of the mechanism of how cancer begins and spreads, resulting in research that will be applicable across all breeds of dogs.

"These results will have a One Health application, impacting human medicine as well," Nordone added.

According to Dr. Chand Khanna, DVM, PhD, of the Pediatric Oncology Branch of the National Cancer Institute, "Given the imperative to deliver scientific advances to patients, there is an increasing need for the development of collaborative research efforts that include a diversity of perspectives from basic and clinical research." The grants chosen for funding meet this new research paradigm. In addition, a portion of the funded research will be done in cooperation with the animal health industry with the hope of driving diagnostic tests and novel therapeutic products to market faster and more efficiently.

The two funded teams will commence their work later in 2013 with anticipated completion dates in 2016. The process, from the initial partnership between CHF and the GRF to the selection of these research teams was a three-

year undertaking. Submitted applications were required to include at least three component projects and were reviewed by the foremost experts in the field of veterinary oncology.



## MU Veterinarian Part of Team Establishing Trauma Care Network

Each year, approximately 1 in 10 cases seen at large veterinary referral centers are a result of traumatic injury. Trauma is the second leading cause of death in companion animals, with only infection claiming more lives of pets younger than 1, and cancer being responsible for more deaths in older pets. In an effort to improve emergency care and try to save more lives, the American College of Veterinary Emergency and Critical Care (ACVECC) Veterinary Committee on Trauma (VetCOT) is establishing a network of Veterinary Trauma Centers that will be seeded by a network of lead hospitals around the country. These Veterinary Trauma Centers will work together to define high standards of care and share information to improve trauma patient management and recovery.

Dr. Tony Mann, MU professor and director of Small Animal Emergency and Critical Care Service at the Veterinary Medical Teaching Hospital, is chairman of the VetCOT Education Subcommittee, which is tasked with developing the Veterinary Advanced Trauma and Life Support (VATLS) certification course. One of the requirements for a veterinary institution to maintain the verification as a Veterinary Trauma Center will be to have designated staff members complete certification in VATLS. The ACVECC diplomates who are working with Mann to develop the course curriculum met at the MU College of Veterinary Medicine recently to prioritize which skills and techniques are most crucial for veterinarians to know in a trauma emergency.



**Veterinarians (from left) Gregory R. Lisciandro, Dennis T. (Tim) Crowe, Jennifer Devey, Claire R. Sharp and Tony Mann have formed the Veterinary Committee on Trauma Education Subcommittee. The met at the CVM recently to develop a certification course for Veterinary Trauma Centers.**

“We need to narrow down the information to what we can teach in a day-and-a-half,” Mann explained. “What do emergency veterinarians need to know right now to save a life in a situation of, ‘this animal will die if you don’t do this,’” he said. He said much of the training will focus on what are usually the two most immediate threats: life-threatening bleeding and respiratory distress. The course is intended to take the training veterinarians learn while in school to a more advanced level.

“By working collaboratively with leaders in the veterinary trauma field throughout the country, advancements in trauma care will be shared between centers rapidly, assuring the most severely injured patients have access to the most advanced therapies,” said Dr. Kelly Hall, a board-certified emergency and critical care veterinarian, coordinator of the University of Minnesota’s Animal Trauma Center and chair of the VetCOT.

The criteria and expectations for Veterinary Trauma Centers include:

- The ability to provide total care for every aspect of management of the small animal trauma patient, from emergency stabilization through definitive medical and surgical care, and rehabilitation on a 24/7 basis.
- The availability of board-certified specialists for consultation seven days a week in the fields of emergency and critical care, surgery, and radiology.

The team working to develop the VATLS certification course includes:

**Dr. F.A. (Tony) Mann.** Mann received his DVM from the Ohio State University in 1982, completed a 13-month small animal medicine and surgery rotating internship at the University of Missouri in 1983, and completed a small animal surgical residency and master of science in veterinary medicine and surgery at Texas A&M University in 1986. He served as an assistant professor in small animal surgery at Auburn University from 1986 to 1988. He returned to MU in 1988 as an assistant professor. He passed the board certification examination of the American College of Veterinary Surgeons in 1989 and the board certification examination of the American College of Veterinary Emergency and Critical Care in 1995. He was promoted to full professor in 2006.

**Dr. Dennis T. (Tim) Crowe.** Crowe graduated with honors from Iowa State University in 1972. He completed an internship at Colorado State University and undertook a special rotation in surgery at Poudre Valley Hospital. He went on to complete a surgical residency at The Ohio State University in 1976 and then practiced in Detroit for two years before joining the faculty at the University of Georgia as a surgeon and chief of Emergency and Critical Care. He became a founder of the ACVECC in 1989. He is currently the chief of Surgery and Critical Care at the Regional Institute for Veterinary Emergencies and Referrals in Chattanooga, Tenn. Along with being a Diplomate Emeritus in the American College of Veterinary Surgeons, he is also Charter Diplomate of the ACVECC, and a Fellow in the American College of Critical Care Medicine.

**Dr. Jennifer Devey.** Devey received her DVM from the Ontario Veterinary College, University of Guelph in 1988. She completed an emergency and critical care internship in 1992 at the Animal Emergency Center in Milwaukee, Wisc., and completed an emergency and critical care residency there in 1996. She became a Diplomate of the American College of Veterinary Emergency and Critical Care in 1996. Devey subsequently completed a surgical residency in 2004 studying at several private practices. She has been director of emergency and intensive care services at a number of large private referral practices in Canada and the United States – most recently at Lauderdale Veterinary Specialists in Fort Lauderdale, Fla., where she was the department head of the emergency and critical care service and director of education. She has been the lab coordinator for the International Veterinary Emergency and Critical Care Symposium since 2006 and she has also served on the education and research committee for the European Veterinary Emergency and Critical Care Society since 2006.

**Dr. Gregory R. Lisciandro.** Lisciandro received his DVM degree from Cornell University, completed a rotating internship in small animal medicine and surgery at the Animal Medical Center in New York City, and has become a Diplomate of the American College of Veterinary Emergency and Critical Care and the American Board of Veterinary Practitioners (Companion Animal). He has published clinical research that documented the clinical utility of an ultrasound-applied fluid scoring system that reliably predicts the need for blood transfusion(s) in traumatized dogs; and developed TFAST, a thoracic ultrasound scan, to rapidly survey traumatized dogs and cats for life-threatening intrathoracic injury; and most recently developed a third novel abbreviated lung ultrasound exam, called Vet Blue, used for rapid characterization of canine and feline respiratory distress. Currently, he is chief of Emergency and Critical Care at the Emergency Pet Center in San Antonio, Texas.

**Dr. Claire R. Sharp.** Sharp is an assistant professor and specialist in small animal emergency medicine and critical care at the Tufts Cummings School of Veterinary Medicine in North Grafton, Mass. She studied veterinary medicine and surgery at Murdoch University, in Australia, graduating in 2002. She completed her rotating small animal internship at Oklahoma State University, followed by an internship and residency in small animal emergency and critical care at the University of Missouri. Dr. Sharp received her masters of veterinary clinical sciences and became a Diplomate of the American College of Veterinary Emergency and Critical Care in 2010.

The two-day session to develop the VATLS course was sponsored by several companies that produce veterinary medical equipment and supplies: Abbott Animal Health, Ethicon, Mila International Inc., Smiths Medical and SurgiVet, and Vet Imaging.

# Hog producers should take steps to avoid PEDV

**Published:** Wednesday, June 12, 2013

**Story source:**

Josh Schaeffer, 573-882-7821

<http://extension.missouri.edu/news/DisplayStory.aspx?N=1869>

## Associate Dean for Research, Graduate Studies to Retire

Ronald Terjung, PhD, associate dean for research and postdoctoral studies at the MU College of Veterinary Medicine, has announced his retirement effective Sept. 1. Terjung has served as professor of physiology and associate chairman of the Department of Biomedical Sciences since 1997. He has held joint appointments in the School of Medicine Department of Pharmacology and Physiology, and as a senior investigator at the Dalton Cardiovascular Research Center.

During his appointment at the CVM, he has been honored with the Golden Chalk Award by the Graduate Professional Council (2000), the Pfizer Award for Research Excellence, the Citation Award from the American College of Sport Medicine (1996) and both the Adolph Lecture (2008) and the Honor Award (2012) from the Environmental and Exercise Section of the American Physiological Society.

Terjung has served on editorial boards of the Journal of Applied Physiology, Exercise and Sport Sciences Reviews and Medicine and Science in Sports and Exercise. He has also served as editor of Exercise and Sport Sciences Reviews, associate editor of Journal of Applied Physiology and editor-in-chief of Comprehensive Physiology (Online Handbooks of Physiology) 2009-2013. He has served on National Institutes of Health and American Heart Association study sections as well as a number of national and international review boards. Terjung has been continuously funded by the American Heart Association or NIH since 1974. During his career he published more than 115 peer-reviewed papers and more than 40 invited reviews and book chapters.

**Dr. Ronald Terjung**



CVM Dean Neil C. Olson announced that effective Sept. 1 Dr. Carolyn Henry, DVM, will become the interim associate dean for research and graduate studies. Henry is a professor of veterinary oncology who holds a dual appointment in the MU School of Medicine, as well as serving as the interim associate director of research at Ellis Fischel Cancer Center and as the faculty facilitator for the One Health/One Medicine Mizzou Advantage.

**Dr. Carolyn Henry**

## MACC Welcomes New Director

For Julie Wentz, DVM, taking over as the director of Mizzou Animal Cancer Care is more than an opportunity to help pets with cancer, it is a chance to build relationships. Wentz, who has spent 22 years working in emergency veterinary medicine, said she was ready to take her career in a different direction.

“I like the idea of treating cancer patients,” Wentz said. “This will allow me to get to know my patients instead of treating them and sending them on their way, which is a lot of what I did in emergency medicine.”

Wentz replaced George Buckaloo, DVM, as the director of Mizzou Animal Cancer Care in mid-June. Buckaloo, who retired, had operated the center since it opened in 2011. Wentz was scheduled to begin work at MACC July 1, however, on May 31 a tornado caused heavy damage to the Animal Emergency Clinic in Bridgeton where she had been working, effectively shutting down the facility and prompting Wentz to move up her start date at the University of Missouri College of Veterinary Medicine satellite operation.

The cancer treatment facility provides radiation therapy to cats and dogs referred there for treatment by their regular veterinarians. Located in Wentzville, Mo., MACC makes cancer treatment for pets more convenient for St. Louis-area animal owners, who, in the past, made the four-hour round-trip drive to the Veterinary Medical Teaching Hospital in Columbia.

Wentz, a native of Granite City, Ill., has practiced veterinary medicine in the St. Louis area since earning her DVM from the University of Illinois in 1991. In addition to working at the emergency clinic, she has performed relief work for several St. Louis small animal practices, and was an independent contractor for emergency and medical coverage at the Nestle-Purina Research Facility in Gray Summit, Mo. She and her husband, who is also a veterinarian specializing in the care of exotic mammals, own the Ferguson Animal Hospital.

Wentz said her years of experience in the St. Louis area have allowed her to develop connections with referring veterinarians in the region, which should foster the confidence needed for them to refer their clients to MACC for cancer treatment services and diagnostic CT scans.

Wentz and her husband have four daughters, as well as five cats, four bearded dragons and fish. In her spare time she enjoys spending time with her family and preserving memories through scrapbooking.



**Dr. Julie Wentz**

## MU Researchers Find Condition in Dogs that May Help Further Research Into Human Disease

**July 9th, 2013**

Story Contact: Nathan Hurst, 573-882-6217, [hurstn@missouri.edu](mailto:hurstn@missouri.edu)

<https://nbsubscribe.missouri.edu/news-releases/2013/0709-mu-researchers-find-condition-in-dogs-that-may-help-further-research-into-human-disease/>

## Look out for ergot in pastures

The fungus thrives in warm, wet weather and is toxic to cattle.

**Published:** Wednesday, July 17, 2013

**Story sources:**

Craig A. Roberts, 573-882-0481

Tim J. Evans, 573-884-9270

<http://extension.missouri.edu/news/DisplayStory.aspx?N=1908>

# African Queens

Twelve vet med students traveled to South Africa for a wild experience.

<http://mizzomag.missouri.edu/2013/08/african-queens/>



## Multidisciplinary Research Team Gives Voice to Airway Problems

Two University of Missouri professors weren't exactly on the same page, but they were close enough to bring them together in the creation of a multidisciplinary University of Missouri center.

Two years ago, while flipping through the pages of an MU Archives edition that held an article featuring his work, Matthew Page, an assistant professor of otolaryngology in the School of Medicine, spotted an article featuring the research of Teresa Lever, assistant professor of communication science and disorders in the School of Health Professions.

Struck by the common threads in their research, Page was compelled to contact Lever to see how they might work together. Their meeting launched the University of Missouri Voice, Swallow and Airway Center (VSAC).



In the weeks following, Joan Coates, College of Veterinary Medicine professor of veterinary neurology and neurosurgery, joined them — bringing a veterinary perspective to the project.

Since that time, the center has grown to envelop MU experts from various medical, scientific, engineering and artistic fields. The result is a cross-trained team of clinicians and researchers with complementary interests and a desire to make progress in correcting voice, swallowing, and airway problems that have resisted conventional clinical and research strategies.

This broad, multidisciplinary approach is optimal for a number of reasons. The complex functions of voice and swallowing intersect in the upper airway, yet require the coordinated action of multiple body systems. Voice is central to being human, and it serves communication purposes in many other species. Swallowing is vital for nutrition in humans and animals alike. All functions are affected by aging and by common diseases.

The VSAC holds monthly think-tank meetings. In addition to Lever, Page, and Coates, there are several members who can be counted on to be at the table. Among them are Tony Mann, College of Veterinary Medicine professor of veterinary medicine and director of the small animal emergency and critical care service at the MU Veterinary Medical Teaching Hospital; Carol Reinero, associate professor of small animal internal medicine at the College of Veterinary Medicine; Vamsi Guntur, assistant professor of pulmonary and environmental medicine at the School of Medicine; Vellore Gopalaratnam, professor of civil engineering; and Ann Harrell and Christine Seitz, associate professors of voice in the School of Music.

At this time, Arts and Science, Engineering, Health Professions, Medicine, and Veterinary Medicine are represented. Others, such as the College of Education and School of Journalism, are primed to jump on board.

Much of the center's research occurs in virtual core facilities spanning human and veterinary medicine — with some instruments in both places.

With multiple disciplines come challenges. For example, in many cases, research data collection must bridge humans and animals, or small animals and large. To address such challenges, VSAC routinely relies on members from the College of Engineering to remove technology barriers and create new technology designs.

The VSAC has been quite prolific over a short period of time. Members have presented numerous posters locally and at national and international scientific meetings, and they have several publications in the works. They even have a patent pending on an innovative diagnostic tool that permits unrestrained testing of swallowing function in animals.

Financial support for VSAC activities has come from the College of Veterinary Medicine Faculty Research Award, the University of Missouri PRIME fund, Caring for Missourians initiative, and the Departments of Otolaryngology - Head and Neck Surgery, Communication Science and Disorders, and Biomedical Sciences. In 2012, the VSAC was awarded a Mizzou Advantage grant, and two members recently received NIH-R21 funding for two different projects.

Faculty researchers are not the only ones drawn to VSAC. The center has also been of great appeal to learners – from undergraduates to post-graduates. In fact, there is a waiting list for participation. Involved in VSAC research have been Freshman Howard Hughes Scholars, Mizzou Advantage Undergraduate Research Team award winners, medical and veterinary students, pre-medical students, and numerous undergraduate and graduate students in the Department of Communication Science and Disorders.

The VSAC is keenly focused on One Health/One Medicine and translational medicine. Their mission is to care for patients (humans and animals) with voice, swallow and airway problems. Toward this goal, they are developing a team of cross-trained clinicians and researchers at MU who are learning to disrupt traditional boundaries between seemingly unrelated professions. This trans-disciplinary approach is already fostering new areas of investigation to benefit humans and animals alike with voice, swallow and airway problems. VSAC members are constantly discovering and innovating as they learn from each other. In the process, they are training future generations of veterinary, medical, and allied-health professions students to become cross-species health care providers and researchers.

## Cisco's Legacy

### *-Research into Deadly Disease Advances Thanks to Fund Memorializing Beloved Pet*

Mark Dickherber and his wife, Stephanie Hoff, of Chesterfield, left their 7-year-old Italian greyhound, Cisco, with a family member when they went on vacation in 2009. Concerned that the dog seemed abnormally tired and somewhat despondent, Cisco's dog sitter took him to his veterinarian. The vet treated Cisco for what was believed to be a muscle injury and sent him home. However, his condition failed to improve. On the morning Dickherber and Hoff were scheduled to return to St. Louis, the Italian greyhound began urinating blood.

Upon hearing the news, the couple went directly from the airport to the veterinary clinic where their ailing pet was again being treated, this time with blood transfusions.

"He would respond just a little to the transfusions," Dickherber said. "We were told we needed to get him to a specialist. We didn't understand the seriousness of the disease."

The disease responsible for the Italian greyhound's illness was immune-mediated hemolytic anemia (IMHA), a condition in which a body's own immune system begins to hunt down and kill its red blood cells. The mortality rate for dogs stricken with IMHA is 50 to 70 percent, a grim statistic that has not changed in decades, said Carol Reinero, DVM, PhD, associate professor of small animal internal medicine at the University of Missouri College of Veterinary Medicine. In an effort to change that dire prognosis, Reinero is leading research at MU's Comparative Internal Medicine Laboratory into IMHA and a related condition, immune-mediated thrombocytopenia (ITP), a disease that involves the immune system destroying platelets. "We treat these disorders with strong drugs to suppress the immune system but little is known about the specific immune defects driving these diseases," Reinero said. "We need more information on which parts of the immune system are going haywire so we can more selectively target the underlying immune pathology."

On the advice of their veterinarian, Dickherber and Hoff brought Cisco to the College's Veterinary Medical Teaching Hospital. Laura Nafe, DVM, MS, was a fourth-year veterinary student on her emergency medicine and critical care rotation when Cisco was brought in.

"He was my patient for three days," Nafe said. "He was diagnosed with presumptive IMHA before being referred here. He was really sick. He had a very severe form of the disease."

Shortly after arriving at the veterinary hospital in Columbia, Cisco slipped into a coma and subsequently had a seizure. Despite the efforts of a team of clinicians, technicians and students, he succumbed to multiple organ failure.

IMHA can be frustrating for veterinarians and challenging for pet owners, Reinero explained. Sometimes the disease is considered primary and its cause is unknown. In other cases, it is deemed secondary, a complication of another underlying illness. Nor is treatment universal. It is not uncommon for dogs to fail to respond to the prescribed drugs. In other cases, dogs' initial treatment is a success, but they then suffer a relapse. "Steroids are our first line of defense," Reinero explained. "The goal is to shut off the abnormal immune response and then slowly taper the dogs off the drugs. The side effects of these drugs can be unpleasant. The dogs drink a lot. They urinate a lot. They are ravenous. They pant. They can take on a pot-bellied appearance. There are skin and coat changes."

Life-saving blood transfusions and extensive diagnostic testing to determine if the IMHA is primary or secondary can also make it an expensive disease to treat for the animals' owners.

After losing Cisco, Dickherber and Hoff decided to channel their grief into helping other pets.



“Laura Nafe was unbelievably compassionate throughout the process,” Dickherber said. “To see that level of compassion was striking, despite the devastation of the situation. We wanted to not just help Mizzou, but as well to create an avenue to memorialize Cisco. We wanted to create a legacy to help pets in the future.”

Dickherber and Hoff established the Cisco Fund for Immunologic Research at the CVM. Funds have been used to spearhead research projects, train graduate students and purchase equipment that will help dogs with IMHA.

Nafe meanwhile earned her Doctor of Veterinary Medicine degree at MU and relocated to North Carolina State University where she undertook a small animal medicine and surgery rotating internship. The experience further cultivated the interest in immunology that had been seeded while she was caring for Cisco. Attracted by a strong residency program and the opportunity to simultaneously pursue her master’s degree and engage in an intensive research project under the guidance of Reiner, and her fellow internal medicine researchers, Leah Cohn, DVM, PhD, professor of small animal internal medicine, and Amy DeClue, DVM, MS, assistant professor of small animal internal medicine, Nafe returned to MU in 2010.

For her master’s project, Nafe’s goal was to develop an assay to determine the best treatment for each patient’s immune mediated disease and to better understand why the disease occurs. She was able to pursue her project because of financial support available through the Cisco Fund.

Nafe’s study involved evaluating blood from healthy dogs subsequently tested in the laboratory with a panel of immunosuppressant drugs to assess their potency. This assay ultimately evaluates the ability of an immune cell, the lymphocyte, to proliferate (divide) in response to stimuli. With immune-mediated diseases, lymphocytes are expected to proliferate excessively; with effective immunosuppressants, proliferation will be inhibited effectively.

Nafe completed her residency and master’s degree and has decided to pursue a career in academic veterinary medicine. She recently accepted a position as a clinical instructor at the University of Wisconsin-Madison School of Veterinary Medicine. However, the research she initiated at Mizzou will continue. Her mentor, Reiner, will now test lymphocytes in stricken dogs to confirm and determine which type of lymphocyte is abnormal. The work is possible through continued support from the Cisco Fund and the College’s Clinical Scientist Award. Reiner is currently recruiting dogs with IMHA and ITP to determine the underlying immune defect that drives the devastating auto-reactive antibody production. To participate, dogs should not have been treated with immunosuppressants. Reiner needs to draw a small volume of blood from the dogs just one time for the study. Treatment of their dogs won’t be delayed by participation.

“This is not a typical trial,” she explained. “There is no financial incentive for the owners; however, the goal of the trial is to help us figure out what is causing the disease. This in turn, we hope, will help us better manage dogs with these devastating diseases in the future.”

To determine if a dog is suitable for participation in the study, contact Reiner at (573) 882-7821. To support the Cisco Fund or learn about other ways to help the College’s research, education and patient care mission, contact the College director of Development at 888-850-2357, or visit <http://www.cvm.missouri.edu/giving/how.htm>.

Learn more about The Cisco Fund: <http://cisconfund.missouri.edu/>

## **CVM Alumnus Named Iron Paw Recipient**

James Nave, DVM, a member of the CVM Class of 1968, added another honor to his resume recently when he accepted the Kansas City Health Corridor Iron Paw Award Aug. 26, 2013 at the Kansas City Convention Center. The award was presented during the Kansas City Health Corridor's Eighth Annual Homecoming event, Prime Time Paws.

Nave is a small animal practitioner in Las Vegas, Nevada. After earning his DVM, the Missouri native served in the United States Army from 1968 to 1971, attaining the rank of captain. His military service included a tour of duty in Vietnam.

In 1971, Dr. Nave entered private practice in Las Vegas. In 1974, he established the Tropicana Animal Hospital, an accredited member hospital of the American Animal Hospital Association. He continues to own and manage Tropicana Animal Hospital as well as 15 other veterinary hospitals in the Las Vegas area. He served as president of the American Veterinary Medical Association (AVMA) from 2000-2001. While president, he helped to create a mentoring program, worked to restructure the AVMA political process and established new Executive Board districts.

In 2002, Dr. Nave was selected by the AVMA Executive Board to serve as one of two North American Councilors to the World Veterinary Association (WVA), and the solo councilor representing the United States. He served in that position until 2009. Later in 2009, Dr. Nave received the AVMA award, which recognizes members of the association who have contributed to the advancement of veterinary medicine and improved the Association.

Nave has held a long list of leadership positions at the state and national level. He has influenced the profession's economic future by co-founding the National Commission on Veterinary Economic Issues in 2000 and served as its first chair until 2007. He also gained respect as an unbiased champion for both veterinarians and animal health companies and has created a legacy of excellence for those that follow in his footsteps.

"All the things that have happened to me happened because of Tropicana Animal Hospital," Nave said, "[which] happened because of the University of Missouri."



**Dr. Jim Nave accepts the Iron Paw award during the Kansas City Health Corridor's Homecoming Aug. 26, 2103.**



**Dr. Ron Cott, associate dean of Student and Alumni Affairs and Development director at the MU College of Veterinary Medicine, congratulates Jim Nave, DVM on the 2013 Iron Paw Award.**

## **New VMDL Director Named**

College of Veterinary Medicine Dean Neil C. Olson recently announced that Dr. Shuping Zhang has accepted the positions of professor and director of the Veterinary Medical Diagnostic Laboratory. She begins her roles at MU on Nov. 1.

Zhang received her veterinary degree in 1985 from Shanxi Agricultural University and a master's degree in 1988 from Northwest Agricultural University, China. In 1999, she earned her doctorate in veterinary microbiology from Kansas State University. She received additional training in immunology and pathogenesis of infectious diseases at the Beltsville Agricultural Research Center Animal Parasitic Diseases Laboratory from 1992 to 1995 and Texas A&M University College of Veterinary Medicine from 2000 to 2002. Zhang has been a diplomate of the American College of Veterinary Microbiologists since 2009.

In 2002, Zhang joined Mississippi State University as a clinical assistant professor and head of microbiology and serology at the Mississippi Veterinary Research and Diagnostic Laboratory. She was promoted to clinical associate professor in 2007. In 2010, Zhang joined the faculty of College of Veterinary Medicine and Biomedical Science of Texas A&M University, where she served as an associate professor and director of Clinical Microbiology Laboratory. At both institutions, she built strong disease surveillance programs and taught professional and graduate courses.

Zhang's research focuses on pathogenesis, diagnosis and treatment of infectious diseases with emphases on avian infectious diseases and salmonella in birds and companion animals. The United States Department of Agriculture, Food and Drug Administration, Morris Animal Foundation, and other private foundations have provided funding for her work. She has published many research papers and case reports in peer reviewed journals.

She is an active member of American Association of Veterinary Laboratory Diagnosticians, American College of Veterinary Microbiologists, American Veterinary Medical Association, and American Society for Microbiology. Zhang has been serving on the editorial board for Journal of Veterinary Diagnostic Investigation and is currently the co-chair of American Association of Veterinary Laboratory Diagnosticians Enteric Disease Committee.

Zhang is married to Michael with two daughters, Christine and Taylor Zhang. Her hobbies include reading, walking, and volunteering at local charity organizations. One of her favorite programs is Habitat for Humanity Women Build.



# The Vet Specialist

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**A visit with LEAH COHN, Professor of Small Animal Internal Medicine**

By Spencer Melgren

Published: September 24, 2013

<http://syndicatemizzou.org/articles/show/150>

## **Michael Lairmore is CVM 2013 Alumnus of the Year**

Dr. Michael Dale Lairmore, DVM '81, is the University of Missouri College of Veterinary Medicine 2013 Alumnus of the Year. Lairmore was honored during the College's Alumni Reunion Weekend on Sept. 27-28.

Lairmore earned his doctor of veterinary medicine in 1981 at the University of Missouri. He then completed a PhD in experimental pathology at Colorado State University and a postdoctoral fellowship in molecular retrovirology at the Centers for Disease Control in Atlanta.

Dr. Lairmore is dean and professor of the University of California-Davis School of Veterinary Medicine. Previously, he was professor and associate dean for research and graduate studies at the College of Veterinary Medicine at The Ohio State University. He is recognized internationally as an authority in comparative oncology and retrovirology. In 2010, in recognition of his outstanding professional achievement and commitment to service, he was elected to the National Academies of Science Institute of Medicine, one of the highest honors in the field of health and medicine.

Lairmore thanked his mentors, including Dr. Charles "Mac" Scanlan, a member of the MU College of Veterinary Medicine Class of 1968, who allowed him to gain experience in his clinic. Scanlan returned to Mizzou to pursue additional training of his own and during that time served as Lairmore's advisor for a Phi Zeta research project. The Phi Zeta experience "opened up another world," Lairmore said, and it was through that experience he was considered for the research position he later pursued at Colorado State.

"I want to thank the University of Missouri for giving me a chance," Lairmore said, accepting his award.

The National Institutes of Health has funded Lairmore continuously since 1992. He has authored or co-authored more than 175 scientific publications. Lairmore serves on the editorial board for *Viral Immunology* and is a reviewer for more than 30 journals.

Lairmore has been honored with numerous awards. The Ohio State University named him a Distinguished Scholar in 2004, and in 2005 he was named a Fellow for the American Association for the Advancement of Sciences. The American Cancer Society in 2008 awarded him the Hero of Hope Award for his outstanding contributions to cancer research. Lairmore's other awards include the Pfizer Award for Research Excellence, the David White Research Award, and the National Gamma Career Award from the Omega Tau Sigma veterinary fraternity.

Lairmore and his wife, Donna, have five children.

The announcement of the Alumnus of the Year Award was made during the reunion banquet at the Adams Conference Center. CVM Dean Neil C. Olson also addressed the alumni in attendance and revealed that the College had just received official notice that it has been fully reaccredited by the American Veterinary Medical Association Council on Education. He also discussed the Missouri Legislature's decision



**Dr. Ron Cott, right, associate dean for Student and Alumni Affairs and director of Advancement, tells Dr. Michael Lairmore, DVM '81, center, and CVM Dean Neil C. Olson a story about the bronze Alumnus of the Year Award.**



**Dr. James Thorne, DVM '61, hugs longtime friends at the 2013 Alumni Weekend**



**Dr. Michael Lairmore, DVM '81, wins the Alumnus of the Year Award. Dr. Lairmore is dean and professor of the University of California-Davis School of Veterinary Medicine. He thanked his mentors and the University of Missouri for giving him a chance.**



to earmark \$1million to support the College's large animal medicine program and plans to use that money to enhance the herd of cows kept at Middlebush Farm for teaching.

The following day alumni were invited to have breakfast with retired faculty members, enjoy rides with the Mule Club, meet some of the birds being cared for by the Raptor Rehabilitation Project, tour the Veterinary Medical Teaching Hospital and attend a tailgate party at the College before the football game against Arkansas State.

## Accreditation Renewed for MU College of Veterinary Medicine

The American Veterinary Medical Association Council on Education (AVMA COE) has renewed University of Missouri College of Veterinary Medicine's full accreditation status. The AVMA COE is recognized as the accrediting body for schools and programs that offer the professional DVM degree or its equivalent in the United States and Canada. The COE renews accreditation on a yearly basis and conducts a full evaluation every seven years.

"We were gratified that the site visit team recognized that we do not just meet all standards required for accreditation, but that we are an outstanding organization," said College of Veterinary Medicine Dean Neil C. Olson.

The AVMA COE sent a nine-member assessment team to the MU CVM in May. The objective of the site visit was to verify and supplement information that was presented to the COE in the College's self-study. The College was required to conduct a thorough self-study to assess how well it meets 11 standards, which are: Organization, Finances, Physical Facilities and Equipment, Clinical Resources, Library and Information Resources, Students, Admission, Faculty, Curriculum, Research Programs and Outcomes Assessment.

For the self-evaluation report, the College was asked to:

- State the major goals and objectives of the college, and comment on how they are being met.
- Describe methods and/or tools used to measure outcomes of the total program of instruction, research, and service.
- List the major strengths and weaknesses of the college.
- Offer recommendations.

As part of the site visits, the AVMA COE team offered recommendations that fall into one of three classifications — must, should and encouraged. The team proposed several improvements for the CVM to implement. Of the COE recommendations, two fell into the must category:

- The College must provide annual updates on the progress toward securing funding for a proposed academic building.
- The College must conduct a holistic review of the curriculum to ensure continued instructional quality and effectiveness in light of the multiple changes made in the preclinical and clinical curriculum.

The site visit team also encouraged the CVM to devise and implement a plan to address space limitations in the anatomy lab, promote the use of professional development opportunities for faculty, and develop more sources of funding to support additional professional students interested in exploring research as a career option.

Olson said that all of the concerns raised by the site team are already being addressed.

Retaining accreditation is important, Olson noted, not only to recruit top students and faculty, but also because low-interest federal loans are only available for students enrolled in accredited academic institutions.

# You're In Good Paws

Vet med alumnus Jack Stephens is a pioneer for pets.

*Story by Marcus Wilkins*

*Published Oct. 4, 2013*

<http://mizzoumag.missouri.edu/2013/10/youre-in-good-paws/>

## St. Louis comedian leaves \$75,000 gift for Barkley House

As a nationally known comedy and advertising copywriter, Elinor Ohrn rubbed elbows with the likes of Phyllis Diller and George Carlin. But of all the celebrities she met, she was most excited to recall the times she met 9Lives mascot Morris the Cat and a dog that starred in Broadway's "Annie."

Ohrn, an animal lover who passed away in July, left a \$75,000 donation to the University of Missouri College of Veterinary Medicine's Barkley House. Barkley House's mission is to provide temporary lodging for families whose pets are undergoing medical treatment at the College's Veterinary Medical Teaching Hospital. It will allow pets to stay with their owners in a homelike setting, lessening anxiety for both the animals and their owners and helping to speed recovery.

In the 1960s, Ohrn wrote for comedians Garry Moore and Phyllis Diller and created a series of Budweiser commercials featuring Frank Sinatra and Ed McMahon. She was a writer and script chairwoman for the Women's Advertising Club of St. Louis gridiron dinner, an annual roast where she parodied world events, and was named the 1978 Advertising Federation of St. Louis Woman of the Year.

"She did things as a single woman that people just didn't do back then," said Dr. Carolyn Henry, Ohrn's niece and a veterinary oncologist at the College. "She had a sense of adventure, she was incredibly intelligent, and she had a sense of humor that would just light up a room."

Ohrn worked at Ralston Purina Company for more than 13 years. There she edited the Purina Kennel News, a magazine for dog owners. When Ralston Purina bought the St. Louis Arena and the St. Louis Blues in 1977, she came up with the arena's new name — the Checkerdome, after the company's black-and-white logo. She retired from the company in 1989.

Although Ohrn's work schedule and frequent travels prevented her from having pets as an adult, nearly all of her childhood photos showed her with a pet, Henry said.

"I think she understood that human-animal bond," she said. "In her later years, she would really respond when they would bring animals in to the various nursing facilities she was in. That would always brighten up her day."

Henry said Ohrn liked the idea of Barkley House because it hadn't been tried before and made a lot of sense.

"She liked that it was innovative," she said. "She was an incredibly creative person, and she liked new ideas. She liked thinking outside the box."

An added bonus, Henry said, was that Ohrn's Barkley House gift would support animals here in Missouri.

"She was definitely a Missouri girl," she said. "She had many opportunities to go elsewhere in her life and her career and always chose to stay in St. Louis."



**Elinor Ohrn, who was known for playing her bugle at the annual St. Louis gridiron dinner, donated \$75,000 to the MU College of Veterinary Medicine's Barkley House. Barkley House's mission is to provide temporary lodging for families whose pets are undergoing medical treatment at the College's Veterinary Medical Teaching Hospital.**



**Ohrn talks with comedian George Carlin. In the 1960s, Ohrn wrote for several comedians, including Garry Moore and Phyllis Diller.**

Henry originally conceived the Barkley House concept. The facility was named after a Great Pyrenees named Barkley whose owner drove him daily from the Kansas City area to the veterinary hospital for radiation treatments. The VMTH has partnered with Stoney Creek Inn, using a portion of donated funds to create two pet-friendly hotel rooms that have been serving as the Barkley Suites.

# Guide Dogs

Researchers are comparing the similarities between men and male dogs when it comes to prostate cancer.

*Story by Marcus Wilkins*

*Published Oct. 11, 2013*

<http://mizzomag.missouri.edu/2013/10/guide-dogs/>

## Veterinary Products Day Unites Companies with Future Clients

Sharon Hasselbach knows she'll eventually have to deal with "Dr. Google."

The fourth-year student at the MU College of Veterinary Medicine said she expects some of the product questions she will get from future clients will begin with "Well, I saw on the Internet..."

It's one of the reasons she attended the 17th annual Veterinary Products Day on Oct. 15. The event brought 17 companies to the College to display their products, offer samples and answer student questions. About 375 students attended.

Like Hasselbach, second-year student Courtney Reckrodt said learning about the products and using the samples on her own pets would better prepare her to make recommendations in the future.

"It's good because we get exposed to all the products," Reckrodt said. "If you have to give it to a client, you can actually say you've used it."

It was PKB Animal Health's first year attending the event. Marketing Manager Deirdre Putman and Technical Services Manager Naomi Kirby, DVM, wanted to raise awareness of the company, especially its pet health care products Zymox and Oratene. Putman said PKB was beginning to realize the importance of engaging veterinary students.

"Some of the smaller guys don't get their voices heard, so this was an opportunity for us," Putman said. "These are the future decision-makers, so it's a grassroots effort."

For Animal Health International, a longtime vendor at the event, the benefit of attending was obvious.

"Each year you establish a relationship with a handful of students that you'll encounter as they get out in the field," said Randy Schilling, outside sales representative.

Those students become customers, he said.

The event included drawings for prizes such as pet food and gift cards as well as scholarships. Winning \$500 scholarships were Amanda Brown, VM-1; Liz Farnan, VM-2; Sarah Motsinger, VM-3; and Kaitlin Steele, VM-4.

Companies attending the event included Addison Biological Laboratory, Animal Health International, Banfield Pet Hospital, Dechra Veterinary Products, Elanco Companion Animal Health, Hill's Pet Nutrition, Iams/P&G Pet Care, Merial Limited, MWI Veterinary Supply, Nestle Purina Pet Care, Norbrook Inc., Nutramax Laboratories, Pet King Brands, Platinum Performance, ProPartners Wealth, Radiologic Resources and Royal Canin.



**Veterinary Products Day gives CVM students the opportunity to learn about health care products that they may recommend for their patients when they enter practice.**



**KB Animal Health Marketing Manager Deirdre Putman answers student questions about PKB's products at the 17th annual Veterinary Products Day on Oct. 15. The company attended to raise awareness among students of its health care products Zymox and Oratene.**

## Motorcycle Donation Revs Up Benefit

Two large, energetic Labradors greet visitors to the rural Chesterfield home of Gary Savill and Barbara Stampfli-Savill. The couple, who met in Tampa, Fla., and married in 2010, acquired the two dogs from a rescue organization. Self-described animal-lovers, they have also actively supported a big cat rescue organization in Florida.

Stampfli-Savill's position as a human resources executive brought the couple to Missouri shortly after they wed. At about the same time, Savill, who was Dell Computer's regional manager providing support to large commercial clients, began looking for a hobby that was less cerebral than the demands of his job. He wanted, he said, "something to do with his hands."

He decided to build a motorcycle.

His first experience building a chopper involved a lot of trial and error, and Savill said he was fortunate to find Darren Williams, the owner of Liquid Illusions art, a custom motorcycle painter, who is also knowledgeable about bike building. Savill said Williams helped him through some of the learning bumps in the road.

Although his first motorcycle presented challenges he had not anticipated, what Savill had intended as a pastime quickly became a passion and took the career of the former British Navy diver, SCUBA instructor and computer company executive down another path. He created Silver Wraith Choppers LLC and began building custom motorcycles for a living.

Savill and Stampfli-Savill have also found a way for Silver Wraith Choppers to be a vehicle for their philanthropy toward animal welfare. The couple is donating a custom chopper that Savill built and Williams painted to the MU College of Veterinary Medicine. The College is selling tickets for a drawing that will be held during the 2014 Gentle Doctor Benefit on April 5. All proceeds from the sale of the tickets will benefit the College's student scholarship fund.

"The bike has a Harley-Davidson feel to its ride and look, but with the Springer front end," Savill said. "It harkens back to the classics of the '70s era, with the real 'Chopper' look. Also, it has the seating and rear pegs for a passenger, but looks great as a solo bike. "

The technical specifics of the chopper are as follows:

- 80-cubic-inch Evo Engine, sitting on a rigid frame
- Mikuni carburetor
- 5-speed Rev-Tech transmission
- 2-inch open primary
- Custom-built tank and rear fender
- Copper on black Springer front end
- Chrome 60-spoke wheels
- 240 rear tire
- Chain final drive



Gary Savill and Barbara Stampfli-Savill at their Chesterfield-area home with their two rescue Labradors.



Darren Williams of Liquid Illusions created the ethereal mule artwork to reflect the College's mascots, Tim and Terry.



Silver Wraith Choppers has donated a custom-built motorcycle to the University of Missouri College of Veterinary Medicine to raise money for student scholarships.



- Chrome-finish upper and lower controls
- King/queen seat, with tuck-away passenger pegs.

The artwork for the chopper is inspired by the College mascots: the mule team of Tim and Terry.

To meet the Savills and learn more about their gift to the College, please enjoy our video.

Video url: <https://youtu.be/9CTkyBZe0Bc>

# Using electrical impedance techniques to assess neuromuscular disease

<http://cvm.missouri.edu/news/RutkoveLecture.pdf>

## New Faculty Members Join CVM



**Dr. Mauler**

The MU College of Veterinary Medicine welcomes several new faculty members to the Department of Veterinary Medicine and Surgery.

New to the College – and the United States – this October is Dr. Daniela A. Mauler, a clinical instructor of neurology and neurosurgery. She completed her veterinary studies at Justus-Liebig-University in Giessen, Germany. She then worked as a visiting veterinarian in New York and Berlin and later worked as an associate veterinarian at clinics in Koeln, Germany. Most recently, Mauler completed an internship at Vetmed University Vienna in Austria and her residency at Ghent University in Belgium.

Mauler said she became interested in MU after seeing Dr. Dennis O'Brien, professor of veterinary medicine and surgery at the College, speak at a European College of Veterinary Neurology meeting in Germany two years ago.

"I was impressed by his research and his way to communicate with people," she said. "I also knew about the outstanding reputation of (fellow professor of veterinary medicine and surgery) Joan Coates. So, when I saw the job posting online, I wanted to be part of this great team."

Mauler's interests include spinal cord disorders, especially spinal arachnoid diverticula in dogs.

In August, Dr. John R. Haller, DVM, joined the faculty as a clinical instructor of radiology. He completed his undergraduate education at the University of Texas at San Antonio and his veterinary studies at Texas A&M University. He then completed an internship in small animal medicine and surgery at the Southern Arizona Veterinary Specialty and Emergency Center and his residency in radiology at Gulf Coast Veterinary Specialists. Before coming to MU, Haller was an assistant professor of diagnostic imaging at Mississippi State University's College of Veterinary Medicine. He is a diplomate of the American College of Veterinary Radiology.

"What drew me to MU was the ability to work in a bigger hospital with more radiologists and the faculty interaction that comes with working in a larger clinical setting with a higher caseload," Haller said. "I enjoy working on the clinic floor and generating good discussions with radiologists and other clinicians about the cases we are seeing. MU provides me with the opportunity to see a larger and much more varied number of cases. It is never monotonous."



**Dr. John Haller**

Dr. Leslie Lyons, MS, PhD, joined the faculty in July as the Gilbreath-McLorn Endowed Professor of Comparative Medicine. She received both her MS and PhD in human genetics at the University of Pittsburgh and completed postdoctoral fellowships at the University of Pittsburgh and the National Cancer Institute. Before coming to MU, Lyons was a professor in Population Health and Reproduction at the University of California-Davis School of Veterinary Medicine.

Her research focuses on genetic aspects of domestic cats, including inherited diseases, traits and population dynamics, which are applied to genetic disease studies, translational medicine, genetic testing and forensic applications.

Lyons said she is enjoying MU's atmosphere, resources and facilities.

"Overall, I have found that MU faculty and staff are naturally more collaborative and team-oriented," she said. "The veterinary clinical faculty have been most eager to incorporate our program, and the resources at MU, including instrumentation in the VMTH and genetic-oriented faculty, are more accessible and accommodating. The atmosphere of a Division I sports program feels more like being home, the countryside is beautiful, the cost of living is reasonable and I am within a day's drive to get to hometown and friends in Pittsburgh."



**Dr. Leslie Lyons**

Also joining the College in July was Dr. Barbara Gandolfi, MS, PhD, as an assistant research professor. She completed both her MS in zootechnics and her PhD in biotechnology applied to veterinary science at the University

of Milan in Italy. Prior to joining MU's faculty, Gandolfi was a postdoctoral fellow at the University of California-Davis, where she was awarded the 2013 Award for Excellence in Postdoctoral Research in recognition of her outstanding research accomplishments.

"The main interest of my research is to improve animal health," Gandolfi said. "I started with ichthyosis in Chianina cattle during my undergraduate and master program in Milan, moved to the University of Salamanca (Spain), where I developed a vaccine to protect chickens from worm infections, and finally ended up working in the feline field, where I have successfully found the genetic cause for several diseases threatening the health of feline breeds. For each identified mutation, a genetic test was developed, providing breeders tools to improve the general health of the breed."



**Dr. Barbara Gandolfi**

## **Meadows Earns National Veterinary Dental Teaching Award**

Dr. Richard Meadows, MU College of Veterinary Medicine Curators' Teaching Professor, has been awarded the 2013 AVDS/Hill's Award for Teaching Excellence by the American Veterinary Dental Society. The award, which is given annually to one recipient for excellence in either teaching or research, was presented at the 2013 Veterinary Dental Forum on Oct. 3 in New Orleans.

Meadows has been a member of the CVM faculty and the director of the Community Practice Section within the Veterinary Medical Teaching Hospital since 1999. He is also the director of the veterinary hospital's Pet-Safe Program.

During his career at MU, Meadows has received numerous teaching awards. He was the recipient of the 2010 National Pfizer Teaching Award, the most prestigious veterinary teaching award given in the United States. He also received the 2010 Pfizer Teaching Award that is presented at the college level. His other honors include the 2002 Carl J. Norden Award for Distinguished Teaching at the CVM, the 2003 Golden Chalk Award, the 2003 and 2010 Golden Aesculapius Teaching Award, the 2005 William T. Kemper Excellence in Teaching Fellowship Award, the 2006 Bustad Companion Animal Practitioner Award, and the 2008 Missouri Governor's Teaching Excellence Award at MU.

Meadows earned a bachelor's degree in chemistry from West Texas State University and a bachelor's degree in veterinary science from Texas A&M University. He completed his veterinary studies at Texas A&M.



## Older Siblings' Cells Can Be Passed From Female Dogs to Their Puppies in the Womb, MU Researchers Find

**Oct. 23, 2013**

**Story Contact(s):**

Nathan Hurst, [hurstn@missouri.edu](mailto:hurstn@missouri.edu), 573-882-6217

<http://munews.missouri.edu/news-releases/2013/1023-older-siblings%E2%80%99-cells-can-be-passed-from-female-dogs-to-their-puppies-in-the-womb-mu-researchers-find/>

## White Coat Ceremony Ushers in Clinical Training

The MU College of Veterinary Medicine Class of 2015 received white laboratory coats on Sunday, Oct. 13, 2013, during a ceremony that celebrated their successful completion of two years of classroom studies and their move into clinical training. The annual White Coat Ceremony marked the midpoint in the students' professional curriculum. The first two years of preclinical training provided them with a foundation in biomedical sciences and included courses in anatomy, physiology, cell and molecular biology, pathology, pharmacology, microbiology, virology and toxicology. They also learned fundamentals in clinical disciplines that they will need for the rest of their veterinary education including, anesthesiology, clinical pathology, radiology, public health and medicine and surgery. They will now spend nearly two years working in the Veterinary Medical Teaching Hospital in the Small Animal, Food Animal and Equine clinics, as well as undertaking preceptorships in private practices or with public agencies on their way to completing their DVM degrees.

The 115 students who took part in the ceremony selected a family member, friend or mentor to present their white coats and assist in donning them.

Dean Dr. Neil C. Olson congratulated the class members on their success in reaching this milestone and reminded them they were closer to the end of their DVM education than the beginning. Dr. John Dodam, chairman of Veterinary Medicine and Surgery Department, welcomed the students to the Teaching Hospital. Dr. Ron Cott, director of Advancement and associate dean of Student and Alumni Affairs, served as the emcee for the ceremony. Dr. Craig Payne, director of veterinary extension at MU and president of the Missouri Veterinary Medical Association (MVMA), and Richard Antweiler, executive director of

MVMA, presented each student in the class with a veterinary medicine lapel pin from the MVMA.



Dean Neil C. Olson congratulates Bryan Davidson.



Class of 2015 President Tyler Armstrong gives the response on behalf of his classmates during the 2013 White Coat Ceremony Oct. 13.



Yaira Rivera Rivera asked her boyfriend to present her white coat.



Evelyn McKay receives a veterinary lap pin provided by the Missouri Veterinary Medical Association.



(Right) College of Veterinary Medicine Dean Neil C. Olson addresses the students.

## **CVM Resident Wins Research Award**

Lindsay Donnelly, DVM, a second-year veterinary oncology resident at the MU College of Veterinary Medicine, received the Robert S. Brodey Memorial Award on Oct. 19 at the Veterinary Cancer Society annual conference in Minneapolis. The award is given annually for outstanding clinical research by a resident.

Donnelly's abstract presentation was "Preclinical evaluation of combination  $^{177}\text{Lu}$ -BBR2 antagonist targeted radiotherapy and chemotherapy for the treatment of castration resistant prostate cancer." Current treatments for this disease result in only a few additional months of survival time. In Donnelly's study,  $^{177}\text{Lu}$ -RM2 resulted in significantly superior tumor control and survival time compared to all other treatment groups in a mouse model. In the future, Donnelly hopes to determine whether similar treatment might be effective in canine prostate cancer.

The co-authors were Tammy Rold, Kelsey Richmond, Ashley Szczodroski, Gary Sieckman, Shadi Haddadin and Timothy Hoffman.

Donnelly completed her undergraduate and veterinary studies at MU and an internship in radiation oncology at the University of Pennsylvania.





## Dr. Alex Bermudez Honored for Lasting Impact on CVM

MU College of Veterinary Medicine Dean Neil C. Olson honored Dr. Alex J. Bermudez posthumously with the 2013 Dean's Impact Award on Oct. 25. The award was presented during a remembrance ceremony for Dr. Bermudez held at the College. Dr. Bermudez' widow, Lisa, accepted the award on behalf of her late husband.

The Dean's Impact Award, established in 1993, recognizes individuals who have had an outstanding and sustained impact on the College of Veterinary Medicine. In presenting the award, Dean Olson spoke not only of the invaluable assistance Dr. Bermudez had provided to the College and himself personally, but also commended the late veterinarian's honesty and integrity.

Dr. Bermudez served the College from 1991 until his death in October of 2012. After earning a doctor of veterinary medicine degree in 1986, he completed an avian medicine internship and held positions at the University of Connecticut and the Ohio State University. He became a faculty member at MU and avian pathologist at the Veterinary Medical Diagnostic Laboratory in 1991. His 65 percent appointment in the Veterinary Medical Diagnostic Laboratory involved significant interaction with and service to the Missouri poultry industry. In 1992 Bermudez was awarded diplomate status in the American College of Poultry Veterinarians. He was promoted to associate professor in 1997 and was appointed director of the Veterinary Medical Diagnostic Laboratory in 2005, a position he held until the time of his passing.

His reputation as a respected authority in poultry diseases enhanced the reputation of the College of Veterinary Medicine. He was a member of the American Association of Avian Pathologists and the American College of Poultry Veterinarians to which he was elected president. 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 Avian Disease Manual published by the American Association of Avian Pathologists (1994 – 2006) and was a contributing author to the text "Diseases of Poultry."



**Dr. Neil C. Olson addresses family, friends and colleagues of Veterinary Medical Diagnostic Laboratory Director Dr. Alex Bermudez during a memorial ceremony Oct. 25 that also included the posthumous presentation of the 2013 Dean's Impact Award. Dr. Bermudez passed away a year ago.**



**CVM Dean Neil C. Olson (right) presents the Dean's Impact Award to the family of Dr. Alex J. Bermudez (from left), Carla, Steven, Alexa, Peter and Lisa.**

## EXPERT AVAILABLE: Pet Owners Should Be Aware but Not Panic about Tainted Pet Treats, MU Expert Says

**Oct. 30, 2013**

### **Story Contact(s):**

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<http://munews.missouri.edu/expert-comment/2013/1030-expert-available-pet-owners-should-be-aware-but-not-panic-about-tainted-pet-treats-mu-expert-says/>

## Carolyn Henry Elected to National Health Care Advisory Group

Carolyn Henry, DVM, MS, has been elected to the National Academies of Practice and the Veterinary Medicine Academy as a distinguished practitioner and fellow. Henry is a professor of veterinary oncology and interim associate dean of research and graduate studies for the College of Veterinary Medicine, interim associate director of research for the Ellis Fischel Cancer Center and faculty facilitator for the One Health/One Medicine Mizzou Advantage area. She will be inducted into the NAP during its annual meeting and forum in April in Alexandria, Va.

NAP is a nonprofit organization founded in 1981 to advise governmental bodies on our healthcare system. Distinguished practitioners and scholars are elected by their peers in 10 health professions: dentistry, medicine, nursing, optometry, osteopathic medicine, pharmacy, podiatric medicine, psychology, social work and veterinary medicine. The interdisciplinary group of healthcare practitioners and scholars works to influence national health policy and promote quality healthcare through cooperative advocacy, practice, education and research.

NAP fellows are chosen only after a rigorous selection process, and membership is limited in order to maintain the academy's high standards.

"The NAP embodies the principles of One Health/One Medicine that are central to my professional goals," Henry said. "I'm honored to be included amongst such a diverse and talented group and look forward to contributing my passion for One Health to their efforts toward shaping the research, education and public policy landscape in the U.S. and beyond our borders."

Henry received her bachelor's degree in animal science and biology from Eastern Kentucky University. She completed her veterinary studies and earned a master of science in small animal surgery and medicine at Auburn University. Board certified in oncology by the American College of Veterinary Internal Medicine since 1994, Henry served on the faculty at Washington State University from 1993 to 1997 before coming to MU.

As a veterinary oncologist, Henry is perhaps best known for her work in the area of bladder cancer. Although the disease is often caught in its early stages when it is curable, people who are diagnosed with late-stage disease have only a 15 percent five-year survival rate. In addition, aggressive therapies for bladder cancer often negatively affect quality of life for affected patients. Canine bladder cancer is analogous to late-stage disease in people, as this type of cancer is often very invasive before clinical signs are detected in dogs. Henry's work has centered on biomarker evaluation for earlier detection of bladder cancer and improved therapies for patients with late-stage disease. Henry developed the chemotherapy protocol for canine bladder cancer that is considered the standard of care today. It was subsequently evaluated in a multi-institutional clinical trial led by MU. Henry will take part in the Expert Opinion Planning Session for the Comparative Oncology Research Initiative in Invasive Bladder Cancer at the Indiana University School of Medicine in February 2014.

In her role as the faculty facilitator for MU's One Health/One Medicine Mizzou Advantage initiative, Henry focuses on fostering multidisciplinary research and education relating to translational medicine and the convergence of human and animal health. She is a member of the One Health Commission and is often an invited speaker, both nationally and internationally, on the topic of One Health. Her message in these lectures, and the goal of her professional career, is to improve the efficiency and applicability of medical discovery by exploring the comparative aspects of diseases that affect multiple species, choosing relevant companion animal models to learn more about human disease and conducting well-designed clinical trials for the benefit of human and companion animal patients.



## Low Levels of Blood Calcium in Dairy Cows May Affect Cow Health and Productivity, MU Study Finds

**Nov. 11, 2013**

**Story Contact(s):**

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<http://munews.missouri.edu/news-releases/2013/1111-low-levels-of-blood-calcium-in-dairy-cows-may-affect-cow-health-and-productivity-mu-study-finds/>

## MU Southwest Center Dairy Honored for Reproductive Efficiency

The University of Missouri Southwest Center Dairy has received the Dairy Cattle Reproduction Council's 2013 Platinum Award for reproductive efficiency. MU College of Veterinary Medicine Associate Extension Professor Scott Pook, DVM, received the award Nov. 7 at the council's annual conference in Indianapolis.

The award recognizes dairy producers who have successfully implemented management procedures that have achieved high reproductive efficiency. Forty-seven herds were nominated this year in two categories, Holsteins and other breeds. The dairy was one of two to receive a platinum award in the "other breed" category. Its 90-cow herd consists of Holstein, Kiwi Friesian, Kiwi Cross and Jersey animals.

"We are honored to be counted amongst the best herds in the nation for reproductive efficiency and the first pasture-based dairy to achieve the Platinum award," Pook said. "The purpose of the Southwest Center herd is to do field research and then educate producers. The award verifies that we are accomplishing these goals."

The center frequently incorporates veterinary students in its efforts. Pook works with students to ultrasound the dairy cows for pregnancy and fetal sexing, usually at the time of milking. The center milks in a 10 "on a side" swing parlor, where as one side finishes milking they are let out of the parlor and then file into a palpation rail for ultrasounding, Pook said. A pregnancy examination is performed in July to determine which cows settled to the artificial insemination (AI) breeding. In August, a second pregnancy examination determines which cows have been serviced by the cleanup bulls.

During the past three breeding seasons, Pook, Matt Lucy, professor of animal science, and Stacey Hamilton, MU Extension dairy specialist, have been researching estrus synchronization programs to utilize timed AI. This means that all the cows are inseminated the first day of the breeding season. Veterinary students participate in inseminating the herd.

"We have had six different veterinary students help with the breeding, and they have done an excellent job, as we have had a 55 to 60 percent pregnancy rate to the first insemination," Pook said. "By doing timed AI, the herd has been able to calve more cows earlier in the season, which translates into more milk production for the lactation for the herd. It also helps the cows get pregnant the following season, as they have more time to return to cyclicity."

In addition, the center has implemented a synchronization program for the yearling heifers during the past four breeding seasons in which students also help with the artificial insemination. Pook said the pregnancy rates to first AI have ranged from 70 to 74 percent, an improvement from the 50 percent the center was attaining prior to the synchronization.

The Dairy Cattle Reproduction Council was formed in 2006 after a group of industry leaders identified dairy cattle reproductive performance as one of the biggest challenges facing dairy producers. The group believed a steady decline in fertility could be helped through education, technology and focused research. Through coordinated efforts by all sectors of the dairy industry, the DCRC aims to promote the development and adoption of reproductive technologies.



## New MU Program Offers Grief Counseling to People Suffering from Pet Loss

**Nov. 19, 2013**

**Story Contact(s):**

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<http://munews.missouri.edu/news-releases/2013/1119-new-mu-program-offers-grief-counseling-to-people-suffering-from-pet-loss/>

## Quality Beef Team Receives USDA Award

The Missouri Quality Beef Team has been selected to receive the U.S. Department of Agriculture National Institute of Food and Agriculture's Partnership Award for Mission Integration of Research, Education, or Extension. The award recognizes the outstanding contributions of NIFA partners in land-grant universities and other cooperating institutions and organizations. The team was honored at the Association of Public and Land-grant Universities annual meeting awards ceremony Nov. 10 in Washington, D.C.

The interdisciplinary team includes faculty from the College of Agriculture, Food and Natural Resources and two College of Veterinary Medicine faculty members, Assistant Extension Professor Craig Payne, DVM, MS, and Associate Extension Professor Scott Poock, DVM.

Research for the project has been ongoing since 2005 and has culminated in the Quality Beef by the Numbers program. A joint project of the University and industry, the program's mission is to improve profitability of beef cow-calf operations. By using applied reproductive and genetic technologies, it aims to increase supply of prime- and choice-grade beef to satisfy domestic and global demand for high-quality beef.

The research has focused on reproductive efficiencies on beef cattle operations primarily through estrus synchronization and artificial insemination. Subsequently, the quality of the beef produced is improved. Payne and Poock have participated by having input into the health programs, specifically by setting up vaccination, precondition and pre-breeding protocols. Their work has contributed to the program by establishing which calves are sired by the elite bulls and increasing the health of the cattle, Poock said.

Additionally, they have been involved in teaching certain techniques used in the research projects, such as ultrasound pregnancy examinations, to practicing veterinarians and veterinary students.

"We work with the local veterinarian if they are interested in learning to use the ultrasound," Poock said. "Many practicing veterinarians will allow us to do the pregnancy examination when we use the opportunity to teach and give experience to veterinary students. We have taken advantage of this to give many students this opportunity over the past seven years. This has led to many of them using the ultrasound in practice when they leave the College of Veterinary Medicine."

The NIFA Partnership Award recognizes outcomes in five categories. The Mission Integration of Research, Education, or Extension category, for which the MU team was recognized, honors implementation of a program or project which incorporates, in a meaningful way, full integration of research, education or extension and results in a positive outcome that impacts agriculture, the environment, communities or people. Nominees must demonstrate exemplary program impact and national or international recognition, plus the program or project must have been in place for at least three of the past five years.

Congress created NIFA through the Food, Conservation and Energy Act of 2008. NIFA's mission is to lead food and agricultural sciences to create a better future nationally and worldwide by supporting research, education and extension programs through partnerships with federal agencies, land-grant universities and private organizations.

## 'Miracle' dog fights to recover after brutal beating

Jessica Robertson remembers that day clearly. On Oct. 22, she came home from work and found her Boone County house ransacked. As she walked through the rooms, she discovered a horrible sight: Her dog Armani was lying on the floor, covered in blood.

Robertson said she can't imagine the cruelty that led the burglars to beat Armani. The 9-year-old cockapoo is prone to anxiety and certainly doesn't look imposing. But he's a protector, she said, and he loves her other dog, Ammo, a 2-year-old German Shepherd who was kenneled that day. Given that Armani was found next to Ammo's kennel, she said, he might have tried to protect Ammo.

Robertson immediately called Armani's veterinarian, who rushed over and decided Armani needed to go to the University of Missouri Veterinary Medical Teaching Hospital. There a CT scan showed multiple skull fractures, bleeding in and around his brain and a lot of brain swelling. By the next morning, Armani had lost the ability to swallow and had to be put on a ventilator.

Armani needed 24-hour intensive care for most of the first week he stayed at the hospital. During this time, veterinarians stayed by his side constantly to monitor him. He received a blood transfusion, had to be fed via a feeding tube, and was on several medications, including antibiotics to treat potential infection in the wound on his head, gastroprotectants to prevent developing a stomach ulcer while he was on the ventilator and anti-seizure medications to prevent seizures from the head trauma.

After the first few days, during which Armani was heavily sedated, his veterinarians began trying to decrease his sedation while still managing his pain. Armani would experience episodes of distress with an elevated heart rate and blood pressure when sedation was reduced, and it took about a week before he would stay calm without heavy sedation. Because he was very sensitive to noise, his doctors posted signs asking people to be quiet around him.

During his first few days at the hospital, Armani's veterinarians weren't optimistic about his prognosis, said Beth Tynan, DVM, a third-year veterinary small animal emergency and critical care resident. At best, he was probably facing weeks of intensive care and a long road to recovery.

But Armani likes to prove his doctors wrong.

On Nov. 1, just 10 days after Armani came in, a note on his kennel proclaimed: "Armani is going home today! He's pretty much a normal dog now, so feel free to look at him and talk about how cute he is as loud as you want."



Jessica Robertson kisses Armani as she carries him to her car. Armani's beating left him with multiple skull fractures, bleeding in and around his brain and brain swelling.



Armani, a cockapoo, was brutally beaten during an October burglary. He wore a "#1 Patient" hat made by his veterinarians.



Armani practices his physical therapy exercises to help him become stronger and relearn to walk. Although his veterinarians expected weeks of intensive care, Armani's rapid recovery allowed him to go home after only 10 days in the teaching hospital.



Armani still had a long way to go. His head trauma had lingering effects. When he was discharged, he couldn't see out of his right eye, though that could improve in time. He couldn't walk, though he was able to stand for brief periods with help. Still, his veterinarians couldn't believe how far he'd come in such a short time.

"Every few days we had to reset our goals (because he'd already surpassed them)," said first-year resident Christa Bernhard, DVM. "He's been a miracle. Every day he's steadily improved."

Robertson said she avoided discussing Armani's prognosis in the days following his attack because she wanted to focus only on his recovery.

"I just had to believe that he was going to make it," she said.

Robertson attributed Armani's rapid recovery to his stubbornness and the love and support he received from family, friends and his veterinarians. She said the care Armani received at the veterinary hospital was amazing.

"They worked 24/7 with him," she said. "They were here with him through it all. Just to have them care about him so much made it easier to only see him twice a day. It's just amazing how he has made it through."

Armani's next milestone will be learning to walk on his own. On the day he went home, his doctors warned that it could be a few weeks before he was up and about. As usual, Armani is already ahead of schedule. Within two days he was able to walk a little on his own, and he has steadily improved since then.

Given his progress, Armani's veterinarians are optimistic.

"We're hoping he can make a complete recovery and be back to normal," Bernhard said. "Any time there's a traumatic brain injury it's impossible to predict when a person or an animal will be back to normal function. Fortunately with our patients he doesn't have to do math or drive a car or go to a job; he just needs to go back to being his loving self."

## Philip Johnson elected to International Equine Veterinary Hall of Fame

Dr. Philip Johnson, a professor of equine internal medicine at the MU College of Veterinary Medicine, has been selected for induction into the 2014 International Equine Veterinary Hall of Fame. Sponsored annually by American Farriers Journal, the elite program was established in 1997 to recognize equine veterinarians for their contributions to the knowledge and recognition of proper hoof care for horses. Johnson will be honored in January during the International Hoof-Care Summit in Cincinnati.

Veterinarians are nominated in two classes: practicing equine veterinarians who work closely with farriers in the field, and college and industry vets involved in teaching, research or other important aspects of hoof-care education. Members are selected by current Hall of Fame members as well as members of the International Horseshoeing Hall of Fame.

"Being nominated for this prestigious award was a complete surprise," Johnson said. "I feel very privileged to be asked to join this outstanding group of veterinary clinician scientists."

Johnson completed his veterinary studies at the University of Bristol in the United Kingdom and earned a master of science in veterinary clinical medicine at the University of Illinois at Urbana-Champaign. In addition to being a diplomate of the American College of Veterinary Internal Medicine and the European College of Equine Internal Medicine, he is a member of the Royal College of Veterinary Surgeons.

Johnson's clinical interests encompass all aspects of equine internal medicine. His research focuses on understanding the processes that lead to and complicate laminitis in horses and ponies. This condition continues to be one of the most devastatingly painful causes of lameness in horses and all too commonly leads to a need for euthanasia. Johnson is committed to ethical and meaningful research to develop better understanding of why horses develop laminitis with the goal of yielding improved preventive and therapeutic strategies.



## Alumna Wins Veterinary Pathology Award

MU College of Veterinary Medicine alumna Amanda Fales-Williams, DVM '95, PhD, has received the 2013 American College of Veterinary Pathologists Presidential Award. Fales-Williams was honored Nov. 19 at the ACVP annual meeting in Montreal.

Presidential awards honor valuable service to the ACVP that exceeds normal expectations. Fales-Williams is the chair of the ACVP's Maintenance of Certification Development Committee.

Fales-Williams received her bachelor's degree in zoology with a minor in English at the University of Kentucky. After completing her DVM at the University of Missouri, she went to Iowa State University to complete her PhD and residency in veterinary anatomic pathology. Board-certified in anatomic pathology by the ACVP, she currently is an associate professor of veterinary pathology at the Iowa State University College of Veterinary Medicine.

Her husband, Bill Williams, DVM, is also an alumnus of the CVM Class of 1995, and her father, William Fales, is a professor in the Department of Veterinary Pathobiology.

The ACVP is an organization of board-certified scientists that has been setting the standard for veterinary pathology since 1949. Its mission is to foster excellence in veterinary pathology to protect and improve animal, human and environmental health to benefit society.



## **CVM Staff Member Named MU Service Champion**

Bobby Colley, gross anatomy teaching support specialist at the MU College of Veterinary Medicine, has been named the September 2013 MU Service Champion by the MU Staff Advisory Council. The monthly campuswide award honors staff members who possess an exceptional work ethic and attitude.

Colley oversees the anatomy lab's day-to-day operations, which vary from cleaning the lab to preparing specimens for class. He said his favorite aspects of his job are working with a great group of faculty on a daily basis and interacting with students.

Brian L. Frappier, DVM, PhD, clinical associate professor in the Department of Biomedical Sciences, nominated Colley for the award. In his nomination, Frappier praised Colley's initiative and his contributions to the anatomy faculty and courses.

"Quite simply, our teaching mission is enhanced tremendously by his efforts," Frappier wrote. "I don't know what I would do without him."

Frappier said Colley deserves part of the credit for the more than 15 teaching awards anatomy faculty members have won since he was hired.

In addition to embodying the University's four core values of respect, responsibility, discovery and excellence, Colley is humble.

"It's always nice when people notice the work you do, but to be honest, hardly a day goes by around here that I don't see someone that I feel deserves this award," he said. "When things run smoothly, it's easy to forget the people who are responsible."

The Staff Advisory Council consists of 16 members elected by MU staff. Its mission is to advise the chancellor on matters of mutual interest to MU staff; provide an appropriate and effective channel for bringing staff concerns and interests to campus administration; act as liaison for staff and administration on matters initiated by staff or by the council; and strive to heighten awareness of contributions made by staff members.



**Outgoing Texas A&M president becomes Mizzou's  
new Chancellor**

<http://news.missouri.edu/2013/loftin-leadership/>

## Devastating Fracture Heals Thanks to Expertise of Veterinary Neurologist and Orthopedic Surgeon

Kevin and Sarah Smith don't know how their 7-year-old chocolate Labrador, Daisey, was injured. Sarah, studying to become a physical therapist assistant, was not at home. Kevin, a paramedic and firefighter, had been mowing the yard at their Pochahontas, Ark., home that Monday when a friend dropped by. Kevin and his friend went inside the house, leaving Daisey to romp in the yard with the visitor's dog.

Kevin said he heard a loud yelp and bolted out the door in time to see Daisey try to run toward him, only to stumble and roll under his truck. It took him a few minutes to get the dog out from under the truck, and while she had no visible injuries to explain the yelp or fall, she could not hold her head up. Concerned, he took Daisey to a local veterinarian who suspected a pinched nerve and prescribed steroids and pain management therapy.

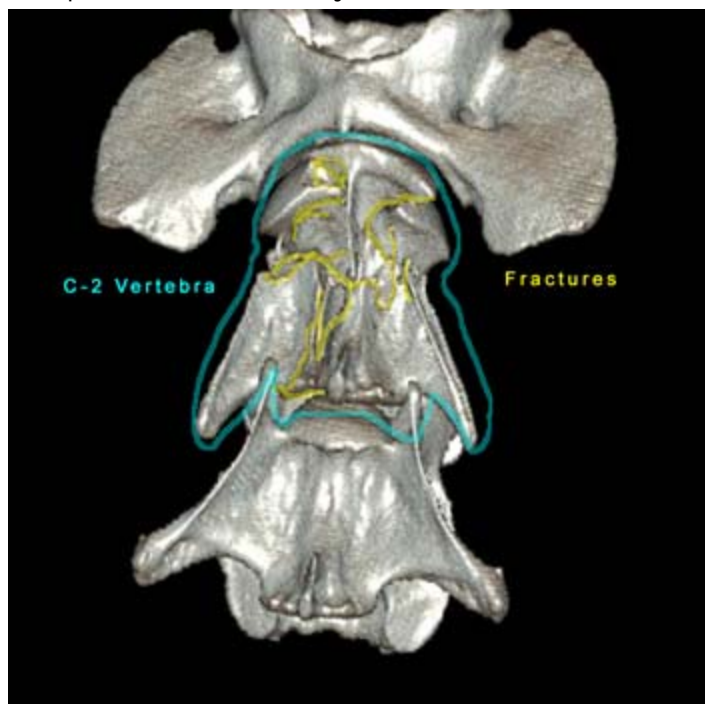
For a couple of days, the Smiths observed their dog. Daisey could walk, but her neck continued to droop, and any kind of jolting movement, such as when she tried to leap into a vehicle, would elicit yelps of pain. After two days of treatment had yielded no improvement, Daisey was returned to the veterinarian's office. This time radiographs revealed a far more serious issue than a pinched nerve: Daisey had sustained a fracture to her C-2 vertebra, the bone in the spinal column that is second closest to the skull.

Daisey's veterinarian placed a brace on her to immobilize the neck and advised the Smiths that their best hope was 265 miles away at the University of Missouri Veterinary Medical Teaching Hospital.

Christine Sibigtroth, DVM, a neurology resident at the VMTH, was on-call when the Smiths arrived in Columbia that Saturday. She called in Joan Coates, DVM, service leader of neurology and neurosurgery at the veterinary hospital, to examine Daisey. It was recommended that Daisey undergo a computed tomography (CT) scan to provide the best possible view of the injured area.



**Kevin and Sarah Smith with their dog Daisey after her recovery.**



"I knew it was a bad fracture," Coates said. But it was only after seeing the images from the CT scan that Daisey's veterinarians at the VMTH learned just how bad it was. While Coates and Sibigtroth had initially hoped they could immobilize Daisey's neck to allow the fracture to heal on its own, after reviewing the scans, they recommended surgical stabilization for the best hope in regaining the ability to walk again. "The fracture was comminuted, which means it was in many pieces," Coates said. A displaced fracture so close to the spinal cord not only presented the possibility of paralysis, but Daisey's life was at risk.

← An image from a CT scan showing the extent of damage to Daisey's fractured vertebra.

"It is not uncommon for dogs to die from this type of fracture because they lose their ability to breathe. It was amazing that Daisey was still able to breathe," Coates said. "The fracture repair was complicated and definitely required the expertise of both a neurologist and an orthopedic surgeon."

Coates and Sibigroth called on MU veterinary orthopedic surgeon James Tomlinson, DVM, who has the most experience with repairing difficult spinal fractures. Tomlinson knows how challenging the C-2 vertebra can be to repair. Not only is the bone dangerously close to the spinal cord, but its shape is similar to an hour-glass, which means the center is much thinner than the ends. "There is not a lot of bone there to work with," Tomlinson explained.

With Coates and Sibigroth assisting, Tomlinson used pins and bone cement to realign the pieces of the shattered vertebra. Daisey did well throughout the seven-hour surgery, and the Smiths were relieved when she didn't require a ventilator afterward to help her breathe. But her recovery had just begun.

Eight days after her surgery, the Smiths drove Daisey, now in a full body cast, home to Arkansas. The cast had to be kept dry. Its movement-limiting shape didn't allow her to access to her food bowl so the Smiths hand-fed their dog. The 80-pound Lab could not walk and had to be carried outside. Nor could she relieve herself normally, so her devoted owners rubbed her bladder and expressed her bowels manually. They also initiated physical therapy exercises and massaged Daisey. "She didn't like having physical therapy, but we could see over time that she was improving," Kevin Smith said.

Her veterinarians wanted her to remain immobile for six weeks, but the rambunctious Lab had other ideas and despite being monitored, managed to get out of the cast repeatedly. After four weeks of escapes, the Smiths attempted instead to keep her calm and confined. They took turns sleeping on the floor with her, rubbing her ears to keep her quiet and occasionally giving her a



**After her surgery, Daisey had to be kept immobilized in a body cast.**



**^On a return visit to the MU Veterinary Medical Teaching Hospital, Daisey has her eyes examined by veterinary student Aaron Mayberry while Nadezhda Fridman holds her still.**



**The Smiths with Daisey and her medical team, veterinary neurology resident Christine Sibigtroth, DVM (left), orthopedic surgeon James Tomlinson, DVM, and service leader of neurology and neurosurgery at the Veterinary Medical Teaching Hospital Joan Coates, DVM.**

sedative so they could get some sleep“We could tell she was in pain. She’d get excited, but she couldn’t do a lot,” Kevin said.

When Daisey began to walk again, it was like watching a baby deer try to walk for the first time, Sarah Smith recalled. At first, the Smiths would help Daisey by holding her up with a towel until her leg strength and coordination returned. Eventually, they were able to take her swimming to help improve her mobility and restore muscle tone. While Daisey’s legs still get a little wobbly when she tries to move too quickly, Kevin Smith said her recovery has been miraculous. “We knew it was going to be hard, but we didn’t know it would be this tough. But she stayed in good spirits and she wasn’t ready to give up, so we didn’t give up on her.”



## **CVM Alumna Takes Raptor Project Under Her Wing**

A cockatiel named Chuckles sparked Stacey Beddoe's interest in birds. She received Chuckles as a pet while in high school, but her interest in avian medicine didn't hatch immediately. After attending Drury University in Springfield, she began her professional veterinary studies at the University of Missouri. Three fellow first-year students whom she befriended became involved in the University's Raptor Rehabilitation Project, but despite a personal interest in birds, the future Dr. Beddoe was not immediately drawn to the organization. She was aware that the organization's members made educational presentations, and being somewhat introverted, she lacked confidence in her public speaking skills.

"They kept telling me how cool (the project) was and finally talked me into attending a meeting. I was immediately hooked," Beddoe recalled.

The Raptor Rehabilitation Project is a service and education partnership of the MU College of Veterinary Medicine and the surrounding community. Veterinary students, other University of Missouri students and community members volunteer their time to rehabilitate injured raptors and care for resident birds. Volunteers also raise awareness about birds and their needs by giving presentations at schools and other forums throughout central Missouri. While many of the project members are from the community and not involved in the medical care of the birds, their efforts are crucial to the success of the program.

Beddoe's involvement with the raptor group began with taking care of birds housed in the raptor projects' mews, where wild birds recuperate from illness and injury, and the project's permanent residents — birds that can't be returned to the wild — also live. After receiving training in handling the different types of raptors, whose beaks and talons are capable of inflicting serious injury, Beddoe advanced to showing the resident birds during the public presentations. She usually worked with a great horned owl named Squiggy, who had fallen from its nest as a baby. Squiggy never became proficient at hunting and could not fly well, so she became one of the project's permanent residents. With additional experience and veterinary training, Beddoe became qualified to provide medical care to injured and ill raptors brought to the Veterinary Medical Teaching Hospital.

Beddoe received her DVM in 2004 and moved to Jefferson City to work in a veterinary practice there. In 2007, she purchased Southwest Veterinary Clinic. She and two other veterinarians provide care for a variety of companion animals: dogs, cats, pocket pets, reptiles (excluding snakes), and potbelly pigs and goats, and, of course, birds. Although a former mentor discouraged her from pursuing avian medicine based on his own experiences, she said she has found there is a need in central Missouri for veterinarians willing to treat birds, and she attends to cases from as far away as Rolla and the Lake of the Ozarks region.

She recently took on additional duties, serving as the volunteer medical advisor for the Raptor Rehabilitation Project. Beddoe came on board with the project in November. She serves as the front-line advisor for medical treatment of raptors, consulting with veterinary students via phone and email on diagnostics and treatment plans for new patients and resident birds that may need medical intervention. She also travels to Columbia on alternating Tuesday evenings to meet with organization members.



**Stacey Beddoe, DVM, adopted her umbrella cockatoo, Louie, from a clinic in St. Louis where she undertook a preceptorship as a veterinary student. Beddoe, who now practices veterinary medicine in Jefferson City, is serving as the medical advisor for the MU Raptor Rehabilitation Project.**

Along with two MU CVM faculty advisors who serve as program mentors, Beddoe has been busy identifying ways to enhance educational opportunities for students and community members and establish policies for quality control and facilities maintenance. Beddoe is also exploring ways to streamline the training model to allow students the opportunity to handle the birds more quickly in the hope of increasing the number of veterinary students involved in the project.

Once veterinary students learn how to properly feed, harness and handle the different breeds of resident raptors and help maintain the birds' mews, they can advance to taking birds out on presentations. The next step in their training is in receiving injured or sick raptors at the veterinary hospital, triaging the birds, and administering medical care under the guidance of Beddoe.

"I want to help students develop their knowledge and technical skills, such as delivering fluid therapy administering antibiotics, either orally or through injection, and positioning birds for radiographs."

She said involvement in the Raptor Project expands upon the clinical experience students acquire while working toward their DVM. Equally important though, is helping students develop good overall diagnostic processes that they can carry into their own professional practices. "This program helps the students learn how to deductively work through a case even if they are in a situation where they don't have access to high-tech diagnostic tools and equipment."

Other initiatives aimed at enhancing the educational function of the project has been reinstating rounds for an hour before each semi-monthly meeting to allow organization members to discuss medical topics affecting raptors that are in rehabilitation, and incorporating more instruction into the general meetings to enrich the experiences of community members who are not directly involved in the medical care of the rehabilitating raptors.

"The first topic was West Nile because we had a bird brought in with West Nile. Because West Nile is a virus, there is no cure, but there are supportive care treatment options, so we went over those," Beddoe said.

For more information about the Raptor Rehabilitation Project, or to learn how to become involved or support the project, visit <http://www.raptorrehab.missouri.edu/>.

## **ACVO honors MU's Elizabeth Giuliano**

Elizabeth Giuliano, DVM, MS, an associate professor of veterinary ophthalmology at the MU College of Veterinary Medicine, is currently featured in the American College of Veterinary Ophthalmologists Diplomate Spotlight. The spotlight honors active or emeritus diplomates in the profession who are leaders in their field, are in good standing with the ACVO, and have an interesting story to share. In the feature, Giuliano, an ACVO diplomate since 2002, describes her unconventional childhood and explains how Columbia became her home.

[Read Dr. Giuliano's story.](#)



# Biological patches may treat diseased blood vessels

Posted By: Marie French on Friday, December 13th, 2013

<http://engineering.missouri.edu/2013/12/biological-patches-may-treat-diseased-blood-vessels/>

## MU Ophthalmology Group, Alumna Enjoy Success at National Conference

The MU College of Veterinary Medicine comparative ophthalmology service had a strong presence at the American College of Veterinary Ophthalmologists annual conference in November in Puerto Rico.

Ann Bosiack, DVM '09, MS '13, who completed her residency at MU this summer and recently achieved her ACVO diplomate status, won two of the three resident awards given out at the conference. She won the 2013 Best Basic Science Manuscript Award for the second year in a row and the 2013 Cindy Wheeler Memorial Award for best case report or review article.

Bosiack received her basic science award for her September 2012 Veterinary Ophthalmology article, "Efficacy and safety of suberoylanilide hydroxamic acid (Vorinostat) in the treatment of canine corneal fibrosis." Her co-authors were Elizabeth Giuliano, DVM, MS, Rangan Gupta, PhD, and Rajiv Mohan, PhD, MSc. Giuliano is an associate professor of veterinary ophthalmology, and Mohan is the Ruth M. Kraeuchi Endowed Professor in Veterinary Ophthalmology. Gupta is a former postdoctoral research fellow in ophthalmology at the MU School of Medicine.

Bosiack's Wheeler Memorial award was given for "Corneal Gene Therapy in Veterinary Medicine: A Review," which was published in the Journal of Veterinary Science & Technology in February 2012. Her co-authors were Giuliano and Mohan.

"I am very honored to receive both awards and owe a great deal of gratitude to everyone involved in both research projects, but especially to Dr. Mohan and Dr. Giuliano," Bosiack said.

Members of the University of Missouri presented a record five scientific abstracts at the conference. In addition, Giuliano served as the 2013 program chair and a member of the ACVO Board of Regents. She also organized and lectured at the eight-hour ACVO Diplomate Ophthalmic Photography and Image Management continuing education course. Jacqueline Pearce, DVM, MS, assistant teaching professor of ophthalmology, served as a member of the ACVO Exam Committee.

The ophthalmology group's focus is corneal wound healing with therapeutic strategies aimed at decreasing corneal scarring to improve long-term vision.



## Eye Research Association Names Rajiv Mohan a Silver Fellow

Rajiv Mohan, PhD, the Ruth M. Kraeuchi Endowed Professor in Veterinary Ophthalmology at the MU College of Veterinary Medicine, has been named a 2014 Silver Fellow by the Association for Research in Vision and Ophthalmology.

With about 12,750 members from more than 80 countries, ARVO is the largest eye and vision research organization in the world. It aims to encourage and assist research, training, publication and dissemination of knowledge in vision and ophthalmology. The title of Silver Fellow recognizes ARVO members for their individual accomplishments, leadership and contributions to the association.

“ARVO Silver Fellow is a distinctly prestigious honor given to researchers for their outstanding contributions to visual science by the Association for Research in Vision and Ophthalmology,” Mohan said. “I am happy and humbled to receive this award.”

Mohan earned a bachelor of science degree in chemistry, zoology and botany, a master’s degree in organic chemistry, and a doctoral degree in medicinal chemistry at Lucknow University in India.

His research interests include corneal gene therapy, corneal nanomedicine, corneal wound healing, corneal scarring and angiogenesis, and refractive laser surgery. He has published more than 90 articles in scientific journals and six book chapters.

ARVO fellows serve as mentors for individuals pursuing careers in vision and ophthalmology research and help further ARVO’s mission of advancing vision research and preventing and curing disorders of the visual system, which includes advancing basic and clinical knowledge and serving as the leading international forum for vision research and the primary advocate for vision science worldwide.



## CVM's Philip Johnson Helps Make Equine Research Readily Available

Veterinarians and horse owners seeking information on equine endocrine disorders now have a free resource for recent published scientific articles. Dr. Philip Johnson, professor of equine internal medicine at the MU College of Veterinary Medicine, and Dr. Nicholas Frank of Tufts University and the University of Nottingham, leading international authorities on equine endocrinology, compiled the collection. Composed of articles from *Equine Veterinary Education* and *Equine Veterinary Journal*, it is available at [http://onlinelibrary.wiley.com/journal/10.1001/\(ISSN\)2042-3306/homepage/equine\\_endocrinology\\_virtual\\_issue.htm](http://onlinelibrary.wiley.com/journal/10.1001/(ISSN)2042-3306/homepage/equine_endocrinology_virtual_issue.htm).



The endocrine system is a collection of glands that secrete hormones into the bloodstream to control an organism's physiological and behavioral activities. The system helps regulate mood, growth and development, tissue function, metabolism, and sexual function and reproductive processes.

Equine endocrine disorders are becoming more promptly identified and treated, thanks to ongoing research and scientific advances, including methods of diagnosis, pharmacokinetics and management protocols. The collection encompasses a comprehensive range of topics within the field of endocrinology and includes authoritative review articles on insulin dysregulation, glucocorticoids and laminitis and paraneoplastic syndromes.

Johnson has been involved in extensive laminitis research throughout the past two decades. Laminitis is a common and potentially severe medical condition of horses and ponies that can cause lameness, pain and debilitation. In severe cases, euthanasia is sometimes the end result.

Although there are many different causes of the condition, Johnson's team has become especially interested in endocrinopathic forms of the disease.

"Endocrinopathic laminitis is a significant risk associated with two of the most common endocrine diseases of horses – the equine metabolic syndrome (insulin dysregulation) and the equine Cushing's syndrome," Johnson said. "Therefore, there is a very profound link between endocrinological disturbance and risk of laminitis."

Pituitary pars intermedia dysfunction (PPID), also known as Cushing's Syndrome, is a progressive neurodegenerative condition that is more easily recognised in its advanced form in older horses. Surveys show a PPID prevalence rate of up to 22 percent in horses older than 15, with the odds of developing clinical signs associated with PPID increasing by approximately 20 percent per year after this age.

Johnson completed his veterinary studies at the University of Bristol in the United Kingdom and earned a master of science in veterinary clinical medicine at the University of Illinois at Urbana-Champaign. In addition to being a diplomate of the American College of Veterinary Internal Medicine and the European College of Equine Internal Medicine, he is also a member of the Royal College of Veterinary Surgeons and of the International Equine Veterinarian Hall of Fame.