EXCELLENCE AND LEADERSHIP IN RESEARCH, TEACHING AND SERVICE

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THE HITCHING POST

ACCREDITATION TEAM TO VISIT

The American Veterinary Medical Association Council on Education (COE) will send a nine-member assessment team to the University of Missouri College of Veterinary Medicine May 19-23 as part of the process to renew the College'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 with a full evaluation every seven years. The most recent full review was conducted in 2006.

In advance of the site team's visit, the College recently conducted a thorough self-study that assesses how well the College meets the COE's 11 standards. An explanation of each standard can be found at:

https://www.avma.org/ProfessionalDevelopment/Education/Accreditation/Colleges/Pages/coe-pp-requirements-of-accredited-college.aspx

The standards are:

1. ***Organization***
2. ***Finances***
3. ***Physical Facilities and Equipment***
4. ***Clinical Resources***
5. ***Library and Information Resources***
6. ***Students***
7. ***Admission***
8. ***Faculty***
9. ***Curriculum***
10. ***Research Programs***
11. ***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.

The objective of the site visit is to verify and supplement the information presented to the COE in the College's self-study.

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.

He spent six years working as a large animal veterinarian in the Ozarks, during which time he began assisting a small Iowa-based

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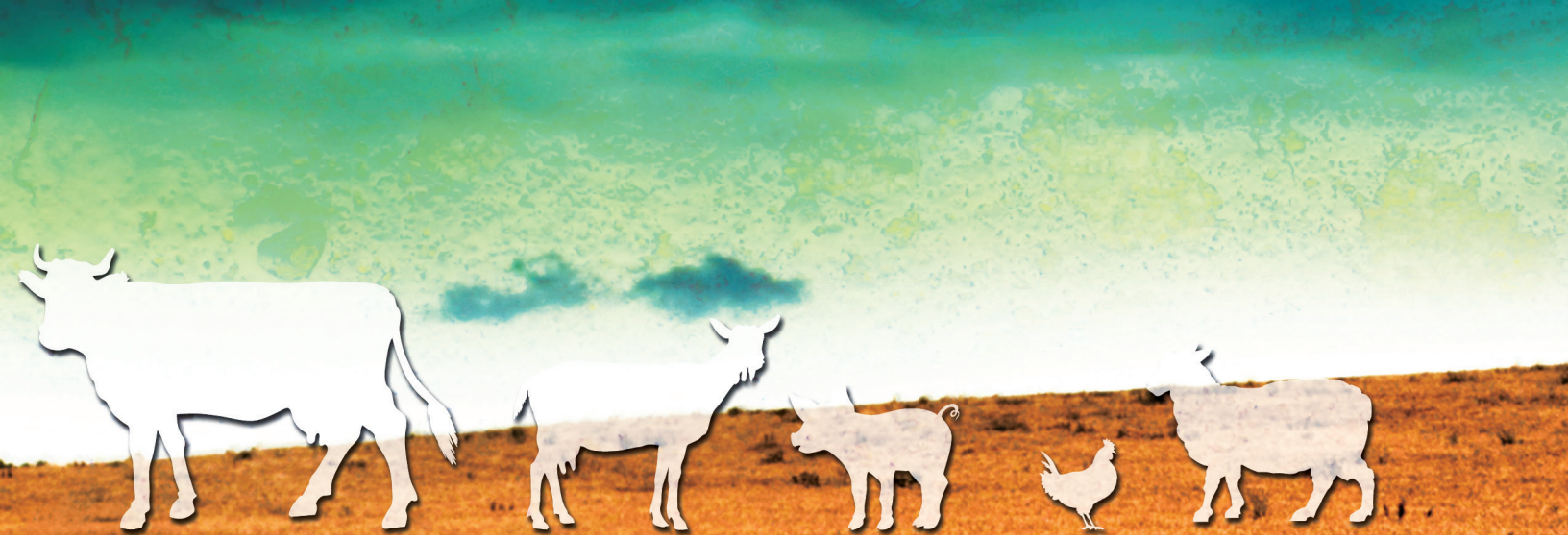


Recognitions and Honors

Dr. M. Harold Laughlin, professor and chair of the CVM Department of Biomedical Sciences, was elected to the American Physiological Society for a three-year term beginning April 24, 2013.

The National Mastitis Research Foundation (NMRF) board of directors selected **Pamela Fry,** DVM, of the University of Missouri, as one of four 2013 National Mastitis Council (NMC) Scholars. She was recognized during the NMC 52nd Annual Meeting, held Jan. 27-29, 2013, in San Diego, Calif.

Fry's goal is to become a clinician scientist. She is pursuing a residency in food animal medicine and surgery, with a goal of becoming board-certified in large animal internal medicine. Fry is conducting research on coagulase-negative staphylococcal (CNS) mastitis, in which she assembles the genomic sequences of four CNS species isolated from cases of bovine mastitis. Her goal is to identify virulence genes within these sequenced strains and then determine if the genes are prevalent among other CNS isolates of the same or different species. In addition, Fry will determine if the identified virulence factors have any effect on SCC or duration of mammary infection. By associating specific genes with disease, the research team hopes to identify new diagnostic methods or targets for interventional strategies. After completing her studies, Fry hopes to obtain a job at a university, working as a clinical instructor and researcher.

Connor MacLeod Elliott, a member of the CVM Class of 2013, was selected to judge the Missouri Bison Association annual competition and sale held March 16 at the MoKan sales facility near Butler, Mo. After viewing nearly 200 animals, Elliott presented reasons for his top three selections in eight different categories plus his picks for grand champion and reserve champion males and females.

Prior to the judging, Elliott assisted Hertzog Veterinary Clinic of Lee's Summit with presale medical preparation of the bison. Elliott has been raising bison on the family farm near Stewartsville, Mo., for 10 years and is the only three time recipient of the National Bison Association Throlson Scholarship. Elliott completed preceptorships with Gerald Parsons, DVM, a renowned bison producer and veterinarian from Stratford, Okla.,, and Dr. Cliff Shipley, University of Illinois wild ruminant veterinary specialist.

"Connor did a super job at this year's sale," said Peter Kohl, president of the Missouri Bison Association. "Despite his youth, he is becoming one of the nation's foremost authorities on bison."

For Elliott, the highlight of a long day was purchasing the reserve champion bull. "This big 3-year old is just what I have been looking for," Elliott said. "He brings a new line of genetics to my herd along with some characteristics I want to develop."

Rhoades, continued

vaccine company, Grand Laboratories, with some field safety trials. When the company offered him the opportunity to join the technical services and 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 Novartis, now the third largest pharmaceutical company in the world.

As the Global Head of Technical Services for mammalian vaccines, Rhoades travels the world, assessing the threats of new viruses and viral mutations and developing vaccines to counter those threats.

"Even though I'm a vet and I use the clinical experience and knowledge I acquired in veterinary school, I no longer practice," Rhoades said. "To me, there is nothing better than assisting the birth of a calf and watching it get 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."

Commencement ceremonies will be held at 1 p.m. in Jesse Hall on the MU campus.

FOXES' GIFT HONORS VETERINARIANS

Cottrell and Kay Fox, residents of Town and Country, Mo., have given an estate gift of more than $5 million to the University of Missouri College of Veterinary Medicine. Through their generous gift, Cottrell and Kay want to recognize the work of their longtime family veterinarians James Schuessler and Fred Bendick from St. Louis, both alumni of the college.

"It gives us a great deal of pleasure to be able to give this gift to the university and the College of Veterinary Medicine as well as honor two great friends and veterinarians in James Schuessler and Fred Bendick," Cottrell Fox said. "Our pets and our family have received great care and benefited a great deal from the important research being done at the university. Kay and I have been touched by cancer in many ways, through family and good friends, and our hope is that this gift will help stimulate more lifesaving research in the future."

The Foxes' gift will support an endowment in companion animal medicine in honor of their family veterinarians, Schuessler and Bendick. The gift also will fund studies in comparative oncology, which is research to develop therapies and cures for people and animals with naturally occurring cancer, as well as to enhance training for graduate students and veterinary oncology residents.

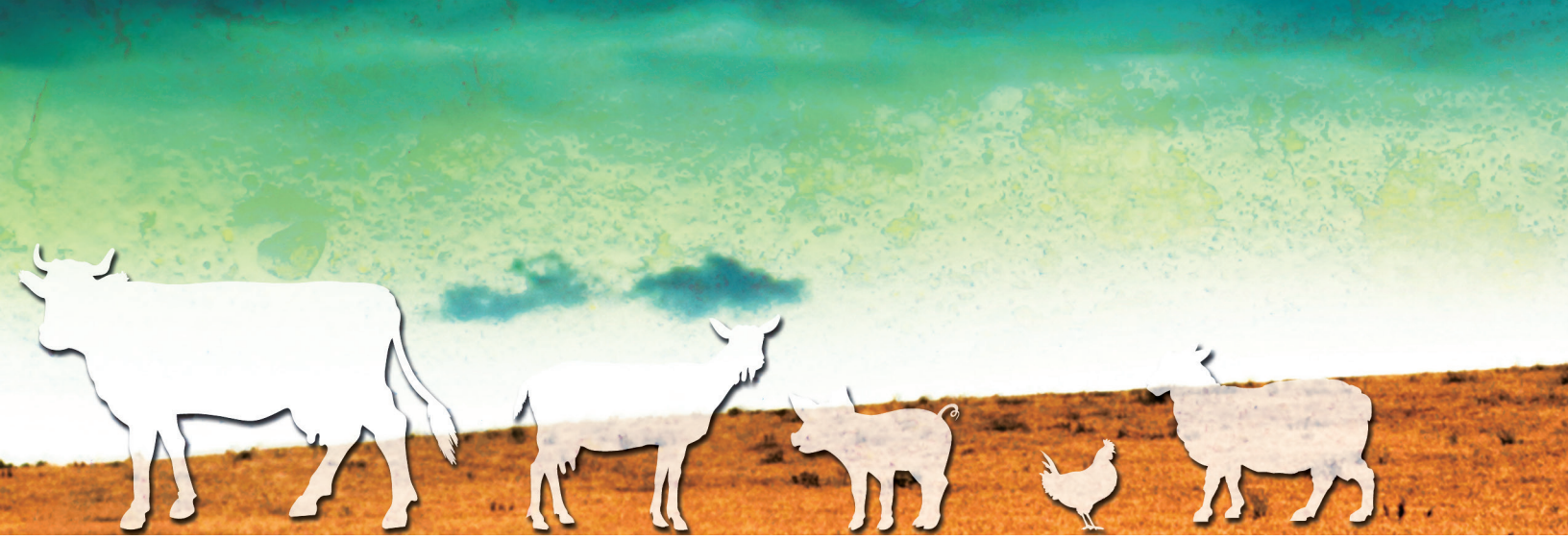
Cottrell and Kay Fox

The Foxes' interest in the MU College of Veterinary Medicine first began when their family dog was treated for cancer at the MU Veterinary Medical Teaching Hospital many years ago. As a part of that cancer treatment, MU veterinarians used a drug developed at MU called Samarium. Years later, Kay Fox's father was treated for cancer using the same drug. Samarium was only made available for use on human patients because of the years of research by MU scientists in the College of Veterinary Medicine. Carolyn Henry, an MU professor of veterinary oncology, says this gift will be used to develop more effective methods of cancer diagnosis and treatment in both animals and humans.

"This gift will greatly enhance our comparative oncology research abilities," Henry said. "This truly will have an impact on people. What we learn through our comparative oncology work can translate into improved options for cancer care in people. This gift shows the Foxes' recognition of the power of having a 'one health' approach to medical and scientific discovery and will go a long way in moving our important research forward."

The Foxes, concerned with what would happen to their beloved pets should their pets outlive them, reached an agreement with the College of Veterinary Medicine several years ago. The college agreed to ensure that their pets would be cared for for the duration of the pets' lives.

This idea helped stimulate the College of Veterinary Medicine "Perpetual Pet Care Program," which provides comfortable homes for pets whose owners are temporarily incapacitated or who have passed away. This program can provide peace of mind for pet owners who want to ensure their pets will be cared for in homes after they are no longer able to care for their pets themselves. To place their pets in the program, donors can establish an endowment through the program.



LYONS' DEN COMING TO 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."

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.

Leslie Lyons

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 postdoctoral fellow and young scientist in the National Cancer Institute Laboratory of Genomic Diversity in Frederick, Md., studying feline and comparative genetics. She joined the UC-Davis faculty in 1999.

The opportunity to collaborate and expand her feline research efforts attracted her to the University of Missouri. "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.

CVM Dean Neil C. Olson said Lyons' genetic expertise is a perfect complement to MU's One Health/One Medicine Mizzou Advantage.

"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 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.

CVM'S EVANS RECEIVES KEMPER AWARD

University of Missouri Deputy Chancellor Mike Middleton and Commerce Bank Chairman Jim Schatz of Commerce Bank on April 1 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 during his lecture 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.

> ***"I love MU. MU gave me the opportunity to come back into academia and fulfill my dreams."***
> Tim Evans, CVM associate professor

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.

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.

Tim Evans

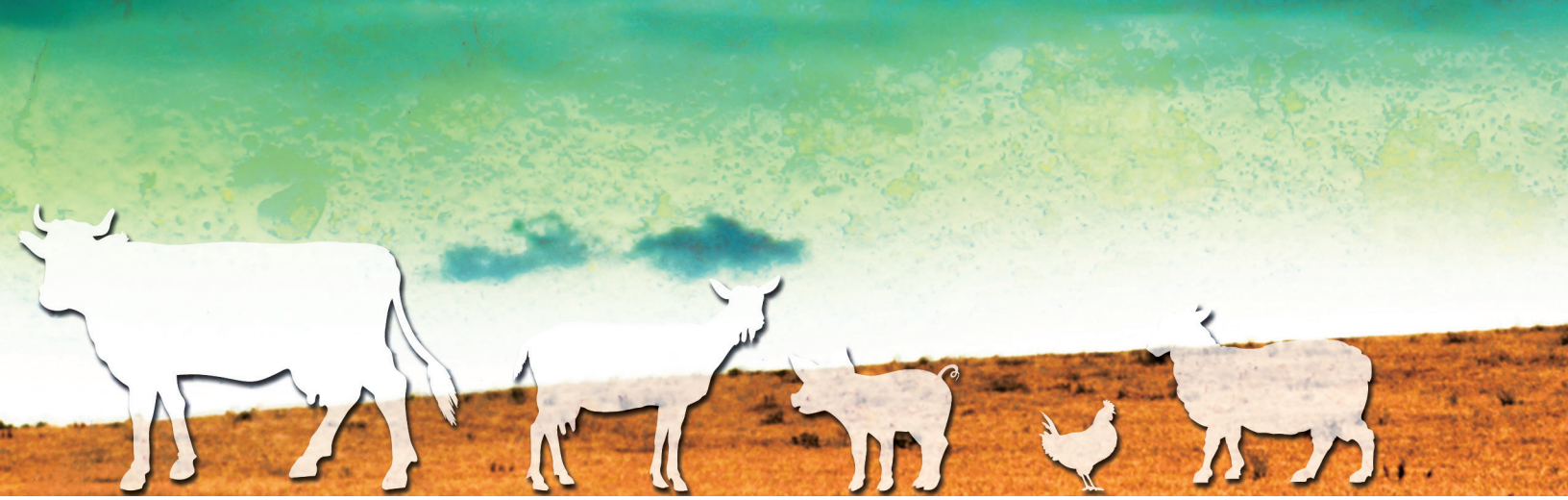
Tim Evans is an associate professor of toxicology in the MU College of Veterinary Medicine. Evans, who has been a member of the MU faculty since 2001, was named an assistant professor in 2003 and was promoted to associate professor in 2010. As an instructor of veterinary toxicology, Evans teaches topics 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.

"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 Med-

Continued on page 6



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

Studies show 97 percent of American adults get less than 30 minutes of exercise a day, which is the minimum recommended amount based on federal guidelines. New research from the University of Missouri suggests certain genetic traits may predispose people to being more or less motivated to exercise and remain active. Frank Booth, a professor in the MU College of Veterinary Medicine, along with his post-doctoral fellow Michael Roberts, were able to selectively breed rats that exhibited traits of either extreme activity or extreme laziness. They say these rats indicate that genetics could play a role in exercise motivation, even in humans.

"We have shown that it is possible to be genetically predisposed to being lazy," Booth said. "This could be an important step in identifying additional causes for obesity in humans, especially considering dramatic increases in childhood obesity in the United States. It would be very useful to know if a person is genetically predisposed to having a lack of motivation to exercise, because that could potentially make them more likely to grow obese."

In their study published in the *American Journal of Physiology: Regulatory, Integrative and Comparative Physiology* on April 3, 2013, Roberts and Booth put rats in cages with running wheels and measured how much each rat willingly ran on their wheels during a six-day period. They then bred the top 26 runners with each other and bred the 26 rats that ran the least with each other. They repeated this process through 10 generations and found that the line of running rats chose to run 10 times more than the line of "lazy" rats.

Once the researchers created their "super runner" and "couch potato" rats, they studied the levels of mitochondria in muscle cells, compared body composition and conducted thorough genetic evaluations through RNA deep sequencing of each rat.

"While we found minor differences in the body composition and levels of mitochondria in muscle cells of the rats, the most important thing we identified were the genetic differences between the two lines of rats," Roberts said. "Out of more than 17,000 different genes in one part of the brain, we identified 36 genes that may play a role in predisposition to physical activity motivation."

Now that the researchers have identified these specific genes, they plan on continuing their research to explore the effects each gene has on motivation to exercise.

Frank Booth also is a professor in the Department of Physiology in the MU School of Medicine as well as a research investigator in the Dalton Cardiovascular Research Center at MU. This research also featured Kevin Wells, an assistant professor of genetics in the College of Agriculture, Food and Natural Resources Division of Animal Sciences.

Evans, continued

icine. "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.

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.

RECHAI DIRECTOR TAKES ADVISORY ROLE

Rebecca Johnson, RN, PhD, FAAN, a professor at the MU College of Veterinary Medicine, director of Research Center for Human-Animal Interaction, and the Millsap Professor of Gerontological Nursing in the Sinclair School of Nursing, has been elected to the National Academies of Practice and the Veterinary Medicine Academy as a distinguished scholar and fellow. Johnson will be inducted into the NAP in April during the organization's annual meeting and forum.

The NAP was founded in 1981 to advise Congress in health care practice and delivery. The academy comprises 10 interdisciplinary organizations: dentistry, medicine, nursing, optometry, osteopathic medicine, pharmacy, podiatric medicine, psychology, social work and veterinary medicine. NAP fellows are considered among the most distinguished in their fields and are chosen only after a rigorous selection process. Membership is limited in order to maintain the academy's high standards.

Dr. Johnson earned her baccalaureate degree in nursing from the University of Dubuque, Iowa in 1980, her MPhil from the University of Edinburgh, Scotland in 1982 (as a Rotary Foundation Scholar), and her PhD from the University of Iowa in 1992. She joined the University of Missouri Sinclair School of Nursing in August 1999 as the Millsap Professor of Gerontological Nursing and Public Policy and shortly thereafter was given a joint appointment as associate professor in the College of Veterinary Medicine for her research on human and companion-animal interaction. She was promoted to Full Professor in the CVM and SSON in 2012.

Rebecca Johnson

She established the Research Center for Human-Animal Interaction (ReCHAI) in 2005. Her externally funded program of research and community projects merges her work on wellness and relocation of the elderly, assistance of war veterans who have post-traumatic stress disorder and prisoners with the benefits of human-companion animal interaction. Her research shows that companion animals provide a unique source of social support and facilitate motivation for exercise and other wellness-promoting behaviors.

The author of many scholarly publications in peer-reviewed journals and books, Johnson presents her research findings nationally and internationally. She is also called upon as a consultant regarding the relocation of older adults, and human and companion-animal interaction programs. In 2005 she was named the University of Missouri's William H. Byler Distinguished Professor, an award given for "outstanding abilities, performance and character." In 2007 she was inducted as a Fellow of the American Academy of Nursing, the highest honor in academic nursing joining only 1,500 nurse academics nationwide to achieve such an accomplishment. In 2011 she had two books published by Purdue University Press: Walk a Hound, Lose a Pound: How You and Your Dog can Lose Weight, Stay Fit, and Have Fun Together, and The Health Benefits of Dog-Walking. Since 2010, she has served as president of the International Association of Human-Animal Interaction Organizations.

"As a member of the NAP-Veterinary Medicine, it will be my privilege to help this wonderful organization continue to move the importance of the human-animal bond to the forefront with policy-makers nationally," Johnson said.

MU VMTH 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 mini."

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,

Shannon Reed sits with Bunny in her pen after surgery.

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.

"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."