



Also inside this issue of *lifelines*:



**Pet Health Center.**  
See page 2



**Skeletal muscle study.**  
See page 2



**Excellent mentor awards.**  
See page 4



**Christie Gabel goes Under the Microscope.**  
See page 4

# Summer schooling

## Veterinary scholars share results of research projects

Every summer, a select group of students participates in the Veterinary Research Scholars Program. The program carefully matches each student with a mentor for a specific research project. In addition to working with mentors, students attended weekly workshops, participated in a poster presentation and will attend the Merit National Institutes of Health Veterinary Scholars Symposium in Orlando, Fla. Students become eligible for the program after completing their first or second year at the CVM. Research projects can vary from clinical to biological. This year, 15 students completed the program.

Laura Schaefer, second-year student, worked with Dr. Dave Renter on examining the Shiga Toxin-producing *Escherichia coli* (STEC), which is generally a cause for food-borne illness in humans. The STEC bacteria has been known to originate in cattle feces. The objective of the research was to study the relevance between the STEC bacteria and cattle. Laura said she thought it was a good learning experience to help discover research career options.

“The opportunity to participate in the Veterinary Research Scholars Program and spend the summer in Dr. Renter’s lab has allowed me to gain first hand research experience and mentorship in the field of veterinary public health and epidemiology,” she said. “It has given me insight into the types of research careers that are possible with a DVM.”

Philip Allen, third-year student, worked with Dr. Butch KuKanich. His research focused on the potential for the development



**Laura Schaefer, second-year student, collects samples for her research. The program started in 1998.**

of an opioid patch that is both dosable and has a built in antagonist. Philip would assist in the experiments where they would either give an intravenous injection of the drug or apply transdermal patches and take regular blood samples. He said he felt the opportunity allowed him to learn more about how veterinary medicine ties in with research.

“Before this program I assumed a lot of research was simply for academic purposes and had little true application,” Philip said. “After working with Dr. KuKanich and hearing from other labs involved in the program, I realize now how critical research is for the progress of veterinary medicine.”

## The doctor is in: VMTH Pet Health Center offers routine pet care



**Dr. Susan Nelson, right, leads an examination with help from veterinary technician Rachel Wright. Dr. Nelson is one of four clinicians at the Pet Health Center.**

Pet owners needing routine check-ups for their cats or dogs can find great care at the Pet Health Center located in the Veterinary Medical Teaching Hospital.

“The Pet Health Center is a primary care facility where anybody can come have care for their pets,” said Dr. Marjory Artzer.

Described as the “family doctor” within the hospital, the Pet Health Center provides preventive and wellness care for all dogs and cats, whether they be puppies or kittens, adult pets or senior members of the family.

“We do wellness exams, vaccines, heartworm checking, everything that your primary care physician outside of here would do,” said Dr. Susan Nelson. “We just do these procedures within the confines of the hospital.”

By replicating the experience of a small-animal clinic, the Pet Health Center fulfills a vital role at the teaching hospital.

**For more in-depth coverage, check out the online video report at: [www.vet.k-state.edu/depts/development/lifelines/1108.htm](http://www.vet.k-state.edu/depts/development/lifelines/1108.htm).**

## Copp studies delivery of oxygen in skeletal muscles

Though rats, fish oil and beetroot juice read like ingredients in a witch’s brew, to a Kansas State University research team information from this combination could lead to health breakthroughs for aging populations and people suffering from heart failure and diabetes.

Steven Copp, a doctoral candidate in anatomy and physiology, is one of the researchers in K-State’s Cardiorespiratory Exercise Physiology Laboratory who’s studying the delivery and use of oxygen within the microvasculature of the skeletal muscles.

According to Copp, altered control of the peripheral blood vessels — which results from aging or diseases like diabetes and congestive heart failure — creates abnormalities in the circulatory system. This, in turn, causes dysfunction in oxygen delivery to the skeletal muscles and consequently, premature fatigue during exercise and normal daily activities.

By identifying what’s responsible for the oxygen delivery and use increases during contractions in healthy skeletal muscles, Copp and colleagues could pinpoint

how these processes become distorted in people during the onset of diabetes and chronic heart failure and with advancing age. Eventually these dysfunctions could be corrected while still in the early stages by new therapeutic treatments, pharmaceuticals, exercise regimes or even nutritional supplements like fish oil and beetroot juice.

“The overall goal is to be able to take someone who gets exhausted from doing things in daily life, like walking across a room, and allow that person to take a walk or play nine holes of golf — just have a dramatically improved overall quality of life,” Copp said.

Copp works on the study with Drs. David Poole and Tim Musch, professors of kinesiology and anatomy and physiology, who both direct the Cardiorespiratory Exercise Physiology Laboratory. They previously found that it’s also the peripheral blood vessels — not just the heart as once believed — that develop dysfunction and result in poor skeletal muscle performance.

To gather information, the team observes the treadmill workouts of rats



**Steven Copp**

and studies the data from it. Though pint-sized, rats share similar physiology and morphology to people, making it possible to easily translate findings to the human body.

Most recently the team has been investigating the role of altered nitric oxide function in older rats or rats that are diabetic or have heart failure.

## Alumni and friends contribute to \$107 million fundraising record



**Dr. Jessica Harrison, DVM 2011, is presented the Dr. William and Dr. Helen (Richt) Irwin scholarship by Dr. Emily Klocke. This scholarship and others are created through generous donations from alumni and friends.**

In the midst of a down economy and challenging fiscal times, alumni, friends and corporate partners of Kansas State University have demonstrated their commitment and escalated their philanthropic support of K-State to new heights, contributing \$107 million to the university through the KSU

Foundation during the fiscal year that ended June 30. The College of Veterinary Medicine contributed around \$5 million to the final total.

This figure sets a new record in fundraising activity in the 67-year history of the foundation, surpassing the previous record of \$99.5 million in fiscal year 2008.

“We’re proud to say the university has donors from every county in Kansas, all 50 states and the District of Columbia,” said Fred Cholick, president and CEO of the KSU Foundation. “We’re also grateful for our supporters abroad. K-State received contributions from people in 16 other countries — including Canada, Japan, Turkey, Germany and the United Kingdom — which illustrates the impact the university has across the globe.”

Of the \$107 million total, \$67 million was received in cash, real estate or

appreciated securities, and \$40 million was committed through pledges and deferred gifts, which will come to the university at a later date. These figures represent a total increase of \$17 million from the previous year. Also of note are four gifts of \$5 million or more and nine gifts between \$1 million and \$5 million the university received in fiscal year 2011.

“This is a new milestone for Kansas State University, one that illustrates the outstanding collaborative efforts of the donors, university staff and the foundation staff,” said Kirk Schulz, K-State president.

“Just 16 percent of the CVM’s budget now comes from the state,” Dean Ralph Richardson said. “The remainder of the budget comes from four sources: grants and contracts - 38 percent, tuition - 23 percent, revenue - 20 percent, and private philanthropic support given through the KSU Foundation - 3 percent.”

The CVM appreciates the donations provided through alumni and friends.

## Check it out at the Library

“Reading the Human-Animal Bond”

By Carol Elmore

The human-animal bond evokes strong feelings in people during good times, but presents even stronger emotions during times of disaster. One book, “Zeitoun,” by Dave Eggers (F379.N553 Z454 2009 Hale Library) vividly portrays some of these emotions when Abdulrahman Zeitoun, is faced with the needs of abandoned animals after Hurricane Katrina in New Orleans. This book was chosen for the reading program for this year’s incoming freshmen at Kansas State University, and all current faculty, staff and students are encouraged to read and discuss it. Zeitoun, a Syrian-American contractor who chose to stay in New Orleans after Katrina, saved people as well as pets and faced almost unbearable

challenges because of this choice.

The College of Veterinary Medicine and Kansas State Research and Extension are jointly sponsoring a Human-Animal Bond Conference “Natural Disasters...What about the Animals?” on Saturday, Sept. 24. Dr. Greg Eiselein, professor, English department, Kansas State University, will present a book review of “Zeitoun.” Other speakers who have had experience dealing with animals and disasters will also give presentations. The conference is free but advance registration is encouraged to guarantee conference materials and refreshments. Register at [www.vet.ksu.edu/CE/Conference.htm](http://www.vet.ksu.edu/CE/Conference.htm).

The Veterinary Medical Library has other books that deal with animals and

disasters such as “Rescued:

Saving Animals from Disaster” by Allen Anderson (HV4765.L8 A63 2006), “Orphans of Katrina” by Karen O’Toole (HV4765.L8 O86 2010), “Animal Disaster Preparedness for Pet Owners and Pet Professionals” by Diana Guerrero (HV551.3.G84 2007), and “Pawprints of Katrina” by Cathy Scott (HV4765.L8 S26 2008) as well as other selections. Databases can also be searched for relevant journal citations on the topic. The staff at the Veterinary Medical Library will be happy to help you with your searches and requests.





under the  
microscope



## Christie Gabel

Development Officer,  
Alumni and Development Office

**Hometown:** Eaton, Colo.



**Family Information:** My parents, Steve and Audrey, own/operate Magnum Feedyard in Wiggins, Colo. My brother Case and his wife, Kelsi, live in O'Neill, Neb. Case manages HerdCo Feedlot in Bartlett, Neb., and Kelsi is a wonderful mommy to my nephew Stetson.

**Pets:** I have a chocolate lab, Mollie, and lots of cows.

**What inspires you about visiting with alumni and friends who are interested in supporting the veterinary college with a philanthropic gift?** It's an honor to work with other passionate alumni and friends, creating opportunities for students and ensuring the long-term prosperity of the university. I find satisfaction knowing that, through supporting K-State students, faculty and research projects, we're working to advance the animal agriculture and veterinary industries.

**What is something you would like to do before the summer is over?** My first nephew was just born, so I'd like to take as much time as possible to spend in Nebraska with him.

## CVM NEWS TICKER

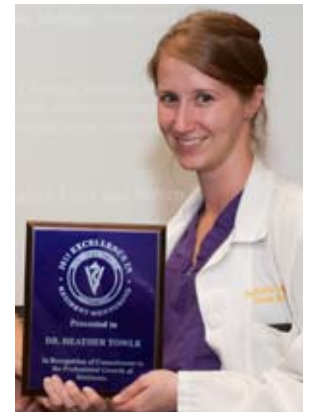
Congratulations to **Dr. Carla Carleton**, DVM 1977! She was presented the 2011 Alumni Recognition Award at the American Veterinary Medical Association convention in St. Louis on July 18.



Congratulations to **Dr. Brian Lubbers** for becoming board certified by the American College of Veterinary Clinical Pharmacologists! There are currently only 55 members of the ACVCPC and five are presently at the CVM.

**Dr. Heather Towle** received the Excellence in Resident Mentoring Award. She was nominated by Drs. Marcos Unis and Steven Baker.

**Dr. Emily Klocke** received the Excellence in Faculty Mentoring Award. She was nominated by Dr. Heather Towle. "Her (Dr. Klocke) patience, tireless efforts, creation of a positive learning atmosphere, enthusiasm and surgical expertise extends not only to students, interns and residents, but also to young faculty," said Dr. Towle.



**Dr. Heather Towle**

## VMTH brings in new residents



Say "hello" to the new residents. Back row (left to right): **Sonya Wesselowski, Elizabeth Taylor, Matt Sherwood, Jennifer Reinhart, Cameon Childers and Gretchen Grissett.** Front row: **Melina Zimmerman, Ellie Nuth, Marian Benitez and Jane Ashley Stuckey.**

### UPCOMING EVENTS

Aug. 19 - 5th Annual Conference Care of Llamas and Alpacas\*

Aug. 27 - Central Veterinary Conference in Kansas City, Mo.

Sept. 24 - SCAAEP Fall Equine Conference: A Focus on Reproduction\*

Sept. 24 - Human-Animal Bond Conference\*

\*Continuing Education Events, visit:  
<http://www.vet.ksu.edu/CE/Conference.htm>

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