



Students receive AAAP scholarships



Lisa Tenny and Jake Carlson.

Two CVM students are among 10 veterinary students nationwide chosen for \$5,000 scholarship awards from the American Association of Avian Pathologists Foundation (AAAP Foundation) and Merck Animal Health. The scholarships are open to veterinary students in their second and third year of study and are focused on poultry health.

Jake Carlson, second year, earned his bachelor's degree in animal science from California State University – Fresno, and completed internships with Mitchell Farms, the National Turkey Federation and the KDA's Emergency Management and Health Team.

Lisa Tenny, third year, earned a bachelor's degree in animal science and industry from K-State. She has interned with Butterball LLC, Nelson's Poultry, Elanco and Aviagen. Lisa also serves as an ambassador for K-State, giving tours and facilitating interviews for prospective students.

Alumni Fellow for 2018



Dr. Michael White, DVM class of 1974 from Abilene, has been chosen as this year's CVM Alumni Fellow. He will visit the campus April 11-13 and will present an All-College Seminar April 12 at Noon in Frick Auditorium.

Dr. Weiping Zhang honored for research excellence

The CVM presented its highest research award during Phi Zeta Research Day in March: The 2018 Zoetis Animal Health Award for Research Excellence. Dr. Weiping Zhang was chosen as this year's recipient. He is a professor in DMP.

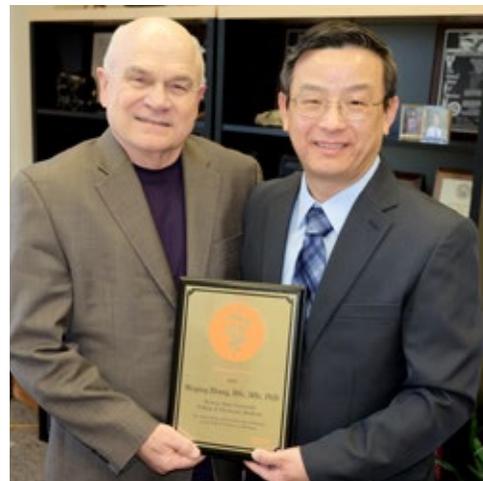
Dr. Zhang's research mainly focuses on enterotoxigenic *Escherichia coli* (ETEC) pathogenesis in diarrheal disease and vaccine development against ETEC associated diarrhea. His laboratory has applied the toxoid and toxoid fusion strategies and demonstrated for the first time that non-toxic STa molecules induced neutralizing antibodies against the key heat-stable toxin, invented the MEFA technology to develop structure-based vaccines against heterogeneous ETEC strains, and developed and applied a pig model to study human ETEC diarrhea disease.

"I am very honored to be the recipient of this prestigious research award," Dr. Zhang said. "ETEC bacteria are a predominant cause of neonatal diarrhea and post-weaning diarrhea in pigs, and a top cause of diarrhea in young children in developing countries and international travelers. Currently

there is no effective vaccine against ETEC diarrhea in pigs or humans."

"Dr. Zhang is working at the cutting edge of vaccine technology – developing novel vaccines to combat diarrheal pathogens in both young pigs and children," said Dr. Frank Blecha, associate dean for research. "He has supported his extensive research program at K-State with over \$12 million of funding from several agencies, including the National Institutes of Health, the U.S. Department of Agriculture and the Bill and Melinda Gates Foundation. Dr. Zhang's collaborative vaccine development strategy for enterotoxigenic *E. coli* (ETEC) holds great promise for a new multiepitope vaccine that will limit diarrheal deaths in animals with high relevance for human health as well."

Dr. Zhang's most recent innovation is structure-based MEFA - multiepitope fusion



Dr. Frank Blecha presents the Zoetis Faculty Research Award to Dr. Weiping Zhang.

antigen, a novel structural vaccinology technology for development of broadly protective multivalent ETEC vaccines. Different ETEC strains produce immunologically virulence factors. Virulence heterogeneity is a major challenge in vaccine development against infectious diseases. This versatile MEFA technology can be generally applied for vaccine development against other pathogens as well. Only broadly protective vaccines would be effective against ETEC and other heterogeneous pathogens.

Dr. Katie Reif gains \$50K gift for tick-related disease research

A small pest has inspired a very generous gift for Dr. Kathryn Reif, who studies ticks and tick-borne diseases in the CVM.

Joe Bisogno, who owns Timber Hills Lake Ranch near De Soto, Kansas, gave Dr. Reif a \$50,000 gift to support the work in her laboratory.

"It has always been my hope that ticks and tick-borne diseases could be eliminated from the Earth," Bisogno said. "I have yet to meet someone who enjoys having a tick crawl up their leg, or enjoys finding a tick attached to their wildlife, pets and livestock."

Bisogno's property is populated with herds of bison, elk and deer. Dr. Reif noted how deer serve as excellent hosts for the tick species that inhabit Kansas. She said Bisogno's gift

will help generate critically needed preliminary data for larger extramural grant proposals to further her laboratory's research programs.

"The overall goal of my laboratory is to identify novel solutions to reduce tick bites and tick-borne disease transmission" said Dr. Reif, assistant professor in DMP.

Dr. Reif had been invited to Bisogno's ranch in March 2017 along with her CVM faculty mentor, Dr. Mike Dryden. While Dr. Dryden was unable to attend the meeting, Dr. Reif gave a presentation on ticks and her research work.



Dr. Katie Reif examines a vial of lone star tick nymphs.

"I believe that her continued tick research will enable the world to one day not have to worry about being infected by a tick bite," said Bisogno, who is also the founder of the Mr. Goodcents chain of sandwich shops.

Dr. Megan Niederwerder studies ASF in feed



Dr. Megan Niederwerder

If African swine fever virus reaches the U.S., it could cause more than \$16.5 billion in economic losses to swine and other industries. It would devastate trade and international markets, researchers say.

Dr. Megan Niederwerder, assistant professor DMP, wants to prevent that.

Her latest research has found that African swine fever could survive in a simulated feed shipment across the ocean, which suggests that feed may be a potential way that pathogens such as African swine fever virus spread.

The research appears in the journal PLOS ONE in the collaborative publication, "Survival of viral pathogens in animal feed ingredients under transboundary shipping models." It is the first publication demonstrating the survival of African swine fever virus in feed ingredients.

"The ultimate goal of our research is to understand what mitigation tools may be utilized to reduce the risk of African swine fever virus being introduced, whether in the country of origin or once feed arrives in the U.S.," Dr. Niederwerder said.

Since 2007, African swine fever virus, or ASFV, has spread throughout Eastern Europe and Russia but is not present in the U.S. There is no vaccine or cure for the disease, which causes hemorrhagic fever and high mortality in pigs. It does not infect humans.

Dr. Niederwerder is collaborating with the Biosecurity Research Institute to continue studying the risk of African swine fever virus in feed and feed ingredients. She is studying the whole swine feed transport cycle — from the shipment of feed as it is imported to the U.S. to when swine consume their feed on the farm.

"This research is extremely important to the swine industry, not only in Kansas and the U.S. but also around the world," Dr. Niederwerder said. "There are many countries, including the U.S., that are currently free of ASFV and it is critical to understand how we prevent this virus from being introduced, whether in the country of origin or once feed arrives in the U.S."

Eleven students receive Zoetis/AAVMC Scholarships

A group of 11 students in the College of Veterinary Medicine have named as recipients of the 2018 Zoetis Veterinary Student Scholarship. The scholarship program is sponsored by Zoetis, a global animal health company, in partnership with the Association of American Veterinary Medical Colleges (AAVMC).

Now in its ninth year, the program awarded scholarships in the amount of \$2,000 to 315 second- and third-year veterinary students representing 33 colleges of veterinary medicine. The program has awarded \$6.1 million over the past nine years, helping to offset education expenses for more than 3,000 veterinary students.

More than 1,700 applicants from universities throughout the U.S. and Caribbean were evaluated for academic excellence, financial need, diversity, sustainability, leadership, and career interest. Students applied through VetVance, a free educational resource sponsored by Zoetis that provides students

and recent graduates with online content relating to professional development, business skills, professional stewardship, financial literacy, personal wellness, and more. Scholarships are awarded to students in all areas of professional interest, including food animal medicine, small animal clinical medicine, research, government services, public health, and organized veterinary medicine.

Below is a full list of K-State veterinary students receiving this year's scholarships:

- Kathleen Elliott, second year
- Katelyn Guill, second year
- Nicholas Hayes, third year
- Katelyn Ingram, third year
- Kathryn Latshaw, second year
- Savannah Luu, second year
- Maggie Massey, second year
- Catherine Perino, second year
- Sydney Rathjen, second year
- Kate Rigby, third year
- Alexandria Salva, second year

AASV presents Howard Dunne Award to Dr. Richard Hesse in San Diego



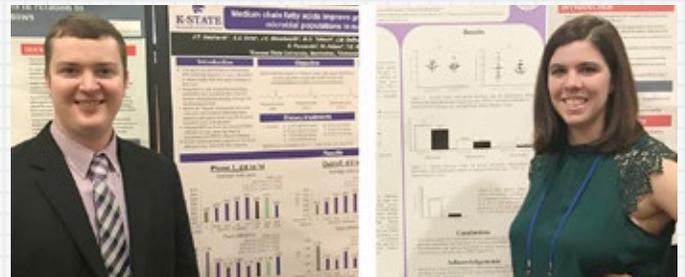
Dr. Richard Hesse

Dr. Richard Hesse, professor in DMP, was presented with the Howard Dunne Memorial Award at the 49th annual meeting of the American Association of Swine Veterinarians (AASV) on March 5 in San Diego, California. This award is given annually to an AASV member who has made a significant contribution and rendered outstanding service to the AASV and the swine industry.

Dr. Hesse also serves as director of diagnostic virology at the Kansas State Veterinary Diagnostic Laboratory (KSVDL).

As director and researcher, Dr. Hesse's most recent focus has been on vaccine development for PCVAD (porcine circovirus2d-associated disease) and the pathobiology of the porcine enteric coronaviruses- porcine epidemic diarrhea virus (PED) and porcine deltacoronavirus (PDCoV).

CVM News Ticker



Congratulations to Jordan Gebhardt and Laura Constance. Jordan won a \$500 scholarship prize for his research poster at the American Association of Swine Veterinarians' (AASV) Veterinary Student Poster Competition announced in March. Laura received a \$200 scholarship prize for her poster.

The KSVDL has announced the appointment of **Dr. Gregg Hanzlicek** as interim associate director.



In the position of Interim Associate Director, Dr. Hanzlicek will lead our client relations, service and outreach efforts," said Dr. Jamie Henningson, interim director of the lab. "I look forward to having Dr. Hanzlicek join me in the leadership of KSVDL."

Congratulations to Mya Masterson, an undergrad mentored by **Dr. A. Sally Davis.** Mya successfully applied for funding from the Microscopy Society of America and has obtained a \$3,000 research award for her project, "Microwave Powered Correlative Light Electron Microscopy of Rift Valley Fever Virus Kidney Lesions."



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