It’s said that “good things come in threes,” but for veterinary diagnostic researchers at Kansas State University, that number is five. The “good things” in this case are a set of five research grants obtained through the Swine Health Information Center, Ames, Iowa, for developing tests to reliably diagnose a very specific set of swine-related pathogens.

“We have unique expertise leading in these areas,” said Dr. Jianfa Bai, an associate professor and director of molecular research and development for the Diagnostic Laboratory. “We have already done background research in these areas: Seneca Valley virus, porcine circovirus type three, parainfluenza, pestivirus and swine influenza viruses. The Swine Health Information Center has a mission to try to protect livestock that takes place through emerging pathogen surveillance and diagnostics, and we are able to support that mission with the work we do on a regular basis.”

Dr. Ying Fang, a professor of molecular virology, said that Kansas State University’s location and its connections and partnerships with the incoming National Bio and Agro Defense Facility, the Biosecurity Research Institute, USDA Agricultural Research Services, Arthropod-
Crunching numbers has become one of the newer ways in which food producers and veterinarians can make sure consumers are crunching safe and healthy food.

Important numbers related to food safety are hosted at Kansas State University in the Food Animal Residue Avoidance Databank (FARAD). In September, FARAD received $360,000 as part of an annual, renewable grant from the USDA’s National Institute of Food and Agriculture.

“FARAD is a federally mandated, collaborative project that’s been going on for about 35 years,” said Dr. Ronette Gehring, associate professor of anatomy and physiology in the CVM. “The project started off as a collaboration between North Carolina State University, the University of Florida and University of California, Davis, and Kansas State University is a new addition in 2012.”

FARAD is a risk-management program that provides science-based expert advice to help mitigate unsafe chemical residues, such as from drugs, pesticides and biotoxins, that might be found in products derived from food animals.

“We are the only resource for drug withdrawal interval recommendations following extralabel drug use and accidental exposure to environmental contaminants,” Dr. Gerhing said. “Pharmacokinetics is the scientific underpinning for our work, which describes how drugs move through the body using mathematical models. We can extrapolate and give scientifically based recommendations for veterinarians to help food producers.”

FARAD was co-founded by Dr. Jim Riviere, MacDonald Endowed Chair in Veterinary Medicine, Kansas Bioscience Eminent Scholar and University Distinguished Professor, while he was at North Carolina State University. He is now the director of the Institute of Computational Comparative Medicine at K-State, while continuing as the national coordinator for FARAD.

“FARAD is a valuable tool to the practicing veterinarian by providing professional advice in real-time,” Dr. Riviere said. “It could also be considered an excellent example of translational medicine applied to animal health. FARAD’s call volume has increased yearly by double digits supporting its value to the veterinary profession.”

**USDA-NIFA grant supports Food Animal Residue Avoidance Databank**

From left, Principal investigators, Dr. Lalitha Peddireddi, Dr. Ying Fang and Dr. Xuming Liu, research assistant Elizabeth Poulsen, principal investigator Dr. Jianfa Bai, research assistants Russel Ransburgh and Fangfeng Yuan, and visiting scholar Hewei Zhang. Not pictured: Principal investigator Dr. Yanhua Li.

***Swine Grants*** | Veterinary diagnostic team researches five swine pathogens of concern

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Borne Animal Disease Research Unit, Kansas Department of Agriculture and the Kansas City Animal Health Corridor were important factors in leveraging the grants, which total $292,667.

“The Swine Health Information Center needs us as diagnosticians and researchers to interconnect and communicate in real time - to understand and track emerging diseases,” Dr. Fang said. “This is a perfect example of translational research applied for benefit of clients and livestock industries.”

Dr. Gary Anderson, KSVDL director, added, “We, as a diagnostic lab, value research. We are able to blend research with service, such as when field veterinarians provide livestock tissue and clinical samples for analysis. It’s also important that we are able to be leaders in sharing technology – validated tests – among other diagnostic laboratories, so that we are all better able to respond to emerging diseases if and when they occur.”

Dr. Bai explained that the Swine Health Information Center has an association with the National Pork Board, but that its own emphasis is on finding ways to quickly respond to emerging threats to swine health. The five pathogens named in the research grants are part of the center’s top 25 “pathogens of concern.”

“Porcine Epidemic Diarrhea Virus, or PEDv, was a pathogen that caused billions of dollars in economic losses in recent years to pork producers,” Dr. Bai said. “There are other pathogens that need to be studied and controlled quickly to prevent similar outbreaks. The sooner we can develop assays to diagnose these pathogens, then producers will be better equipped to respond to any emerging threats.”
For the tenth year, Dr. Bob Rowland, a virologist and professor of diagnostic medicine, is the executive director for the North American PRRS Symposium held Dec. 3 and 4 at the Intercontinental Hotel in Chicago. PRRS has cost the U.S. pork industry more than $10 billion since it first appeared in the late 1980s.

The meeting attracted top-notch speakers from universities, industry partners and veterinarians from around the globe. This year’s symposium had 255 attendees from 23 different countries including China, Korea Republic, Russia, Argentina, Canada, Mexico, and several European countries.

While PRRS is the most costly viral disease to ever face the swine industry, the North American PRRS symposium has further expanded to include emerging and foreign animal diseases, such as Seneca Valley virus (SVV), porcine epidemic diarrhea virus (PEDV), porcine circovirus-associated disease (PCVAD), African swine fever virus (ASFV), classical swine fever virus (CSFV), and other high-consequence diseases.

“This is a conference that continues to grow and expand. Furthermore, the number of attendees from other countries illustrate the global impact,” Dr. Rowland said. “A lot of the credit goes to Kansas State University, especially the College of Veterinary Medicine. K-State employees supply much of the infrastructure support that drives the success of the conference. We look forward to even a bigger conference in 2017.”

The symposium was planned in conjunction with the annual Conference of Research Workers in Animal Disease or CRWAD, which is regularly held in Chicago. Becky Eaves, project manager in the Department of Diagnostic Medicine/Pathobiology, was the proceedings editor and staff member for the symposium. She was joined by Francine Rowland.

A longtime veterinarian with administrative experience in running a full-service veterinary hospital is the new director of the Veterinary Health Center.

Dr. Tom Schwartz took over the position from Dr. Bonnie Rush, interim director, Jan. 2.

Dr. Schwartz founded and operated one of the first and most successful franchised Banfield Pet Hospital locations in the nation in Brentwood, Missouri. He received his DVM from Michigan State University and also has degrees in economics and political science from the University of Michigan.

Dr. Schwartz brings more than 20 years of experience in both mixed and small animal practice working with dairy and beef cattle, swine, horses and companion animals. He was president of the Greater St. Louis Veterinary Medical Association and served as the continuing education chairman. Before starting his veterinary career, he worked in finance and commercial banking.

“Veterinarians believe that caring for animals is the noblest profession,” Dr. Schwartz said. “We promote selflessness, compassion, hope, wisdom, cooperation, trust and a sense of the greater good.”

The CVM has announced the appointment of Dr. Derek Mosier as the interim head of the Department of Diagnostic Medicine/Pathobiology. Dr. Mosier takes over for Dr. M.M. Chengappa who stepped down as department head in December after 18 years serving the college in that capacity.

“Dr. Mosier will provide leadership and expertise to the department through the vast experience he brings into the position,” Dean Tammy Beckham said. “Dr. Mosier has been a leader in this college, by serving on and chairing many committees. In addition, he is a recognized leader in veterinary pathology and has served in various roles representing the college in national organizations. I am excited that both Dr. Mosier’s leadership and expertise can serve the diagnostic medicine and pathology department moving forward.”

Dr. Mosier earned his DVM degree at K-State in 1978. He followed with a master’s degree in physiological science in 1982 and a Ph.D. in pathology in 1985, both from Oklahoma State University. He has been a professor of pathology in the at K-State since 1990.
Three Wheels scholarships for students

Congratulations to Ellen Unruh, class of 2017, and Jessica Eisenbarth and Megan McLaughlin, class of 2018; who have each received the $1,500 Ralgro Wheels for Bucks Scholarship from Merck Animal Health and the Kansas Livestock Foundation. This award recognizes K-State veterinary students who want to be large animal veterinarians.

“I am so thankful for the investment that the Kansas Livestock Foundation and Merck Animal Health has made in the future of food animal veterinarians,” Unruh said. “Their financial contribution to my education will allow me to serve rural farmers and ranchers in the area.”

“This scholarship will help me get through school and get into rural practice so I can serve cattle ranchers and farmers,” McLaughlin said. “I am truly grateful for Merck’s support of future food animal veterinarians.”

MPH student fields a special stipend

Alyssa Toillion, grad student in the Master of Public Health program, was recently selected to receive a $1,500 stipend by the Midwestern Public Health Training Center in Iowa City, Iowa. The Midwestern Public Health Training Center is one of ten regional public health training centers funded by the Health Resources and Services Administration (HRSA), an agency within the U.S. Department of Health and Human Services. The center annually selects five student recipients each in Kansas, Iowa, Missouri and Nebraska for stipends to support field experiences in public health.

CVM News Ticker

Welcome to Dr. Caryl Lockhart who is on the Department of Diagnostic Medicine/Pathology and International Programs team.

“Dr. Lockhart will be working with International Programs to assist with international outreach and engagement,” said Executive Director Dr. Keith Hamilton.

Dr. Lockhart was previously employed as a veterinary epidemiologist by the FAO’s FAO Emergency Centre for Transboundary Animal Disease (ECTAD) in Jakarta, Indonesia, and the FAO Global Early Warning Systems (GLEWS) in Rome, Italy, since June 2009.

Dr. Ellyn Mulcahy was awarded a grant from the Kansas Health Foundation titled, “Promoting a Healthy Community in Saline County” in the amount of $25,000. This grant will fund four MPH students for field experience projects with the Saline County health department.

Dr. Elizabeth Santschi was a member of the Kester News Hour panel and during scientific meeting sessions at the AAEP Dec. 3-7 in Orlando, Florida.

Dr. M.M. Chengappa! After 28 years at K-State and 18 years as Department Head of Diagnostic Medicine/Pathobiology, the CVM said thanks to Dr. Chengappa in December as he retires from the top spot.

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