



lifelines

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News from the College of Veterinary Medicine at Kansas State University

Nidovirus symposium in KC spotlights K-State expertise

American's city of fountains recently hosted more than 250 international scientists who all share a passion for a unique group of viruses called nidoviruses. The XIVth International Nidovirus Symposium was held in Kansas City, Missouri, while Kansas State University was well-represented, thanks to the efforts of Dr. Ying Fang, professor in the College of Veterinary Medicine, who chaired the symposium with her co-chair Dr. Susan Baker, a professor from Loyola University Chicago.



Dr. Ying Fang, Nido 2017 co-chair and DMP professor, speaks about PRRSV.

“The nidovirus symposium rotates every three years and was last held in Salamanca, Spain, in 2014,” Dr. Fang explained. “We chose Kansas City for this year’s location since it is located within the Kansas City Animal Health corridor, which is the home to more than 300 animal health companies, the largest concentration in the world. This location also gave us an excellent opportunity to highlight the National Bio and Agro-defense Facility (NBAF).” *See more at Lifelines online.*

1Data offers breakthroughs for One Health

University collaboration establishes a new standard for analyzing cross-species health information



Dr. Jim Riviere

Human and animal health research is receiving a shot of adrenaline thanks to a collaboration with Kansas State University’s Olathe and Manhattan campuses and the University of Missouri-Kansas City. The project — 1Data — is designed to accelerate breakthroughs in human and animal health by establishing a new standard for analyzing cross-species health information.

Dr. Jim Riviere, distinguished professor emeritus in the CVM, and Gerald J. Wyckoff, professor of molecular biology and biochemistry at the University of Missouri-Kansas City, developed 1Data, which is housed at K-State Olathe.

1Data aggregates an array of pre-clinical human and animal health information into a cohesive, structured and open-source database called the Structured Environment for Animal Data and Simulation. Once aggregated, data is

evaluated and standardized to enable them to be mined for specific information. Under this framework, researchers will develop a clearinghouse platform for the collection and integration of multiple databases to create the next generation of approaches to curing or mitigating human and animal diseases. 1Data will help scientists fully simulate the design of animal models and identify congruencies between human and animal diseases.

According to the Tufts Center for the Study of Drug Development, the average cost to develop a drug is about \$2.56 billion — including nearly \$1.4 billion in out-of-pocket expenses — with late-stage human trials being the most expensive phase of the testing process.

1Data will help reduce the cost of drug development with the ability to use computer simulations to replace, reduce and refine animal use in drug development studies, Dr. Riviere said. It will provide data to help identify the best animal models for studies to avoid genetic pitfalls and help companies know which drugs are more likely to fail during clinical testing and at what phase — saving both time and money.

Inside this issue of *lifelines*



Dr. Susan Moore passes testing.

See page 2



Students work on diagnostic skills

See page 3



VHC welcomes new class of interns.

See page 4

Dr. Susan Moore passes board certification for testing human rabies titers

The Kansas State Veterinary Diagnostic Laboratory announces the certification of Susan Moore, director of the Rabies Laboratory at Kansas State University, to direct human clinical laboratory testing, including rabies titers. She recently passed certification testing administered by the American Board of Bioanalysis, which operates under the Clinical Laboratory Improvement Amendments, or CLIA, and other federal requirements.

“We have been working with Dr. Robert Flahart, current lecturer of microbiology at Washburn University and a former director of the Kansas Department of Health and Environment microbiology laboratories in Topeka, to cover these needs and requirements for many years,” said Gary Anderson, director of the Kansas State Veterinary Diagnostic Laboratory. “Dr. Moore’s accomplishment is significant, and allows her to head specific and special areas of testing done by the Rabies Lab. This is a very good thing for the lab and the College of Veterinary Medicine.”

“I had to pass two board exams: one on general laboratory knowledge

covering employment law, regulations, quality assurance, and finance as well as laboratory practices and one on diagnostic immunology,” Dr. Moore explained. “Usually human clinical laboratories are directed by physicians who have specialized in pathology, but CLIA will also recognize people with a doctorate and minimum number of years directing and working in a high complexity human clinical laboratory provided they are also board certified.”

Dr. Moore said Kansas State University’s Rabies Laboratory was a bit of an “odd duck” because it is located in a veterinary college, but performs human clinical laboratory testing.

“Having a CLIA high-complexity laboratory director allows us to test human samples for rabies titer, such as service samples, research samples and clinical trial samples,” Moore said. “That is why we are one of the largest rabies serology laboratories in the world. And personally, it was challenging to study for and pass the exams while working full time.”

The Rabies Laboratory is the primary diagnostic lab for rabies testing in the states of Kansas and Nebraska, and meets quality monitoring standards

of the Clinical Laboratory Improvement Amendments as well as numerous State departments of health. Samples received for rabies serology originate from all over the country and world.

Dr. Moore has a bachelor’s degree in medical technology, and a master’s degree and doctorate in pathobiology, all from Kansas State University.

Clients or interested parties can contact the laboratory for additional information at 785-532-5650 and 785-532-4483, or rabies@vet.k-state.edu and clientcare@vet.ksu.edu.



Dr. Susan Moore is the director of the Rabies Laboratory.

Food Armor Foundation appoints Dr. Brian Lubbers to board of directors



Dr. Brian Lubbers

Dr. Brian Lubbers, director of clinical microbiology, has been chosen as a member of the Food Armor Foundation’s inaugural board of directors.

The Food Armor program grew out of an initiative started

in 2012, when the Wisconsin Veterinary Medical Association formed a Residue Task Force to develop an industry-based program to address dairy beef drug residues. The task force worked in partnership with the Professional Dairy Producers of Wisconsin and launched

an educational program called “What Matters.”

The “What Matters” initiative now includes efforts to educate producers and help provide action plans at the farm level. The Food Armor program incorporates the hazard analysis and critical control points, or HACCP, approach toward drug use and residue prevention in a manner that is tailored to the needs of the individual dairy farmer.

“The Food Armor program is all about improving food safety by ensuring proper drug use on farms,” Lubbers said. “This program has been very successful and it is an exciting opportunity to help them grow their outreach efforts to a national audience of veterinarians and farmers.”

“Dr. Lubbers brings invaluable experience and perspective to this new foundation,” said Katie Mrdutt,

Food Armor outreach specialist. “Food Armor is thrilled to work with him and other industry leaders to bring this innovative grass-roots program to farmers everywhere. Built on the foundation of a veterinarian and producer working closely together, Food Armor is committed to transparency and accountability for how food is produced.”

Dr. Lubbers earned his Doctor of Veterinary Medicine from Kansas State University in 2002. He also has a Doctor of Philosophy and is a diplomate of the American College of Veterinary Clinical Pharmacologists. Another Kansas State University alumnus, Dr. Gatz Riddell ‘77, also is on the board of directors. The rest of the 12-member board comprises a mix of veterinarians, dairy producers and industry leaders representing farm to fork.

Dr. David Poole earns American Physiological Society's distinguished lectureship award



Dr. David Poole

Dr. David C. Poole, professor of exercise physiology and co-director of the Cardiorespiratory Exercise Laboratory in the kinesiology (in College of Human Ecology), and Department of Anatomy and Physiology in the CVM, will receive the Edward F. Adolph Distinguished Lectureship Award from the Environmental and Exercise Physiology, or EEP, section of the American Physiological Society.

The award and lecture will be presented at the Experimental Biology meeting in San Diego in April 2018. The award recognizes an eminent research scholar who has made meritorious contributions to the areas of environmental, exercise, thermal or applied physiology and who also is an outstanding public speaker.

Dr. Poole's research examines the limitations in the oxygen transport pathway especially at the muscle microcirculatory level. This work has been funded by the National Institutes of Health for more than 20 years. Discoveries made by Dr. Poole and his colleagues and students have helped inspire and drive major clinical trials advancing novel therapeutic treatments to reduce morbidity and mortality in heart failure patients in the U.S. and worldwide. This work also is germane to understanding the

limitations to athletic performance and the exercise intolerance that develops with aging. He has authored three books and numerous chapters in major academic textbooks and regularly presents his work before national and international scientific audiences.

Dr. Poole began his higher education in England, where he earned his bachelor's degree with honors in applied physiology and sports science from Liverpool Polytechnic. His master's degree and doctorate are from University of California, Los Angeles in kinesiology specializing in physiology. He was awarded the higher Doctor of Science in physiology from John Moores University in Liverpool, which recognized his outstanding contributions to the field. He was the first recipient of that award, which was conferred by the British first lady, Cherie Booth Blair.

Dr. Poole's career is filled with recognition and awards — in grants, for research and, most importantly, for his teaching and research with students. He is extensively published with more than 200 peer-reviewed papers in journals such as *Circulation Research*, *Journal of Clinical Investigation*, *Respiration Physiology and Neurobiology*, *European Journal of Applied Physiology*, *American Journal of Physiology* and the *Journal of Applied Physiology*. This work has been cited more than 14,000 times in the scientific literature as well as featured on television, newspaper articles and syndicated radio networks.

Students gain summer hands-on experiences



Third-year veterinary students **Kotie Wooten** and **Mark Spare** spent a Saturday morning honing bovine pregnancy diagnostic skills.

Fourth-year veterinary student **Ben Bennett** and visiting fourth-year student **Kate Tomschin** (from Washington State University College of Veterinary Medicine) participate in a Kansas dairy field investigation concerning a mastitis outbreak.



DMP and VDL launch new staff council



The newly formed DMP/VDL Staff Council held its first event, a hot dog picnic, June 16 at locations on both the CVM main campus and at Research Park. A combined total of more than 200 people attended the event, braving 90-plus degree weather to come out for hotdogs, chips, veggies, dessert and drinks. Picnic tables in the shade provided a relaxed setting for people to get out of the laboratories and offices to enjoy some fresh air and good company. Food was prepared by the staff council, with additional help from Kadence Orr.

The council consists of five members: Beth McQuade - chair (VDL), Chandra Gordon (VDL), Kris Wyatt (VDL), Stephanie Hober (CEEZAD) and Nate Grindle (DMP).

"The DMP/VDL Staff council is still working on our mission statement, but we are here as an outlet to the administration," McQuade said. "There are some issues that arise, that people may not feel comfortable addressing the administration, they can come to us and we will speak for them. We are also working on employee recognition, as well as bringing back the well-missed 'Treat Thursday.'"

VHC welcomes new interns



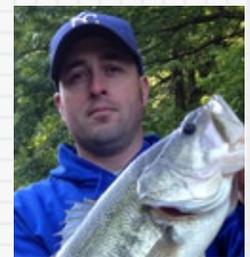
The Veterinary Health Center began orientation for a new group of interns in June. Back row, from left: Drs. Elizabeth Hyde, Beverly Finneburgh, Rob Browning, Shari Kennedy and Sarah Steen. Front: Drs. Allie Wingert, Erica Chavez, Jordan Roberts and Allison Wolfel

CVM News Ticker



Dr. Rudovick Kazwala, professor from Sokoine University, gives a faculty seminar on public health issues in Tanzania during a Twinning Project workshop at the CVM. Watch Lifelines next month for a video report on the workshop.

It sounds like a big fish story -- because it is a big fish story. This summer, K-State landed its third national championship in the last five years in collegiate fishing. This year's team has connections to the CVM that may come as a bit of



a surprise. One of the competitors, Travis Blenn, is a student worker in facilities, and the K-State Bass Fishing Club adviser is **Jeremy McDiffett**, computer technology support specialist in the Computing and Technical Support (CaTS) office.

"As the adviser, I do a lot of paperwork for the club," Jeremy said. "I handle visits by students interested in coming to college because of the bass club. I do requests for excused absences for organized, sponsored events. We meet once a week in the evening, and we're working on fundraising events and selling a lot of T-shirts."

See more in Lifelines online.

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