

Uncovering the mysteries behind Parkinson's disease

Dr. Yulan Xiong receives \$1.6 million NIH R01 grant

By Cheyenne Swoope

A new research grant for Dr. Yulan Xiong, assistant professor of anatomy and physiology at the College of Veterinary Medicine, focuses on gaining a better understanding of the physiological causes of Parkinson's disease.

The National Institute of Neurological Disorders and Stroke awarded Xiong with more than \$1.6 million for a five-year project, "Molecular regulation of LRRK2 in Parkinson's disease."

This award is from the research project grant program R01 at the National Institutes of Health.

Besides this NIH R01 grant, Dr. Xiong's work in Parkinson's disease is also supported by an NIH K01 Mentored Research Scientist Development Award and several awards from well-

recognized foundation agencies including Parkinson's Foundation Stanley Fahn Junior Faculty award, Willam N. and Bernice E. Bumpus Foundation Innovation award, and American Parkinson's Disease Association (APDA) research grant.

"According to the National Institutes of Health, 1 million people in the United States are suffering from Parkinson's disease," Dr. Xiong said. "Unfortunately, there is no cure or proven therapy for this disease."

Parkinson's disease is recognized as the most common movement disorder affecting up to 1% of the population above the age of 60 and 4-5% above the age of 85.

"The cardinal symptoms of the disease are caused by the loss of brain cells — called dopaminergic neurons — in the midbrain and



Dr. Yulan Xiong's research will help inform future treatment methods of Parkinson's disease.

deficits in the striatum, which is the area of the brain that controls motor function and reward systems," Dr. Xiong said.

Mutations in the Leucine-rich repeat kinase 2 gene, or LRRK2, account for up to 40-50% of Parkinson's disease in certain populations and are the most known common causes for the disease, Dr. Xiong said.

Dr. Peddireddi receives KVMA Service Award



Dr. Eilene Minnix (right) presents the 2019 Distinguished Service award to Dr. Lalitha Peddireddi

Dr. Lalitha Peddireddi, associate professor and section head for the Molecular Diagnostic Laboratory at CVM, was awarded the Kansas Veterinary Medical Association's 2019 Distinguished Service Award.

Dr. Eilene Minnix, the outgoing president of the Kansas Veterinary Medical Association, presented the award to Peddireddi at the association's conference.

Dr. Peddireddi earned the award for her outstanding service to the Kansas veterinary profession. She provided testing for foreign animal diseases during investigations of a potential outbreak. It was noted that regardless of what time of day or what day of the week the samples arrive at her lab, she and her staff immediately completed the testing to provide the results to the veterinarians as fast as possible.

Dr. Peddireddi's research focus is to develop and validate PCR-based molecular diagnostic assays for use in routine diagnostic setting to detect veterinary pathogens and those of zoonotic importance. Her special interest lies in development of molecular-based detection assays to identify vector-borne veterinary pathogens.

In addition, she works on molecular diagnostic projects in collaboration with industry partners. These projects are primarily intended to develop and validate real-time RT-PCR based assays to diagnose a variety of veterinary pathogens including those of zoonotic potential.

CVM hosts Cochran Fellowship Program with Caribbean trade officials

By Piper Brandt

Faculty from CVM and the College of Agriculture recently hosted a group of trade officials from the Caribbean during a two-week-long Cochran Fellows training event focused on food safety and trade regulations.

The Cochran Fellowship Program, sponsored by the USDA, offers training opportunities to agricultural professionals from middle-income countries and emerging markets and democracies. Its goals include helping eligible countries to develop their own agricultural systems that meet the food needs of their populations, and to enhance their trade relationship with the United States.

Dr. Justin Kastner, associate professor of diagnostic medicine and pathobiology, led the trip to several sites alongside Dr. Jessie



Cochran Fellows tour the APHIS facility. From left to right: Dr. Justin Kastner, Tricia Amedee, Ezra Ledger, Charis Auguste-Powell, Catherine Johnson, Carl Edwards, Adam Scheinkman, Carla Schwan and Danielle Preskitt.

Vipham, assistant professor in the Department of Animal Sciences and Industry.

This year's group of Fellows included regulatory and trade officials from St. Vincent and the Grenadines, Grenada and St. Lucia.

"Fellows participated in a combination of events in Washington, D.C.; Manhattan and Kansas City, Kansas; St. Joseph, Missouri; and multiple places in Florida," Dr. Kastner

said. "We facilitated a variety of meetings with policy and regulatory officials from the likes of the USDA, FDA, APHIS, CBP and FAS."

Carla Schwan, Ph.D. student in food science and main teaching assistant for the trip, presented lectures and led discussions with the Fellows.

"The goal of this program is about providing experiences and knowledge, and sharing past and future objectives with the country you're helping, in terms of trade and regulations in food policy and safety," Carla said. "In the case of exports, we see how they comply with regulations in order to import or export to the US and how to be successful in that sense. So, we are creating or improving that relationship if there is not already one established."

Grants help combat swine and cattle disease



By Piper Brandt

The USDA Agricultural Research Service (ARS) has recently awarded grants totaling nearly \$1 million to three new research projects within the College of Veterinary Medicine.

The three projects confront high-priority diseases in both cattle and swine. The first grant is titled “Evaluation of Novel Foot-and-Mouth Disease Virus Vaccine Candidates with Broad Breadth of Protection - Phase II,” by Dr. Juergen Richt, Regents distinguished professor and director of the Center of Excellence for Emerging and Zoonotic Animal Diseases.

“Simulation Modeling of Foot-and-Mouth Disease Outbreaks in Livestock in the U.S.” is led by Dr. Mike Sanderson, professor of epidemiology and associate director of the Center for Outcomes Research

and Epidemiology. “Actions Supporting the Development of an African Swine Fever Virus Live Attenuated DIVA Vaccine,” is under the direction of Dr. Jishu Shi, professor of vaccine immunology.

Both Dr. Sanderson’s and Dr. Richt’s research focuses on foot-and-mouth disease, or FMD, a disease primarily affecting livestock production in many regions of the world, including much of Asia and Africa.

“Foot-and-mouth disease is a high-priority transboundary disease that would severely impair livestock health and production if introduced to the U.S.,” Dr. Sanderson said. “The goal of this research is to model outbreak and control scenarios in the U.S. to improve preparedness and identify optimal disease response strategies to mitigate the impacts of a potential FMD outbreak.”

Dr. Roman Ganta speaks at conference and university in Thailand

By Piper Brandt

Dr. Roman Ganta, K-State veterinary professor, ventured to Thailand in early November to speak at the 2nd Asia-Pacific Rickettsia Conference and foster collaboration with Kasetsart University in Bangkok.

Held in Chiang Rai, Thailand, the conference convenes medical doctors, veterinarians and public health professionals. The meeting focuses on rickettsiae and rickettsial diseases, a major cause of illness in humans and animals throughout the world, including in the Asia-Pacific region.

Dr. Ganta, who is director of the Center of Excellence for Vector-Borne Diseases, or CEVBD, presented his research, “*Rickettsia rickettsii* whole-cell antigen vaccine offers protection against virulent pathogen infection challenge.”

“I interacted with scientists attending the conference from various parts of the world, particularly those working on a disease of importance to Asia



Dr. Roman Ganta presents his research at the 2nd Asia-Pacific Rickettsia Conference.

Pacific region, scrub typhus, which is caused by the chigger-borne rickettsial pathogen, *Orientia tsutsugamushi*,” Dr. Ganta said. “Scrub typhus is an important disease with high fatality rates in people, and it is of great concern for the U.S. military personnel stationed in Asia-Pacific regions.”

Afterward, Dr. Ganta visited Kasetsart University to discuss collaboration on mutual research interests with Dr. Sathaporn Jittapalpong, dean of faculty of veterinary technology.

Students compete at animal welfare contest



By Cheyenne Swoope

Four veterinary students and seven undergraduate students recently traveled to Colorado State University to compete in the 19th annual Animal Welfare Assessment Contest. Students were evaluated on their assessments of facilities designated

to house each of three species: broiler chickens, laboratory zebrafish and captive African painted dogs. From left to right: Dr. Angela Baysinger, Gemma Isermann, Ron Orchard, Emily Eppler, Cassandra Kroncke, and Dr. Cia Johnson are presented with their third-place award.

CVM News Ticker



The K-State Mobile Surgery Unit’s festive makeover highlights the Mayor’s Spirit of the Holidays Lighted Parade on Dec. 6.

Dr. Thomas Schermerhorn presented three lectures at the New York Veterinary Conference, held Nov. 7-8. His presentations were: “Beyond the curve: monitoring diabetic patients,” “Clinical pathology clues to endocrinopathies” and “Essential guide to insulins: How do I choose?”

Dr. Raghavendra Amachawadi presented, “Fecal prevalence of the top-7 Shiga Toxin-Producing *Escherichia coli* in finisher pigs,” at the Conference of Research Workers in Animal Diseases (CRWAD) meeting in Chicago, Illinois, held Nov. 2-5.

Drs. Dana White, Walter Renberg, James Roush, Mackenzie Hallman, Daniela Mauler and George Milliken published, “Flexed radiographic angles for determination of atlantoaxial instability in dogs,” in the *ACVS Veterinary Surgery Journal*.

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