

## **Kansas State University collaborates on NIH-funded mosquito-borne disease research**

By Joe Montgomery

Beware of small things that bite. In recent years, mosquito-transmitted arboviruses such as chikungunya and Zika, have emerged as significant global public health threats. Researchers at the Kansas State University College of Veterinary Medicine are collaborating with the University of Georgia and Ross University School of Veterinary Medicine, the latter which has been awarded a grant by the National Institutes of Health to study these viruses and advance our understanding of the transmission cycle between mosquitoes, vertebrate hosts and humans.

Researchers will investigate newly introduced arboviruses in the five ecosystems present on the island of St. Kitts, where Ross University is located. They also will identify the local mosquitoes that may be involved in the transmission of the viruses among the African green monkeys, which may give insight into how likely the new emerging viruses can be maintained in sylvatic cycles and spill over to people on the island in the future.

"Without readily available vaccines and specific treatment for many arboviruses, it is critical to understand their transmission cycles in order to control the spread of the diseases they cause," said Patrick Kelly, Ross professor of small animal medicine, who is the principal investigator for this project. "This better understanding of the roles nonhuman primates play in the epidemiology of arboviral diseases will lead to improved surveillance and control strategies for the diseases."

Dana Vanlandingham and Yan-Jang S. Huang are assisting on this project at the College of Veterinary Medicine at Kansas State University.

"We will be hosting a doctoral candidate from Ross and training him on the techniques he will need to analyze the samples so that the work can be completed at Ross," said Vanlandingham, assistant professor of virology in the diagnostic medicine and pathobiology department. "I am planning on going to Ross University this spring to assist with the project as well."

Kelly said the findings of this study could potentially help scientists who are studying the transmission dynamics of the viruses in other regions of the world, including Africa, South America and Asia.

"Our university's location in the tropics provides an ideal backdrop for conducting surveillance and research programs of strategic importance to the developing world," said Sean Callanan, dean at Ross. "This project leverages our skilled scientists and advanced research facilities to tackle one of the most pressing health issues of the 21st century."

The grant was awarded by NIH's National Institute of Allergy and Infectious Diseases (grant number 1R21AI128407-01). It is the first NIH grant awarded to a research team at Ross.