

KANSAS STATE
UNIVERSITY
Division of Biology Presents:

**Can North American Mosquitoes Transmit Japanese Encephalitis
Virus?**

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The geographical range of Japanese encephalitis virus (JEV) is increasing and the recent outbreak in Australia emphasized the public and animal health concern regarding the introduction of JEV into naïve areas, such as the United States. While virus replication and maintenance within the mosquito vector is integral for the virus's maintenance in nature, little is known about factors important for virus replication within the insect. Current studies of the foreign arthropod-borne animal disease research unit focus on identifying factors important for the replication, infection, and transmission of a JEV within *Culex quinquefasciatus* and *Culex tarsalis* mosquitoes. These mosquitoes are important North American vectors of the closely related West Nile virus and are logical vectors for JEV transmission. To better understand these interactions, a *Cx. tarsalis* cell line was established and is susceptible to the vaccine strain of JEV. Thereby establishing a BSL-2 model useful for examining JEV-vector interactions at a molecular level. Additionally, studies were performed to examine infection and dissemination of JEV within these two North American mosquito species using wildtype JEV. Once dissemination to the salivary glands was demonstrated, a pilot study examining the competency of *Cx. tarsalis* in the transmission of JEV to swine was performed.

If you would like to visit with Dr. Dana Mitzel, please contact Dr. Vanessa Ante at ante@ksu.edu.

Coffee & snacks served preceding the seminar in Ackert Hall, Room 225