UC RIVERSIDE DEPARTMENT OF ENTOMOLOGY Entomology Seminar Series



Speaker:

Emily G. McDermott, PhD Department of Entomology & Plant Pathology University of Arkansas

Date:Monday, May 6, 2024Time:4:00 pm - 4:50 pmFormat:In-Person Seminar & Virtual AccessLocation:Genomics Auditorium, Room 1102A

Zoom: 983 6120 0167 **Passcode:** 818719

Title:

"Ehrlichial pathogens as potential agents of emerging tick-borne disease in cattle"

Abstract:

Ehrlichia spp. are intracellular, gram-negative bacteria that infect vertebrates and are transmitted by ticks, primarily in the genus, Amblyomma. Amblyomma americanum, the lone star tick, is highly abundant across Arkansas, and Arkansas has the highest incidence of human ehrlichiosis caused by *E. chaffeensis* and *E. ewingii* in the United States. Cattle are also infected with Ehrlichia, particularly E. ruminantium, which causes heartwater disease. Heartwater is a fatal cattle disease present in the Caribbean and Africa. In 2006, a novel Ehrlichia spp, Panola Mountain Ehrlichia (PME), was discovered in lone star ticks collected from Georgia. PME was later shown to be a zoonotic pathogen, infecting both humans and ruminant animals. PME is closely related to *E. ruminantium*, raising concerns that it may cause heartwater-like disease. Its pathogenicity in cattle was unknown, however. By collecting ticks from cattle across Arkansas, we have found that livestock are exposed to a number of Ehrlichial pathogens by lone star ticks, including PME. We have shown that at least two Ehrlichia spp. (PME and E. ewingii) do infect cattle, though their pathogenicity has yet to be determined. Farmers and ranchers are also at high risk of exposure to infected ticks when handling infested animals and working in infested pastures, and Ehrlichia infections should be considered from a One Health perspective.

https://ucr.zoom.us/j/98361200167?pwd=cWsya2N4U2dEaUIZM0ExQkkzbC9Idz09

Refreshments will be served in the Entomology Building at 3:30 pm