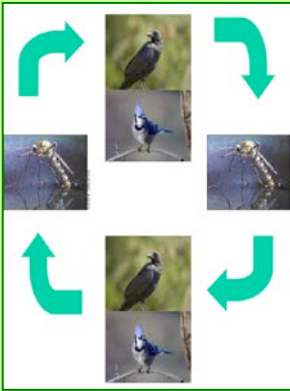


## Field Ecology of Disease Vectors

ENT, FW 461, section 001  
June 11 – June 22, 2018  
W. K. Kellogg Biological Station  
Michigan State University



Many emerging diseases, like Lyme and Zika, are transmitted primarily by arthropods to humans and animals. Understanding the ecology of these vectors is critical in determining how such diseases spread and how to effectively intervene. In this course, students will learn tools and techniques involved in the monitoring of arthropods associated with the transmission of human and animal pathogens, and will be introduced to concepts and methods necessary for understanding the dynamics of vector-borne disease systems. The focus will be on mosquito and tick vectors of diseases common in Michigan such as West Nile virus, Eastern Equine Encephalitis, and Lyme disease, but we will also examine the ecology of other vectors of human and animal diseases (e.g. biting midges and Epizootic Hemorrhagic disease). The course will involve classroom, laboratory and field work that includes vector surveillance and identification, and trapping of animal hosts that may carry vectors or pathogens. Students will become familiar with molecular techniques used to assays for pathogens transmitted by arthropods.



There are *no prerequisites* for this course: it is designed to be an immersive, experiential learning experience that emphasizes research methods and approaches in disease vector ecology. The content complements Medical Entomology (ENT 460) and Wildlife Disease Ecology (FW 463) and is designed for upper level undergraduate and graduate student and for those interested in human/animal health, epidemiology and conservation medicine. Non-traditional students (e.g., workers in government agencies who deal with human and animal diseases) are also welcome to apply.



The class is offered only at the WK Kellogg Biological Station (KBS) and meets Monday through Friday from 8:30 a.m. – 5 p.m., June 11 - 22. There will also be evening and early morning sessions (vector and animal trapping), so students are encouraged to live in residence at KBS. **Housing scholarships are available for all students.** The class is led by two leading disease ecologists at MSU and will include guest lectures by other MSU researchers and staff from state agencies who research vector borne diseases of humans and wildlife.

### Lead instructors:

- *Dr. Mike Kaufman*, Associate Professor in Entomology, MSU: Mosquito ecology and surveillance, arbovirus testing.
- *Dr. Jean Tsao*, Associate Professor in Fisheries and Wildlife, MSU: Lyme disease ecology and tick biology.



### Special topic instructors:

- *Dr. Jen Owen*, Associate Professor in Fisheries and Wildlife, MSU: West Nile virus disease ecology, avian disease ecology.
- *Staff from the Michigan Departments of Natural Resources, and Health and Human Resources:* EHD, surveillance of arboviruses and other vector-borne pathogens in Michigan.

Please contact Dr. Mike Kaufman ([kaufma15@msu.edu](mailto:kaufma15@msu.edu), 517-353-3379) for information about course content or [KBSsummer@kbs.msu.edu](mailto:KBSsummer@kbs.msu.edu) for details about the KBS summer session and financial support, or visit the KBS website ([www.kbs.msu.edu](http://www.kbs.msu.edu)).