Vector Ecology in a Dynamic World

Research emphasis:
Our research focuses on the interaction between arthropod vectors, the pathogens they transmit, other organisms, and the environment. Within these complex disease systems, we focus on our efforts at three levels of ecological organization: the landscape, the community, and the individual. We currently have active research programs focusing on two pathogens: the Aedes mosquito/dengue/chikungunya system and the multi-vectored dog heartworm system. For both systems we start with a large scale (landscape or higher) approach, but with questions that scale down to organism-organism interactions (community and population ecology) and organism-environment interactions (physiological and behavioral ecology).

We also have an active outreach and teaching program. Outreach activities include lessons plans for various levels in k-12 education; DIY citizen science kits that provide data for a population genetic study; and cell-phone applications that allow time- and geo-stamped collection of mosquito bite data. Our teaching endeavors include graduate and non-major undergraduate course offerings in medical entomology.

Selected publications

