

Bacterial Diseases Branch

A fellowship opportunity is available with the Entomology and Ecology Team in the Bacterial Diseases Branch within the Division of Vector-Borne Diseases of the National Center for Emerging and Zoonotic Infectious Diseases at the Centers for Disease Control and Prevention in Fort Collins, Colorado.

The Entomology and Ecology Team is responsible for public health and research activities aimed at understanding when and where people are at risk for exposure to vectors and vector-borne pathogens and developing and evaluating prevention strategies for vector-borne bacterial diseases, including Lyme disease, relapsing fever, plague, and tularemia. The selected fellowship participant will participate primarily in studies related to tick and tick-borne pathogen biology, surveillance, and tick bite prevention. Within BDB, our primary focus is on *Ixodes scapularis* and *Ixodes pacificus* and their associated human pathogens.

Under the guidance of a mentor (Entomology and Ecology Team personnel), the selected participant will gain experience in one or more of the following:

- Pathogen detection in ticks using established protocols (DNA extraction, real-time PCR, sequencing)
- Tick identification using published taxonomic keys and molecular assays designed to differentiate morphologically similar species
- Development and standardization of bioassays used to determine the efficacy of repellents and acaricides
- Spatial modeling and mapping of tick or pathogen distributions using ArcGIS and other statistical and cartographic tools.
- Assay development and evaluation
- Analysis and summary of tick surveillance data
- Analysis and summary of data collected from surveys of public health professionals