Summer 2024 Undergraduate Research Internship

Project Name
Vector-Borne Diseases in North Carolina

Faculty Mentor
Dr. Ross Boyce (Epidemiology and Infectious Diseases)

Project Description
Now in its third year of hosting UNC students, the Vector-Borne Disease Epidemiology, Ecology, and Response (VEER) Laboratory, led by Dr. Ross Boyce, MD, MSc, offers interns the opportunity to participate in a wide-range of ongoing projects investigating the epidemiology of tick- and mosquito-borne diseases in North Carolina. Current projects include (i) CDC-funded study of case investigations of patients diagnosed with tick-borne diseases that involves clinical follow-up, along with risk-based behavioral and environmental (i.e., yard) surveys, (ii) One Health studies leveraging data collected from veterinary clinics and animal shelters to assess local disease risk, and (iii) surveys of local mosquito populations for viral diseases such as West Nile.

Scope of Work for Internship
Depending on student interests and long-term goals, interns may elect to focus on specific aspects such as behavioral risks assessments or geospatial analysis. Regardless, interns are expected to participate across studies to gain exposure to techniques in field epidemiology (insect collections), laboratory methods, and analysis. Interns work within a team of graduate students, laboratory technicians, post-doctoral fellows, and health professionals (veterinarians, physicians, etc.). In addition, there are opportunities to network with collaborators at the NC Division of Public Health and CDC.

Expected Deliverables
In addition to participating in ongoing projects, prior interns have led their own "sub-projects," both of which led (or are leading to) to conference presentations and first-author publications in peer-reviewed journals. Prior to starting internship, student(s) will meet with Dr. Boyce to review goals and define a sub-project that is both of interest and achievable.

Preferred Skills

- Comfortable in outdoor environment (e.g., parks, yards)
- Not (deathly) afraid of insects
- Familiarity with basic epidemiology and statistical concepts
- Preferences for experience with statistical programming (e.g., SAS, R) and/or GIS