



**Department of Entomology**  
2015 Life Science Circle  
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Virginia Tech: Graduate positions

**MS or Ph.D. positions available in urban evolutionary entomology:**

I am currently accepting applications for graduate positions within the Urban Entomology Research Lab at The Virginia Polytechnic Institute and State University (Virginia Tech). Here, we use genomic tools to understand how organisms adapt and/or evolve in urban environments. Primarily, we use Cimicid insects (bed bugs) as a model system due to the ease of laboratory rearing, availability of samples, and a haplotype resolved chromosome-level genome recently completed within my lab.

Questions we are particularly interested in addressing include, but are not limited to:

- 1) The evolution of target-site associated insecticide resistance; specifically, understanding the role of standing variation vs. novel mutation.
- 2) The genomics of lineage propagation and failure in a highly inbred system. Specifically, at the genomic level, do we see characteristics associated with lineages that survive vs. those that fail?
- 3) How does socio-economic status influence the genetic diversity and spread of indoor urban pest insects at city, regional, national, and international scales?

While we work primarily with cimicid insects, we are interested in all urban pest insects.

Applicants should have a strong background in evolutionary biology, genetics, and have undertaken lab-based research. Skills in bioinformatics are preferred but are not essential. However, these skills must be acquired and developed in the early stages of graduate school.

Positions are available starting in the Fall 2023 or Spring/Fall 2024.

Interested students should send an email with a concise (2 pages max.) statement of interest that includes questions you might be interested in working on, your long-term goals/interests, and how you believe you would fit in the lab. Include also a copy of your CV, a list of relevant classes/coursework, and any other relevant experience to Dr. Warren Booth by email (warrenbooth@vt.edu). Reference letters for top candidates will be solicited at a later date. Top candidates will be brought in to visit the university, meet with graduate students and faculty, and tour the campus.

Warren Booth, Ph.D.  
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