Postdoctoral Researcher Position
Transgenerational epigenetic inheritance of insecticide resistance

A postdoctoral position is available in the Insect Agroecology and Evolution Lab in the Department of Plant and Soil Science at the University of Vermont (UVM), led by Prof. Yolanda Chen, in collaboration with Prof. Sean Schoville at the University of Wisconsin (UW), Prof. Stephanie McKay (UVM) and Prof. Russell Groves (UW).

Summary:
Agricultural insect pests show a remarkable ability to evolve resistance to insecticides. Although insecticide resistance is widely considered to be inevitable, the evolutionary processes underlying the evolution of insecticide resistance remain poorly understood. One possible explanation is that insecticide exposure may alter epigenetic modifications, which alter heritable patterns of gene expression without actually changing the underlying DNA sequence. The Colorado potato beetle (CPB), *Leptinotarsa decemlineata*, has been extraordinarily successful at adapting to all insecticide classes, including the neonicotinoid insecticide imidacloprid. We will test how beetle exposure to sublethal doses of imidacloprid can alter multigenerational and transgenerational epigenetic inheritance of insecticide tolerance.

Position Responsibilities:
The postdoctoral associate will be expected to manage a multigenerational beetle breeding project, extract DNA/RNA, and analyze whole-genome bisulfite sequencing data from an experimental evolution study. This will provide additional training opportunities in bioinformatics, genomic inheritance, and epigenetic analysis. The successful applicant will also help in the mentoring of undergraduate student projects.

Qualifications:
Candidates are expected to have a Ph. D. in Evolutionary Genomics, Molecular Ecology, Genetics, Entomology, or related field. Experience in analyzing large bioinformatic datasets (reduced representation, transcriptomic, or sequencing). Desirable skills for this project include familiarity with Linux operating systems and computer programming (Python, and R). Experience in DNA/RNA extraction, running PCRs, and optimizing protocols.

How to Apply:
Funding for this position is available for two years with the possibility of an extension. To apply, please send a single pdf with a cover letter demonstrating your interest in the position, a CV, 1-2 representative publications, and contact information for three references to Dr. Yolanda Chen, (yolanda.chen@uvm.edu) by **Dec 15, 2021**.



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Start date is flexible but will be targeted for May 1, 2021.

Diversity and Inclusion:
As a research team, we encourage junior scientists from underrepresented groups to apply. University of Vermont is an equal opportunity/affirmative action employer.

For more information about our research groups, please visit:
http://labs.russell.wisc.edu/molecularecology/
http://blog.uvm.edu/yfanslow/



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