

Xinyue Huang

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Work Experience

2022 – now

Texas A&M University

Postdoctoral Researcher, Entomology Department

- Design and optimize experimental objectives and methodology, including materials management, collaboration with colleagues in the management of multiple research projects, provide guidance to undergraduates in the laboratory
- Conduct research activities independently: design, organize and conduct more highly specialized and advanced molecular biological experiments and analyses, including but not limited to RACE PCR, HRM analysis, homological modeling and docking analysis
- Preside over tick rearing, colony maintenance activities and multiple bioassays, such as larval packet test (LPT) and larval immersion test (LIT)

2017 – 2022

Texas A&M University

Research Assistant, Entomology Department

- Design and optimize experimental objectives and methodology, including materials management, collaboration with colleagues in the management of multiple research projects
- Preside over mosquito rearing, colony maintenance activities and multiple bioassays, such as CDC standard bottle assay
- Perform research via molecular biological techniques:

- Isolation and purification of DNA and RNA, PCR and qPCR, gel electrophoresis
- RNA interference, next-generation sequencing
- Analysis of DNA and RNA sequencing, identify differentially expressed genes utilizing:
 - Multiple platforms (Linux and Windows) and programming languages (python, R, basic C++)
 - Scientific software (Arlequin, DIYabc, GenALEx, Genemarker, GraphPad prism, Primer3, siRNA-Finder, Structure, etc.)

Education

2017 – 2022

Texas A&M University

Doctor of Philosophy, Ecology and Evolutionary Biology

- Developed an intimate working knowledge of genetic processes, entomology, ecological integration, and how they impact our understanding of evolutionary biology.
 - Extensive use of statistics and bioinformatics to achieve the aforementioned objectives

2013 – 2017

Fudan University

Bachelor of Science, Life Sciences

- Acquired a broad spectrum of scientific knowledge in preparation for graduate studies:
 - Advanced Mathematics, Physics, Chemistry, General biology, Laboratory Practice Standards

Conference Presentations

- **2019 WGCVBD Annual Meeting, Dallas, Texas**

Xinyue Huang, “*Estimating the Impact of Vector Control on Mosquito Effective Population Size using Approximate Bayesian Computation*”

- **2021 ASTMH Annual Meeting, National Harbor, Maryland**
Xinyue Huang, Kendra Dagg, Chris Fredregill and Michel A. Slotman, *“Transcription Analysis of Metabolic Resistance against Extensively Applied Insecticides in Culex quinquefasciatus Population in Houston, Texas”*
- **2021 WGCVBD Annual Meeting, Houston, Texas**
Xinyue Huang, Kendra Dagg, Chris Fredregill and Michel A. Slotman, *“The Impact of Vector Control Efforts on Mosquito Populations in Harris County: Change of Effective Population Size and Metabolic Resistance Profile”*
- **2022 Southwestern Branch Meeting, Fort Worth, Texas**
Xinyue Huang, Phillip E. Kaufman, Kendra Dagg, Chris Fredregill, Christina Alvarez and Michel A. Slotman, *“Transcriptome profiling to identify detoxification genes involved in metabolic resistance in Culex quinquefasciatus and Aedes albopictus in Harris County, Texas”*
- **2023 Joint North Central and Southwest Branch Meeting for Entomology Society of America, Oklahoma City, Oklahoma**
Xinyue Huang, Sarah Mays Maestas, Pia Untalan Olafson and Phillip E. Kaufman, *“Detection of ivermectin target-site resistance and metabolic resistance in the cattle ticks, Rhipicephalus microplus”*

Scientific Experimental Skill Sets & Application Technology

- BCL-2 Laboratory working experience,
 - Mosquito colony and laboratory staff management
 - CDC standard insecticide resistance assay
- Genetic Research Methodology
 - RNA extraction with TRIzol protocol
 - DNA concentration and purification
 - Agarose gel electrophoresis
 - Double-stranded RNA synthesis and RNA interference through a microinjection system
 - Sample quantification using NanoDrop 2000 spectrophotometer
 - Real-time quantitative PCR

- Alternative gene splicing verification of targeted gene
- Protein extraction and affinity purification

- Biochemical Research Experiment History
 - Cellulose acetate membrane electrophoresis for serum protein analysis
 - Ultraviolet absorption methods for nucleic acids study
 - Paper electrophoretic separation and RNA hydrolysis product identification
 - Amino acids separation by cellulose thin-layer chromatography
 - Quantitative analysis of reducing sugars by 3, 5-dinitrosalicylic acid method

- Cytological Methodology
 - Animal cell culture
 - Human chromosome analysis
 - Density gradient and differential centrifugation for chloroplast purification and fluorescence observation
 - Isolation of mitochondria by differential centrifugation

- Miscellaneous Experimentation
 - Analytical chemistry experiment
 - Organic chemistry experiment
 - Physiology and anatomy experiment
 - Microbiology experiment
 - Physics experiment