

A postdoctoral scholar in the Anthony A. James lab is involved with active national and international research on novel methods for controlling the transmission of vector-borne diseases. Developing genetic techniques to control the transmission of vector-borne diseases, specifically malaria and dengue fever; investigating genome-wide patterns of gene expression in vector mosquitoes.

The goal of our laboratory is to develop novel, genetics-based control methods for blocking transmission of human pathogens by mosquitoes. The hypothesis driving our efforts is that the introduction into a population of mosquitoes of a gene that confers resistance to a pathogen should lead to a decrease in transmission of that pathogen. Implicit in this hypothesis is the assumption that less transmission will result in less disease and death. To test this hypothesis, a gene or allele that interferes with pathogen development or propagation must be discovered or developed, and subsequently spread through a mosquito population. Following implementation of this strategy, there should be measurable decreases in incidence and prevalence of the targeted disease.

Under supervision of the Principal Investigator and Project Specialist, the incumbent will work with cloned gene-drive vectors based on Cas9 for anti-malarial genes generating transgenic mosquito strains, contribute to manuscripts, and collaborate with the principal investigator and other laboratory staff. The incumbent will maintain laboratory safety standards and ethics and work in collaboration with other UC campuses and international researchers.

Required abilities include:

- (1) The ability to process large sample sets (PCR and primer design, Cloning using restriction enzymes or PCR-based assembly, colony PCR, etc)
- (2) Design construct plasmids
- (3) Demonstrated experience with homology-based methods (In-Fusion®, NEBuilder®, Gibson Assembly®) and Type IIS RE-based methods (Golden Gate, MoClo).
- (4) Working knowledge with the latest gene editing software packages (SnapGene, Vector NTI, or similar ) to assist in sequence analysis
- (5) Have advanced bench experience and processing and techniques
- (6) Troubleshooting and problem solving
- (7) strong organizational skills with the ability to balance multiple projects in a fast-paced environment and bring projects to completion
- (8) Attend and contribute to regular laboratory meetings
- (9) Work as a team member
- (10) Be deadline sensitive to meet requirements for project scope of work

Desired: Molecular biology of insect models and insect transformation, micro injection (will train the right candidate)

To Apply:

<https://recruit.ap.uci.edu/JPF05178>

Please upload a CV, a brief statement of research accomplishments and interests, and a list of references.