



## **Mission Statement:**

The University of California Irvine, Malaria Initiative (UCI MI) seeks to promote the discovery and development of novel science for the goal of malaria eradication.

This mission is accomplished by providing the necessary intellectual, resource and infrastructure support to test novel genetics-based, sustainable technologies to prevent malaria transmission. The featured activities include development and field-testing of genetically engineered strains of malaria vector mosquitoes in collaboration with scientists and public health personnel from disease-endemic countries.

Vector population modification strategies (also known as population replacement or alteration) employ genes designed to interfere with malaria parasite transmission coupled with highly efficient gene-drive systems. These strategies can play a crucial role in the malaria eradication agenda by providing resistance to parasite and competent vector reintroduction and will allow resources to be focused on new sites while at the same time providing confidence that treated areas remain malaria-free.

## **Goals:**

We are working to conduct a field trial of a population modification strain with the objective of local malaria elimination in Africa. A parallel outcome is the capacity building that allows local and regional scientists and public health personnel to adapt and deploy population modification strategies. Strategic development is needed in:

- (1) The development of population modification mosquito strains
- (2) Field-site selection
- (3) Trial design and implementation.

The UCI MI provides the organizational structure to successfully complete these activities. Working together with thought-leaders, scientists, public health personnel and government, we expect to lay the foundation for eradicating a disease that affects hundreds of millions of people globally every year.