

Séminaire Vectopole Sud

Mardi 9 avril - 11h à l'IRD - Amphithéâtre des plantes

911 Avenue Agropolis Montpellier



Gene Drive for Malaria Vector Control from Lab to Application

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Malaria accounts for a significant proportion of the global burden of infectious disease. Over the past 15 years, WHO World Malaria Reports clearly indicated that significant progresses were made and that millions of lives were saved by the increased investments in global health over the same period. Unfortunately, progress has staled in many places and in Burkina Faso for instance, despite substantial efforts devoted to controlling the disease, malaria statistics are on the rise. The widespread of insecticide resistance is reducing the impact of Long Lasting Insecticide treated Nets (LLINs) and in the absence of vaccines, alternative control methods are urgently needed and genetic control is one them.

Target Malaria envisions developing a genetic tool to suppress malaria mosquito population in Africa. The project is rolled out in Burkina Faso, Mali, Uganda and in Ghana. The project has started with the classical genetic self limiting engineered sterile males and will go through several phases before delivering a final product which can potentially deplete malaria mosquito populations in few generations. Target Malaria-Burkina has previously tested these sterile males in a contained environment and has recently got authorization from the National Agency of Biosecurity to proceed to a small scale field release. This will be the first release of genetically modified mosquito in Africa. Precautionary approaches in term of risk assessment and stakeholder engagement were key to success. Lessons learnt and challenges encountered will be discussed to ensure a smooth transition from the lab to the field in Africa.

Short Biography

Diabate Abdoulaye is a vector ecologist. He owned a PhD degree from the University of Montpellier and spent 4 years as a postdoc fellow at NIH in the US. His research activities proceed along with two different but complementary directions. First, it involves insecticide resistance and its management and second, it is focused on population biology, ecological studies on phenotypic variation within and between populations of mosquitoes and analyses of its genetic and environmental sources. He is particularly interested in mosquito male biology and related transgenic and sterile male's approaches to control vector diseases. He has been an invited speaker in several prestigious universities including the Harvard University. He is the recipient of the Royal Society Pfizer award 2013, was awarded the Grand Challenges Star in global Health grant and the MRC/DFID African Leader Scheme grant. Currently he is the group lead of the Vector Biology Department at IRSS, Bobo Dioulasso, Burkina Faso.