



Grand Challenges Canada™
Grands Défis Canada^{MC}

Fredros Okumu

Grantee



Fredros Okumu is an IHI Research Scientist and a final year PhD candidate at the London School of Hygiene and Tropical Medicine. He has a Bachelors degree in Environmental Health (Moi University, Kenya), a master degree in Applied Parasitology (University of Nairobi, Kenya) and a separate master degree in Geographical Information Systems (Lund University, Sweden).

Fredros was born and grew up in Western Kenya. He is now 29 years old despite moving to south eastern Tanzania for his research, his mother and siblings still live in Western Kenya.

Since joining IHI in August 2007, he has published a substantial body of work describing how mosquitoes smell humans and how this knowledge can be exploited to control mosquito borne diseases. Fredros was awarded the American Society of Tropical Medicine and Hygiene Young Investigator Award in 2009 and was the Ifakara Health Institute's 2009 Scientist of the Year. Between 2008 and 2009, Fredros was part of an international consortium that developed a synthetic substitute for human odour which was more attractive than real humans, and which can in future be developed into novel surveillance and control technologies. He and his co-investigators (Dickson Wilson and Robert sumaye) were awarded the first Grand Challenge Exploration grant from the Bill & Melinda Gates Foundation in May 2009, to develop outdoor mosquito control as a complementary strategy for malaria elimination in Africa. His other research activities include evaluation of indoor vector control interventions (insecticide treated nets and indoor residual spraying) and their combinations in households, as well as mathematical modeling of human-mosquito interactions.