

MOLECULAR INTERACTIONS BETWEEN *PLASMODIUM* AND ITS MOSQUITO VECTOR

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Malaria kills millions of people every year and the number of deaths is steadily increasing. Control of malaria has been made difficult because of resistance of the parasite to the most effective and inexpensive drugs, resistance of the mosquito vectors to insecticides and the lack of an effective vaccine despite great efforts that have been devoted to develop one. New strategies for malaria control are urgently needed. To the extent allowed by the time allotted to my presentation, I will try to cover two broad topics. 1) Provide a perspective of the promises and challenges of the transgenic mosquito approach to control malaria transmission. 2) Report on recent advances in my laboratory in the understanding at the molecular level, how the malaria parasite interacts with its mosquito vector. This will include studies of transgenic mosquito fitness and the characterization of mosquito receptors for *Plasmodium* invasion of the midgut and salivary gland epithelia.

Key words: malaria, mosquitoes, *Plasmodium*