

Gabriele Pradel: Deans Seed Fund (10 bis max. 15 Zeilen, deutsch oder englisch)

Abstract of the funded project

Design of an easy-to-use impregnating agent based on organic compounds to prevent mosquito bites from the Malaria vector *Anopheles*

The tropical disease malaria is a major health burden especially in sub-Saharan Africa leading to more than 200 million clinical infections and 600.000 deaths annually. The disease is caused by blood-borne unicellular parasites of the genus *Plasmodium*, which are transmitted from human to human by blood-feeding female *Anopheles* mosquitoes. To date measures to reduce the risk of malaria infections are undermined by the increasing drug resistances both in the parasite and in the vector. Thus, mosquito-bite protections like insecticide-treated bed nets are still considered prime preventions. In this context, it is the goal of our Dean's Seed Fund project to design an insecticidal impregnating agent for everyday clothing as a means of outdoor protection against mosquito bites. Bite protection will be ensured by a carrier agent made of organic waxes that is blended with herbal oils, previously shown to reduce mosquito bites due to their insecticidal effect. The various combinations of organic waxes and herbal essences will be applied to the textiles and tested for their protective effects in *ex-vivo* sugar- and blood-feeding assays using female *Anopheles* mosquitoes. Funding by the Dean's Seed Fund will enable us to establish a mosquito colony at RWTH Aachen University and to initiate the testing of the impregnating bite-protection textiles.