



Media Statement

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Putting the brakes on a killer: Ian Constable Lecture speaker Professor Simon Foote tackles malaria

Australian researchers are investigating ways to reduce the harm of the malaria parasite on infected people by inhibiting its ability to reproduce.

Molecular geneticist Professor Simon Foote, Director of The John Curtin School of Medical Research at the Australian National University, will outline new genome research at the 18th annual Ian Constable Lecture at The University of Western Australia on Wednesday, October 11.

Malaria remains a major cause of disease worldwide, with the World Health Organisation reporting 212 million cases and 429,000 deaths in 2015. Caused by Plasmodium parasites in infected mosquitoes, nearly half the world's population is at risk of malaria with children under five, pregnant women and patients with HIV/AIDS among those most at risk. Widespread use of traditional antimalarial drug treatments is also leading to resistant strains of the disease.

"In a malarial infection, there is a competition between the parasite and the host," Professor Foote said.

"If the malarial parasite can reproduce sufficiently rapidly, it can reach a level of parasitaemia (the level of parasites in the blood) that is lethal to the host.

“But if the rate of growth is slowed, it can give the host’s adaptive immune response an opportunity to kill the parasites.”

Professor Foote said it had long been thought that the adaptive immune response controlled the host response to malaria parasites.

However, his lecture will introduce the concept that the innate immune response as mediated by platelets (cell fragments in the blood that assist with clotting) could be just as important in the body’s response to malaria infection.

“Platelets are able to recognise infected red cells, bind to them and activate and kill malarial parasites,” Professor Foote said.

“By using the example of natural mutations that affect the red cell and making it difficult for the parasite to grow, my laboratory has found genes that when mutated, prevent the growth of malarial parasites.”

Professor Foote said these genetic changes could lead to the creation of a new type of treatment that would combat the development of drug resistance.

Lions Eye Institute (LEI) Managing Director Professor David Mackey said the annual Ian Constable Lecture honoured the work of Professor Constable, who was appointed Lions Foundation Chair of Ophthalmology at UWA in 1975 and went on to establish the LEI in 1983.

Entry to the 2017 Ian Constable Lecture is free but RSVPs are essential via

www.ias.uwa.edu.au/lectures/foote

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