Postdoctoral fellowship to identify potent inhibitors of arboviruses in Montpellier, France

We offer 2-years postdoc position for a candidate born in a southern country. The main objective is to identify chemicals that block mosquito transmission of arboviruses. Metabolic inhibitors and other potential transmission blocking compounds will be tested in a novel high throughput strategy. The project is a public-private partnership with IRD, the MRI imaging platform and TropIQ company. The mechanisms of action of the transmission blocking compounds will also be explored in the mosquito.

The prospect of this work is to identify antiviral drugs that are active in both humans and mosquitoes. Ultimately, this research will continue with the development of vectorization strategies aimed at facilitating the passage of these compounds, present in the bloodstream of treated patients, into the mosquito during the blood meal. This strategy would make it possible to simultaneously reduce the efficiency of viral multiplication in humans and in the arthropod vector and to prevent viral dissemination.

The project includes entomology, virology, molecular and cell biology. The candidate should have a PhD and a previous expertise in virology and entomology. We are looking for highly motivated candidate to work in a stimulating environment.

Interested candidate should send a CV and cover letter to dorothee.misse@ird.fr and Julien.pompon@ird.fr.

Application will be accepted until 1st August 2020.

A few representative papers published from the hosting team:

Vial T, Tan WL, Wong Wei Xiang B, Missé D, Deharo E, Marti G, Pompon J. Dengue virus reduces AGPAT1 expression to alter phospholipids and enhance infection in Aedes aegypti. PLoS Pathog. 2019 Dec 9;15(12):e1008199.

Luplertlop N, Surasombatpattana P, Patramool S, Dumas E, Wasinpiyamongkol L, Saune L, Hamel R, Bernard E, Sereno D, Thomas F, Piquemal D, Yssel H, Briant L, Missé D. Induction of a peptide with activity against a broad spectrum of pathogens in the Aedes aegypti salivary gland, following Infection with Dengue Virus. PLoS Pathog. 2011 Jan 13;7(1):e1001252.

Ferraris P, Cochet M, Hamel R, Gladwyn-Ng I, Alfano C, Diop F, Garcia D, Talignani L, Montero-Menei CN, Nougairède A, Yssel H, Nguyen L, Coulpier M, Missé D. Zika virus differentially infects human neural progenitor cells according to their state of differentiation and dysregulates neurogenesis through the Notch pathway. Emerg Microbes Infect. 2019;8(1):1003-1016.

Ramesh K, Walvekar VA, Wong B, Sayed AMM, Missé D, Kini RM, Mok YK, Pompon J. Increased Mosquito Midgut Infection by Dengue Virus Recruitment of Plasmin Is Blocked by an Endogenous Kazal-type Inhibitor. iScience. 2019 Nov 22;21:564-576.