The African exception to Zika virus emergence

Zika virus (ZIKV) was once considered an innocuous member of mosquito-borne flaviviruses because documented human infections had remained sporadic and benign during several decades following its discovery in Uganda in 1947. The worldwide ZIKV epidemics that have occurred since 2007 and the unexpected link to neuropathologies and birth defects subsequently raised ZIKV to the status of global public health emergency. In the last few years, considerable research effort has been dedicated to retrospectively understand the factors that might have contributed to the spectacular emergence of ZIKV. Relatively less attention has been paid to regions where the virus is present but did not cause large-scale epidemics, such as Africa. In this talk, I will explore the hypotheses that can explain this paradox and present data that provide a possible explanation.

Dr. Louis Lambrechts is a Research Director in the Department of Virology at Institut Pasteur in Paris, where he heads the Insect-Virus Interactions Research Unit. After graduating from Ecole Normale Supérieure in Paris, he obtained a PhD in Ecology in 2006 for his work on interactions between mosquitoes and malaria parasites at University Pierre & Marie Curie in Paris. During his postdoc, he was supported by a European Marie Curie fellowship to study interactions between mosquitoes and dengue viruses at the University of California in Davis and in the Laboratory of Genetics and Evolution of Infectious Diseases in Montpellier, France. In 2010, he joined the Institut Pasteur in Paris where he became a Research Scientist of the French Centre National de la Recherche Scientifique (CNRS) in 2011, a Junior Group Leader in 2013, and Unit Head in 2019. To date, he has authored over 80 scientific publications. He was awarded a CNRS Bronze Medal in 2018 and the Pasteur Vallery-Radot Prize in 2020. He is currently involved in several international research programs on dengue and Zika.