21
MAR.
2024

🕐 de 13h à 14h
📍 Salle de formation du PRABI

Understanding infectious disease dynamics using surveillance and modelling

George Shirreff
Institut Pasteur
Mathematical modelling has a key role to play in understanding dynamic systems such as the spread of infectious pathogens. Modelling tools allow us to explicitly represent both unseen processes such as transmission and phenotypic evolution, but also the processes which give rise to observed data such as surveillance. When challenged with surveillance data, they can be used to investigate underlying dynamics, estimate unknown parameters, and guide policy by predicting the effect of interventions. Here I will present work applying such models to respiratory viruses, exploring interactions between different viruses, and understanding the risks of outbreaks in healthcare environments; poliovirus in support of global eradication efforts in the remaining footholds; and the evolution of virulence and drug resistance in HIV-1.