

Pre-Conference Workshop (Interactive Learning Session) for Bi-Regional FETP COVID-19 Online Conference

November 9, 2020, 2pm - 5pm (GMT+11)

Workshop: Understanding Infectious Disease Modelling

Target audience: conference participants

Participant limits: 30. Because there is a limited capacity of 30 people for the workshop, enrollment will be on a first come first serve basis. However, we will give priority to current FETP trainees to participate.

Public health and biosecurity responses to infectious disease outbreaks can be informed by disease modelling. This introductory workshop will give participants an understanding of infectious disease models and their value for public health. The workshop will cover the use of modelling to examine disease causes and to assess strategies for control in the context of a variety of infectious diseases. No prior detailed knowledge of modelling infectious diseases or epidemiology is required, and only high school level mathematics is needed.

This workshop provides an excellent opportunity for students and researchers with an interest in the topic to see a broad range of modelling techniques applied to disease transmission. The workshop aims to demonstrate how these techniques can support decision-making.

The workshop will include a background to infectious disease models, a demonstration of models and an interactive modelling activity that will put theoretical learning into practice. The facilitators will engage participants with the use of polls, interactive exercises and breakout rooms via Zoom.

Presenters



Professor Jodie McVernon

(The Peter Doherty Institute for Infection and Immunity)

Professor Jodie McVernon is a public health physician and epidemiologist. She has extensive expertise in clinical vaccine trials, epidemiologic studies and mathematical modelling of infectious diseases, gained in Oxford, London and Melbourne. For the past 15 years she has been building capacity in infectious diseases modelling in Australia to inform immunization and pandemic preparedness policy. She has led nationally distributed networks of modellers informing responses to the 2009 H1N1 influenza pandemic and the current COVID-19 pandemic.



Dr. Patricia Campbell

(The Peter Doherty Institute for Infection and Immunity)

Dr Campbell is a post-doctoral infectious diseases modeller with a background in mathematics. Her PhD research used mathematical models to explain pertussis epidemiology in Australia and determine optimal vaccination strategies for control. She later extended this work to the investigation of maternal immunisation for pertussis and RSV using individual-based models. Current work studies the transmission and control of

neglected tropical diseases and Streptococcus species, in addition to lecturing in a Master's level subject 'Infectious Diseases Modelling' at the University of Melbourne.



Dr. Michael Meehan

(James Cook University)

Dr. Meehan is a research fellow in infectious diseases modelling and epidemiology at the Australian Institute of Tropical Health and Medicine at James Cook University. He is currently studying COVID-19 transmission and epidemiology as well as genomic-driven infectious disease modelling methodologies to investigate the emergence, evolution and transmission of drug-resistant pathogens – with a particular focus on tuberculosis in the

tropics.

Understanding Infectious Disease Modelling Workshop			
Time	Duration	Activity	Presenter
2:00pm - 2:15pm	15 min	Welcome Introduction to Infectious Disease Modelling	Prof. Jodie McVernon
2:15pm - 3:30pm	1 hr 15 min	Theory of infectious disease modelling and model demonstration	Dr Michael Meehan
3:30pm - 3:35pm	5 min	Break	
3:35pm - 4:50pm	1 hr 15 min	Interactive modelling exercise and debrief	Dr. Patricia Campbell
4:50pm - 5:00pm	10 min	Conclusion	

*Please note that the sequence of workshop activities may change.