

Keynote Lectures

K2 – Infectious Disease Dynamics as a Tool for Decision Makers During Pandemics



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Steven is a Professor of Infectious Disease dynamics at Imperial College in London. He completed a PhD in mathematical epidemiology at Oxford University in the group that later became the MRC Centre for Global Infectious Disease Analysis at Imperial College. Steven collaborated with The University of Hong Kong (HKU) on studies of SARS-CoV-1 before joining HKU in 2004 just as the School of Public Health was established. While at HKU, he worked on the disease dynamics of influenza and other respiratory viruses before returning to Imperial in 2010. Steven has contributed to the UK response to COVID-19 as a member of: the COVID-19 Response Team at Imperial College, the Scientific Pandemic Influenza - Modelling (SPI-M) committee for the UK government, and the Imperial College REal-time Assessment of Community Transmission (REACT) study team.

Many infectious diseases spread quickly from person to person. This makes them fundamentally different to other health threats because the amplitude of the threat they pose can accelerate exponentially, forcing leaders to make very difficult decisions in a short space of time with imperfect information. The emergence of SARS-CoV-2 illustrated clearly how leaders can reach very different conclusions. In this talk, I will give examples of how the science of infectious disease dynamics can help reduce uncertainty when used to help with planning, responding and learning from pandemics. As the world transitions from low to high immunity against SARS-CoV-2 with as little health impact as possible, we have the opportunity to revise our plans to reduce greatly the impact of the next similar emergent virus. At the end of the talk, I will give a personal view of how we can prioritize the science of improving our response.