Jason Kindrachuk

University of Manitoba, Winnipeg, Manitoba

Friday, December 4 | ZOOM | 10:00-11:30 AM ET

Title | **Eleven Covid months equals one decade - Emerging virus research during a pandemic**

Abstract | Infectious diseases are responsible for at least 10 million deaths worldwide per year, or approximately 25% of all global deaths. Zoonotic emerging viruses are a critical threat to global public health and spillover to humans often results in severe illness and complex pathogenesis that are often poorly understood. In recent years, multiple zoonotic viruses, including Ebola virus (EBOV) and severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) have resulted in devastating effects to public health and the global economy. In contrast, the development of novel therapeutics and vaccines for emerging viruses is often limited due to considerable knowledge gaps regarding molecular pathogenesis and the associated costs and lengthy regulatory approval processes drug design and development. Given the increasing incidence of emerging virus outbreaks, there is an urgent need to identify the mechanisms that underlie zoonotic spillovers, viral pathogenesis and long-term health impacts in survivors.

Complicating this, emerging virus outbreaks are disproportionately overrepresented in low- and middle-income regions with limited healthcare and surveillance capacities. Thus, there is an urgent need to address these knowledge gaps and increase targeted surveillance capacities in underserved communities. Here, I will discuss our ongoing molecular pathogenesis work on EBOV and SARS-CoV-2 as well as outbreak response efforts and surveillance work in resource-limited settings.

Bio | Dr. Kindrachuk is an Assistant Professor in the Department of Medical Microbiology & Infectious Diseases, University of Manitoba, Canada, and holds a Tier 2 Canada Research Chair in the molecular pathogenesis of emerging viruses. His research expertise and experiences have focused on emerging virus pathogenesis and outbreak preparedness with a focus on low- and middle-income countries, including outreach activities in Sierra Leone, Gabon and Kenya. His research investigations focus on the circulation, transmission and pathogenesis of emerging viruses that pose the greatest threat to global human and animal health. These have included ebolaviruses, coronaviruses and influenza viruses. Past and present findings from his investigations will help inform therapeutic treatment and development strategies, outbreak prediction and preparedness efforts. Dr. Kindrachuk has served on multiple expert committees and working groups, including with the World Health Organization. He is active in international outbreak response efforts, including the West African Ebola virus disease epidemic and, most recently, Covid-19. He also serves as an Associate Editor with multiple scientific journals and as a scientific contributor with Forbes. He actively participates in training young investigators for careers in infectious disease research and in public outreach activities locally, nationally and internationally.

Contact | Prof. Dongling Ma <ma@emt.inrs.ca>