



Mathematical Biology Seminar

Monday, November 23, 2026

1:00 pm MT – Room UComm 2-108 (in person)

Join Zoom Meeting

<https://ualberta-ca.zoom.us/j/93260471119>

Meeting ID: 932 6047 1119



Tyler Cassidy

University of British Columbia

Modelling the effect of direct-acting antivirals across multiple scales

Despite the development of safe and effective vaccines, viral infections, like SARS-CoV-2 and hepatitis B virus, continue to have a large impose a large public health burden and influence our day-to-day lives. There have consequently been serious efforts to develop new treatments for these infections. Many of these treatments attempt to disrupt intracellular processes that lead to virus production. However, it is difficult to infer the intracellular effect of these treatments from the data routinely collected during clinical trials, which (appropriately) typically focus on reducing hospitalization risk or symptom amelioration. In this talk, I'll discuss how we can use multiscale mathematical modelling to derive simple and accurate rules-of-thumb that link observable clinical data to the drug efficacy. Further, I'll show how mechanism-driven multiscale mathematical modelling can assess indirect benefits of these direct-acting antivirals that would otherwise be inaccessible in standard clinical trials.