

CFTRc Seminar Series



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Accounting for mucin biophysics in models of disease transmission

Numerous aspects of disease progression and transmission are intimately related to in-host biophysical processes, including an important role for mucosal barriers. In this talk, I will describe three projects in this area. Firstly, in terms of host and cellular susceptibility, we explore the physicochemical properties of mucus through rheological modeling as well as the development of diagnostics. Next, I will describe preliminary work in establishing the role of mucosal droplets in the viability of pathogens at the point of transmission, once emitted from infectious hosts. The interaction of these processes with climate will also be considered. Finally, I'll describe our work studying pathogen transport in mucin gels, with the goal of improving our understanding of the initial stages of host infection, and temporal pathogen kinetics. Overall, the host mucin biophysical environment plays an important role in disease progression and transmission, and should be carefully considered in the context of population-level disease models as well as the design of novel biomaterials.

Date: Thursday, June 23, 2022

Time: 11:00 a.m.

Online via Zoom:

<https://mcgill.zoom.us/j/81590106897?pwd=TUZlazBFTVIST291VElpZkRFejl3Zz09>

Meeting ID: 815 9010 6897

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