

CFTRc Seminar Series



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Alveolar macrophages: moving to maintain lung homeostasis

During respiration, humans breathe in more than 10,000 liters of non-sterile air daily, allowing some pathogens access to alveoli. Interestingly, alveoli outnumber alveolar macrophages (AMs), which favors alveoli devoid of AMs. If AMs, like most tissue macrophages, are sessile, then this numerical advantage would be exploited by pathogens unless neutrophils from the blood stream intervened. However, this would translate to omnipresent persistent inflammation. Developing in vivo real-time intravital imaging of alveoli revealed AMs crawling in and between alveoli using the pores of Kohn. Importantly, these macrophages sensed, chemotaxed, and, with high efficiency, phagocytosed inhaled bacterial pathogens such as *P. aeruginosa* and *S. aureus*, cloaking the bacteria from neutrophils. Impairing AM chemotaxis toward bacteria induced superfluous neutrophil recruitment, leading to inappropriate inflammation and injury.

Date: Tuesday, May 5, 2022

Time: 4:00 p.m.

Online via Zoom:

<https://mcgill.zoom.us/j/81957629314?pwd=VVVZSk5peXNSaVlzZ2U1RGVlciRCQT09>

Meeting ID: 819 5762 9314

Password: 894548