

## **Shedding light in a dark place: Microbial ecology of the airways in respiratory infections**

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Few microbes (viruses, bacteria, fungi) live in isolation, or exclusively with members of their own kingdom or domain. In any environment, affinities or aversions between microbial members influence the community structure, but these interactions can be re-organized with the arrival of disruptors, such as infectious agents—be they viral or bacterial. Disrupting these “social” networks has ecological and physiological consequences. As we begin to discover the importance of microbial associations in understanding host-pathogen interactions in human infections, we need innovative ways to capture direct and indirect effects between viruses, fungi, bacteria, and the host. I will discuss some of our work on respiratory tract infections, such as influenza and COVID19, and how we tackle the complex host-pathogen interplay to gain insight into virus transmission and disease severity.