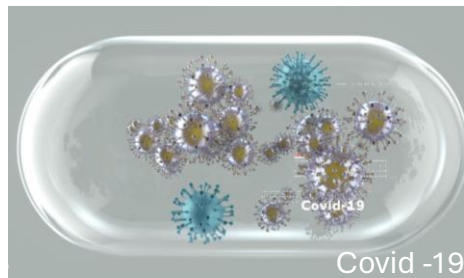
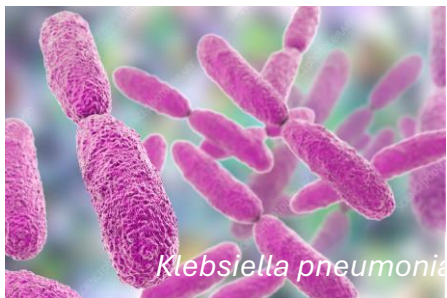
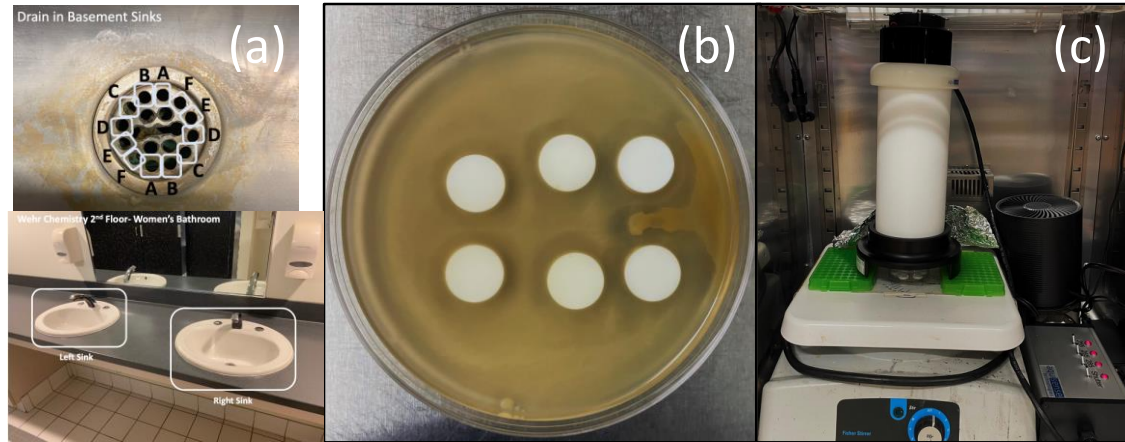


# Disinfection of illness causing microbes



## Why this is a problem in the environment?

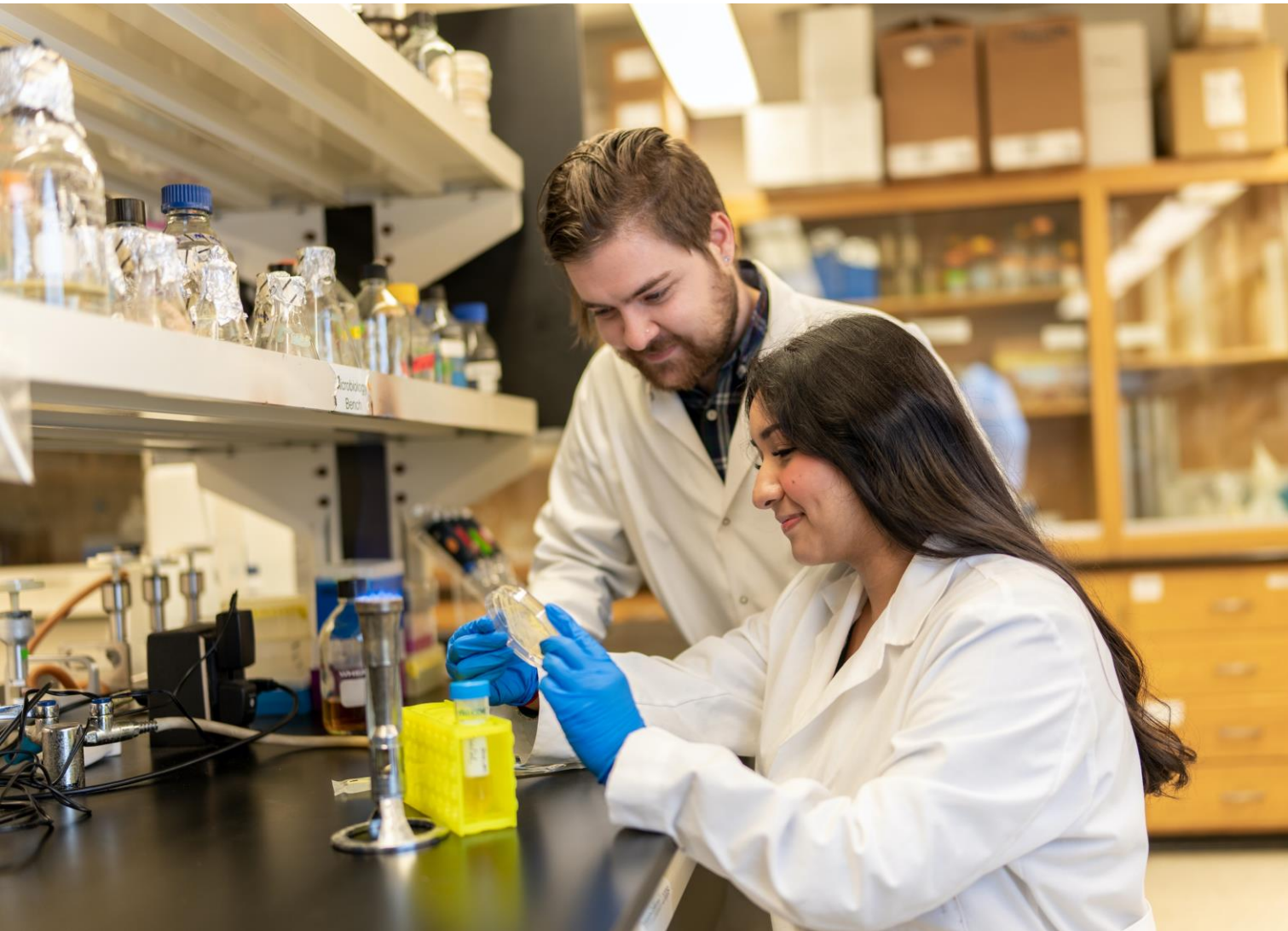
Disinfection of microbial biofilms in the water distribution systems (sinks, pipes, storage tanks) is very challenging.



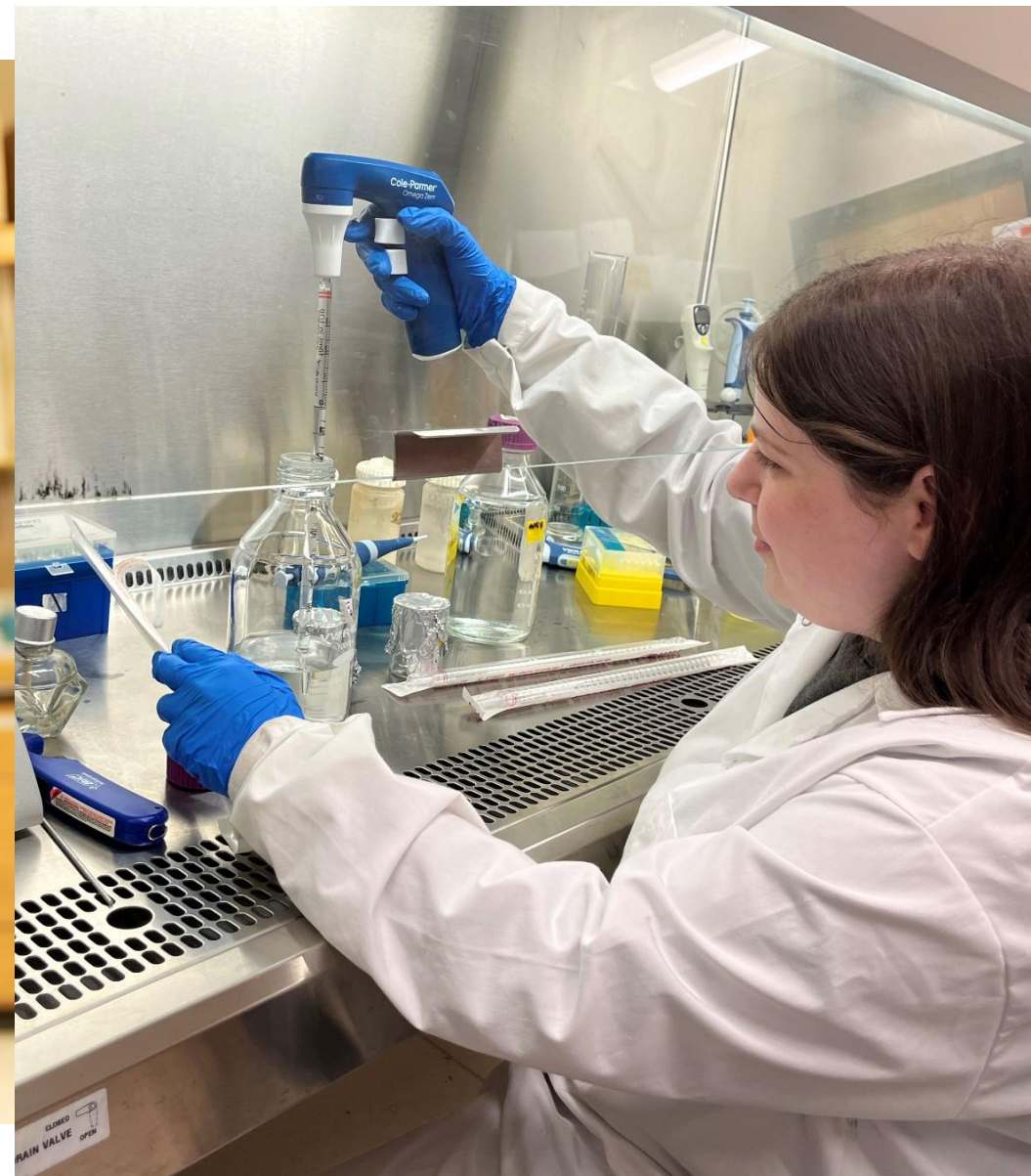
Microbes (bacteria and viruses) attach to surfaces and form biofilm in sinks (a). We could grow them in the lab (b) and test different disinfection approaches (UV – LED, c).

### Achievements to Date

- Determined that a combination of two different UV-LED lights is more efficient in inactivation of biofilm formed by *two different illness causing microbes* on PVC coupons in tap water and thus might be used in practice
- Discovered that probiotic bacteria could facilitate more efficient chemical disinfection of *S. aureus* and *Candida albicans* present in multispecies biofilms (FY22 funding ongoing work)



**PhD student Richard Melton and undergraduate student Elisabeth Solis testing the effect of chemical disinfectants on microbial biofilms**



**PhD student Jennifer Lavin conducting virus disinfection experiments in the lab.**