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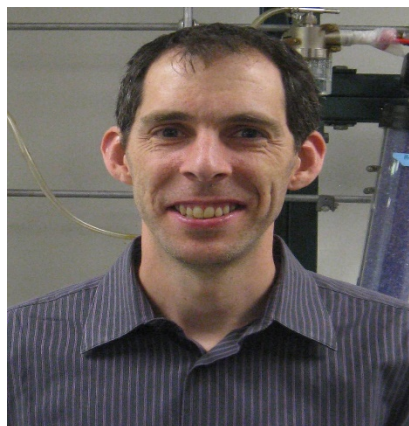
PHYSICS AND ASTRONOMY

Presents:

Viral aerosol transmission in a time of COVID

Wednesday, October 28, 4:00 pm

Via Zoom (Meeting ID 998 3610 7264)



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Department of Chemistry and
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The SARS-CoV-2 virus took the world by storm early this year, and both public discussion and scientific research into the transmission routes of the virus have been a part of daily life for nearly all of us. Even if you haven't read widely on the topic, you have undoubtedly heard discussion of the words: aerosols, droplets, and airborne spread. In early July, a peer-reviewed letter was published urging the World Health Organization to update their understanding of the role aerosols can play in COVID-19 disease transmission. That letter, signed by me and 238 other invited scientists, brought a dramatic increase in exposure to the discussion, but unfortunately discussions are still often based in a poor physical understanding of how aerosols behave and are transported. Worse, key national and international health organizations still use long-outdated mental models as they consider respiratory disease spread, and so the more attention you've paid, the more inconsistent broad guidelines may seem.

As a bioaerosol scientist, the emission and transport of these small particles in air are central to my professional focus, and I've spent a good portion of my time over the last six months working on and following topics related to the airborne spread of COVID. In this relatively informal, intramural webinar, I'll introduce the basic physics of aerosols and droplets, as well as some of the history which has led to the present confusion surrounding how viral particles can be infectious through the air. This will lead to a basic discussion of the aerosol science behind various preventative measures. I will give an overview of some of the aerosol modeling work I did over the summer to help the University of Denver prepare for Fall classes. I will also present how we are utilizing carbon dioxide monitoring in selected DU classrooms, with focus on activities in the Lamont School of Music, as a rough proxy of whether ventilation levels are sufficient for community health.

The webinar will be pitched at a scientifically literate audience, but not one for aerosol experts. I will be happy to take any questions about the nature of aerosols in virus transmission, as well as practical prevention efforts.

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