



Indoor Air Management of Airborne Pathogens: Lessons, Practices, and Innovations

A Virtual Workshop: The First Workshop in a Series

August 18th, 2022 11:30am-3:30pm EDT

The Environmental Health Matters Initiative (EHMI) of the National Academies invites you to register for the first workshop in our three-part series on Indoor Air Management of Airborne Pathogens building upon the 2020 workshop on the airborne transmission of SARS-CoV-2. These workshops will explore strategies needed for airborne disease control and risk reduction in enclosed places by drawing on accumulated community and institutional knowledge, on-the-ground observations of indoor environments management during the pandemic, and novel and promising scientific discoveries.

The first workshop in the series will engage multidisciplinary speakers and active participants to investigate the state of knowledge concerning building management to reduce the transmission of airborne pathogens. Speakers will highlight progress made since 2020, identify critical research gaps, and explore technical and social barriers to implementation. Participants will share their experiences with the management of enclosed spaces during the pandemic and identify promising practices to be adopted to make these places safer.

Thursday, August 18th
(All times in U.S. Eastern Time)

11:30am Welcome and Meeting Overview

Linsey Marr, Virginia Tech

Jonathan Samet, Colorado School of Public Health

11:40am Session 1: Review the state of knowledge concerning building dynamics and indoor environments to reduce transmission of airborne pathogens

- *What have we learned about the source term? What do we know about infected people as the source for infectious aerosols?*
- *How important is ventilation itself versus the localized exposure to people?*
- *What have we learned about strategies adopted for reducing infection risk by management of indoor air?*
- *What have we learned about ventilation and risk for transmission in both lab/modeling studies and in real life?*

Speakers: Shelly Miller, University of Colorado

Don Milton, University of Maryland

Panelists: Malin Alsved, Lund University

Yuguo Li, University of Hong Kong

William Lindsley, National Institute for Occupational Safety and Health/Centers for Disease Control and Prevention (NIOSH/CDC)

Seema Lakdawala, Emory University

12:30pm Session 2: Indoor air quality management - Scientific advances & Innovation

- *What are innovative systems of exchange of indoor air with outdoor air?*
- *How can we improve ventilation effectiveness in different types of buildings to reduce the risk of infection?*

- *What have we learned about filtration and ionization for the removal/inactivation of viruses in the air?*
- *What have we learned about the sterilization of air with ultraviolet radiation? What about far UV?*
- *Are there promising innovations, e.g., measurement of carbon dioxide? Other?*
- *What evidence do we need to demonstrate the efficacy of devices and how should this be measured - is there a need for standardized testing or more rigorous testing protocols?*
- *How do we balance using ventilation with air cleaning solutions - what are the advantages and trade-offs of different approaches?*

Speakers: Andrew Persily, National Institute of Standards and Technology (NIST)
 Brent Stephens, Illinois Institute of Technology
 Ewan Eadie, Ninewells Hospital and Medical School, University of Dundee

Panelists: Marwa Zaatari, D Zine Partners
 Kevin Van Den Wymelenberg, University of Oregon
 Katherine Ratliff, U.S. Environmental Protection Agency (EPA)

1:20pm ***Break***

1:30pm **Session 3: Organizational change, response, and management in the face of the pandemic or future crisis.**

- *What is preventing us from taking action to implement these changes, besides funding? What is the first step to overcoming this barrier?*
- *In what ways has the social context shaped the willingness and ability of different sectors and organizations to implement mitigation measures for airborne transmission of COVID-19?*
- *What do we know about the scope of responses across the country and within different sectors?*
- *What have we learned about factors driving successful and responsive management? What have we learned about barriers?*

- *How do we measure the benefits of improving indoor environments for organizations - how much improvement is cost-effective to provide? What data is needed that we do not have?*

Speakers: Chang-Yu Wu, University of Florida
 Faye McNeill, Columbia University
 Sandra Crouse Quinn, University of Maryland
 Reverend Anthony Evans, National Black Church Initiative

Panelists: Peg Seminario, American Federation of Labor and Congress of Industrial Organizations (AFL-CIO), Retired
 Nick Starkey, Royal Academy of Engineering
 David Rowson, U.S. Environmental Protection Agency (EPA)

2:25pm **A Fireside Chat - Agency & Industry Perspectives, Experiences, and Opportunities - Current body of evidence base and gaps**

- *What changes do we need to make to move things forward? What should be our first step? Who is responsible for moving these things along?*
- *How do we plan a strategic agenda for research and evidence-driven policy to fill gaps?*
- *Who should be in charge?*

Panelists: William Bahnfleth, The Pennsylvania State University
 Tomas J. Aragon, California Department of Public Health
 Peg Seminario, American Federation of Labor and Congress of Industrial Organizations (AFL-CIO), Retired
 John Howard, Centers for Disease Control and Prevention (CDC)
 David Rowson, U.S. Environmental Protection Agency (EPA)
 Shawn Ryan, U.S. Environmental Protection Agency (EPA)
 Brooke Bozick, National Institutes of Health (NIH, NIAID)

3:20pm Wrap-up - Key learning from the discussion

Linsey Marr, Virginia Tech

Jonathan Samet, Colorado School of Public Health

3:30pm Adjourn