School Building Science Fridays

Ventilation: What You Need to Know

October 8, 2021

Welcome!

We will start promptly at 2pm Eastern.

This session is being recorded.

CHPS COLLABORATIVE FOR HIGH PERFORMANCE SCHOOLS®

Better buildings. Better students.

Today's Webinar

- Welcome & Introduction: Arnel Catalan, Mt. Vernon Group Architects
- Discussion:
  - Moderator: Todd DeMonte, IAHI
  - With:
    - Tracy Enger, EPA
    - Christian Weeks, enVerid
    - Dr. Rengie Chan, LBNL
- Audience Questions

With Gratitude to Our Sponsors

IN2 ARCHITECTURE

Group 14 ENGINEERING

PERKINS — EASTMAN

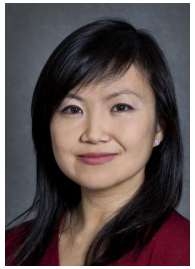
HEALTHY SCHOOLS NETWORK

Housekeeping

- Post questions at any time in chat
- Please stay on mute
- Recording and slides will be available at https://chps.net/school-building-science-fridays

Today's Experts

- Todd DeMonte, Indoor Air Hygiene Institute
- Tracy Enger, EPA Indoor Environments Division
- Christian Weeks, enVerid
- Dr. Rengie Chan, Lawrence Berkeley National Lab



Part 1: The Basics

- Why do we ventilate?
- What contaminates indoor air?
- What is good indoor air quality (IAQ)?

Resources for more info:

1. UC Davis videos: https://wcec.ucdavis.edu/improving-indoor-air-quality-in-california-schools/
2. LBL repository: https://iaqscience.lbl.gov/building-ventilation-topics

Part 2: Ventilation 102

- How do we know if ventilation systems are working correctly?
- What standards support ventilation and what are they based on?
- Is dilution ventilation the only way to maintain good IAQ?

Part 3: The Children Factor

- What's different about good IAQ in schools occupied by children than in buildings occupied by adults?
- How can we engage the school community in achieving good IAQ?
- How do environmental justice and social equity factor into a discussion of good IAQ?

Part 4: School Scenarios & COVID Lessons

Scenarios:

1. HVAC system in place with MERV >=13 filters
2. HVAC system in place with MERV <13 filters
3. No HVAC system

What have we learned from the COVID pandemic and what can schools do?

Part 5: Other Contexts

- Does opening a window do any good?
- What proven and emerging alternatives are there and what are the applicable standards?
- What should school decision-makers consider and what questions should they be asking vendors?

Part 6: Measurement & Monitoring

- How do you measure IAQ? Why is measurement and monitoring so important?
- Which metrics are most important and why? What do school personnel need to know?
- What are the low/no cost DIY options?

Part 7: Energy, Decarbonization & the Future

- How does the ventilation system impact energy use? Does it always increase energy use?
- How can school operators make their systems more efficient?
- What should school decision-makers consider when planning for a new system?
- What's in the future for ventilation?

Audience Questions

Please type your questions in chat.

For More Information

- ASHRAE guide: https://www.ashrae.org/technical-resources/reopening-of-schools-and-universities
- CHPS: https://chps.net/our-view, https://chps.net/knowledge-library
- EPA: https://www.epa.gov/iaq-schools
- DOE/EPA/ED initiative: https://efficienthealthyschools.lbl.gov/
- Drexel U Blog: https://newsblog.drexel.edu/2021/04/26/qa-how-will-covid-19-change-building-ventilation-standards/
- Harvard T.H. Chan School of Public Health initiative: https://schools.forhealth.org/
- Johnson Controls white paper: https://www.johnsoncontrols.com/-/media/jci/campaigns/openblue-clean-air-strategy/downloads/myths-misconcept-whitepaper-final.pdf
- enVerid guide: https://enverid.com/blog/making-classroom-air-safer-during-the-pandemic-a-step-by-step-path-to-optimal-air-changes-for-covid-19-mitigation/