

## TC2.3 Program Subcommittee Meeting Agenda for Phoenix on June 24, 2025

ASHRAE Code of Ethics: <https://www.ashrae.org/about/governance/code-of-ethics>

Friday, August 1, 2025; Debate, Panel, Seminar, Forum, Workshop, and Debate Proposals Due

Las Vegas, Jan. 31-Feb 4, 2026, Austin, TX, June 27-July 1, 2026, Chicago, IL, 23-27, 2027, New Orleans, LA, June 12-16, 2027, Orlando, FL, Feb 5-9, 2028

Monday June 23, 11:00 AM – 12:00 PM MST

Seminar 35: Back to Basics: The What, How, Why and Where to Apply Gas-Phase Air Filtration for Improved IAQ

Phoenix Convention Center North Building , Level 2, 227AB

Chair: Christopher Muller, PhD

Technical Committee: 2.3 Gaseous Air Contaminants and Gas Contaminant Removal Equipment

Wednesday, June 25, 11:00 AM – 12:30 PM MST

Seminar 67: Can In-Room Air Filters Compete with HVAC Filtration?

Phoenix Convention Center North Building , Level 2, 227AB

Chair: Kathleen Owen,

Technical Committee: 2.4 Cochair 2.3

	Session	Title	Co-sponsor	Champion	Status/Location
1	Seminar	Stinky Air? Dangerous Gases in your air? How Test Methods Determine Which Air Cleaners work?		K-J	Resubmit for Las Vegas
2	Forum/Seminar	Ventilation for 3D printers		Marilyn	Resubmit for Las Vegas
3	Forum	Exploring Gas to Particle Transition/ Brandon Boor and Stevens	TC 2.4	Brian	Resubmit for Las Vegas
4	Debate	When is an in-room air cleaner better than in-system filter (Chris V, Jim Rosenthal, Peter McKinney)	TC 2.4	Marilyn	Las Vegas and beyond
5	Workshop	Occupant related indoor air pollution	TC2.4	Chris V	Las Vegas and beyond
6	Seminar	Particle Loading of Gas Phase Filters- Is it a Problem? (Matt, Paula, Vijay, Brian)	TC2.4,	Brian	Las Vegas and beyond
7	Workshop/forum	Breathing in your home		Nick	Las Vegas and beyond
8		Variations and Differences of Ventilation Effectiveness of Gases vs. Particles		Brian	Austin and beyond
9	Seminar	PFAS “Free PFAS Filters”		Chris V	Austin
10	Debate	Artificial Intelligence (Brian, Marilyn, +2 more)		Brian	Austin and beyond
11	Seminar?	Low cost gas sensors (e.g. Sensirion)			

### Las Vegas Conference Tracks:

**1. Fundamentals are the foundation for understanding applications in engineering. Key components of ASHRAE fundamentals include thermodynamics, psychrometrics, heat transfer, and fluid flow. This track provides opportunities for papers and presentations of varying levels across a large topic base. Concepts, design elements and shared experiences for theoretical and applied concepts of HVAC&R design are included. Track Chair: Kevin Brown |**

**2. HVAC&R Systems and Equipment are constantly evolving to address the changing requirements of the built environment. Papers and programs in this track focus on the development of new systems and equipment, novel applications of existing systems and equipment, improvements to existing systems and equipment and the proper application and operation of systems and equipment. Track Chair: Ng Yong Kong |**

**3. Refrigeration systems generate and use cold for a range of processes, from food production and temperature-controlled storage to vaccine preservation, to long-term protection of fragile ancient inks of historic documents and others. Differences in technologies and equipment, performance, refrigerants, etc., may hide synergies from which both industrial and commercial systems might benefit. Refrigeration systems and the refrigerants also have environmental impacts including direct and indirect GHG emissions. Papers and programs in this track will focus on refrigeration systems of all types from process cooling to comfort cooling as well as best practices for refrigerants that are used in refrigeration systems. Track Chair: Haotian Liu |**

**4. Active research, and the exchange of those research findings, are critical to the development of our HVAC&R industry and built environment. This track invites researchers to share those results, including ASHRAE-sponsored research and research of interest to the ASHRAE community. Researchers are invited to present papers, extended abstracts, seminars, forums or participate in panel discussions. The Research Summit includes a partnership with ASHRAE's archival journal, Science and Technology for the Built Environment. Track Chair: Li Song |**

**5. Thermal and electrical energy storage can alleviate the mismatch between renewable energy availability and peak building energy demands, enabling the incorporation of more renewable energy into the grid. Integration of thermal energy storage (TES) with residential and commercial building envelopes or HVAC systems would reduce buildings' heating and cooling loads, level out peak energy demand, reduce HVAC size, increase energy savings, improve occupant thermal comfort and allow flexibility for shedding and shifting electricity demands associated with building loads. These benefits enable improved grid resiliency; thereby, enabling more cost-effective electrification of buildings. Papers and programs in this track focus on advances in cost-effective TES materials and systems, integration of thermal TES in building envelopes or HVAC systems and grid resiliency. Track Chair: Jon Cohen |**

**6. Decarbonization is urgently needed to slow climate change that is affecting the planet. Approximately 10% of global CO2 emissions is attributable to embodied carbon in building materials and construction processes. Energy use in buildings accounts for about 40% of energy-related carbon emissions. Therefore, to accomplish building decarbonization goals, accounting for embodied carbon and carbon emissions from operational energy use is essential.**

ASHRAE and its members are leading the advancement of carbon neutral, net zero energy and decarbonization strategies in new construction, renovation and HVAC&R design for residential and commercial buildings.

This track highlights case studies and research across the globe on the methods being developed and policies being evolved to reduce carbon impacts on the global environment; tools and resources to make zero energy design and operation more easily achievable; innovative low-carbon materials and state-of-the-art technologies and strategies to achieve zero energy communities and campuses; and policies, regulations, codes, standards and utility and government programs for adoption and scale up of net zero (or net positive) energy building and community initiatives. Track Chair: Ehab Mamdouh |

7. Artificial intelligence (AI) is being adopted by many aspects in our life. As sensor systems, internet connectivity, building management software and data collection become more sophisticated and ubiquitous, substantial opportunities exist to make buildings and HVAC systems and equipment “smarter.” Implementation of AI in building automation and control systems offers the potential to improve operational energy efficiency, occupant comfort, security and maintenance, and to enhance utilization of renewable energy resources (e.g., wind, solar) and energy storage. Submissions in this track focus on applications for AI and machine learning technology in building automation and controls to enhance energy efficiency and comfort, cyber security, fault detection and diagnosis, operation of HVAC systems and equipment for load flexibility, and benefit from time-of-day energy prices. Track Chair: Joshua Vasudevan |

8. Indoor environmental quality (IEQ) is a vital consideration during all phases of a building’s life because the indoor environment is closely linked to occupant comfort, satisfaction, productivity, and health. Proper fire and smoke control design is also crucial for protecting building occupants. This track explores the design, operation, and studies of ventilation, air distribution systems, and all IEQ aspects, including noise, vibration, thermal comfort, water quality, and lighting in residential and commercial buildings. Topics include aspects of ventilation and IEQ, such as filtration, changeovers, best practices for maintainability, fire ratings/dampers, detection and ventilation for toxic gases, operator safety in equipment rooms, OSHA requirements, industrial and hazardous spaces, additional occupant health and safety considerations and new building materials, lighting methods and best practices, acoustic attenuation and impacts of sound and vibration on human health and productivity, and the impacts of poor source water quality on building occupants and methods to mitigate the risk. Track Chair: Joe Chow |

9. In the face of climate change, weather extremes and energy supply disruptions and shortages, methods for designing, constructing and operating buildings and HVAC&R systems must be resilient and sustainable. In fact, resilience is a highlighted aspect of the current ASHRAE strategic plan. This track highlights innovative technologies and strategies that are evolving across the globe that reimagine our relationship with the built environment now and into the future, including design strategies for extreme climates and weather, appropriate responses to energy supply disruptions, and how all these factors are tied to resilience and energy conservation efforts. Track Chair: Robin Bryant |

#### **Types of Presentations Presented**

These sessions present both technical and conference papers. Conference papers are written on current applications or procedures, as well as papers reporting on research in process. These papers differ from technical papers in that they are shorter in length and undergo a much less stringent peer review. Technical papers cover current applications or procedures, as well as papers resulting from research on fundamental concepts and basic theory. Papers presented in these sessions have successfully completed a rigorous peer review. PowerPoint presentations with audio descriptions of the presentations are posted online in the Virtual Conference. Preprints of the papers are available to all attendees who have purchased a conference registration.

Forums are “off-the-record” discussions held to promote a free exchange of ideas. Reporting of forums is limited to allow individuals to speak confidentially without concern of criticism. There are no papers attached to these forums.

Debates highlight hot-button issues. Experts, either on teams or as individuals, present different sides of an issue in debate format. Each participant presents evidence for or against a specific statement or question such as ‘Is Sustainability Really Sustainable?’.

Panel discussions can feature a broad range of subjects and explore different perspectives on issues in the industry. A panel may feature discussions about integrated project delivery among designers, builders and facility management professionals.

Seminars feature presentations on subjects of current interest. Papers are not available from the Society; however, seminar PowerPoint presentations with audio descriptions of the presentations are posted online in the Virtual Conference. Access is free for attendees who purchase a conference registration. Seminars are available as a collection via subscription to the Technology Portal online and include video files synched with audio, audio files and PDF files of the presentations.

Workshops enable technical committees and other ASHRAE committees to provide a series of short presentations on a topic requiring specific expertise. These short presentations are provided with an increased emphasis on audience participation and training in a specific set of skills. PowerPoint presentations with audio descriptions are posted online in the Virtual Conference.

No learning objectives or Q/A for Panel, Forum and Debate