

**ASHRAE TC 7.6 Building Energy Performance
Standards and Programs Subcommittee
Monday June 24, 2024 5:30PM EST
Meeting Agenda**

Program Subcommittee Meeting, June Annual Meeting Indianapolis 2024

Attendees: Christine Reinders, Annie Smith, Amanda Webb, Nicholas Long, Kajen Ethirveerasingham
Programs

Co-Sponsored Program:

Seminar 5: Laboratory Standards and Codes Updates

Chair: Christine Reinders

Sunday, June 23 9:45 AM – 10:45 AM EDT

Location: JW Marriott – Indianapolis, 3, Grand Ballroom 2

CIDCO Seminar 9: Energy Master Planning of a Geothermal Community

Chair: Jill Kurtz

Tuesday, June 25 3:15 PM – 4:45 PM EDT

Location: Location: JW Marriott – Indianapolis, 3, Grand Ballroom 2

Future ASHRAE Conferences

February 8-12, 2025 – Orlando, FL – Technical Chair – Som Shrestha

June 21-25, 2025 – Phoenix, AZ – Technical Chair – Craig Bradshaw

Winter, January 31-February 4, 2026 – Las Vegas

Annual, June 27-July 1, 2026 – Austin

Winter, January 23-27, 2027 – Chicago

Annual, June 12-16, 2027 – New Orleans

Future Programs Discussion

Re-submit Benchmarking Forum – Christine

Wholistic Approach to Decarbonization in Ohio - Amanda

211 Forum – David

How can AI assist in Energy Management – Phoenix

Conference Paper Session 4 in Indianapolis

How does energy managers role change with the addition of AI

Orlando Tracks Winter 2025

1. HVAC&R Systems and Equipment – Track Chair: Li Song | lsong@ou.edu

- a. 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, improvements to existing systems and equipment and the proper application and operation of systems and equipment.

2. Fundamentals and Applications Track Chair: Erik Sanchez | esanchez@prmech.com

- a. Fundamentals are the foundation for understanding applications in engineering. Key components of ASHRAE fundamentals include thermodynamics, psychrometrics, fluid and mass 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.

3. Refrigeration and Refrigerants - Track Chair: Jon Cohen | joncohen1@gmail.com

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- a. Refrigeration is a critical element of modern life, from preserving food and medicine to maintaining comfort. With significant changes on the horizon for refrigerant regulations, along with new applications for refrigeration systems, understanding both the fundamental and advanced concepts and issues related to refrigeration is more important than ever before. Papers and programs in this track focus on refrigerants and their regulations, refrigeration cycles and applications

4. Energy Storage and Grid Resiliency - Track Chair: Robin Bryant | RBryant@bandiflorida.com

- a. 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 occupants' thermal comfort and allow flexibility for shedding and shifting building loads. These benefits will improve 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.

5. Pathways to Building Decarbonization - Track Chair: Joe Chow | joe.ashrae@gmail.com

- a. 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.

6. Artificial Intelligence, Building Automation, and Controls - Track Chair: Suzanne LeViseur | sleviseur@haddadeng.com

- a. 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

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building automation and control systems enables using data from Internet of Things devices and occupant behavior 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.

7. Advanced Building Construction Opportunities and Challenges - Track Chair: Stephanie Mages | s_mages@yahoo.com

- a. Development and adoption of industrialized technologies and methodologies can accelerate construction speed, scale and quality. Whereas most other industries have capitalized on digitization and process improvements, building construction practices have experienced slow, incremental changes. Industrialized construction can address shortages in skilled labor while increasing throughput, safety, quality and affordability. Examples include prefabricated mechanical pods, prefab panelized components for building envelopes and modular construction, although more innovation is needed to increase the cost-effectiveness of these approaches. This track disseminates advancements in building construction practices and workforce development and discusses opportunities and challenges associated with conventional and industrialized construction.

8. Ventilation and Indoor Environmental Quality - Track Chair: Ehab Mamdouh | ehab.mamdouh@ipec-eg.net

- a. 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 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.

9. Future-Proofing the Built Environment - Track Chair: Joshua Vasudevan | joshuavasudevan2011@gmail.com

- a. 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

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climates and weather, appropriate responses to energy supply disruptions, and how all these factors are tied to resilience and energy conservation efforts.

Olando Winter 2025 Conference Deadlines

- **Friday, August 2, 2024** | Debate, Panel, Seminar, Forum, Workshop, and Debate Proposals Due
- **Wednesday, September 4, 2024** | Conference Papers Due
- **Friday, September 27, 2024** | Conference Paper Accept/Revise/Reject Notifications
- **Friday, October 4, 2024** | Debate, Panel, Seminar, Forum, Workshop Scheduling Notifications
- **Wednesday, October 9, 2024** | Revised Conference Papers Due
- **Monday, October 28, 2024** | Conference Paper Final Accept/Reject Notifications

Arizona Tracks

1. **Fundamentals and Applications** : Fundamentals are the foundation for understanding applications in engineering. Key components of ASHRAE fundamentals include thermodynamics, psychometrics, fluid flow, and heat and mass transfer. 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.
2. **HVAC&R Systems and Equipment** : HVAC&R Systems and Equipment are constantly evolving to address the changing requirements of the built environment. Papers and programs in this track will focus on the development of new systems and equipment, improvements to existing systems and equipment and the proper application and operation of systems and equipment.
3. **Research Summit** : Active research, and the exchange of those research findings, are critical to the development of our HVAC&R industry and built environment. The 9th annual research summit 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.
4. **Workforce Development** : As members of a professional organization, we recognize that the single greatest strength of our organization is its membership. This track is designed to allow those professionals an opportunity to develop in the areas of presentation skills, leadership, team-building, understanding various business operations, interpersonal skills, etc. In short, the Workforce Development Track will cover all aspects of business and career development outside of engineering/technical applications and lends itself to interactive session types such as workshops and forums.
5. **Industrial Ventilation, Refrigeration, Air conditioning, and Energy Utilization** : The industry sector accounts for roughly one third of the energy use in the US. Increasing efficiency demands are creating the impetus for new technology, targeted at industrial facilities. This track will explore these technologies and regulatory pressures facilitating them. This includes ventilation, refrigeration, and air

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conditioning for industrial facilities and strategies that can improve energy utilization such as, wasteheat recovery, high-temperature heat pumps, and ventilation techniques/strategies.

6. **Heat Pumps, Refrigerants, and Decarbonization** : Decarbonization is omnipresent and encapsulates many different elements. This track will focus on the development of heat pumps supporting decarbonization efforts. This includes improvements to legacy technologies, the refrigerant transition and component development. Additionally, this track will further explore more novel approaches that includes not in-kind technologies and less popular heat pump solutions such as ground-source heat pumps.
7. **Onsite Energy Storage** : 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 onsite storage (either thermal or electrical) 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 occupants' thermal comfort and allow flexibility for shedding and shifting building loads. These benefits will improve grid resiliency, thereby enabling more cost-effective electrification of buildings. Papers and ASHRAE Annual Conference, 2025 (Phoenix) Technical Tracks programs in this track focus on advances in cost-effective materials and systems, design, optimization and control as well as the integration of onsite storage in building envelopes or HVAC systems and grid resiliency.

Arizona Deadlines (DRAFT)

- November 20th 2024: Conference Paper Abstracts, Paper Session Requests Due
- November: Conference Paper Abstract Accept/Reject Notifications
- January: Website Opens for Program Proposals
- February 26th 2025: Program Proposals Due
- February: Conference Papers Due
- March 5th 2025: Conference Paper Accept / Revise / Reject Notifications
- April: Revised Conference Papers Due
- April: Conference Paper Accept/Reject Notifications

Chair Notes:

Speaker Resources: <https://ashrae.org/conferences/speaker-resources>

- See this website for the ASHRAE Presentation policy, commercialism policy & checklist, presentation template, and program submission template.

In addition to program submissions TC's may submit a CEC request to sponsor a paper session:

https://web.ashrae.org/cec_request/

Submit Track ideas to CEC

TC's may submit multiple programs to compile into a mini-track