AGENDA
ASHRAE TC 4.7 ENERGY CALCULATIONS – MAIN MEETING
HILTON ORLANDO LL, ORANGE B
ORLANDO, FL
TUESDAY, FEBRUARY 4, 2020, 6:00 PM – 8:30 PM

1. Reciting of Code of Ethics Commitment and Introductions (5 minutes) Balbach

Commitment to the ASHRAE Code of Ethics: In this and all other ASHRAE meetings, we will act with honesty, fairness, courtesy, competence, integrity and respect for others, and we shall avoid all real or perceived conflicts of interest.

2. Call of Voting Members (2 min) Kruis

3. Review TC 4.7 Scope:
Balbach

TC 4.7 is concerned with identifying, evaluating, developing, and recommending procedures for calculating energy performance of the built environment.

4. Accept agenda & approve minutes of Kansas City meeting (8 minutes) Balbach

5. Announcements/Liaisons (5 minutes) Balbach

- Jim Bennett (Section 4 Liaison)
- Mike Pouchak (Research Liaison)
- Bass Abushakra (Handbook Liaison)

6. Chair Remarks (10 minutes) Balbach

- ASHRAE 2019 - 2024 Strategic Plan (Basecamp)
- Highlights from TC Chairs Breakfast (Updates, FG Re-organization)
- ASHRAE and IBPSA-USA 2020 Building Performance Analysis Conference & SimBuild, Chicago, IL
- Future ASHRAE conferences - Austin, Chicago, Phoenix, Las Vegas

7. Membership (5 minutes) Balbach

- Voting - currently have 11 Voting members (up to 18 is allowed)
- Sagar Rao replaced Anthony Fontanini
- http://tc0407.ashraetcs.org/membership.php

8. Subcommittee Reports

8.1 Multiscale Building Energy Modeling (10 minutes) Judkoff (remote)

8.2 Data-Driven Modeling (10 minutes) Fontanini

8.3 Simulation and Component Models (10 minutes) Lee

8.4 Research (15 minutes) Haberl / Balbach

8.4.1. Research Projects

- Upcoming RTAR’s and WS’s submission to RAC dates:
  - March 15 – RAC Spring meeting consideration in April
  - May 15 – RAC Annual meeting consideration in June
  - August 15 – RAC Fall meeting consideration in Sept. or Oct.
  - December 15 – RAC Winter meeting consideration in January

- Completed Projects
- Awarded Projects
- Approved RTAR
- Approved WS
- Returned WS with Comments
- Rejected RTAR to be Revisited
- WS, RTAR, Requests for Co-sponsorship
- New RTAR

8.5 Handbook (10 minutes) Pruett
8.6 Program (15 minutes) Kastl
8.7 Historical (5 minutes) Haberl / Balbach
8.8 Standards (15 minutes) Neymark
8.9 Web Site (5 minutes) (https://tc0407.ashraetcs.org/) New

9. Related activities reports (10 minutes)

MTG OBB Occupant Behavior in Buildings
MTG.BIM Building Information Modeling
TC 1.5 Emerging Technology Applications
TC 4.1 Load Calculation Data and Procedures

TC 4.2 Climatic
TC 4.5 Fenestration
TC 7.5 Smart Building
TC 7.6 Building Energy

Guideline 14

90.1

10. Awards Nomination (5 min) Balbach
11. New business Balbach
11. Adjourn Balbach

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RESOURCES

2020 Summer meeting - Austin Texas June 27th - July 1st

Monday, August 12, 2019 Conference Paper Abstracts, Technical Papers and Paper Session Requests Due
Friday, August 30, 2019 Conference Paper Abstract Accept/Reject Notifications
buildings and communities also cover the topics on policies and measures and on zero energy design and operation in a wide range of perspectives. Topics in this track includes integrated design approach, tools and resources to make it easy very minor portion of the building stock.

Zero Energy Buildings and Communities: To address the climate change challenges and carbon reduction needs, zero energy buildings and communities have proven concept in many cases. However these case studies remain a very minor portion of the building stock. This track provides an opportunity to address the challenges and demonstrate opportunities in a wide range of perspectives. Topics in this track includes integrated design approach, tools and resources to make it easier on zero energy design and operation, innovative and state-of-art technologies and strategies; balance between energy efficiency measures and on-site renewable generation, aggregated scale to achieve zero energy communities and campuses. This track will also cover the topics on policies and regulations, codes and standards and utility programs for adoption and scale up of zero energy buildings and communities.

CONFERENCE TRACKS FOR AUSTIN SUMMER MEETING

Fundamentals and Applications: Fundamentals are the foundation for understanding applications in engineering. Key components of ASHRAE fundamentals include thermodynamics, psychrometrics, fluid and mass flow. This track provides experiences for technical and applied concepts of HVAC&R design are included. Rupesh iyengar Rupesh_iyengar@yahoo.com

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. Ashu Gupta Ashu.energy@gmail.com

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 8th 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. Kristen Cetin kcetin@iastate.edu

Professional Development: As members of a professional organization, we not only participate for the great value of technical exchange, but also the interpersonal exchange. 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 Professional Development Track will cover all aspects of business outside of engineering/technical applications and lends itself to interactive session types such as workshops and forums. Devin Abellon devin.abellon@yahoo.com

Grid-Interactive Efficient Built Environment: This new track focuses on the effects of industry trends (grid-enabled buildings, demand response, decarbonization, etc.) on system, building and community design practices. Topics include smart building, grid-enabled equipment and appliance, and HVAC design and operation for load flexibility. Topic can also include energy storage (thermal, battery, building mass, etc.), energy recovery (from condenser water or air), time-of-day practices, utility programs, etc. Vikrant C Aute vikrant@umd.edu

Multifamily and Residential Buildings: Multifamily is one of the fast growth building sectors but has been underserved. Multifamily buildings present challenges and opportunities on energy codes requirements, energy efficiency opportunities, ventilation and air tightness balance, and equality to address low-income multifamily buildings. This track covers programs and papers on best practices, utility and above-code incentive programs, field studies, and codes and standards requirements. This track also welcomes programs and papers for single family housing and other residential buildings. Sonya Pouncy sonyapouncy@gmail.com

Resilient Buildings and Communities: The cycle of building development, design and construction is moving more rapidly than ever. Key stakeholders in the design and construction process face new challenges of responding to a range of environmental, market and consumer-driven pressures. Increasingly, it is being recognized that "smart" buildings and integrated systems are central to successfully addressing challenges posed by climate change, natural disasters, accidents, disease, and terrorism. Papers and program in this track focus on innovation and exploration related to these challenges and best practices that enable adaptability, resilience and recovery of buildings and communities. Christine Reinders-Caron christinereinders@gmail.com

Zero Energy Buildings and Communities: Opportunities and Challenges. To address the climate change challenges and carbon reduction needs, zero energy buildings and communities have proven concept in many cases. However these case studies remain a very minor portion of the building stock. This track provides an opportunity to address the challenges and demonstrate opportunities in a wide range of perspectives. Topics in this track includes integrated design approach, tools and resources to make it easier on zero energy design and operation, innovative and state-of-art technologies and strategies; balance between energy efficiency measures and on-site renewable generation, aggregated scale to achieve zero energy communities and campuses. This track will also cover the topics on policies and regulations, codes and standards and utility programs for adoption and scale up of zero energy buildings and communities. Raul Simonetti raul.simonetti@carel.com
Building Myths: It is often difficult to present or publish “negative” results where there was no successful outcome of an experiment or study. This often leads to people conducting similar experiments to discover what others knew but never published. This mini-track is designated to share the lessons learned from these precious experiences. This mini-track will also identify and test unquestioned assumptions related to the built environment and its efficient operation. Kimberly Pierson kdpwildcat@gmail.com

2021 Winter Meeting - Chicago, IL January 23rd - January 27th, 2021

Deadlines:

Wednesday, March 18, 2020: Conference Paper Abstracts, Technical Papers and Paper Session Requests Due

Wednesday, April 22, 2020: Conference Paper Abstract Accept/Reject Notifications


Wednesday, July 8, 2020: Final Conference Papers Due - Submitted for Review,, Request for Conference Paper Sessions Due


Monday, August 10, 2020: Revised Conference Papers/Final Technical Papers Due

Monday, August 24, 2020: Conference and Technical Paper Final Accept/Reject Notifications


CONFERENCE TRACKS FOR CHICAGO WINTER MEETING

1) HVAC&R Fundamentals and Applications: 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.

2) 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) Refrigeration and Refrigerants: 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 being frequently applied, there is more need than ever to understand both the fundamental and advanced concepts and issues related to refrigeration. Papers and programs in this track will focus on refrigerants, refrigerant regulation, refrigeration cycles and refrigeration applications.

4) Environmental Health Through IEQ: HVAC&R systems play a significant role in maintaining indoor environmental conditions. As people spend increasingly more time in the built environment, health concerns are becoming paramount to design. This track will seek papers and programs on developing, evaluating and predicting optimal indoor environmental conditions, especially as they pertain to environmental health.

5) Building Performance and Commissioning for Operation and Management: Modern HVAC&R systems are complicated and designed for high efficiencies. In order to optimize their use and provide proper operation, commissioning is recommended. This track provides an opportunity to provide papers and presentations surrounding building operation and commissioning practices as well as case studies in performance and commissioning.

6) Energy Conservation: Whether it is new construction, renovation, routine maintenance or energy audits there is a major concern over the use of energy in the built environment. Designs are using more techniques to reduce energy with the use of energy wheels and pipes, solar energy, photo voltaic, and more efficient equipment and new concepts that are pushing to be standard design practice. In addition, modeling is being used to generate more life cycle cost decisions for the design and value-engineering decisions beyond standard HVAC practice. This track will highlight case studies and research that expand on the simple to the complex energy savings measures being implemented in today’s and tomorrow’s designs.

7) International Design: Design for various environmental elements, geography and culture demand that new and innovative strategies be developed. As an international organization, ASHRAE strives to meet the needs of a global membership. HVAC&R systems vary globally and this track provides an opportunity to share innovative and necessary design elements that can be shared internationally.

8) Standards, Guidelines and Codes: ASHRAE is known for its standards and design guidelines – and they are constantly evolving with the intent on improving the built environment and its systems. Designers, Contractors, Architects
and Owners must be able to keep up with the continuing changes in the current cycle but to also be prepared for the future changes. In addition, there is a large interaction of ASHRAE with the code authorities and government to incorporate these standards and guidelines. The series of sessions in this track highlight the changes to the standards and guidelines, their projected path and optimum design techniques to meet or exceed the standards.