

**ASHRAE TC 4.3**  
**Ventilation Requirements & Infiltration**  
**Draft Agenda**  
**Annual 2024 Meeting – Indianapolis / Hybrid**

**SIGN IN SHEET**  
<https://tinyurl.com/5abf46xh>

**Monday, June 24, 2024**

**Research Subcommittee Meeting:** 4-5pm EDT, Indy Marriott, Indiana F (1) & Zoom  
<https://events.rdmobile.com/Sessions/Details/2303311>

**Full Committee Meeting:** 5-7pm EDT, Indy Marriott, Indiana F (1) & Zoom  
<https://events.rdmobile.com/Sessions/Details/2303312>

**TC 4.3 Dinner:** 7:45 pm EDT, [Iozzo’s Garden](#), 946 S Meridian St, 1.1 mi walk from Indy Marriott.

\* indicates additions to agenda

**1. Call to order** **McNulty**

**2. Review Scope**  
*TC 4.3 is concerned with ventilation requirements and the analysis of infiltration, airflow around buildings, exhaust, and the re-entry of exhaust, including their interactions with indoor air quality and energy calculations for buildings and HVAC system design and operation performance and energy consumption. <https://tc0403.ashraetcs.org/>*

**3. ASHRAE Values Statement** **McNulty**  
*In ASHRAE meetings, we will act with honesty, fairness, courtesy, competence, inclusiveness and respect for others, which exemplify our core values of excellence, commitment, integrity, collaboration, volunteerism and diversity, and shall avoid all real or perceived conflicts of interest.  
 Our culture is one of inclusiveness, acknowledging the inherent value and dignity of each individual.  
 We celebrate diverse and inclusive communities, understanding that doing so fuels better, more creative and more thoughtful ideas, solutions and strategies for the Society and the communities our Society serves.  
 We respect and welcome all.  
**Code of Ethics - <https://www.ashrae.org/about/governance/code-of-ethics>**  
**Core Values - <https://www.ashrae.org/about/ashrae-s-core-values>**  
**Diversity Statement - <https://www.ashrae.org/about/diversity-equity-and-inclusion-dei>***

**4. Introductions (10’)** **All Parker**  
 a. Determination of a quorum  
**VOTING MEMBERS FOR THIS MEETING (Need (4) or ½+1 for a Quorum)**

Name	Position	Company	Roll Off (June 30)	Present?

1	Meghan McNulty	Chair	Pacific NW Natl Lab	2026	
2	Isaac Simpson	Vice Chair	DMG North	2024	
3	Iain Walker	Member	Lawrence Berkeley Natl Lab	2024	
4	Anthony Abate	Member	Clean Air Group	2025	
5	Duncan Philips	Member	RWDI	2025	
6	Marianne Touchie	Member	University of Toronto	2025	
<b>Non-Voting Officers</b>					
	Nitin Naik	Programs	Dewpoint		
	[open]	Membership			
	Ryan Parker	Secretary/ Co-webmaster	RWDI		
	Neetha Vasan	Handbook	RWDI		
	Jordan Clark	Research	Ohio State University		
	Steven Emmerich	Standards	NIST		
	[open]	Co-Webmaster			
	Hossam Abdelkader	Honors & Awards	Delta for Construction and Manufacturing (DCM)		

b. Round of introductions (in room and online)

All

**5. Agenda additions**

All

**6. Approval of minutes from 2024 Spring Meeting**

McNulty

**7. Chair's Report (5')**

McNulty

a. Chair's Goals

- i. Welcome! Getting to know TC 4.3: Poll for specialties/interests; mentorship program
- ii. Access to Basecamp – request to be added: email ryan.parker@rwdi.com
- iii. Website & FAQ updates

b. Announcements

- i. [ASHRAE Simplified Rules of Order](#)

- ii. \*ASHRAE Government Affairs Committee – Subject Matter Expert Pilot Program  
<https://www.ashrae.org/about/government-affairs/grassroots-advocacy/accomplishments/ashrae-smes-for-goes-pilot-program-application>
- iii. \*Residential Buildings Committee: looking for DLs, residential listed in scope

## 8. Liaison Reports (1'-2' per liaison)

Liaisons

- a. Section 4 Head – Kyle Glusenkamp
- b. \*MTG.RES ASHRAE Roadmap to Resilience – Jason DeGraw
- c. [other committees relevant to TC 4.3; Standards Committees reports are agenda item 10-d]

## 9. Membership/Roster (5')

McNulty

- a. Regular attendance is expected, active participation encouraged.
  - i. Digital sign-in sheet: <https://tinyurl.com/5abf46xh>
  - ii. Attendance record corrections on basecamp
- b. Guests, consider joining as a Provisional Corresponding Member (PCM). This is the only way to officially join TC 4.3: [https://eweb.ashrae.org/eweb/TS\\_ProvisionalSignup.html](https://eweb.ashrae.org/eweb/TS_ProvisionalSignup.html)
- c. Roster update for SY24-25 after this meeting (starting July 1, 2024):
  - i. Chair Isaac Simpson & Vice-Chair Ryan Parker
  - ii. Secretary: Cara Lozinsky
  - iii. 3 new voting members: Jason DeGraw, Núria Casquero-Modrego, Frank Godbout
  - iv. Membership Chair: Jason DeGraw
  - v. Website: Núria Casquero-Modrego
  - vi. Thank you to voting members rolling off: Iain Walker

## 10. Subcommittee reports

### a. Programs (20')

Naik

- i. Current Programs – 2 submissions for Indianapolis:
  1. Co-sponsor Building Resilience Program from Nuria, Jeetika
  2. Co-sponsor IAQ Sensor Seminar from Jordan, Nitin  
**Seminar 35: Low-Cost Indoor Air Quality Sensors: Opportunities and Potential Hazards**, Tuesday, June 25, 9:45 AM – 10:45 AM EDT  
<https://events.rdmobile.com/Lists/Details/2306224>

ii. Future Programs / New Ideas “–3 Strikes” rule- if idea has been on docket for three meetings with no forward movement, will be removed

City	Title	Type	Chair/Speakers
Indianapolis	Evaluating Natural Ventilation	Seminar	Matt Mason (Chair): Justin Berquist, James Lo, Duncan Philips, Will Lin
(on hold)	Burning Questions Around Wildfires and Ventilation/IAQ	Seminar	Isaac Simpson / Steve Emmerich. TC 7.3 co-sponsor, possibly GPC44P co-sponsor (will be published by then)
(Resubmit)	TC4.10: Modeling airflow around buildings and the impact on indoor conditions driving toward increasing building resiliency		TC4.10 – is co-sponsoring and it was submitted. Rejected for Tampa, resubmitting for Indianapolis.
	“How To” for 62.1 or 62.2	Workshop	[when new version / substantial change]- 62.1 next version is 2025, 62.2 is currently updating the IAQ portion
Removed for now	Standard 241 Updates		Steve Emmerich / Iain Walker / Matt Mason
Indianapolis	OSHA IAQ Technical Manual Update		Mathew Meyer: New manual will be published by next summer. Radon will be added to the update
Indianapolis - accepted	Building Resilience in the Face of Extreme Climate Events: A Focus on Indoor Air Quality and Thermal Conditions	Seminar	Chairs Núria Casquero-Modrego, Jeetika Malik; Speakers: Chrissi Antonopoulos, Núria Casquero-Modrego, Kaiyu Sun
Indianapolis - accepted	IAQ Sensors	Seminar	Jordan Clark, Co-sponsor with 62.1, EHC

iv. Deadlines & Tracks for Orlando 2025 Winter Conference

<https://ashraem.confex.com/ashraem/w25/cfp.cgi>

1. Artificial Intelligence, Building Automation, and Controls
2. Energy Storage and Grid Resiliency
3. Fundamentals and Applications
4. Future-Proofing the Built Environment
5. HVAC&R Systems and Equipment
6. Industrialized Construction: Opportunities and Challenges
7. Pathways to Building Decarbonization
8. Refrigeration and Refrigerants

## 9. Ventilation and Indoor Environmental Quality

- **Wednesday, May 29, 2024** | Conference Paper Abstracts and Paper Session Requests Due
- **Monday, June 17, 2024** | Conference Paper Abstract Accept/Reject Notifications
- **Wednesday, June 19, 2024** | Website Opens for Extended Abstracts and Seminar, Workshop, Forum, Debate and Panel Proposals
- **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

### v. **IEQ 2025 Conference (ASHRAE & AIVC)**, Montreal, Canada, Sept 24-26, 2025

<https://www.ashrae.org/conferences/topical-conferences/ieq-2025-conference>

- Performance Metrics: For all aspects of IEQ
- Occupant Behavior: How behavior impacts IEQ and how IEQ impacts behavior - psychological dimensions of IEQ
- Smart Sensors, Data and Controls: Sensor properties, data management, cybersecurity, applications, commissioning, equivalence
- Resilience and IEQ: Responding to climate change and disasters
- Ventilation: Mechanical, passive, natural and hybrid systems
- Air Tightness: Trends, methods and impacts
- Thermal Comfort: Dynamic approaches, health impacts and trends
- Policy and Standards: Trends, impacts, implications
- HVAC and IEQ in a post-COVID world
- Ventilation and building decarbonization

**November 11, 2024:** Conference Papers Abstracts and Extended Abstracts Due

### b. **Research (10')**

**Clark**

- i. **Subcommittee meets immediately prior to this meeting; research projects discussed in detail then, high-level update in this meeting.**
- ii. Active Research Projects (RP)
  1. RP1835: Characterization of Induced Flow Fans
- iii. Work Statements (WS)
  1. 1950-RTAR: Effect of residential exhaust terminations on jet mechanics and resulting required intake separation
  2. WS-1961: Updating garage ventilation rates for current populations of vehicles (electric cars)

3. TRP-1918: The verification of openings, the limitations of openings, air distribution and humidity conditions in Naturally Ventilated spaces to complement Section 6.4 of ASHRAE Standard 62.1

iv. Research Topic Acceptance Request (RTAR)

1. 1962-RTAR: The Impact of Facade Penetrations (e.g. ERV / HRV, exhausts) on Residential Building Pressurization and Ventilation Air Distribution – Phillips
2. 1973-RTAR: Improving Zone Air Distribution Effectiveness (Ez Factor) Accuracy for Heating with Ceiling Supply and Return – Godbout
3. PTAR-004: Guide for successful simulation of outdoor airflow around the built environment – Phillips

v. On Hold / Inactive

vi. New Ideas

Name	Champions	Status/Actions
Potential work following ETF transition	McNulty	Sample survey of existing building vent performance i.e. BASE study Crowd-sourced database? CO2 or CO levels
Adjustment of rates for density of air w/ altitude-do emissions change with altitude? How much do resulting rates change? Include perception changes	Phillips- framework, Taylor review	Phillips to provide framework and Taylor to review
Impact of opening type on natural ventilation	(open), Duncan will support	New Idea, has there been research on this topic previously?

viii. Deadlines

1. March 15, 2024
2. May 15, 2024 for consideration at RAC Annual meeting
3. August 14, 2024 for consideration at RAC Fall meeting
4. December 15 for consideration at RAC Winter meeting

--- 5' Break ---

**c. Handbook (15')**

**Vasan**

i. Chapter Status

Volume	Chapter	Lead	Status

2025 Fundamentals	Chapter 16 Ventilation and Infiltration	Marianne Touchie, Cara Lozinsky, Justin Berquist	Completed chapter ready for TC 4.3 vote
2025 Fundamentals	Chapter 24 Airflow Around Buildings	Ted Stathopoulos	Completed chapter ready for TC 4.3 vote
2027 Applications	Chapter 46 Building Air Intake and Exhaust Design	Ryan Parker	2023 version is published

ii. Revision information

1. Access files, for revision, via <https://authoring.ashrae.org/>
2. **Chapter reviews:** If you have colleagues who are practicing in or otherwise interested in any of our topics, please ask them to review our as-published chapters. They can submit their reviews via [http://xp20.ashrae.org/secure/handbook/chapter\\_review/](http://xp20.ashrae.org/secure/handbook/chapter_review/)
3. Website for our revisers: <https://www.ashrae.org/technical-resources/ashraehandbook/ashrae-handbook-central>

iii. Deadlines

**d. Standards (15')**

**Emmerich**

- i. 62.1 Ventilation and Acceptable Indoor Air Quality
- ii. 62.2 Ventilation and Acceptable IAQ in Low-Rise Res Bldgs
- iii. 161 Air Quality Within Commercial Aircraft
- iv. Other Standards of interest
  1. 241 Control of Infectious Aerosols
  2. 90.1 Energy
  3. 170 Ventilation of Healthcare Facilities

**e. Website/Basecamp (5')**

**Parker**

- i. Website & FAQ updates

**f. Honors & Awards (5')**

**Abdelkader**

- i. December 1 deadline:
- ii. May 1 deadline: ASHRAE Award for Distinguished Public Service; ASHRAE Hall of Fame; ASHRAE Pioneers of the Industry; Fellow; F. Paul Anderson Award; Honorary Member

**11. Old Business (5')**

- a. Terminology issue: RP-1833 conflicting definitions (Rock) – doc on Basecamp
- b. [NRC survey](#) on energy modeling practices ([Berquist](#)): The National Research Council (NRC) Canada is leading a 3-year project to investigate the role of overall airtightness on

the energy/carbon use in heritage buildings by completing a series of whole building airtightness tests on both pre- and post-retrofit heritage buildings.

- c. Multi-family buildings often have pressurized building corridors. Now in buildings with ERV/HRVs the corridor are over-ventilated. Marianne is experimenting on a condo building in Toronto to vary ventilation and measure it. If you are interested in this email Marianne: [marianne.touchie@utoronto.ca](mailto:marianne.touchie@utoronto.ca)

## **12. New Business (5')**

- a. TC 4.3 Question: Natural ventilation calculation used by American Petroleum Institute, Dan Sommer.

## **13. Next Meeting**

- a. Roster Changes July 1
- b. Fall Interim Meeting (Virtual)
- c. Future ASHRAE Annual and Winter Conference dates:
  - i. Winter 2025: Orlando, FL, Feb 8-12
  - ii. Annual 2025: Phoenix, AZ, June 21-25
  - iii. Winter 2026: Las Vegas, NV, Jan 31-Feb 4
  - iv. Annual 2026: Austin, TX, June 27-July1

## **14. Adjourn**