

# ASHRAE Technical Committee 4.3: Ventilation Requirements & Infiltration

2019 Annual Meeting

## DRAFT AGENDA

Monday June 24, 2019, 4:15 pm-6:30 pm

Marriott-West, 3rd Floor, Jay McShann B

### 1. COMMITTEE AND MEETING INFORMATION

Subcommittee Meetings:

Research: During Main Meeting

Program: During Main Meeting

Handbook: During Main Meeting

**Scope:** TC 4.3 is concerned with ventilation requirements and the analysis of infiltration, airflow around buildings, and exhaust re-entry, including their integration with indoor air quality and energy calculations for building and HVAC system design and operation.

TC Web Site: <https://tc0403.ashraetcs.org/>

### 2. CALL TO ORDER + ATTENDANCE

| Voting Members      |                 |                    |                        |                    |          |
|---------------------|-----------------|--------------------|------------------------|--------------------|----------|
|                     | Name            | Position           | Company                | Roll Off (June 30) | Present? |
| 1                   | Martin Stangl   | Chair              | RWDI                   | 2020               |          |
| 2                   | Nathan Ho       | Vice-chair         | P2S Engineering        | 2020               |          |
| 3                   | Jordan Clark    | Secretary          | Ohio State University  | 2021               |          |
| 4                   | Steve Taylor    | Research           | Taylor Engineering     | 2021               |          |
| 5                   | Ed Light        | Member             | Building Dynamics      | 2019               |          |
| 6                   | Mini Malhotra   | Program/Membership | Oak Ridge National Lab | 2019               |          |
| 7                   | Brian Rock      | Handbook           | University of Kansas   | 2022               |          |
| Non-Voting Officers |                 |                    |                        |                    |          |
|                     | Steven Emmerich | Standards          | NIST                   | -                  |          |
|                     | Steve Duda      | Honors             | Ross & Baruzzini, Inc. | -                  |          |
|                     | Xia Fang        | Webmaster          | McKinstry              | -                  |          |

Quorum > 1/2 all VM, excluding NQM; super majority >= 2/3 VM present; simple majority > 1/2 VM present

### 3. APPROVE AGENDA

a.

### 4. APPROVE MINUTES FROM PREVIOUS MEETING

a.

### 5. ANNOUNCEMENTS (TC CHAIR)

- a. Commitment to the ASHRAE Code of Ethics – (TC Chair): 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 interests. (See full Code of Ethics: <https://www.ashrae.org/about-ashrae/ashrae-code-of-ethics>.)”
- b. You can acquire a FREE badge at the ASHRAE Registration. This free badge will not gain access to the conference programs, but is a great way for people to identify themselves and improve their networking

**6. LIAISON REPORTS**

- a. Conferences and Expositions Committee (CEC)
- b. Handbook Committee (Guy Frankenfeld)
- c. Professional Development Committee (PDC) – (Donald Brandt)
- d. Technical Activities Committee (TAC) (Dennis Wessel)
- e. Special Publications (Francis Mills)
- f. Environmental Health Committee (Josephine Lau)
- g. Research (RAC) (Mike Pouchak)
- h. Standards ()

**7. SUBCOMMITTEE REPORTS**

**a. Research (Steve Taylor)**

- 1) Research Subcommittee Meeting Chair Report
- 2) Active Research Project Status

| <b>Name</b> | <b>Project</b>   | <b>PMS</b>                                | <b>Status</b> |
|-------------|--|---|---------------|
| RP-1819     | CO2 Demand Controlled Ventilation in Multiple Zone VAV Systems with Multiple Recirculation Paths | Steve Taylor<br>/Josephine Lau            |               |
| RP-1823     | Improved Exhaust-to-Intake Dilution (Concentration) Calculations                                 | Steve Taylor<br>Iain Walker<br>Brian Rock |               |

3) Pending Research Project Status

| <b>Name</b>                                     | <b>Project</b>  | <b>Champion</b>         | <b>Status</b> |
|---|---|-------------------------|---------------|
| <b>Work Statement (WS)</b>                      |   |                         |               |
| WS-1835   | Characterizing the Performance of Entrained Flow Stack  | TC9.10<br>Brad Cochrane |               |
| <b>Unsolicited Research Proposal (URP)</b>      |   |                         |               |
| URP-1853  | Building on an Existing Residential Ventilation Project: Brushless Permanent Magnet (BPM) Motor Change-Outs, Pollutant Emissions Characterizations, and Testing Multi-zone Ventilation System effectiveness | TC4.3<br>Steve Taylor   |               |
| <b>Research Topic Acceptance Request (RTAR)</b> |   |                         |               |
| RTAR-1877                                       | Outdoor ozone in naturally ventilated buildings   | TC4.3<br>Jordan Clark   |               |
| RTAR-1878                                       | Outdoor particulate matter penetration and indoor PM removal rates in naturally ventilated commercial buildings   | TC4.3<br>Jordan Clark   |               |
| RTAR-   | Low-cost indoor pollutant sensor performance metrics for data-driven control of ventilation in smart buildings  | Jordan Clarke           |               |
| <b>Multidisciplinary Task Group (MTG)</b>       |   |                         |               |

| Name                       | Project   | Champion   | Status |
|----------------------------|---|--|--------|
| MTG                        | Idea of MTG around VOCs and VOC mixtures and what constitutes air quality.  | Ed Light   |        |
| <b>New Ideas</b>           |   |  |        |
| New                        | Infiltration vs. Pressurization impact with ERVs  | Lau will try to find masters student                     |        |
| New                        | Cost effectiveness of sealing between floors in multistory buildings to reduce stack effect, requirements to reduce multi-family internal partition leakage | Marianne Touchie, Gren Yuill, from University of Toronto |        |
| New                        | Cost effectiveness of code  |  |        |
| New                        | Electric Vehicle effects on outdoor air   | Steve Taylor   |        |
| New                        | Understanding formaldehyde generation rates   | Nathan Ho  |        |
| New                        | Co-Sponsor Ceiling Fans RTAR initiated by TC4.10  | Shichao Liu  |        |
| <b>On Hold or Inactive</b> |   |  |        |
| Hold                       | Is CO2 a pollutant or an indicator?   | Steve Taylor   |        |

4) Regular deadlines: March 1 (for spring RAC meeting), May 15 (for June meeting), August 15 (for fall RAC meeting), December 15 (for January meeting)

**b. Program (Mini Malhotra/Josephine Lau)**

- 1) Evaluation of Atlanta Program
- 2) Kansas City Program
- 3) Orlando

- Program (Seminar, Forum, Workshop, Debate and Panel) Proposals are due February 8, 2019. Extended Abstracts also due February 8, 2019.
- Tracks

4) New program ideas

| City | Title  | Type                       | Chair/Speakers                              |
|------|--|----------------------------|---|
| ??   | Controlling Pollutant Sources in Residential Buildings | Seminar<br>62.2 Co Sponsor | Steve Emmerich                              |
| ??   | Where has my air been?                                 | Seminar                    | John C, Martin/Ron/?                        |
| ??   | 62.2 update  | Seminar                    | Iain Walker                                 |
| ??   | Assessment of VOC mixtures                             | Workshop                   | Ed Light (with MTG)                         |
| ??   | Controlling pollutant sources in residential buildings | Seminar<br>62.2 Co-sponsor | Steve Emmerich                              |
| ??   | Computational modeling of airflow around buildings     | Seminar                    | John Carter, Ted Stathopoulos, Brad Cochran |
| KC   | Sensors for control of ventilation and air cleaning    | Seminar                    | Jordan Clark, LBNL?, 2.3?                   |

**c. Handbook (Brian Rock)**

- 1) Chapter status

| <b>Volume</b>     | <b>Chapter</b>                                    | <b>Lead</b>           | <b>Status</b>  |
|-------------------|---|-----------------------|--|
| 2021 Fundamentals | Chapter 16 Ventilation and Infiltration           | Jordan Clark          | Revisions begun<br>Please send comments and revisions        |
| 2021 Fundamentals | Chapter 24 Airflow Around Buildings               | Ted Stathopoulos      | Revision process begun<br>Please send comments and revisions |
| 2019 Applications | Chapter 45 Building Air Intake and Exhaust Design | Jason Urso (for 2019) | 2019 Chapter published; revision processes starts anew       |

- 2) Access files, for revision, via <https://authoring.ashrae.org/> (Internet Explorer use req'd)
- 3) **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/)
- 4) The website for our revisers is <https://www.ashrae.org/technical-resources/ashrae-handbook/ashrae-handbook-central>

#### **d. Standards ()**

- 1) TC 4.3 Cognizant
  - 62.1 Ventilation for Acceptable Indoor Air Quality (Nathan Ho)
  - 62.2 Ventilation for Acceptable IAQ in Low-Rise Residential Buildings (Iain Walker)
- 2) Others Standards of Interest
  - 90.1 (Steve Emmerich)
  - 170-2013: TC 9.6: Ventilation of Healthcare Facilities (Rick Hermans/ Jordan Clark)

#### **e. Honors (Steve Duda)**

#### **f. Webmaster (Xia Fang/Martin Stangl)**

#### **g. Membership (Mini Malhotra)**

### **8. NEW BUSINESS**

- a. MTG.OBD (occupant behaviors) (Mini Malhotra)
- b. Future Meetings
  - 1) February 1-5, 2020 – Orlando, FL
  - 2) June 27-July 1, 2020 – Austin, TX
  - 3) January 23 – 27, 2021 – Chicago, IL

### **9. ADJOURN**

- a. Time: