



## ASHRAE Technical Committee 1.4

### Full Committee Meeting Agenda

TC 1.4 Control Theory and Application

<http://tc0104.ashraetcs.org/>

Tuesday, June 28 1:00 – 3:30 pm EDT Hybrid Conference

*“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 interests. (See full Code of Ethics: <https://www.ashrae.org/about-ashrae/ashrae-code-of-ethics>.)”*

#### 1) Call to Order

#### 2) TC 1.4 Scope

- a) ASHRAE Technical Committee 1.4 is concerned with control theory, systems, and components (excluding refrigerant flow controls) for heating, ventilating, air conditioning, and refrigeration uses.

#### 3) Introduce Members, Guests, and Liaisons

- a) General Introductions – In person and virtual
- b) Determination of a quorum

VOTING MEMBERS FOR THIS MEETING (Need (4) or  $\frac{1}{2}+1$  for a Quorum)

NAME	Roll-Off-Date		NAME	Roll-Off-Date	
Larry Fisher	6/30/22		Christopher Benson	6/30/23	
Brandon Gill	6/30/22		Elise Backstrom	6/30/25	
Nemat Lotfi	6/30/23		Joe Kilcoyne	6/30/25	
Amanda Pertzborn	6/30/23		Paul Ehrlich	6/30/25	

#### 4) Approval of minutes from 2022 Winter Meeting

- a) -.

## 5) Chair's Report

### a) Announcements and Highlights from TC Chairs Breakfast Meeting

- i) New 10 hour free online training – “ASHRAE Leadership Development Auto-Tutorial” which TAC has noted may be a future requirement for FG leadership.

<https://www.ashrae.org/communities/committees/standing-committees/technical-activities-committee>

#### ASHRAE Leadership Development Auto-Tutorial

<b>Block A: Five E's – Envision, Equip, Empower, Edify, Evaluate</b> <ul style="list-style-type: none"><li>• (A) Intro to Block A</li><li>• (B) A.1.a - Envision</li><li>• (C) A.1.b - Equip</li><li>• (D) A.1.c - Empower</li><li>• (E) A.2.d - Edify</li><li>• (F) A.2.e - Evaluate</li><li>• Block A Introspections</li></ul>	<b>Block C: Committee Dynamics; Consensus; Decision Making</b> <ul style="list-style-type: none"><li>• (L) Bridge to Block C</li><li>• (M) C.1.a.i - Typical or Atypical Meetings</li><li>• (N) C.1.a.ii – Flow</li><li>• (O) C.1.b - Consensus</li><li>• (P) C.1.c - Decision Making</li><li>• Block C Introspections</li></ul>
<b>Block B: Three C's – Change, Communication, Character</b> <ul style="list-style-type: none"><li>• (G) Intro Block B</li><li>• (H) B.1.a - Leadership and Change</li><li>• (I) B.1.b.i - Communication</li><li>• (J) B.1.b.ii - Communication Applied</li><li>• (K) B.1.c - Leadership and Character</li><li>• Block B Introspections</li></ul>	<b>Block D: Creativity; Ideation; Problem Solving; Planning</b> <ul style="list-style-type: none"><li>• (Q) Bridge to Block D</li><li>• (R) D.1.a.i – Creativity</li><li>• (S) D.1.b - Ideation</li><li>• (T) D.1.c.i - Problem Solving Intro</li><li>• (U) D.1.c.ii - Problem Solving Blocks</li><li>• (V) D.1.c.iii Part 1 – Thinking Like an Engineer</li><li>• (W) D.1.c.iii Part 2 – Failure to Think</li><li>• (X) D.1.d - Strategic Planning</li><li>• (Y) E.1.a - Think Like a Leader</li><li>• Block D Introspections</li></ul>

## 6) Announcements

### a) TAC – Technical Activities Committee – Section Head David Meredith

- i) Unofficial Update to the ASHRAE Code of Ethics – “Empathy and Patience” added to the code of ethics.
- ii) Online Training Available
- iii) Improve a link to TEC (Training and Education Committee), CTCC, ALL; There may be a new way to coordinate with TC's.
- iv) Upcoming conferences
- Feb. 4-8, 2023 – Atlanta, GA
  - June 24-28, 2023 – Tampa, FL
  - Jan. 20-24, 2024 – Chicago, IL
  - June 22-26, 2024 – Indianapolis, IN
  - Feb. 8-12, 2025 – Orlando, FL
  - June 21-25, 2025 – Phoenix, AZ

### b) RAC – Research Activities Committee – Section Head Ahmed Kashef

- i) -

## 7) Liaison Reports – TC 1.4 Sponsored Functional Groups

### a) SGPC 13 Specifying Building Automation Systems

- i) Chair Todd Gottshall, reported by Ron Bernstein
- b) **SGPC 36 High Performance Sequences of Operation for HVAC Systems**
  - i) Chair Jeff Boldt, Vice-Chair Joe Zhou
- c) **SPC 231P CDL – A Control Description Language for Building Environmental Control Sequences**
  - i) Chair Paul Ehrlich
- d) **SSPC 135– BACnet - A Data Communication Protocol for Building Automation and Control Networks**
  - i) Chair Coleman Brumley, Jr
- e) **MTG.CYB - Cybersecurity for HVAC Systems And Related Infrastructure**
  - i) Liaison –Ron Bernstein
- f) **MTG.EBO - Effective Building Operations**
  - i) Liaison –Joe Kilcoyne (interim)

*MTG.EBO coordinates the activities of multiple TC/TG/TRG and other stakeholders concerned with training, resources and tools to support the operation of buildings. Key factors and metrics that impact effective building operations are total cost of ownership, natural resource and environmental impact and overall indoor environmental quality. Responsibility will include suggestions for research and development of technical programs and special publications on effective building operation.*

*MTG will be meeting in Toronto on Tuesday 6/28/2022 from 1:00-3:00 PM*

## 8) Sub-Committee Reports

- a) **Executive** – Joe Kilcoyne | vice chair Elise Backstrom
  - i) Updated Roster (as of June 30, 2022)
    - (1) Larry Fisher and Brandon Gill rolling off as voting members
  - ii) Kimberly Barker turning over 1.4 Research Subcommittee Chair to Amanda Pertzborn
  - iii) Proposed Future Conference Tracks for Controls – Frank to reach out to CEC staff liaison Tony Giomatti for June 2023 – Tampa, FL
  - iv) ASHRAE TC 1.4 has been requested for TC 1.4 to review ASHRAE eLearning Coursebooks on HVAC Systems and HVAC Control Systems
  - v) The editor of Special Publications with ASHRAE has asked whether TC 1.4 members will agree to review the ASHRAE's eLearning coursebooks **FUNDAMENTALS OF HVAC CONTROL SYSTEMS** and **FUNDAMENTALS OF HVAC SYSTEMS** in preparation for an update to their eLearning courses.
    - (1) Existing ASHRAE eLearning Course Package: DDC Controls
      - (a) DDC Networks and Protocols
      - (b) DDC Specification, Installation, and Commissioning
      - (c) DDC Introduction to Hardware and Software
  - vi) Certification in Building Automation Systems Design – meetings occurred on revising and resubmitting on a BAS Certification Course through ASHRAE. TC 1.4 will look at the *Proposal to Certification Committee for Development of a New ASHRAE Certification Program* document provided by the ASHRAE Certification Manager, Tim Kline.
- b) **Education/YEA** – Michelle Shadpour |
- c) **Control Components and Applications** – Chad Moore, reported by Chariti Young
- d) **Program** – Frank Shadpour
- e) **Research** – Kim Barker | vice chair Amanda Pertzborn
- f) **Handbook** – Tara Shoorideh | vice chair Terry Shroeder(sp)
- g) **Standards** – Steve Taylor
- h) **Webmaster** – Charlotte Dean

## 9) Committee Liasion Reports

- a) Decarboniztion Task Force -
- b) Pandemic Task Force -
- c) TC 1.5 (Computer Applications) – Mike Pouchak

- d) TC 2.10 HVAC Security – Kim Barker
- e) TC 5.6 (Control of Fire & Smoke)
- f) TC 6.1 (Hydronic Systems)
- g) TC 6.7 (Solar Energy Utilization) – Gaylen Atkinson
- h) TC 7.3 (Operations & Maintenance Management)
- i) TC 7.5 (Smart Building Systems) – Jin Wen
- j) TC 7.6 (Systems Energy Utilization)
- k) TC 9.10 (Laboratory Systems) – Jim Coogan
- l) TC 9.11 (Clean Rooms) – Phil Naughton
- m) SSPC 62.1 (Ventilation and Acceptable IAQ) – Steve Taylor
- n) SSPC 90.1 (Energy Efficient Design of New Buildings) – Steve Taylor
- o) SSPC 202 (Commissioning Process for Buildings and Systems) – TBD
- p) TC 1.6 (Terminology) – Phil Naughton
- q) SPC 189.1 Design of High-Performance Building – Bogi Setty
- r) MTG Occupant Behavior in Buildings – Kim Barker

## **10) Old Business**

- a) New TC 1.4 Subcommittee for Consideration
  - i) Focus will be on Disruptive Technologies to bring more visibility and dedicating time to this topic to inform potential research opportunities and programs
  - ii) Other potential issues:
    - (1) Grid interactive buildings
    - (2) Cybersecurity
    - (3) Model predictive control
- b) Jim Coogan – Collaboration with TC 5.11 Humidification Equipment

## **11) New Business**

- a) TC 1.4 Past Chair Verle Williams: e-mail messages to Frank Shadpour ([frank@scengineers.net](mailto:frank@scengineers.net))
- b) Jin Win received the ASHRAE Distinguished Service Award
- c) \_

## **12) Upcoming Deadlines**

- Atlanta Winter Conference – February 04-08
- Seminar, Forums, Workshops, Panels and Debates proposals for Atlanta are due by **Tuesday August 9, 2022.**
- **The portal to submit programs for 2023 Winter will open on July 15.**
- Program Focus at Atlanta Winter Conference
  - i. Track 1: Fundamentals and Applications
  - ii. Track 2: HVAC&R Systems and Equipment
  - iii. Track 3: Refrigerants and Refrigeration
  - iv. Track 4: Grid Resilience and Thermal Storage
  - v. Track 5: Pathways to Zero Energy Emissions and Decarbonization
  - vi. Track 6: Multifamily and Residential Buildings
  - vii. Track 7: Operations and Maintenance
  - viii. Track 8: Mini Track – Innovative responses to supply chain challenges

## **13) Next Meeting – 2023 ASHRAE Winter Conference | February 4-8, 2023 | Atlanta**

## **14) Adjourn**