

ASHRAE
1791 Tullie Circle, N.E./Atlanta, GA 30329
404-636-8400
TC/TG/TRG MINUTES COVER SHEET

(Minutes of all TC/TG/TRG Meetings are to be distributed to all persons listed below within 60 days following the meeting.)

TC/TG/TRG NO:	TC 7.9
TC/TG/TRG/TITLE:	Building Commissioning
DATE OF MEETING:	January 21, 2018
LOCATION:	Chicago, IL

MEMBERS

PRESENT	MEMBER NAME	TERM	PRESENT	MEMBER NAME	TERM
<input checked="" type="checkbox"/>	Sarah Maston – Chair	2014 – 2018	<input checked="" type="checkbox"/>	Bradley Brooks	2014 – 2018
<input checked="" type="checkbox"/>	Justin Seter – Vice Chair (YEA)	2014 – 2017	<input checked="" type="checkbox"/>	John Castelvevchi	2015 – 2019
<input checked="" type="checkbox"/>	Will Mak – Secretary (YEA)	2016 – 2020	<input checked="" type="checkbox"/>	Wade Conlan	2014 – 2018
<input checked="" type="checkbox"/>	Thomas Cappellin - Membership	2013 – 2017	<input checked="" type="checkbox"/>	Gerald Kettler	2014 – 2018
<input checked="" type="checkbox"/>	John Gibbemeyer - Handbook	2013 – 2017	<input type="checkbox"/>		
<input checked="" type="checkbox"/>	Ole Teisen	2013 – 2017	<input type="checkbox"/>		

Bradley brooks not here
John castevecchi not here

NON-VOTING MEMBER SUBCOMMITTEE CHAIRS

PRESENT	NAME
<input checked="" type="checkbox"/>	David Shipley – Research / Webmaster
<input type="checkbox"/>	Thursten Simonsen – Journal & Insights
<input checked="" type="checkbox"/>	Walter Grondzik – Honors & Awards / Standards
<input checked="" type="checkbox"/>	Lee Riback - Programs

EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE

NAME	GRADE	MEMBER NAME	GRADE
Dr. Charles E Dorgan	CM	James Vallort	CM
Dr. Joy Eileen Altwies	CM	Justin Garner	CM
Dr. Svein O Morner	CM	Kristopher Brockles	PCM
Adam Doublestein	CM	Kyle Knudten	CM
Alonzo Blalock	CM	Lawrence Ollice	CM
Andres Sepulveda	PCM	Michael Amstadt	CM
David Shipley	CM	Norman Nelson	CM
David Cantrill, Jr	CM	Paul Easum	CM
David Lewis	CM	Rogeh Alnajjar	PCM
David Allen	CM	Ryan Williams	CM
Gary Andis	CM	Stephen Wiggins	CM
Harry Enck	CM	Timothy Patterson	PCM
James Mascaro	CM	Timothy Corbett	CM
James Magee	PCM	Thomas Cappelin	CM

Bruce Pitts	CM	Rick Casault	CM
John Villani	CM	Kari Vokes	CM
Andres Vepuzveda	PCM	Dean Borges	CM
James Mascaro	CM	Mina Agarabi	CM
David Allen	CM		

CM = Corresponding Member, PCM = Provisional Corresponding Member

GUESTS

NAME	NAME
Liz Fischer	Elizabeth Goll
Yang (Grace) Gao	Matthew Coalson
Sandhya Sapkotal	Scott Emergy
Catherine Tinkler	Fiona Aldous
Don Larsson	Jay Santos
Ashu Gupta	David Meyers
Steve O'Hara	Connor Tobin
Dave Smith	

DISTRIBUTION

<i>All Members of TC/TG/TRG plus the following:</i>	
TAC Section Head:	Marija Todorovic
TAC Chair:	Michael R. Bilderbeck
All Committee Liaisons As Shown On TC/TG/TRG Rosters:	
Manager of Standards	Stephanie C. Reiniche
Manager of Research & Technical Services	Michael R. Vaughn

1. Call To Order / Scope / Introduction

- Sarah Maston (Chair) called the meeting to order at 3:00 PM. All who were present provided self-introductions, including their name and affiliation.
- John Castelvechi moved to approve the agenda for Chicago, Lee Riback seconded.

2. Voting Member Roll Call

- There were 10 voting members present out of a total of 12 voting members. A quorum of voting members was present for the meeting.

3. Approval of Long Beach Minutes

- The draft minutes from Long Beach were reviewed and a correction was noted. Motion was made and seconded to approve minutes as amended. Wade, Justin.
 - Wade moved to approve, Justin seconded.
- Motion passed: 5 – 0 – 1 (Yea – Nay – Abstain)

4. ASHRAE Administrative Matters / Issues from TC Chairs Breakfast

- **TC Chair's Breakfast Notes:**
 - Moving towards online roster system for easy access and management
 - New MTG forming EBO for effective building operations (formed in Long Beach)
 - In a couple years, ASHRAE will be celebrating 125 year anniversary, ASHRAE is looking for past technical papers to celebrate technical advances since 1920. Will be celebrating in annual and winter meeting
 - Basecamp system was reviewed
 - TC MOP and Meeting Minutes cover sheet have been updated
 - CEC is moving to a new software system for technical program administration
 - Tuesday, Salon 10, subcommittee chair training
 - Publications committee, 90.1. online 90.1 portal. Ashrae.org/90.1. sign on before March 15 to get free access

5. Correspondence / Announcements

- No Update

6. Society Liaisons

Sarah Maston - CEC Update - ASHRAE Programs

All speakers must complete the potential source bias disclosure form now.

Tracks and key dates for upcoming conferences are on the websites and www.ashrae.org/houston

Society Handbook Update

Our TC is partaking in a pilot program to make incremental updates throughout the year instead of the typical cycle

Society Standards Update

- Represent ASHRAE on other code related organizations i.e. IECC, etc.
- Society resource for standards and codes
- Represent ASHRAE at code hearings on our stance on certain issues
- If there are issues with model codes that TCs are aware of, please let them know so they can bring up those issues

7. Sub-Committee Reports

- Membership..... Tom Cappellin
 - 193 people on the roster
 - 8 voting members
 - 1 non-voting subcommittee chairs
 - 4 non-voting members
 - 36 provisional corresponding members
 - 144 Corresponding members
- Program Lee Riback
 - Success in long beach probably lead to less programs in Chicago
 - Reviewed programs in the future to support BCxP certification
 - Lee is joining CEC and will need someone to take over as subcommittee chair, will ease the transition
- Research..... David Shipley
 - Two projects could be possible submission in the near future.
 - Will be working on getting them ready for submission
- Handbook (Applications - Chapter 43)..... John Gibbemeyer
 - Voting on chapter revisions this meeting but will need to defer to next meeting
 - 4 sections like OPR, commissioning costs that need help
 - Anyone that helps will have access to online handbook
 - Working on March 17 date to get chapter revisions approved, need to return to ASHRAE by April 1
- Standards..... Walter Grondzik
 - Commissioning for Data Centers guideline was approved and will be included into SSPC300
- Web Site..... David Shipley
 - Website: <http://tc0709.ashraetcs.org/>
 - Lots of great content that goes back almost 20 years
 - Forward all content that should be on website to Website Subcommittee Chair i.e. Meeting Minutes, Programs
- Journal and Insights Thursten Simonsen

- No report
- Honors & Awards Walter Grondzik
 - Requesting anyone that wants to be awarded by ASHRAE, please send requests to Honors & Awards chair

8. Cognizant Committee Liaison Reports

- SSPC 300 The Commissioning Process..... Gerry Kettler (next several sections)
 - Reference Basecamp for Meeting Minutes and Updates
- ALI Commissioning Courses.....Walter Grondzik
 - There are 4 commissioning courses available at the conference. Guideline 0 and Standard 202 courses are still cognizant by TC 7.9.
- GPC 1.2 “Commissioning of Existing HVAC&R Systems”.....Tom
 - Ongoing revisions in progress, will be submitting in the spring
- GPC 1.3 “O&M Training for HVAC&R Commissioning” Walter Grondzik
 - Will be published in the next month
- Dictionary of Terms
 - 95% complete. Working though final coordination
- USDOE/NIBS CWCC Program and Certifications – Commissioning Provider (one of 5 titles)
 - DOE completed program development in 2015. It licenses organizations that meet the ISO 17024 and DOE requirements to certify individuals. ACG, BCA has been ANSI certified and licensed by DOE. NEBB is in process of seeking DOE Cx certification. AEE and ASHRAE now licensed for non-commissioning certifications.
 - DOE program has certification and certificate programs.
- National Institute of Building Science (NIBS)
 - NIBS Commissioning Council met Jan 11, 2017 in Washington
 - WBDG commissioning sections have been updated
- American Institute of Architects (AIA)
 - Developing an AIA commissioning services contract boiler plate
 - Have hired a staff member to coordinate the commissioning process.
- International Code Council (ICC)
 - 2015 versions of IECC and IGCC require commissioning. The 2018 code issues appear to be following very similar requirements.
 - Published Guideline G-4 – Guideline for Commissioning is currently being revised by an ICC and industry committee.
 - Standard 1000 – Standard for Commissioning Process has been cancelled and is being combined with the revised Guideline 4.
- ASHRAE Standard 189.1 – Standard for the Design of High Performance Green Buildings
 - ICC IGCC being folded into 189.1 for 2018 except for administration chapter.
 - Cx requirements are being addressed in 189.1 WG 10 to follow Standard 202 process requirements and coordinate with other codes. These changes have gone through the second public review.
- CAL Green – Title 24
 - Includes Commissioning requirements

- Has developed checklists for new construction.
- SGPC 0 “The Commissioning Process” &
SGPC 1 “HVAC&R System Commissioning” Michael Amstadt
 - These subcommittees fall under SSPC202 for continuing maintenance
- GPC 0.2 “Commissioning of Existing Buildings”
 - Published for use

9. Other Committee Liaison Reports

- SSPC-62 “Ventilation for Acceptable IAQ” TBD
 - No report
- SPC-90.1 “Energy Efficient Design of New Buildings” H. Jay Enck
 - Working on 2019 version forms appendices
 - Will reference qualifications and stressing independence and licensing
- SPC-111 “Testing and Balancing for New Buildings” Justin Garner
 - Meeting on Tuesday
- GPC-11 Control Components Testing Tom
 - Pub review with no comments, will be published shortly
- TC 7.1 “Integrated Building Design” David Allen
 - We are wrapping up a major revision to the Integrated Building Design handbook chapter for publication in 2019. The revision adds instructions on how to carry out an integrated project, including the importance of commissioning to a successful project. It suggests when to add the commissioning agent to an integrated project and use the OPR to define and track systems performance throughout the project.
- TC 7.3 “Operation and Maintenance Management”Mina
 - Working on finish standard 211
- TC 7.7 Testing and Balancing Justin Garner
 - Meeting is tomorrow afternoon
- TC 7.8 “Owning and Operating Costs” Open
 - No Update
- TC 9.6 “Healthcare” Roger Lautz
 - No report
- AEDG “Advanced Energy Design Guidelines” Jay Enck
 - 595,000 guides downloaded. Next version of the guides will be zero energy
- MTG BIM Open
 - No report

10. Other Association Reports

- BCA..... Liz
 - Project on updating LBNL study the value of commissioning, huge database project. About 150 buildings into database. Looking for ongoing commissioning data.
 - Continuing to work with CWCC with certification, accreditation, online certificate program. Launching ACP certification (associate)
 - 20th year anniversary this year
 - 3/5 – 3/8 next training in Chicago
 -
- NEBB: Stephen Wiggins
 - Concerned about lack of new talent
 - Large gap with training and certification
 - Broadening resources and training to focus on younger professionals
 - Advanced Electrical, Plumbing Cx, etc coming up soon
- ACG Jim Magee
 - Cx workshop on Tuesday and Wednesday at McCormick Place
 - CxENERGY conference in Las Vegas, april 23 to april 26
 - Big emphasis on EMP certification accredited by DOE
- AABC Justin Garner
 - New technician manual was released in August
 - Annual meeting in Maui this past October
- USGBC H. Jay Enck
 - Working on LEED v4.1
- ASTM H. Jay Enck
 - Have not published revisions to Standard 2813
- Green Globes
 - No report
- ICB / TABB..... Gary Andis
 - 6 ISO certifications
 - Created new envelope certification
 - 4 fire life certifications
 - 2 ISO TAB certifications
 - Working on rebuilding certifications
- Living Building Challenge David Cantrill
 - No report.

11. Old Business

- Kicked off J.R. Anderson scholarship award, jointly raised money with his Region 7. Covered student / YEA member transportation to “Be in the Room”
- BCxP certification exam costs will also be covered

- Looking to raise \$30,000. Has already raised almost \$7,000 to date from Region 7 golf outing
- Talked about having a happy hour to raise funds in Houston

12. New Business

- New ASHRAE commissioning test for BCxP. For anyone that is a CPMP, when you retake the exam, you will be designated a BCxP after you pass. For more information: <https://www.ashrae.org/education--certification/certification/bcxp-certification-faqs> and <https://www.ashrae.org/education--certification/certification/bcxp-building-commissioning-professional-certification>
- There was a rollout between NIBS and ASHE on BIM updating guide for Owners at the January NIBS Conference
- Cx for Design Build
 - Recommend creating Task Group for Design Build within SSPC 300
- CPMP / BCxP Certification Renewal
 - New version of the form will be savable and much more user friendly. Will be live in the next month or two.
 - Download candidate guidebook and review requirements
 - For renewal, you must renew to BCxP

13. Next Meeting

- Sunday, June 24 @ 3:00 PM CST in Houston, TX

14. Adjournment

- Meeting adjourned at 4:27 P.M. CST

15. Action Items

- No Items.

16. Motions

- Motion for meeting minutes for Long Beach approval - PASSED

END OF MINUTES

Attachments

Notes from TC Chair's breakfast meeting

**Conferences and Expositions Committee Information Items for Technical Committees
Winter Meeting, Chicago, 2018**

1. Presentation Deadlines:

CEC has had an ongoing issue with presentations not being uploaded for commercialism review before the conference. This is problematic because it requires a “fire drill” for CEC on Saturday and Sunday to process commercial reviews for these presentations before they can be uploaded to the system. For clarification, presentation requirements include:

- a. Uploads need to be substantially complete; including the AIA Disclaimer and Learning Objectives. Blank slides and place holders do not constitute a substantially complete presentation.
- b. Recent Presentation Upload History
 - i. For Chicago, 38 presentations had not been uploaded by the January 10th deadline.
 - 1. 24 presentations were still not uploaded as of 1/20/2017.
 - 2. 22 of those 24 were TC sponsored.
 - ii. For Long Beach, 41 presentations were not uploaded by the final due date.
 - iii. For Las Vegas, 48 presentations were not uploaded by the start of the conference.

CEC needs to hold speakers accountable for making deadlines. Starting with the 2017 Winter Meeting in Las Vegas, CEC started enforcing a 3 strike policy for speakers who do not up load their presentation by the published deadline. If a speaker receives 3 strikes they will not be able to present for the following year (two conferences).

2. Program statistics for Chicago; for a total of 106 available slots:

Seminars	Workshops	Panels	Forums
115 submitted	10 submitted	11 submitted	16 submitted
67 presented	5 presented	1 presented	2 presented
 Debates	 Conference Papers	 Technical Papers	
10 submitted	132 abstracts submitted	21 submitted	
3 presented	92 abstracts approved	18 presented	
	67 CP presented	6 Technical Paper Sessions	
	17 Conference Paper Sessions		

3. Potential Sources Bias Disclosure:

Since the 2016 Annual Meeting in St. Louis, speakers are required to fill out a potential sources bias disclosure document that will note affiliations/ involvement with any organizations with financial or commercial interest in the subject matter to be discussed, in accordance with the ASHRAE code of ethics. This IS REQUIRED to present at an ASHRAE Conference.

4. AIA/CES Presenter Quality Commitment:

All Presenters are REQUIRED to complete the following documents in order to have their presentation included in the conference program:

- AIA/CES Presenter Quality Commitment Statement
- Consent to Record

5. **Student Paper Recognition:**

Continuing the Student Paper Awards that were initiated at the 2017 annual meeting, we have selected the following . Certificates will be awarded to the following students at their assigned conference paper session. There will be (1) “Best Paper” and (2)Honorable Mentions for graduate candidates and PDH candidates (6 total papers awarded). (2)

PhD Best: Liquid Removal through Vibrations on a Flexible Film for Condensing/Dehumidification

Authors: Ryan Huber, Giselle Guanes and Melanie Derby

Conference Paper Session 3 – Improvements in Heat Transfer Equipment - **Sunday, January 21, 2018: 11:00 AM-12:30 PM**

PhD Honorable: A New Model for Frost Growth Incorporating Droplet Condensation and Crystal Growth Phases

Authors: Ellyn Harges and Lorenzo Cremaschi

Conference Paper Session 3 - Improvements in Heat Transfer Equipment - **Sunday, January 21, 2018: 11:00 AM-12:30 PM**

BS/MS Best: Resilient Design, Commissioning and Operation of the Canadian High Arctic Research Station

Authors: Jean-Francois Pelletier, Michael D. Brown, Guillaume Castonguay and Cynthia Cruickshank

Conference Paper Session 1 – Operation and Design for Resilient and Responsive Buildings - **Sunday, January 21, 2018: 9:45 AM-10:45 AM**

BS/MS Honorable: Dynamic HVAC Operations with Real-Time Vision-Based Occupant Recognition System

Authors: Siliang Lu, Erica Cochran Hameen and Azizan Aziz

Conference Paper Session 5 – Designing Building Systems for Thermal Comfort - **Monday, January 22, 2018: 8:00 AM - 9:30 AM**

6. **2018 ASHRAE Annual Conference in Houston, TX:** www.ashrae.org/houston

- a. Seminar, Forum, Panel, Debate and Workshop proposals are due Friday, February 9, 2018 (as of Jan 19, 2018 we have received 155 submissions)
- b. Web site opens for presentation uploads Monday, April 30, 2018
- c. All presentations due online Friday, June 1, 2018

- **Track 1: HVAC&R Systems and Equipment:**

Track Chair: Frank Schambach

Email: frankschambach@mindspring.com

- **Track 2: Fundamentals and Applications:**

Track Chair: Dennis Alejandro

Email: denzjac@yahoo.com

- **Track 3: District Energy and Cogeneration Plants:**

Track Chair: Kimberly Pierson

Email: kdpwildcat@gmail.com

- **Track 4: Safeguarding your HVAC&R System:**

Track Chair: Rich Rose

Email: richr@mticontrols.com

- **Track 5: Residential – Modern buildings in Hot and Humid Climates:**

Track Chair: Dimitris Charalambopoulos

Email: dimitris@ashrae.gr

- **Track 6: Commissioning– Optimizing New & Existing Buildings and their Operation:**

Track Chair: Kevin Marple

Email: kmarple@benzco.com

- **Track 7: Research Summit:**
Track Chair: Melanie Derby Email: derbym@ksu.edu
- **Track 8: HVAC&R Control Freaks:**
Track Chair: Gary Debes Email: gcdebes@verizon.net
- **Track 9: HVAC&R Analytics (Mini-Track)**
Track Chair: Vikrant Aute Email: Vikrant@umd.edu

2. **2019 ASHRAE Winter Conference in Atlanta, GA:** <http://www.ashrae.org/atlanta>

- a. Conference Paper Abstracts are due Monday, March 5, 2018
- b. Seminar, Forum, Debate, Panel and Workshop submissions begin Monday, June 4, 2018
- c. Conference Papers are due Friday, July 6, 2018
- d. Seminar, Forum, Debate, Panel and Workshop proposals are due Friday, August 3, 2018
- e. Program notifications go out Friday, September 7, 2018
- f. Web site opens for presentation uploads on Friday, November 30, 2018
- g. Presentation uploads due Monday, January 7, 2018

- **Track 1: Systems and Equipment**

Track Chair: Joe Firrantello Email: j.firrantello@gmail.com

- **Track 2: Fundamentals and Applications**

Track Chair: Rick Hermans Email: herma015@umn.edu

- **Track 3: Refrigeration**

Track Chair: Sonya Pouncy Email: sonya.pouncy@gmail.com

- **Track 4: Construction, Operation, and Maintenance of High Performance Systems**

Track Chair: Leticia De Oliveira Neves Email: leneves@gmail.com

- **Track 5: Common System Options and Misapplications**

Track Chair: Lee Riback Email: lee.riback@gmail.com

- **Track 6: 207.2 (55+62.1+90.1): The Convergence of Comfort, Indoor Air Quality, and Energy Efficiency**

Track Chair: Ashish Rakheja Email: ashish.rakheja@aeonconsultants.in

- **Track 7: Building Integrated Renewables and Natural Systems**

Track Chair: Maggie Moninski Email: maggie.moninski@gmail.com

- **Track 8: The Engineer's Role in Architecture**

Track Chair: Ashu Gupta Email: ashu.energy@gmail.com

7. **TC Opportunities:**

- a. TC members who want to submit a program should consult the Track Chair for assistance in preparing a good abstract, learning objectives, and Q&A to help assure complete submission.
- b. TC's and Sections are welcome to suggest new presentation formats (like how the Workshop was born). Best way to present material to benefit attendee is a goal.
- c. TC's and Sections are encouraged to work with a track chair to put together a series of sessions that can be used as a mini-track.
- d. Putting together an entire track of programs in cooperation with other TC's is also encouraged; keeping in mind that track subjects are typically determined 14-15 months prior to a conference.

- e. CEC welcomes suggestions for tracks! We value your input. TAC/CEC agreed that the Comment Section on the activity form is the location for the TC to provide this information.

8. Speaker Ratings:

About 12 speakers from Long Beach had speaker ratings below 3.5 out of 5.0. These speakers were sent letters indicating that if they receive two additional low ratings they will be required to provide proof that they have received speaker training before they will be permitted to speak again.

9. CEC Announces a Call for Reviewers and Paper Session Chairs:

ASHRAE has a number of conferences coming up that include papers, and CEC seeks your help in reviewing them. Additionally opportunities to chair a paper session are available. Specifically, there is an immediate need for reviewers and session chairs for the 2018 Annual Conference and various specialty conferences.

Please submit your interest in reviewing a paper or chairing a paper session using the online form: http://web.ashrae.org/cec_request/. Please contact Tiffany Cox, ASHRAE Assistant Manager, Conference Programs, at tcx@ashrae.org for more information.

10. ASHRAE 125th Anniversary Call for Papers

The Historical Committee has announced a call for papers on technologies and topics that occurred between the years 1920 – 2000. Accepted papers will be published in ASHRAE Transactions and presented at a Society Winter or Annual Conference during the celebration year. Abstracts are due March 2018. Upon acceptance, papers are due September 2018. To submit an abstract, go to mc.manuscriptcentral.com/ashrae. For more information, contact Jeff Haberl, 979-845-6507, jhaberl@tamu.edu.

11. Specialty Conferences

ASHRAE’s topical conferences are focused on a particular aspect of the industry and bring together professionals for networking and professional development. Two specialty conferences are available for the remainder of 2018.

2018

Date	Conference	Location	Website
Sept 26-28	ASHRAE Building Performance Analysis Conference and SimBuild	Chicago, IL	ashrae.org/BuildPerform2018
Oct 4-5	3 rd International Conference on Efficient Building Design	Beirut, Lebanon	ashrae.org/Beirut2018

12. CLIMA 2019

The CLIMA 2019 Congress has announced a call for papers and a call for reviewers. The congress takes place May 26 -29, 2019 in Bucharest, Romania. Papers are requested in the areas of advanced HVAC&R technology and IEQ; high performance buildings; information and communication technologies for intelligent building management; and sustainable urbanization

and energy system integration. Abstracts are due Sept. 30, 2018. Upon acceptance, papers are due Nov. 30, 2018. Reviewers with a background in these topics are requested. To submit an abstract, sign-up to be a reviewer or for more information, visit <http://www.clima2019.org>.

13. Program Types:

Technical Paper Session: TC sponsored/organized paper sessions are encouraged and may be submitted at: http://web.ashrae.org/cec_request/. Final approval is contingent upon successful peer review of the individual paper. These sessions present papers on current applications or procedures, as well as papers resulting from research on fundamental concepts and basic theory. Papers presented in these session have successfully completed a rigorous peer review. Forms for written comment are available at each session, and sent to respective authors for reply and publication in ASHRAE transactions, if received by a certain date.

Conference Paper Session: TC sponsored/organized paper sessions are encouraged and may be submitted at: http://web.ashrae.org/cec_request/ Final approval is contingent upon successful peer review of the individual paper. These sessions present papers on current applications or procedures, as well as papers reporting on research in process. These papers differ from technical papers in that they are shorter are length and undergo a much less stringent peer review.

Seminar: These sessions feature presentations on subjects of current interest. There are not papers attached to seminars.

Workshop: These sessions enable technical committees and other ASHRAE committees to provide a series of short presentations on a topic requiring specific expertise. These short presentations are provided with an increased emphasis on audience participation and training in a specific set of skills. There are not papers attached to workshops.

Forum: The sessions are “off-the-record” discussed held to promote a free exchange of ideas. Reporting of forums in limited to allow individuals to speak confidentially without concern of criticism. There are not papers attached to forums.

Panel Discussion: Panel discussions can feature a broad range of subjects and explore different perspectives on industry related topics. This session format includes a panel of 3-4 speakers each addressing a facet of the session topic, followed by an interactive discussion lead by the session chair. Panel Discussions may be 60 minutes or 90 minutes in length and will be posted online in the Virtual Conference.

Debate: Debates highlight hot-button issues commonly faced by our membership. Industry experts, either on teams or as individuals, argue opposing sides of an issue, concluding with position summaries and audience feedback. Debate sessions may be 60 minutes or 90 minutes in length and will be posted online in the Virtual Conference.

TAC AGENDA ITEM M.b. Draft 3

Preliminary Draft

AGENDA

SECTION TC/TG/TRG CHAIR'S BREAKFAST MEETING

2018 Annual Meeting

Chicago, IL

Sunday, January 21st

6:30 A.M. – 8:00 A.M. CST

Palmer House Hotel – ALL Section meetings located on 3rd Floor

Section 1, Salon 1 Room, 3rd Floor

Section 3 Salon 4 Room, 3rd Floor

Section 5, Salon 6 Room, 3rd Floor

Section 7, Wilson Room, 3rd Floor

Section 9, Salon 12 Room, 3rd Floor

Section MTG, Madison Room, 3rd Floor

Section 2, Salon 5 Room, 3rd Floor

Section 4, Salon 9 Room, 3rd Floor

Section 6, Salon 2 Room, 3rd Floor

Section 8, Salon 10 Room, 3rd Floor

Section 10, Kimball Room, 3rd Floor (**TAC MBO #3.1**)

- I. CALL TO ORDER
- II. ROLL CALL AND INTRODUCTIONS (5 minutes)
- III. ADDITIONS AND/OR CHANGES TO THE AGENDA (5 minutes)
- IV. REVIEW ANY SPECIAL ASSIGNMENTS, ACTION ITEMS FROM LAST MEETING, AND NEW ISSUES (10 minutes).
New Assignments:
 - A. **To be determined**
- V. DISTRIBUTE WRITTEN INFORMATION AND REQUESTS FROM SOCIETY LIAISONS TO TC/TG/TRG CHAIRS (30 minutes).

Additional Potential Announcements/Reminders:

A. NEW!

1. 2017-2018 George B. Hightower Award Recipient – Art Hallstrom – TC 1.6
2. 2017-2018 Service to ASHRAE Research Award Recipient – Brian Silveti – TC 6.9
3. Discuss if TGs, TRGs, and MTGs in section will continue in 18-19 Society Year
4. 17-18 Rosters Access & Distribution
5. MTGs that have been formed since Long Beach Meeting – MTG.EBO (Effective Bldg. Operations)
6. TC Website template – Feedback or Suggested Improvements, if any?
7. New Restructured TC MOP (Manual of Procedures) – Feedback or Suggested Improvements, if any?
8. How to Import Your TC Roster Information into MS-Outlook
9. Updated TAC Presentation Template Available for TC members to use with local Chapter
10. Basecamp Information from ECC

B. AT THIS MEETING

1. On-Site Training Options – TC Chair Training of Roster Update Process for SY 18-19 roster
2. Location of Section Head Mailboxes & Free Wi-Fi Access at this Society Meeting
3. RPM (Remote Participation Meetings)

C. UPCOMING DEADLINES

1. TC Activity Forms for the Chicago Meeting are Due to Section Heads before **Wednesday, 1/24/18**
2. Seminar and Forum proposals for Houston are due by **Friday, February 9, 2018**

D. REMINDERS

1. 2017-2018 Rosters Access & Distribution
2. Useful TC/TG/TRG/MTG Chair Information and forms on ASHRAE Website
3. Request for each TC to review ASHRAE Code of Ethics at start of TC meeting
4. Make Special Effort to Welcome New Members and Visitors (Potential Members) to TC Meeting
5. Option for TC Subcommittee Meetings via Conference Calls and Web Meetings
6. Is your TC Website Up-to-date?
7. 17-18 TC Master Calendar – Now Available through Google

E. RECENT ANNOUNCEMENTS

1. RAC Prioritizing Research Topics Related to Residential Sector
2. CEC's Standing Request for Future Society Meeting Program Track Suggestions
3. CEC Seeks TC Volunteers willing to Support Content Development and Quality Control for Society Technical Program at Society Meetings
4. The Professional Development Committee (PDC) is seeking ideas for new ASHRAE Learning Institute (ALI) courses

F. CURRENT & UPCOMING ASHRAE CONFERENCE PROGRAMS

1. Program Focus of Chicago Meeting
2. Houston Meeting – June 23 – 27, 2018
3. Atlanta Meeting – January 12 – 16, 2019

G. OTHER UPCOMING WORKSHOPS AND CONFERENCES

1. TBD

VIII. REMARKS FROM SOCIETY LIAISONS TO TC/TG/TRG CHAIRS

Liaison members from Research Administration, ASHRAE Program, Handbook, Standards, and other standing committees will have an opportunity to describe their committee activities that relate to the TC/TG/TRG functions, if time permits. Written announcements must be provided as a minimum by liaisons in order to have an opportunity to speak at this meeting.

ADJOURN

Note: This agenda will be discussed and finalized during the full TAC meeting in Chicago. This draft of the agenda is only intended to promote thinking prior to and discussion during that meeting.

Announcements and Reminders for TC/TG/TRG & MTG Chairs CHICAGO 2018

A. NEW!

1. Discuss and confirm that TGs, TRGs, and MTGs in section will continue in 17-18 Society Year or disband

TBD

2. 17-18 Rosters Access & Distribution - Remember, the current 2017-2018 roster for your TC, TG or MTG is in effect until after the June meeting this year – through Friday, June 30th.

By now, each TC, TG and MTG chair should have received a PDF & MS-Excel file of their new 2017-2018 roster from their Section Head or staff for distribution to the committee. In addition, each member can view all of the rosters of their committees on the ASHRAE Website. Go to www.ashrae.org <http://www.ashrae.org>, click on the "Membership & Conferences" tab in the header, click on "My Membership" text in the left sidebar, and log in (if you have not logged in lately, you might need to set up a new username and password). Click on the "Update Your Bio / View or Edit Your Profile" link. Now, you should see your current "bio info". Click on "Committees" on the left sidebar; all of the committees you are a member of will appear. Click on the "blue" roster text at the left hand side of a committee to reveal the roster with linked contact information. Make sure everyone on your committee also knows how to access the roster.

The Provisional Corresponding Member (PCM) position is a relatively new position on TC/TG/TRG rosters. This position allows potential new members to be added by staff to the committee roster any time a request for membership is made by an individual. The position has a 2-year term on the committee. Staff will notify the chair and reissue a new roster to the committee chair any time a provisional member is added. The TC/TG/TRG chair has the option each year during the regular roster update process to convert provisional CMs that have been active participants on the committee the past year into regular CMs or voting members or drop them. If no action is taken, they will time expire from the roster and be removed by staff.

3. Let's Celebrate ASHRAE's Technical Excellence Historically!

ASHRAE is highly regarded for its technological advances. Consider that these advances evolved from the efforts of our predecessors and you, and the current members of ASHRAE's Technical Committees in advancing HVAC&R technology are building on a deep foundation. So, what is the historical foundation of your Technical Committee specialty? ASHRAE will be celebrating its 125th anniversary in a couple years. The Historical Committee has a project to publish articles in the ASHRAE Journal and organize paper presentations celebrating our technical heritage for the anniversary. We plan to emphasize technical advances after 1920. Can you help with an article or a paper or can your TC organize and sponsor a program session for the 2019-2020 meetings?

Here is a list of topics that TC members have already suggested.

- Development of open communication protocols such as BACNET.
- Modern improvements in psychrometrics (Goff & Gratch).
- History and effect of the Environmental movement on our technology. How technology and equipment has improved the indoor environment.
- The refrigerant revolution
- Solving the problems of "sick buildings."
- The re-discovery of past technology and its application today (such as district energy, hydrocarbon refrigerants, off peak energy storage, "total energy" systems, etc.)
- History of the application of electronics to HVAC&R technology.
- ASHRAE's long history in applying innovative technology.
- History and importance of frozen food technology.

All of these topics and others you may think of need to be written up and/or presented by someone.

How about YOU?

The 125th anniversary will be celebrated at the 2020 winter and Annual meetings. The Historical Committee has been charged with the responsibility of organizing Society and industry history projects for the 125th. If you would like to submit an article or a paper or organize a program session, contact Emily Sigman, Historical Committee Staff Liaison at esigman@ashrae.org.

There is a deadline – please submit abstracts or outlines before **February 28, 2018**.

4. Oversight of TC websites with regard to *Technical Bulletins* (White Papers) and alignment with Society positions, policy, or opinions

TCs are allowed to develop Technical Bulletins - A Technical Bulletin does not result from a technical meeting and is a brief 1-2 page statement on a special interest HVAC&R topic that has been developed by either a technical or grassroots committee of ASHRAE. After the TC approves the Technical Bulletin, TAC is responsible for coordinating a peer review by a minimum of three persons with expertise in the field of the bulletin before it can be posted. In addition, ASHRAE's policy for websites states the following: **"4 (3) f. Statements and presentations may not appear on web sites that state, purport, or imply that they present ASHRAE positions, policy, or opinions."**

5. Additional TC E-mail Position Aliases Now Available

New position e-mail alias addresses have now been created for each of the remaining mandatory positions of the Technical Committee management team (Secretary, Standards Sub. Chair, Program Sub. Chair, Handbook Sub. Chair, and Webmaster). The 17-18 E-mail Alias list with these new position aliases is posted on the ASHRAE website www.ashrae.org/TCs under the heading *Procedures, Forms & Information for TCs/TGs/MTGs and TRGs*.

6. New Restructured TC MOP (Manual of Procedures) issued

TAC has restructured the TC MOP so that it is easier to navigate and find information. The new TC MOP can be found on the ASHRAE website www.ashrae.org/TCs under the heading *Procedures, Forms & Information for TCs/TGs/MTGs and TRGs*.

7. Distribution of TC minutes changed in TC MOP

The TC MOP and *TC/TG/MTG/TRG Minutes Cover Sheet* form have both been updated and you are no longer required to send the TAC chair a copy of your minutes after each meeting. The new minutes cover sheet can be found on the ASHRAE website www.ashrae.org/TCs under the headings *Procedures, Forms & Information for TCs/TGs/MTGs and TRGs – Routine Forms for TC/TG/MTGs/TRGs*.

8. How to Import Your TC Roster Information into MS-Outlook

Detailed instructions on how to import your TC roster information into MS-Outlook has been created and an e-mail announcement will be issued to all TC chairs, vice chairs, and secretaries once these instructions and the restructured TC MOP are posted to the TC page of the website (www.ashrae.org/TCs)

9. Updated TAC Presentation Template Available for TC members to use with local Chapter

TAC recently updated the standard presentation and presentation notes that TC members can use, without a lot of effort, to explain what TCs do for the Society and how that work benefits members in your local ASHRAE Chapter. You should also know that use of this presentation at a chapter meeting in SY 17-18 will earn a chapter 50 (100 points maximum) PAOE points. Additional PAOE points are also possible in SY 17-18 for a presentation(s) on the work of one specific TC.

The new presentation and presentation notes files are posted now at the following link www.ashrae.org/tcs under the heading *General TC Information* at the top of the page in case you prefer to direct others to these files posted online. The presentation material is now also available in both English and Spanish.

10. Basecamp Information from ECC

More and more TCs and standing committees are making use of ASHRAE's subscription to Basecamp3 to better organize, store, and distribute online committee files that are needed for their meetings through a dedicated committee Basecamp site. If you would like to learn more about Basecamp and how to request a site for your particular committee, please go to the Electronic Communications Committee (ECC) web page: (<https://www.ashrae.org/society-groups/committees/electronic-communications-committee>) and scroll down to the section titled *Guidance for Basecamp 3*

11. Participation Requested for an Survey being Conducted for an ASHRAE Research Project ASHRAE RP-1650: Training Requirements for Sustainable, High-Performance Building Operations, which is sponsored by TC 7.3.

We are conducting a survey of the Facility Managers in the industry who are involved in the O&M of High Performance Building Operations. The aim of this survey is to gain an insight into the knowledge and skill requirements needed for O&M staff to operate high performance buildings. The results of the survey will help us formulate training documents that address knowledge and skill sets that are required for O&M personnel to effectively operate such buildings. We would like to request you to make this survey available to the members of your TC. Their input regarding their experience with the O&M of High Performance buildings and systems would greatly benefit and inform this survey. TC members are also encouraged to share the survey link with colleagues that may be better positioned to respond to such a survey.

Filling out this survey should take about 15 minutes of your time.

The link to this survey is provided below:

https://montana.qualtrics.com/jfe/form/SV_2ixnELa2V9lfaRL

We plan on closing this survey on **Wednesday, February 2018.**

B. AT THIS MEETING

1. On-Site Training Options

i. **TC/TG/TRG Chair's Training Workshop Reminder**

Sunday January 21st, 9:45-10:45 AM in Chicago Room, 5th Floor, in the Palmer House Hotel. The training will start with a presentation on how to use the new on-line TC roster update system and answer any questions you have regarding this new system. The moderator will then conduct a Q&A session with the Chairs in order to get a better understanding of what they need or want from TAC in the form of training. The moderator will also ask for feedback on the current TAC training modules and close by laying out his potential vision for future training modules.

ii. **RAC's Research Subcommittee Chair's Breakfast**

Monday, January 22nd, 6:30 AM – 9:30 AM in Grand Ballroom, 4th Floor, Palmer House Hotel. Please encourage your Research Subcommittee Chair or another representative from the TC to attend this meeting so that your RAC Research Liaison (RL) can get an update on the TC's research activities and so that your RL can help any resolve issues & questions that the TC may have concerning their research program. The training portion of this meeting will focus on changes to the **Research Manual**.

iii. **TC Program Subcommittee Chair Training in Long Beach**

Tuesday, January 23rd, 11:15 AM – Noon, Salon 10 Room, 3rd Floor, Palmer House Hotel.

Don't complain about the meeting program and your TC's submissions if you have not been to training.

A few things you might learn in training are as follows:

- Incomplete program submissions is the biggest reason for rejection now. All information is needed up front for CEC selection process.
- A packaged session on a similar topic is the best way to greatly improve your chances for acceptance.
- There is no difference in how CEC handles 60 and 90 minute program slots. 60 minute slots are just as good as 90 minute slots if complete.

2. Location of Section Head Mailboxes & Free Wi-Fi Access at this Society meeting

Mailboxes are located just outside ASHRAE Headquarters Office (Salon 3 Room – Salon Level (3rd floor) – Palmer House Hotel.).

Also, Internet access and computers for e-mail are available in the Cyber Café located in the registration area during operating hours. Please be considerate to others and limit your usage to five minutes.

Wireless internet will be available in all meeting rooms at the Hyatt, Renaissance, and Long Beach Convention Center. ASHRAE will be working with the internet provider to manage the bandwidth so that member expectations of accessibility and speed are fulfilled. We would like to request that everyone limit their usage to functions that do not use excessive bandwidth. Applications such as Facebook, YouTube, streaming video, etc. use excessive bandwidth.

Palmer House Hotel Wi-Fi Access: **PH Meeting Room** is the network, username is **ASHRAE18** and password is **chicago** all (case sensitive).

3. RPM (Remote Participation Meetings) being held in Chicago

The 13th RPM (Remote Participation Meeting) Capable Society Meeting, which allows some TC members to participate in the TC meeting from a remote location electronically, will occur in Chicago and the following sixteen TCs have agreed to participate in this effort: TC 1.12, TC 2.1, TG2(HVAC), TC 4.1, TC 4.2, TC 4.3, TC 4.7, TC 5.11, TC 6.9, TC 7.3, TC 7.8, TC 9.2, TC 9.3, TC 9.4, TC 10.3, and TC 10.6 – This is an increase of one in the number of TCs that hosted RPM meetings in **Long Beach**. A total of 46 RPM meetings will be hosted in **Chicago** when you include project committee and other committee meetings. For comparison, a total of 33 RPM meetings were hosted in **Las Vegas** last year at this time.

The chairs of those TCs participating should provide to their Section Head feedback on their RPM meeting experience before TAC meets on Wednesday morning, 1/24.

4. Name Badges

As offered in the past, members of TCs who are not registered for the Conference and plan to only attend TC meetings may receive a free, plain white name badge. The purpose of these badges is for TC members not registered for the Conference to be able to identify one another in meetings.

To receive your badge, please go to the ASHRAE Registration desk located in the Exhibit Hall room at the Palmer House Hotel and look for the sign for "TC Badges." Please identify yourself as someone only attending committee meetings, not registered for the Conference, who would like a white name badge. An ASHRAE staff person will create a badge for you that includes your name, company name and city, state and country (if outside the U.S.). The badge will not have a QR code and will not allow you into the Technical Program.

However, if you'd like to register for the entire Conference you can do so in advance or on-site. We realize your time is limited, one-day registrations (\$270 for Members) are available as well as one-session registrations (\$70). If you wish to register for one day of the Technical Program you or one session, you can do so at the ASHRAE Registration desk. The One-Day option gives you access to the Virtual Conference which is viewable on-demand for 18 months. Questions? Contact meetings@ashrae.org.

C. UPCOMING DEADLINES

1. TC Activity Forms for the Chicago Meeting are due to Your Section Head before Wednesday, 1/24/18

TC/TG/TRG Activity Feedback Form (Excel) can be downloaded from the Technical Committee webpage under the "TC Forms and Documents" page - <https://www.ashrae.org/standards-research--technology/technical-committees/tc-forms-and-documents>. Section heads can also provide an electronic copy of the form if requested.

2. Seminar and Forum proposals for Houston are due by Friday, February 9th, 2018.

Please visit the following site to submit your proposal:

<http://submissions.miramart.com/ASHRAEHouston2018/Splash.aspx>

For more information, go to: <https://www.ashrae.org/membership--conferences/conferences/2018-ashrae-annual-conference>

3. 2018 RPM (Remote Participation Meetings) Request for Houston Meeting

ASHRAE has streamlined the process for requesting RPM meetings moving forward, which will allow us to confirm meeting information earlier in advance of the actual meeting dates.

The updated procedures are as follows:

- ALL committees that want to be considered for an RPM capable meeting in Houston next June must turn in an *ASHRAE Meeting Room Request Form* for Houston to the ASHRAE Meetings section.
- The request should include the reasons why you are requesting RPM meeting capability.
- RPM meeting requests for the upcoming Houston Annual meeting should be submitted by **Friday, April 9th or sooner**
- Confirmation emails (verifying the requests) will be sent out in May 2018
- Requests received after the above date may not be accommodated due to high and growing demand for this service.

D. REMINDERS

1. Useful TC/TG/TRG/MTG Chair Information and forms on ASHRAE website Information for TC/TG/TRG and MTG chairs can be found on the Technical Committee page of the ASHRAE website at the following link: <http://www.ashrae.org/tcs>

2. Request for each TC to briefly review ASHRAE Code of Ethics at start of meeting See the following link for the latest version of the ASHRAE Code of Ethics: <https://www.ashrae.org/about-ashrae/>

3. Make a Special Effort to welcome new Members, and Visitors to TC meeting

Potential new members for your committee have been encouraged to drop-by your meeting. As a result, please make a special effort to recognize and warmly welcome all visitors to your meeting – A TC can never have too many willing and able volunteers.

4. Option for TC Subcommittee Meetings via Conference Calls and Web Meetings More and more TCs are taking advantage of a new Society service that allows TCs to hold subcommittee meetings by phone and/or web. Many TCs are finding this to be a more efficient way for them to conduct subcommittee business and it also allows TC members that can't travel to meetings on a regular basis a way to still contribute to the TC. Such a change can also eliminate potential conflicts with the TC's program sessions at Society meetings. Please pass your conference call/web meeting/webinar requests on to the Manager of Research and Technical Services, Mike Vaughn, at mvaughn@ashrae.org or MORTS@ashrae.net

5. Is Your Committee Website up to Date?

If not, please ask your webmaster to at least post the latest minutes and the Chicago meeting times and agenda. If your website has been neglected, add an action item for this meeting to appoint a responsible member of the TC/TG/TRG who will bring it back to life. The new TC website template has greatly simplified the duties of the TC webmaster and this form of communication is critical to the efficient operation of your committee, and for attracting new members.

The recent conversion to a new TC website platform highlighted a couple areas where a refresher of the ASHRAE rules on website maintenance is warranted. First be aware that ASHRAE Products (i.e., handbook chapters, journal articles, final reports from research projects, etc.) cannot be published on your TC's website. It is very appropriate to post the title and scope of the product and then link the reader to the ASHRAE bookstore or other location on the ASHRAE site where the product may be purchased. Any possible exceptions to this rule must be sent through Steve Comstock for review and approval (scomstock@ashrae.org). The second issue involves timely posting of the draft minutes. Draft minutes (and final, approved minutes from the prior meeting) should be posted to your website (or otherwise distributed to the members) within 60 days after the meeting. Please ensure that your secretary and webmaster are aware of this deadline. To assist your secretary in understanding the procedures for taking and reporting minutes, a video has been developed and posted on the Technical Committees' Training page (<https://www.ashrae.org/standards-research--technology/technical-committees/tc-training-and-presentations>). On the same page, a video has also been posted for use by webmasters to learn about the procedures and schedule to maintain the new websites.

6. TC 2017-2018 Master Calendar – Now Available through Google - The Technical Committee Master Calendar is now available through Google. In order to access this calendar you need to have a Google account.

Once you log into your Google account, follow the instructions below:

To add a friend's calendar, just follow these steps:

- At the bottom of the calendar list on the left, click Add and select Add a friend's calendar.
- Enter the appropriate email address (techservices1791@gmail.com) in the field provided, then click Add.

This calendar is public and will appear under 'Other Calendars' in the left column.

To set up Google Calendar Sync to your Outlook:

- Make sure you're using a supported operating system and Outlook version.
- Download Google Calendar Sync (version 0.9.3.6) at http://dl.google.com/googlecalendarsync/GoogleCalendarSync_Installer.exe
- Once a dialog box appears, click Save File. The downloaded file should open automatically. If it doesn't, manually open it from your browser's download window.
- Click OK to confirm that you're aware this is an executable file.
- Read through the Google Calendar Sync Terms of Service, and click I Agree.
- Follow through the Installation Options and click Install to finish the set-up process.

Once Google Calendar Sync is installed on your computer, the Google Calendar Sync Settings window will appear:

In the Settings window, enter your email address and password and select the Sync Option you prefer. Read about each Sync Option.

You'll also be able to set the time interval for syncing to occur. Please keep in mind that 10 minutes is the minimum time interval allowed.

After the initial set-up, you can access the Google Calendar Sync Settings window again by double-clicking the calendar icon in your Windows System Tray.

E. RECENT ANNOUNCEMENT

1. RAC Prioritizing Research Topics Related to the Residential Sector

Continuing in 2017-2018, RAC will be prioritizing for bid accepted research topics that support Goal #3 below from the Research Strategic Plan.

Goal #3: To reduce significantly the energy consumption for HVAC&R, water heating and lighting in existing homes.

2. CEC's Standing Request for Future Society Meeting Program Track Suggestions

The Conferences and Expositions Committee (CEC) oversees ASHRAE's annual and winter conferences and other specialty conferences and expositions globally. The CEC continually works to improve the conference experience for all attendees. To help keep a "pulse" on the technical issues facing professionals in the HVAC&R marketplace, and to create meetings that reach all of ASHRAE's constituencies, the CEC seeks ideas for tracks for the Atlanta 2019 winter meeting and annual and winter conferences beyond as well as topics for specialty conferences from TC members.

Please submit your suggestions to ASHRAE Staff member Tony Giometti (Giometti@ashrae.org). You can also add your track suggestion in the "Comment" section of the TC Activity form for the Chicago meeting.

3. CEC Always Seeks TC Volunteers willing to Support Content Development and Quality Control for Society Technical Program at Society Meetings

Provide to your Section Head after each Society meeting a list of qualified volunteers from your TC that are potential Technical Session chairs and reviewers of session papers that are related to TC's scope for use by the Conferences & Expositions Committee (CEC) in developing technical content for future technical programs.

4. The Professional Development Committee (PDC) is seeking ideas for new ASHRAE Learning Institute (ALI) courses.

The Professional Development Committee (PDC) is actively seeking ideas for new ASHRAE Learning Institute (ALI) courses. We need practical courses of broad interest to be presented as face-to-face seminars or short courses, instructor-led online courses and self-paced courses. Examples include courses with a focus on new technologies that need to be shared, fundamentals for engineers new to the discipline, standard applications that need explanation, and courses based on new design guides. Does your TC have a potential course idea? Contact Karen Murray (ASHRAE staff) kmurray@ashre.org or Karen Thrasher (2017-18 PDC chair) PDCchair@ashrae.net with your course ideas.

F. CURRENT & UPCOMING ASHRAE CONFERENCE PROGRAMS

1. Chicago Winter Conference – Jan. 20 – Jan. 24, 2018

Conference Website: <https://ashraem.confex.com/ashraem/w18/cfp.cgi>

Conference Program Chair: Michael Collarin

Program Focus at Chicago Winter Conference

- i. Track 1: Systems and Equipment
- ii. Track 2: Fundamentals and Applications
- iii. Track 3: Standards, Guidelines and Codes
- iv. Track 4: Earth, Wind & Fire **NEW!**
- v. Track 5: Transportation IAQ and Air Conditioning **NEW!**
- vi. Track 6: Tall Buildings
- vii. Track 7: Modeling Throughout the Building Life Cycle **NEW!**
- viii. Track 8: Heat Exchange Equipment
- ix. Track 9: Refrigerant Mini Track @ Expo*
- x. Track 10: Residential Mini Track @ Expo*

2. Houston Annual Conference - June 23 – June 27, 2018

Seminar and Forum proposals for Houston are due by **Friday, February 9th, 2018**. Conference

Website: <https://www.ashrae.org/membership--conferences/conferences/2018-ashrae-annual-conference/call-for-papers>

Conference Program Chair: Cindy Moreno Email: cindym@tmmechanical.com

Program Focus at Houston Annual Conference

- i. Track 1: HVAC&R Systems and Equipment
- ii. Track 2: Fundamentals & Applications
- iii. Track 3: District Energy and Cogeneration Plants **NEW!**
- iv. Track 4: Safeguarding our HVAC&R System **NEW!**
- v. Track 5: Residential: Modern Buildings in Hot & Humid Climates
- vi. Track 6: Professional Skills
- vii. Track 7: Research Summit
- viii. Track 8: HVAC&R Control Freaks **NEW!**
- ix. Track 9: HVAC&R Analytics **NEW!**

G. OTHER UPCOMING WORKSHOPS, CONFERENCES AND EVENTS

1. 2018

- i. **Business and Technical Aspects of Deep Energy Retrofit of Buildings** – Jan. 18 to 20, 2018 – Chicago, IL USA

- ii. **THE Global Women in STEM Leadership Summit** – Mar. 19 to 20, 2018, Four Seasons Hotel, Atlanta GA USA. This is the only one of its kind 2-day summit held in the world that is dedicated to giving women in STEM access to powerful tools, strategies and networks to advance their careers and realize their full potential. [Learn More >>](#)
- iii. **2018 ACEEE Hot Water Forum** – Mar. 20 to 22, Portland, OR USA - <http://aceee.org/conferences/2018/hwf>
- iv. **13th International HVAC&R Technology Symposium** – Apr. 12 to 14, Istanbul, TURKEY [More Information >>](#)
- v. **Roomvent & Ventilation 2018 Conferences** – Jun. 2 to 5, Espoo, FINLAND - <http://roomventilation2018.org/>
- vi. **1st IIR International Conference on the Applications of HFO Refrigerants** – Sep. 2 to 5, Birmingham, UNITED KINGDOM - hfo2018@ior.org.uk
- vii. **IBPC 2018** – Sep. 23 to 26, Syracuse, NY USA - <http://ibpc2018.org/>
- viii. **2018 Building Performance Analysis Conference and SimBuild co-organized by ASHRAE and IBPSA-USA** – Sep. 26 to 28, 2018 – Chicago, IL USA – Contact: ashrae.org/BuildPerform2018
- ix. **The Third International Conference on Efficient Building Design** – Oct. 4 to 5, 2018 – Beirut, LEBANON – Contact: ashrae.org/Beirut2018
- x. **14th Asia Pacific Conference on the Built Environment** – November 18 to 19, 2018 – Kuta-Bali, INDONESIA– Contact: <https://ashraem.confex.com/ashraem/bpa17/cfp.cgi>
- xi. **2nd ASHRAE Developing Economies Conference** – Nov. 10 to 11, 2017, Delhi, INDIA – Contact: ashrae.org/14thAsiaPacific