



**1791 Tullie Circle, N.E./Atlanta, GA 30329
404-636-8400**

TC/TG/MTG/TRG MINUTES COVER SHEET

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

TC/TG/MTG/TRG No. TC 8.5 _____ DATE 06/27/2017

TC/TG/MTG/TRG TITLE: LIQUID TO REFRIGERANT HEAT EXCHANGERS

DATE OF MEETING JUNE 27, 2017 LOCATION LONG BEACH, CA, USA

MEMBERS PRESENT	YEAR APPTD	MEMBERS ABSENT	YEAR APPTD	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE	
Satyam Bendapudi	07/01/2016	John Thome	07/01/2016	William Asher	Yirong Jiang
Steven Eckels	07/01/2015	Sankar Padmanabhan	07/01/2015	Baolute Ren	Amir Jokar
Joseph Huber	07/01/2016	Lorenzo Cremaschi	07/01/2016	Cancan Zhang	Icksoo Kyung
Zahid Ayub	07/01/2014	Yang Zou	07/01/2016	Minoo Mehdizadeh	Kaushik Oza
Benjamin Dingel	07/01/2014	Satheesh Kulankara	07/01/2016	Aui Popi	Chao Shen
Kashif Nawaz	07/01/2016			Achim Gotterbarm	Ratnesh Tiwari
				Steven Trimble	Pedro Perez
				Michael Wilson	
				Andrea Bigi	
				James Bogart	
				Evraam Gorgy	
DISTRIBUTION: All Members of TC/TG/MTG/TRG plus the following:					
TAC Section Head: Dustin Meredith			SH8@ashrae.net		
All Committee Liaisons As Shown On TC/TG/MTG/T Rosters (Research, RG Standards, ALL etc.)					
Mike Vaughn, Manager Of Research & Technical Services			MORTS@ashrae.net		

Note: These draft minutes have not been approved and not the official, approved record until approved by the TC.

1. Meeting called to order by chair Satyam Bendapudi at 4:25 PM. The scope of the TC was read by the chair. There were 26 attendees at the meeting. The attendees introduced themselves.
2. ASHRAE code of ethics was read by the chair.
3. Establishment of Quorum (5 members were presents)
 - The following voting members were present at the meeting: Satyam Bendapudi, Steven Eckels, Joseph Huber, Kashif Nawaz, Zahid Ayub, Benjamin Dingel
 - The following voting member were absent at the meeting: John Thome, Yang Zou, Satheesh Kulankara, Sankar Padmanabhan, Lorenzo Cremaschi
 - 5 out of 9 voting members were present at the beginning of the meeting, establishing quorum.
4. Review/approve minutes from previous meeting
 - The meeting minutes from the Summer 2016 Las Vegas meeting were reviewed and approved without any changes.
 - Steve Eckels moved to accept the draft minutes. Joe Huber seconded. The minutes were approved 5-0-0-CV by the TC voting members.
5. Chairman's reports/comments
 - Satyam Bendapudi attended the Chair's breakfast and provided comments that are summarized below
6. Section Head (Dustin Meredith)
 - Section reminded the TC chair to update the roster and to submit the activity form.
7. Membership Subcommittee Report (Satyam on behalf of Kaushik Oza)
 - TC chair presented a report on the TC membership and reviewed the changes to the roster. Evraam Gorgy rolled out as a voting member to avoid conflicts as a result of a new employer. Andreas Knoepfler rolling out as voting member at the end of June 2017. Achim Gotterbarm, James Bogart and Kashif Nawaz to roll in as new voting members for 2017-2018 society year.
8. Handbook Subcommittee Report (Satyam and Kashif)
 - TC 8.5 is responsible for two chapters in the HVAC Systems and Equipment handbook. The next update is 2020. Revised chapters are due by the middle of 2019.
 - Kashif provided the update from the handbook committee meeting. The issue of open access to all committee members (voting/corresponding) was discussed. ASHRAE is encouraging to include the outcomes of ASHRAE sponsored research project to the corresponding handbook chapter.

9. Program Subcommittee Report (Steven Eckels)

- Co-sponsorship for Panel Session *Low GWP Refrigerants in Heat Exchange Equipment* for the ASHRAE Meeting in Chicago, Jan 20-24, 2018 was requested. Steve Eckels moved the motion for co-sponsorship and Joe Huber second. The motion was approved 5-0-0.
- Track on heat exchanger in Chicago has been planned where TC 8.5 is the co-sponsor Vikrant is the track chair
- Steve will organize and lead a seminar *Fundamental of Heat Exchanger(tentative)* for ASHRAE winter conference in Chicago, “Zahid Ayub/Adnan Ayub (Isotherm Inc.), Steve Eckels (Kansas State University), Schengen (Creative Thermal Solutions), Brian Frock (Oregon State University) are the tentative speakers. Steve move to motion to organize the seminar. Ben Dingel seconded. The motion was approved 5-0-0.

10. Standards Subcommittee Report (Joseph Huber)

TC 8.5 is responsible for 3 standards: Standard 22 MOT for water cooled condensers, Standard 181 MOT for liquid to liquid heat exchangers and Standard 24 MOT for rating liquid coolers.

Satyam/Joe to follow up with James (Standard liaison)

- ASHRAE provided comments questioning whether Standard 22 conforms to the mandatory language requirement. As a result, there was a discussion in the TC on whether the standard conformed to mandatory language requirement. After discussion, Joseph Huber proposed a motion for the TC to affirm that the existing Standard 22 meets mandatory language requirements. Zahid Ayub seconded the motion. The motion was approved 10-0-0-CV.
- There was a discussion on updating a reference included in Standard 22 from IEEE 120 to ASHRAE 41.11-2014. This standard is referenced in a note in Standard 22. There was a discussion on changing the note to an informative note to clarify requirement. After discussion, Joseph Huber proposed a motion to make the change to the reference from IEEE 120 to ASHRAE 41.11-2014 and to change the word "note" to "informative note" in the Standard 22 and for the committee to affirm that these two changes are editorial in nature and do not constitute a substantive change to the standard. Steven Eckels seconded the motion. The motion was approved 10-0-0-CV by the TC. Joseph Huber will fill out the necessary forms for these changes and send them to TC Chair Satyam Bendapudi for review. Chair will review the form and forward to ASHRAE.
- ASHRAE requested that TC 8.5 affirm that Standard 181 conforms to mandatory language requirements. Joseph Huber made a motion to affirm that Standard 181 conforms to mandatory language requirements. Andreas Knoepfler seconded the motion. The motion was approved 10-0-0-CV
- Standard 24 is undergoing major revision. The first meeting of the SPC for Standard 24 is on Tuesday, 1/31/2017. The revision will follow ANSI guidelines due to changes in the PC MOP.

Ryan from AHSRAE standards provided the update:

TC to be more involved in international standards (ISO- No need to attend but to represent US)

Ryan will provide the documents with contact information.

11. Journal/Insights/Webmaster Report (Joseph Huber)

- The TC website is up to date. New ASHRAE website has been uploaded.

12. MTG.Low GWP Liaison (Steven Eckels)

- TC 8.5 is a member of the Low GWP Refrigerants MTG. Steven Eckels is the primary representative of TC 8.5. Satheesh Kulankara is the first alternate representative. There is a lot of research activity in MTG. Low GWP. Three research projects are in progress. Steve Eckels encouraged the TC members to attend the MTG Research Meeting during ASHRAE winter meeting (12:00-2:00 pm on Sunday in Chicago).
- RP-1806 “Flammable Refrigerants Post-Ignition Simulation and Risk Assessment Update”- GexCon US has been leading the project. CFD model is under development which will be validated by experiments.
- RP-1807 “Guidelines for Flammable Refrigerant Handling, Transporting, Storing and Equipment Servicing, Installation and Dismantling”- Navigant is leading the project.
- RP-1808 “Servicing and Installing Equipment using Flammable Refrigerants: Assessment of Field- made Mechanical Joints Systems”- CTS (Creative Thermal Solutions) has been selected by PMS and MTG to lead the project.

13. Research subcommittee report (Kashif Nawaz)

Update from Research Subcommittee Chair’s breakfast

- 7 RTARs were considered, one accepted, three with comments, 11 work statements were evaluated- 1 was conditionally accepted and 3 returned.
- RAC resumed the IRG (Innovative Research Grant) program after interruption of few years and received 33 pre-proposals. 6 are down-selected for full proposal submission.
- The hold from URP (Unsolicited Research Proposals- URP) has been removed and a new procedure has been established. Under this procedure anybody non-ASHRAE can submit a proposal which should meet the URP criteria, RTAR criteria, WS criteria. RAC will approve first and through liaison it will be forwarded to appropriate TC for evaluation.
- ASHRAE has been awarding 1-25 grants each year under grant in-aid program graduate students.
- Service to ASHRAE awardee is selected based on the services for last five years so if anybody is interested please inform RAC.
- Homer Adam Award is for any graduate. The selection is made based on the technical paper about HVAC&R research.
- Project monitoring, PMS will be required to report milestone, Existing projects are exempt.
- RAC has requested for ideas for procedures to disseminate the outcome of the research.
- RAC has requested feedback regarding forms and procedures to improve the process. RTAR, WS going back to word format.

Research Liaison (Curt Eichelberger) comments:

- Work Statement (WS) form will be a word document (hopefully by July 15th) since pdf version is difficult to handle.

- Conditional approval for WS means that it has been approved and RAC wants the liaison to communicate specific changes to the scope so it's important to get the feedback from liaison for conditionally accepted WS.
- PMS chair is responsible for submit a milestone report to RAC. If it does not happen the funding will not be released. RAC implemented this to avoid delays.
- TC should take advantage of WebEx to have meetings 2-3 weeks before the in-person meetings.

On-going Project Updates:

- RP1677 (Measurement and Prediction of Waterside Fouling Performance of Internally Enhanced Condenser Tubes Used in Cooling Tower Applications)
 - PMS chair Benjamin Dingel provided an update on the activities within RP1677. The graduate student gave an overview of the status of the project during the research review meeting. The PMS and PI have been organizing frequent teleconferences to discuss the progress of the project. The PI has completed the tests with high fouling potential water at medium velocity. The test lasted for four month. Now PI is preparing to start the tests with medium fouling potential and medium velocity.
- TRP1800 (Spray Evaporation on Enhanced Tube Bundles with Low GWP pure Refrigerants & Refrigerant/Miscible Oil Mixtures)
 - This is a TRP proposed by TC 1.3 and cosponsored by TC 8.5. Ben Dingel and other provided the feedback to revise the WS. Based on the comments the draft was revised and submitted to RAC for review. The WS has been conditionally approved.
- TRP 1731 (Heat Transfer Performance of Medium Pressure Lower GWP Refrigerants in a Flooded Evaporator Comprising an Enhanced Tube Bundle)
 - The research liaison has indicated to proceed with submission. WS has been forwarded to RAC for review and approval during Fall meeting.

New RTAR:

In tube boiling for CO₂ was proposed by Zahid Ayub for further discussion.

14. New Business

- Benjamin Dingel provided an update on the revisions to ASME pressure vessel code. Recommended modifications have been approved.

15. Schedule Next meeting

- Chair scheduled the next meeting for Monday, Jan 22 from 4:15 PM to 6:30 PM during the ASHRAE meeting in Chicago. The exact location for the meeting will be published in the meeting guide.

16. TC meeting adjourned at 6:10 PM

Conferences and Expositions Committee Information Items for Technical Committees 2017 Annual Conference, Long Beach, California

This “handout” includes recent updates and upcoming deadlines in the preparation of the technical program for the Winter, Annual and specialty conferences. It is being provided in advance of the conference for your information so that it does not have to be presented during the onsite TC section breakfasts. CEC will provide a short update at the TC breakfasts and answer any questions. *Jon Cohen, 2016-2017 CEC Chair, jonc@chemtreat.com*

1. 2018 Annual Conference Research Summit Call for Papers

The 2018 Annual Conference in Houston, TX features a call for papers for the Research Summit track. Please consider submitting papers or groups of papers as entire sessions from your TC for the conference. Abstracts are due August 28, 2017 and is fast approaching. This is an excellent opportunity for TC’s to highlight current research and case studies at the Annual Conference next year! If you have any questions, please contact Dr. Melanie Derby, the Research Summit Track Chair at derbym@ksu.edu.

2. Student Authors Recognized at Las Vegas, Long Beach, and Beyond

Starting at the 2017 Winter Conference, CEC began recognizing student papers. Certificates were awarded to students at their assigned conference paper session. There were “Best Paper” and “Honorable Mention” certificates presented to graduate candidates and PhD candidates.

For the 2017 Annual Conference, one Best Paper and one Honorable Mention will be presented to undergraduate/graduate students and PhD candidates.

3. Invited Speakers

CEC has developed a policy to allow for invited speakers to have their speaker fee waved. The proposed invited speakers shall be submitted with the respective program submission, and will be reviewed concurrent to the submission review process. The CEC Chair, Vice Chair, and Conference Program Chair will review submissions and will accept up to five invited speakers, per Annual and Winter meeting, considering the strength of the proposal. The speaker must meet the following criteria to be considered: a.) Subject matter expert, b.) Not an ASHRAE member, c.) Will provide information that is useful to the ASHRAE membership.

4. Program statistics for Long Beach; for a total of 107 available slots:

Conferences Papers

- 151 conference paper abstracts submitted, 129 approved
- 71 conference papers presented
- 20 Conference Paper Sessions

Technical Papers

- 27 Technical papers received
- 19 Technical papers presented
- 6 Technical Paper Sessions

Seminars

- 121 submitted
- 61 presented

Workshops

- 13 submitted
- 9 presented

Forums

- 11 submitted
- 4 presented

Debates

- 4 submitted
- 3 presented

Panels

- 5 submitted
- 2 presented

5. **2018 ASHRAE Winter Conference in Chicago, IL:** <http://www.ashrae.org/chicago>
- a. Conference Papers are due July 7
 - b. Seminar, Forum, Debate, Panel and Workshop proposals are due August 1
 - c. Program notifications go out September 6
 - d. Web site opens for presentation uploads on December 1
 - e. All presentations due online January 8, 2018
 - **Track 1: Systems and Equipment**
Track Chair: Carrie Ann Crawford Email: crawford.ashrae@gmail.com
 - **Track 2: Fundamentals and Applications**
Track Chair: Kevin Marple Email: kmarple@benzco.com
 - **Track 3: Standards, Guidelines and Codes**
Track Chair: Corey Metzger Email: corey.metzger@resource.com
 - **Track 4: Earth, Wind and Fire**
Track Chair: Ashish Rakheja Email: ashish.rakheja@aeonconsultants.in
 - **Track 5: Transportation IAQ and Air Conditioning**
Track Chair: Dimitris Charalambopoulos Email: dimitris@ashrae.gr
 - **Track 6: Tall Buildings**
Track Chair: Leticia Neves Email: leneves@gmail.com
 - **Track 7: Modeling Throughout the Building Lifecycle**
Track Chair: Joseph Firrantello Email: j.firrantello@gmail.com
 - **Track 8: Heat Exchange Equipment**
Track Chair: Vikrant Aute Email: vikrant@umd.edu
 - **Track 9: Refrigerant Mini Track @ Expo**
Track Chair: Gary C. Debes Email: gcdebes@verizon.net
 - **Track 8: Heat Exchange Equipment**
Track Chair: Gary C. Debes Email: gcdebes@verizon.net
6. **2018 ASHRAE Annual Conference in Houston, TX:** <http://www.ashrae.org/houston>
- a. Conference Paper Abstracts due Monday, August 28, 2017
 - b. Conference Papers due Friday, December 8, 2017
 - c. Seminar, Forum, Panel, Debate and Workshop proposals are due Friday, February 9, 2018
 - d. Web site opens for presentation uploads Monday, April 30, 2018
 - e. 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

7. Potential Sources Bias Disclosure

Speakers will be asked 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.

8. 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. TCs 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. TCs 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 TCs 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.

9. Speaker Ratings

About 11 speakers from Las Vegas 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.

10. Presentations

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 Long Beach, 41 presentations had not been uploaded by the June 12 deadline.
 1. 6 presentations were still not uploaded as of 6/21/2017.
 2. 4 of those 6 were TC sponsored.
 - ii. For Las Vegas, 48 presentations were not uploaded by the final due date.
 - iii. For St. Louis, 11 presentations were not uploaded by the start of the conference.
9 of these programs were sponsored by TCs

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 upload 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).

11. 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 Winter 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 tcox@ashrae.org for more information.

12. 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 2017.

2017 ASHRAE Building Performance Analysis Conference

<http://www.ashrae.org/BuildPerform2017>

September 27-29, 2017, Atlanta, Georgia

The conference program is set and includes the third annual ASHRAE LowDown Showdown modeling competition.

ASHRAE Second Developing Economies Conference ashrae.org/Developing2017

November 10 – 11, 2017, Delhi, India

A call for presenters is currently open through July 7. Apply through the conference Web site.

13. Program Types

Technical Paper Session:

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:

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 is 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.

NOTES

Reminder: Chicago 2018 Winter Conference Program Proposals Accepted June 2nd through August 1st, 2017! Submit online at ASHRAE.org/chicago

An ASHRAE Conferences and Expositions Committee (CEC) Newsletter for TC Chairs, Program Subcommittee Chairs and Interested Parties SY 16/17 (May 2017)

Conference	Hotel/Web Site
2017 Annual, Long Beach June 24 - June 28, 2017	Hyatt Regency www.ashrae.org/longbeach
2018 Winter, Chicago Jan. 20 – Jan. 24, 2018	The Palmer House www.ashrae.org/chicago
2018 Annual, Houston June 23 – June 27, 2018	Site opens May 22 www.ashrae.org/houston

Las Vegas 2017 Winter Conference Update

Below are the top 10 rated sessions:

1. **SEM 31:** Ref Cooling Water-Saturation Indices: Understanding the Water Balance When Designing and Operating a HVAC System, TC 3.6
2. **SEM 33:** Considerations in Hydronic Heating System Design and Performance
3. **SEM 35:** Energy Efficiency Assessment in Industrial Facilities: Case Studies and Lessons, TC 7.5
4. **SEM 42:** Power and Cooling Considerations for Back of Rack Ecosystems within the Data Center, TC 9.9
5. **SEM 46:** What Do We Know About Energy Use in Agriculture Facilities, TC 2.2
6. **SEM 48:** Did It Really Work?: Theory vs. Practice in Residential HVAC, Res. Bldg. Com.
7. **SEM 54:** Cutting-Edge Japanese Technologies SHASE Annual Award for HVAC System and Equipment in 2016
8. **SEM 67:** The Future of Water and Energy Efficiency in Commercial Foodservice, TC 5.10
9. **WKSHP 4:** What Is Renewable Energy?, TC 2.8
10. **WKSHP 7:** Key Impacts of ASHRAE Standards on Waterside Construction and Design, TC 7.2

Student Paper Recognition: Several Masters Candidates and PhD Candidate student conference paper authors received recognition by the Conferences and Expositions Committee (CEC). For each category, students were presented with a best paper or honorable mention certificate.

Going forward CEC will continue to recognize student authors at the Winter and Annual Conferences.

Long Beach 2017 Annual Conference

The Technical Program has been finalized and is available online in PDF format, also via the interactive technical program and personal scheduler options.

Two new Program types will be available starting with the Long Beach Conference – Panels and Debates. 2 Panels and 3 Debates have been scheduled. Presentation of 61 Seminars, 8 Workshops, 7 Forums and a total of 26 paper sessions (71 Conference Papers and 18 Technical Papers) will take place.

Long Beach Conference Tracks

- Track 1** Fundamentals and Applications
- Track 2** HVAC&R Systems and Equipment
- Track 3** Refrigeration
- Track 4** Building Life Safety Systems **NEW**
- Track 5** Controls **NEW**
- Track 6** Commissioning: Optimizing New and Existing Buildings and their Operation
- Track 7** Net Zero Energy Buildings: The International Race to 2030 **NEW**
- Track 8** Residential Buildings: Standards Guidelines and Codes **NEW**
- Track 9** Research Summit

Long Beach Conference Registration Reminder

Advance registration is open May 2nd through June 12th. Please register as soon as possible for the best rates.

Call for Specialty Conference and Track Suggestions:

Have ideas for Tracks? To help keep a "pulse" on the technical issues facing professionals in the HVAC&R marketplace, the CEC seeks ideas for tracks within its Annual and Winter Conferences and topics for specialty conferences. Please use the online form at www.ashrae.org (Papers and Programs section) to submit your suggestions.

Future Winter and Annual Conferences

Winter 2018 – Chicago, Illinois, Jan. 20 – 24
 Annual 2018 – Houston, Texas, June 23 - 27
 Winter 2019 – Atlanta, Georgia, January 12 – 16
 Annual 2019 – Kansas City, Missouri, June 22 – 26

Upcoming Specialty Conferences**ASHRAE 2017 Building Performance Analysis Conference**

September 27-29, 2017
 Atlanta, Georgia
www.ashrae.org/BuildPerform2017

Second Developing Economies Conference

November 10 – 11, 2017
 Delhi, India
ashrae.org/Developing2017

Chicago 2018 Winter Conference**Deadlines to keep in mind:**

6/2/2017 Website opens for technical program proposals
 8/1/2017 Technical Program proposals due
 7/7/2017 Final Conference Papers Due
 9/6/2017 Technical Program Accept/Reject Notifications

Chicago Conference Tracks

Track 1 Systems and Equipment
Track 2 Fundamentals and Applications
Track 3 Standards, Guidelines and Codes
Track 4 Earth, Wind & Fire **NEW**
Track 5 Transportation IAQ and Air Conditioning **NEW**
Track 6 Tall Buildings
Track 7 Modeling Throughout the Building Life Cycle **NEW**
Track 8 Heat Exchange Equipment **NEW**

Call for Reviewers and Paper Session Proposals

A new online submission form is available to submit your interest in assisting with the peer review process for ASHRAE Papers. The form may also be used to submit the details of proposed paper sessions and an interest in volunteering as a session chair. Please visit www.ashrae.org (Papers and Programs) for access to the submission form.

Houston 2018 Annual Conference

The Houston Call for Papers and conference site will be available mid-May 2017 at www.ashrae.org/houston

Houston Conference Tracks

Track 1 Systems and Equipment
Track 2 HVAC&R Fundamentals and Applications
Track 3 District Energy and Cogeneration Plants **NEW**
Track 4 Safeguarding our HVAC&R System **NEW**
Track 5 Residential: Modern Buildings in Hot & Humid Climates
Track 6 Professional Skills
Track 7 Controls: Troubleshooting Building Management Systems **NEW**
Track 8 Research Summit
Track 9 Mini-Track: HVAC&R Analytics **NEW**

The sixth annual research summit invites researchers to present papers, seminars, forums or participate in panel discussions. Authors may also pursue an opportunity to further develop their submissions for later publication in Science and Technology for the Built Environment (STBE) – ASHRAE's archival research publication.

Conferences and Expositions Committee

Jon Cohen – CEC Chair
jonc@chemtreat.com, 804-510-4049

David Claridge – CEC Vice-chair
dclaridge@tamu.edu, 979-862- 8471

Chris Balbach – Specialty Conferences Subcommittee Chair
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Leon Shapiro – Chair, Las Vegas Conference
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Ann Peratt – Chair, Long Beach Conference
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Michael Collarin – Chair, Chicago Conference
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Tony Giometti, CEC Staff Liaison and ASHRAE Conference Programs Manager
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Tiffany Cox, ASHRAE Conference Programs Assistant Manager and primary contact for papers
 678-539-1137, tcox@ashrae.org

Vicky Ruth, ASHRAE Conference Programs Assistant
 678-539-1121, vruth@ashrae.org

AGENDA
SECTION TC/TG/TRG CHAIR'S BREAKFAST MEETING

2017 Annual Meeting
Long Beach, CA

Sunday, June 25th

6:30 A.M. – 8:00 A.M. PDT

Renaissance Hotel – ALL Section meetings located on either 1st, 2nd, or 3rd floor as noted below.

Section 1, Bixby 1 Room – 2nd Floor

Section 3, Dawson Room – 3rd Floor

Section 5, Pike 3 Room – 1st Floor

Section 7, Broadlind 2 Room - 2nd Floor

Section 9, Pike 1 Room – 1st Floor

MTG Section, Tichenor Room – 2nd Floor

Section 2, Bixby 2 Room – 2nd Floor

Section 4, Broadlind 1 Room – 2nd Floor

Section 6, Bixby 3 Room – 2nd Floor

Section 8, Pike 2 Room – 1st Floor

Section 10, Nieto Room - 2nd Floor

Note: The agenda and times estimated are for guidance only and should be modified to be sure the most important information is discussed and that there is adequate time to discuss things important to the committee chairs. Note that the time estimates shown allow for other important business to be conducted within the time frame allotted.

- a.1. Introduction of TC/TG/TRG/MTG Chairs, Vice Chairs, and guests (5 minutes).
- a.2. Review and approval of agenda (2 minutes). (note that you might want to solicit additions and corrections at the time the draft agenda is sent to the TC Chairs – it is almost impossible to do anything in only 2 minutes)
- a.3. Summarize discussion from last meeting and status of actions assigned, if any (5 minutes).
- a.4. Liaisons from other committees should each be given a chance to speak and distribute information pertinent to the section from their committee. An effort should be made to accommodate their schedules without major disruption of the Section meeting (15 Minutes).
 - a.4.1. Research Administration
 - a.4.2. Conference and Exposition Committee (CEC)
 - a.4.3. Handbook
 - a.4.4. Other Standing Committees
- a.5. Discuss the MBOs set for the year and how the section can work together to address them (10 minutes).
- a.6. Review summary report for the Section prepared from the TC/TG activity database and TAC (15 minutes).
 - a.6.1. Section activities and trends will be discussed relating to membership, research, programs, publications and new communication tools and services.
 - a.6.2. Do TCs prefer to go back to a paper activity form instead of MS-Excel form used now?
- a.7. Identify shared opportunities and challenges for section (10 minutes).
- a.8. Announcements and Reminders for TC/TG/TRG & MTG Chairs (Handout)
- a.9. Adjourn.

**Announcements and Reminders for TC/TG/TRG & MTG Chairs
LONG BEACH 2017**

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 2016-2017 roster for your TC, TG or MTG is in effect until after the June meeting this year – through Friday, June 30th.

TC, TG and MTG chairs will soon receive 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 once the new Society year goes into effect. 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 once the new Society year begins.

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

Announcements and Reminders for TC/TG/TRG & MTG Chairs LONG BEACH 2017

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 **September 30, 2017**.

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,

Announcements and Reminders for TC/TG/TRG & MTG Chairs LONG BEACH 2017

Standards Sub. Chair, Program Sub. Chair, Handbook Sub. Chair, and Webmaster). The 16-17 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*. The new 17-18 E-mail Alias list will be posted in the same location shortly after the Long Beach meeting.

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*

B. AT THIS MEETING

1. On-Site Training Options

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

Sunday June 25th, 9:45-10:45 AM in Room #101A, 1st Floor, in the Long Beach Convention Center. The training will start with a brief presentation on how to run Effective Meetings and then highlight some of the online resources that are available through the TAC training portal for additional training and information on a variety of topics. The training session will also have a Q&A session so that you can also get answers to your specific questions.

ii. RAC's Research Subcommittee Chair's Breakfast

Monday, June 26th, 6:30 AM – 9:30 AM in Regency room, 4th Floor, Hyatt Regency 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 resolve issues & questions that 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, 6/27, 11:15 AM – Noon, Room #202C, 2nd Level, in the Long Beach Convention Center. *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 (Seaview Ballroom B & C – Lower Level (1st floor) – Hyatt Regency 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

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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.

Hyatt & Renaissance Wi-Fi Access: **PSAV High Speed** is the network, **ashrae2017** is password (case sensitive).

Long Beach Convention Center Wi-Fi Access: **ashrae2017** is the network, **longbeach** is password (case sensitive).

3. **RPM (Remote Participation Meetings) being held in Long Beach**

The 12th 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 Long Beach and the following fifteen TCs have agreed to participate in this effort: TC 1.6, TC 1.10, TC 1.12, TC 2.1, TG2(HVAC), TC 5.8, TC 5.11, TC 6.9, TC 7.3, TC 7.9, TC 8.3, TC 9.2, TC 9.4, TC 10.3, and TC 10.6 – This represents a 25% increase over the number of TC's hosting RPM meetings in Las Vegas. A total of 43 RPM meetings will be hosted in Long Beach when you include project committee and other committee meetings. For comparison, a total of 38 RPM meetings were hosted in St. Louis 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, 6/28.

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 room 104 at the Long Beach Convention Center 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 onsite. 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.

5. Retiring TC/TG/TRG/MTG Chair Certificates

TC chairs that are completing their terms as chair at this Society meeting will be presented with a certificate of appreciation. Please coordinate with your Section Head as to when and where at the meeting you would like to be presented with the certificate (Section meeting or TC meeting).

C. UPCOMING DEADLINES

1. TC Activity Forms for the Long Beach Meeting are due to Your Section Head before Wednesday, 6/28/17

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. Thank You Letters to Employers

ASHRAE President – Tim Wentz– has offered to send letters to the employers of TC volunteers this year thanking them for supporting their employee's service on an ASHRAE TC during Society year 2016-2017. If requested by the volunteer, the letter will be sent to his/her employer by the end of July or early August and the volunteer will receive a copy.

Please let your committee members know that they will be receiving an email about employer thank you letters in early July with details on how to request a thank you letter.

3. Seminar and Forum proposals for Chicago are due by Tuesday, August 1st, 2017.

Please visit the following site to submit your proposal:

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

For more information, go to: www.ashrae.org/chicago

4. 2017-2018 Hightower Award & Service to ASHRAE Research Award Nominations by Friday, September 1st

Nominations for the 2017-2018 *George B. Hightower Technical Achievement Award* are due to you Section Head by September 1, 2017. The award recognizes outstanding technical leadership and contributions on a TC/TG/TRG during the past four years, excluding research and standards activities. Please go to the Technical Committee page of the ASHRAE website at the following link under the "Procedures, Forms..." heading: <http://www.ashrae.org/tcs>

Nominations for the 2017-2018 *Service to ASHRAE Research Award* for TC volunteer efforts in research are due to RAC research liaison by September 1, 2017. Please go to the Research page of the ASHRAE website at the following link under the "Research Grants and Awards" heading: <http://www.ashrae.org/research>

5. 2018 RPM (Remote Participation Meetings) Request for Chicago 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 Chicago next January must turn in an ASHRAE Meeting Room Request Form for Chicago to the ASHRAE Meetings section.
- The request should include the reasons why you are requesting RPM meeting capability.
- RPM meeting requests for the upcoming Chicago Winter meeting should be submitted by **Monday, October 2nd or sooner.**
- Confirmation emails (verifying the requests) will be sent out in November 2017
- 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 Long Beach 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.

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- 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 Long Beach 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 James Bochat (2016-17 PDC chair) PDCchair@ashrae.net with your course ideas.

F. CURRENT & UPCOMING ASHRAE CONFERENCE PROGRAMS

1. Long Beach Annual Conference - June 24 – June 28, 2017

Conference Website: <http://ashraem.confex.com/ashraem/s17/cfp.cgi>

Conference Program Chair: Ann Peratt Email: ann.peratt@gmail.com

Program Focus at Long Beach Annual Conference

- i. Track 1: Fundamentals and Applications
- ii. Track 2: HVAC&R Systems and Equipment
- iii. Track 3: Refrigeration
- iv. Track 4: Building Life Safety Systems
- v. Track 5: Controls: Smart Building Systems and the Security Concerns as Technology Emerges
- vi. Track 6: Commissioning: Optimizing New and Existing Buildings and their Operation
- vii. Track 7: Net Zero Energy Buildings: The International Race to 2030
- viii. Track 8: Residential Buildings: Standards and Guidelines and Codes
- ix. Track 9: Research Summit

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

Seminar and Forum proposals for Chicago are due by **Tuesday, August 1, 2017.**

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

Conference Program Chair: Michael Collarin Email: Michael.Collarin@parsons.com

Program Focus at Chicago Winter Conference

- i. Track 1: Systems and Equipment

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- 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*

3. 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--](https://www.ashrae.org/membership--conferences/conferences/2018-ashrae-annual-conference/call-for-papers)

[conferences/conferences/2018-ashrae-annual-conference/call-for-papers](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. 2017

- i. **Building Simulation 2017** – Aug. 7 – Aug. 9, 2017 – San Francisco, CA USA –
Contact: <http://www.buildingsimulation2017.org/>
- ii. **ISHPC2017** – Aug. 7 – Aug. 10, 2017 – Tokyo, JAPAN –
Contact: <http://biz.knt.co.jp/tour/2017/ISHPC2017/congress.html>
- iii. **ASHRAE Building Performance Analysis Conference** – September 27-29, 2017
– Atlanta GA, USA – Contact: <https://ashraem.confex.com/ashraem/bpa17/cfp.cgi>
- iv. **2nd ASHRAE Developing Economies Conference** – Nov. 10-11, 2017, Delhi,
INDIA – Contact: <https://ashraem.confex.com/ashraem/de17/cfp.cgi>

Agenda (DRAFT)
TC 8.5: Liquid to Refrigerant Heat Exchangers
ASHRAE 2017 Annual Meeting
Long Beach, California
Monday, June 26th, 4:15PM - 6:30PM
Seaside Ballroom A (LBCC – SS)

1. Call to order and reading of TC 8.5 scope (S. Bendapudi): *TC 8.5 is concerned with the thermal and mechanical design, performance, and application of devices for accomplishing heat transfer between refrigerants (including secondary refrigerants) and liquids.*
 - Introduction of members and guests
2. ASHRAE Code of Ethics Commitment (S. Bendapudi)
“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>)
3. Establish quorum requirements (S. Kulankara)
4. Review/approve minutes from previous meeting (S. Kulankara)
5. Section Head comments (D. Meredith)
6. Liaison Comments
7. Chairman’s breakfast report (S. Bendapudi)
8. Membership subcommittee report (S. Bendapudi)
 - 2017-2018 roster and officer review
9. Handbook subcommittee report (S. Padmanabhan)
 - Systems and Equipment; Condensers, Liquid Coolers
10. Program subcommittee report (S. Eckels)
 - Vote on Panel Forum tentatively titled: *Low GWP Refrigerants in Heat Exchange Equipment*
11. Standards subcommittee report (J. Huber)
 - ASHRAE and Standards – Ryan Shanley
12. Journal/Insights/Webmaster report (J. Huber)
13. MTG Liaison (S. Eckels)
14. Research subcommittee report (K. Nawaz)
 - Update from the Research Sub-committee Breakfast
 - 1677-RP: “Measurement and prediction of waterside fouling Performance of Internally Enhanced condenser Tubes Used in Cooling tower Applications” (B. Dingel)
 - WS “Spray Evaporation on Enhanced Tube Bundles with Low GWP Pure Refrigerants and Refrigerant/Miscible Oil Mixtures” (K. Nawaz)
 - WS “Heat Transfer Performance of Medium Pressure Alternative Lower GWP Refrigerants in a Flooded Evaporator Comprising an Enhanced Tube Bundle” (E. Gorgy)
15. New Business
16. Schedule Next meeting: Monday, Jan 22, 4:15 PM to 6:30 PM – Chicago, IL
17. Adjourn

Agenda for the ASHRAE TC 1.3/8.5 Research Review Meeting Long Beach

Location: Long Beach Convention Center 102AB (1)

Date: Sunday, June 25, 2017

3:00pm – 3:45pm

Review of **1556-RP - Characterization of Liquid Refrigerant Flow Emerging From a Flooded Evaporator Tube Bundle (TC 1.3)**

PI: Steve Eckels, Kansas State University. Start date: Sep 2012.

PMS Chair: Satheesh Kulankara

3:45pm – 4:30pm

Review of **1677-RP - Measurement and Prediction of Waterside Fouling Performance of Internally Enhanced Condenser Tubes Used in Cooling Tower Applications (TC 8.5)**

PI: Xinlei Wang, University of Illinois at Urbana/Champaign. Start date: Sep 2013.

PMS Chair: Ben Dingel

4:30pm – 5:15pm

Review of ASHRAE New Investigator Award

Condensation of Low GWP Zeotropic Mixtures in Minichannels (TC 1.3)

PI: Brian M. Fronk, Oregon State University. Start date: July 2017.

5:15pm – ...

Other items of business? ...

Adjourn when done.